DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
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State Demonstrations Group

September 29, 2022

Amanda Cassel Kraft
Assistant Secretary, MassHealth
Executive Office of Health and Human Services
One Ashburton Place, 11th Floor Room 1109
Boston, MA 02108

Dear Ms. Cassel Kraft:

The Centers for Medicare & Medicaid Services (CMS) completed its review of the Interim Evaluation Report, which is required by the Special Terms and Conditions (STCs), specifically STC #98(e) "Interim Evaluation Report" of Massachusetts' section 1115 demonstration, "MassHealth" (Project No: 11-W-00030/1), covering the demonstration period from June 2017 through December 2019. CMS determined that the evaluation report, submitted on September 30, 2021 and revised on March 18, 2022 is in alignment with the approved Evaluation Design and the requirements set forth in the STCs, and therefore, approves the Commonwealth's Interim Evaluation Report.

In accordance with STC #99 "Public Access," the approved Interim Evaluation Report may now be posted to the Commonwealth's Medicaid website within thirty days. CMS will also post the evaluation report on Medicaid.gov.

The Interim Evaluation Report provided a variety of findings about the demonstration's effects on access to services and coverage, and quality outcomes associated with the various demonstration components. Highlights from this report indicate improvements in diabetes and high blood pressure management, appropriate use of emergency departments among the ACO population, and timely follow-up after an emergency department visit. Additionally, findings suggest that the demonstration was successful at keeping the uninsurance rate low—around 3 percent. It also exhibited some positive findings for beneficiaries with Substance Use Disorders (SUD), such as decreases in the rate of overdoses and increases in the number of providers treating SUD, although findings related to initiation and engagement of SUD treatment were mixed. Furthermore, analyses of the impact of various components on demonstration costs all showed that per-member per-month costs for MassHealth beneficiaries were lower than they would have been without the demonstration. While the report identified room for improvement in the frequency and standardization of screenings for health-related social needs during the

evaluation period, CMS and the state are setting more ambitious goals, and developing a variety of tools to monitor and evaluate these policies in the demonstration extension period.

We look forward to our continued partnership on the MassHealth section 1115 demonstration. If you have any questions, please contact your CMS demonstration team.

Sincerely,

Danielle Daly -S

Digitally signed by Danielle Daly -S
Date: 2022.09.29 07:48:36 -04'00'

Danielle Daly
Director
Division of Demonstration
Monitoring and Evaluation

cc: Marie DiMartino, State Monitoring Lead, CMS Medicaid and CHIP Operations Group

DRAFT Independent Evaluation Interim Report

Massachusetts Medicaid 1115 Demonstration Extension 2017-2022

Revised March 2022

Prepared by

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for
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This organization and content of this report has been guided by the Massachusetts 1115 Demonstration Independent Evaluation Design Document[1] submitted in December 2018 and in compliance with CMS guidelines for preparing Demonstration 1115 evaluation reports published in March of 2019.[2]

Given the broad scope and multiple goals of the Massachusetts 1115 Demonstration, Section I serves as an executive summary across the seven Demonstration Goals and provides background information about the Demonstration, evaluation, and interim findings. Details about goal specific research questions, methodology, and interim findings are covered in detail in the Goal specific sections II-VII that follow.

[1] Independent Evaluation Design Document: https://www.mass.gov/doc/ma-independent-evaluation-design-1-31-19-0/download
[2] CMS 1115 Demonstration Evaluation Guidelines: https://www.medicaid.gov/sites/default/files/2020-02/preparing-the-evaluation-report.pdf

About Us

UMass Chan Medical School is the Commonwealth's first and only public academic health sciences center. Founded in 1962, its mission is to advance the health and wellness of diverse communities throughout Massachusetts and across the world by leading and innovating in education, research, health care delivery and public service. UMass Chan Medical School is home to schools of medicine, graduate biomedical sciences and graduate nursing; a thriving, $275 million research enterprise; innovative programs in medical education, community health, graduate physician training; and MassBiologics, the nation's only non-profit FDA-licensed manufacturer of vaccines.

The mission of the **Department of Population and Quantitative Health Sciences (PQHS)** is: (a) to produce new knowledge relevant to the health of populations; (b) to fulfill the quantitative health science needs of the academic medical center as a leader in clinical and translational research; (c) to weave service to the academic medical center into discovery of new approaches to address the health care needs of the nation; and (d) to train the next generation of scientists who will contribute to the health of populations and individuals and the transformation of health care through methodological innovation. The PQHS Department includes four Divisions: Biostatistics and Health Services Research, Epidemiology, Health Informatics and Implementation Science, and Preventive and Behavioral Medicine. PQHS also houses the Quantitative Methods Core which provides biostatistical, epidemiological, and other methodological consultation and technical support for research across the campus.

The **UMass Chan Medical School's Commonwealth Medicine Research and Evaluation Unit** conducts research and evaluation of current and emerging programs, policies, and care models that are essential for public agencies and health care organizations. We focus on applied social and health policy research, health services research, data analytics, and evaluation projects using qualitative and quantitative methods by our faculty, clinical and non-clinical investigators, and staff from multiple disciplines (e.g., health policy, social policy, epidemiology, health economics, public health, sociology). We use a multi-disciplinary and community-participatory approach to collect, generate, analyze, and summarize information that advances policies, programs, and services to a higher level of impact and performance.

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Massachusetts Section 1115 Waiver Demonstration (2017-2022): Independent Evaluation Interim Report (IEIR) Executive Summary:

Since its launch in 1997, the Massachusetts Section 1115 Waiver Demonstration has served as a vehicle for expanding coverage, encouraging better coordination and cost containment through managed care, and supporting safety net providers. MassHealth sought to advance seven goals to enhance the Medicaid program through the Demonstration extension (2017-2022) approved by The Centers for Medicare and Medicaid Services (CMS) in November 2016.

MassHealth selected the University of Massachusetts Chan Medical School (UMass Chan) as the Independent Evaluator for the overall 1115 Demonstration and DSRIP Program. This executive summary presents key findings and highlights implementation progress for each of the 7 Demonstration goals. Except for interview and survey data collection in 2020 related to the DSRIP program, the measurement period for this report is generally from 2017 to December 2019 and predates the COVID-19 public health emergency. More detailed information on the evaluation approach, methods, data, and interim findings can be found in the IEIR sections indicated below.

Goals 1 and 2: Payment/Delivery Reform and Integration of Care and the Delivery System Reform Incentive Payment (DSRIP) Program (IEIR Section II)

1. Goal 1: Enact payment and delivery system reforms that promote integrated, coordinated care and hold providers accountable for the quality and total cost of care
2. Goal 2: Improve integration of physical, behavioral, and long-term services

The Massachusetts DSRIP program is an ambitious effort designed to transform health care delivery and improve health outcomes for most Massachusetts Medicaid (MassHealth) members. The guiding rationale for the DSRIP program was to move MassHealth providers away from fee-for-service payments, promote accountable value-based care, and improve the delivery system through improved care coordination and integration between health care systems and community-based providers.

Key components of the DSRIP program include two-sided risk contracts with 17 Medicaid Accountable Care Organizations (ACOs) and the creation of the Community Partners (CP) program to coordinate care for certain members with complex behavioral health (BH) and long-term services and supports (LTSS) needs. The DSRIP program also includes funding of a Flexible Services (FS) program to address specific health-related social needs (HRSNs), including nutrition and housing for certain ACO members. The program also provides funding for Statewide Investments (SWIs) designed to enhance the workforce and technology infrastructure and provide other necessary supports for delivery system reform. MassHealth was granted spending authority of up to 1.8 billion dollars to support these delivery system transformation efforts.

Goals 1, 2, and DSRIP Summary of Findings:

The primary finding from this Interim Evaluation of the Massachusetts DSRIP Program is that MassHealth and numerous DSRIP stakeholders have collaborated to an impressive extent and made great strides in the early years of implementation toward transforming health care and improving care processes at the organizational level. More than 75% of the 1.279 million eligible members had been shifted from traditional managed care into alternative payment models (i.e., ACOs) by the end of 2020. This level of alternative payment model adoption is well above accountability targets of 35% for 2020 and 45% adoption by 2022 set by CMS for the MassHealth Demonstration.[3]

Hundreds of new partnerships have been formed within and between healthcare and community-based organizations to integrate care across the continuum. As of the close of 2020, 33,118 members were enrolled with BH CPs, and 10,896 were enrolled with LTSS CPs to receive new forms of care coordination supports. In the first three calendar quarters after the launch of the Flexible Services program in early 2020, 3,329 members (about 0.3% of the ACO enrolled population) with HRSNs received nutritional and housing supports through the program.

Findings from the first 18 months showed substantial progress in implementing the program as designed and early evidence of progress on outcomes of interest. Early signs of improvement in clinical outcomes and progress in shifting utilization from high-cost to lower-cost outpatient settings while maintaining high levels of member satisfaction are especially encouraging. With support from MassHealth, participating organizations have overcome many of the early challenges associated with developing new relationships, enhancing technology infrastructure, and operating under an integrated and accountable care model.

DSRIP Program Key Findings by Evaluation Domain

As summarized in Section II of the IEIR, the effects of DSRIP investments on member outcomes are conceptually mediated through transformation at the organizational and provider level leading to improvements in care processes, member outcomes, and health care cost trends. If these relationships hold, the impact of DSRIP programs will be greater for subgroups of members living with clinical and social conditions where these improvements might prevent adverse health consequences that manifest in acute service utilization, poor outcomes, and higher costs. Early findings were consistent with this logic. Below, we summarize our key findings within the first four domains addressed in the interim report.

Domain1: State, organizational, and provider-level actions promoting delivery system transformation

- **The state actively utilized DSRIP funding to support and engage health systems, practices, and providers in delivery system transformation while also modifying programs to help address organizational challenges and facilitate implementation.** Key state actions included hiring dedicated state-

[3] Source: MassHealth DSRIP Protocol effective July 1, 2017 – June 30, 2022

level staff, reorganizing internal operations to support DSRIP programs, and providing targeted Statewide Investments (SWIs) to enhance system capacity, such as community health worker training and loan repayment programs. Technical assistance to participating organizations was particularly valuable in promoting delivery system transformation.

- **The ACOs took significant actions to transform care and move toward an accountable and integrated care model**. ACOs established partnerships with CPs and refined workflows to better identify and address member needs. They used DSRIP funding to improve health information technology infrastructure, hire dedicated staff for care coordination, and launch Flexible Services (FS) programs to address health-related social needs.
- **CPs took actions and targeted resources to develop the capacity to operate under an accountable and integrated care model**. Examples include utilizing SWIs to facilitate staff recruitment, training, and retention, using DSRIP resources to enhance internal IT systems, and buIsnilding relationships and collaborations with ACOs, providers, and members. Early in the ACO and CP programs, there was extensive competition between organizations for staff recruitment. CPs reported facing challenges with hiring, low compensation levels, and staff burnout due to high caseloads and documentation requirements during the early implementation period.
- **Participating entities invested heavily within their organizations and across entities to develop, test, and align strategies to improve coordination and collaboration during early implementation.** Successful strategies included regular meetings, co-location of staff, shared access to electronic health records (EHRs), working through key points of contact, and using DSRIP funds and support from MassHealth to address barriers presented by a lack of HIT interoperability and standardization in data sharing modalities.

Domain 2: Change in care processes

- **Hybrid and administrative quality measures of care processes improved from 2018 to 2019, including timeliness of prenatal care, antipsychotic medication management, and immunizations for children and adolescents.** Most ACO members responding to primary care, BH, and LTSS surveys reported positive care experiences in 2018 and 2019**.**
- **Based on member survey responses, access to physical care, BH care, and LTSS was timely without large year-over-year changes in 2018-2019.** Large decreases in rates of ED boarding (defined as an ED stay of >24 hours, as measured in administrative data) for members with BH conditions occurred from baseline (2015-17) to the early years of the DSRIP program (2018-2019); these findings suggest that access to diversionary and outpatient BH services improved.
- **Performance on an annual HRSN screening measure was low in the first year of the ACO program, and performance did not improve in 2019.** We note that HSRN screening was a new quality measure not yet in pay-for-

performance. Performance on a depression screening and follow-up measure improved from 2018 to 2019.

- **Progress has been made towards better integrating services and supports for MassHealth members.** Most MassHealth members responding to the primary care, BH, and LTSS surveys perceived care to be well-coordinated between their PCP and other providers in the early years of the DSRIP program. Most ACO provider and CP staff survey respondents reported high levels of coordination internally and with external providers, with a smaller majority reporting care was well coordinated with community resources.
- **Favorable shifts have occurred in service use among adult ACO members during 2018 and 2019, with increasing primary care visits and decreasing inpatient, post-acute, and low-value care rates.** Most adults in ACOs had at least one outpatient or preventative care visit annually during the study period, and this rate remained stable from baseline (2015-2017) to 2019.

Domain 3: Changes in member outcomes

- **Most member outcomes either improved (clinical results, hospitalization rates) or remained stable (self-reported health ratings) during the early years of the DSRIP program.** One exception was ED visits, which increased from baseline in 2018 and decreased in 2019.
- **Member ratings of their primary care, BH, and LTSS providers were consistently positive in 2018 and 2019 among respondents to the adult and child surveys.**

Domain 4: Change in healthcare cost trends

Program-wide, ACO expenditures on healthcare services (which do not include DSRIP investments) were close to cost benchmarks set by MassHealth during the first year of the program. Limited conclusions can be drawn from these early financial data, which address how well ACOs performed in the first year of the program against benchmarks established by MassHealth with built-in expectations of cost reductions. The financial impacts of delivery system reforms are expected to take multiple years to manifest. Performance against these benchmarks set by MassHealth does not address the question of whether costs are moderated compared with the counterfactual scenario where MassHealth did not implement the ACO program.

Goals 1,2 and DSRIP Recommendations

The interim findings summarized here and described in more detail in the full report have been used to inform program modifications for MassHealth and its stakeholders. We have also included a series of recommendations for MassHealth's consideration during the next phase of the DSRIP program in Section IIE of the full report.

Goal 3: Maintain near-universal health insurance coverage (IEIR Section III)

This Demonstration goal invests in several new and existing programs to facilitate and sustain enrollment in health insurance coverage, including premium assistance, cost-sharing subsidies, coverage wrap, and/or gap coverage for select populations. The primary objective of the Goal 3 interim evaluation was to track the rates of health insurance coverage in MA and the implementation and enrollment in programs designed to maintain coverage.

Goal 3 Key findings

Massachusetts and the state's Medicaid program have maintained near-universal health insurance coverage during the Demonstration. New and existing programs have supported high coverage rates by assisting members with accessing programs and sustaining enrollment, including premium assistance, cost-sharing subsidies, coverage wrap, and gap coverage for select populations.

Massachusetts continues to lead the nation in maintaining health insurance coverage, averaging about 3% uninsured before and during the Demonstration period. Massachusetts has experienced a downward trend in churn rate on and off of coverage during this Demonstration. Several programs, such as Employment-sponsored Insurance (ESI) Premium Assistance and Health Connector subsidies to support Qualified Health Plan (QHP) take-up, have been shown to have continued value in supporting near-universal coverage for the state's residents under this Demonstration.

Goal 4: Sustainably support safety net providers to ensure continued access to care for Medicaid members and low-income uninsured individuals (IEIR Section IV)

Sustainably supporting safety net providers has been a vital part of Demonstration efforts in Massachusetts since the state's Safety Net Care Pool (SNCP) was created in July 2005. Massachusetts uses SNCP authorities to provide financial support to MassHealth safety net providers; to fund specific state health programs; to pay hospitals, community health centers (CHCs), and institutions for mental diseases (IMDs) for services provided to uninsured and low-income individuals; and to support delivery system transformation and infrastructure and capacity building for safety net providers. This Demonstration increases the proportion of risk-based payments, through Public Hospital Transformation and Incentive Initiatives (PHTII) and Safety Net Provider Payments (SNPP), to selected safety net hospitals (SNHs) for quality performance and uncompensated care costs. PHTII and SNPP are both parts of the SNCP.

The Demonstration evaluation examines the impact of changes to the SNCP on healthcare quality performance, financial sustainability, and uncompensated care costs at safety net hospitals. Study methods included descriptive statistics and multivariable modeling developed from the baseline period (CY2015-2017) to compare observed to expected performance in the demonstration period (CY2018-2019) in the Managed Care Eligible population.

Goal 4 Key Findings:

Safety net hospitals showed mixed performance on quality metrics in relation to risk-based safety fund investments and some signs of decreased aggregate uncompensated care costs during Demonstration to date. The interim findings suggest that the 15 SNHs in MA that receive either PHTII or SNPP had reduced unplanned acute hospitalizations and hospitalizations due to acute ambulatory care sensitive conditions, chronic ambulatory care sensitive conditions among adults, or pediatric asthma. However, they also had reduced rates in Adult Access to Preventive/Ambulatory Health Services, and Initiation/Engagement of Alcohol, Opioid or Other Drug Abuse or Dependence Treatment. Overall, aggregate uncompensated care costs across the 14 SNPs that receive only SNPP decreased during the Demonstration; however, this trend needs to be further examined over a longer period of time and validated with similar cost report to inform a comprehensive review of trends. With an increasing proportion of SNCP payment at risk for SNHs, providers are showing performance improvement; but it might be too early to see broad impacts for this program.

Goal 5: Address the opioid addiction crisis by expanding access to a broad spectrum of recovery-oriented substance use disorder services (IEIR Section V)

This Demonstration goal makes changes to substance use disorder (SUD) services to improve statewide capacity, divert SUD patients from inpatient hospital settings to community-based environments, and respond to the opioid crisis. The Goal 5 activities include coverage for residential rehabilitation services, recovery support navigators, and recovery coaches. MassHealth implemented coverage in a phased approach, starting in March 2018. Expanded services were covered for most members as of July 2018, the implementation date designated for the interim evaluation.

Goal 5 Key Findings:

The utilization of new SUD services covered by MassHealth has increased over the initial Demonstration period. Utilization of the new services covered by MassHealth as part of the Demonstration, American Society of Addiction Medicine (ASAM) 3.1 residential rehabilitation services, recovery support navigators, and recovery coaches increased through the six calendar quarters after implementation.

Trends in care quality and outcomes varied pre- to post-implementation of expanded SUD services. Interim analyses indicate an encouraging change in trend in several measures, including fatal overdoses, all overdoses, Medication for Opioid Use Disorder (MOUD) providers, and inpatient visits among members with any SUD diagnosis, all of which improved relative to baseline trends. Caution should be taken in attributing these changes in SUD measures solely to the expansion of SUD services. Other factors may be responsible for the lack of positive trend data for other measures. Several external factors, including exacerbations of the opioid epidemic and multiple concurrent initiatives conducted at the state, local, and national level during the Demonstration period to address the opioid crisis, as well as ACO implementation, may impact our interim findings, as discussed in detail in Section V of the full report.

Goal 6: Continuing to provide coverage to former foster care (FFC) youth who aged out of foster care under the responsibility of another state (IEIR Section VI)

The Affordable Care Act (ACA) offered state health coverage to former foster care (FFC) youth who aged out of foster care while under the responsibility of another state and are currently living in Massachusetts. This Demonstration goal shifts expenditure authority from the State Plan to the Waiver to continue Medicaid coverage to FFC youth under age 26 and aged out of foster care under the responsibility of another state, putting both populations under the same funding mechanism. By providing care to FFC youth from other states, MassHealth aims to increase and strengthen overall health insurance coverage and improve health outcomes for these youth. This evaluation compares FFC youth with non-FFC youth matched with FFC youth by demographic characteristics, Medicaid coverage type, and clinical characteristics.

Goal 6 Key findings:

Overall, the Demonstration provided continuous health insurance coverage for FFC youth. The percentage of FFC youth continuously enrolled in MassHealth was 69.9% in FY18 and 68.4% in FY2019; FFC youth were enrolled for an average of 310 days in FY18 and 312 days in FY19.

FCC youth utilized health and behavioral health services at a rate comparable to non-FCC youth and had a slightly higher but not statistically significant rate of pharmacy use than non-FFC youth. FFC youth had a rate of at least one adult preventive/ambulatory health visit, comparable to non-FFC youth during this evaluation period.

Goal 7: Ensure the long-term financial sustainability of the MassHealth program through refinement of provisional eligibility and authorization for SHIP Premium Assistance (IEIR Section VII)

This Demonstration removes provisional eligibility (PE) coverage for non-exempted Medicaid applicants without income verification. As initially designed, PE was available to most MassHealth applicants when an individual's eligibility factors (e.g., income, residency) could not be readily verified with federal and state data. Applicants were given a 90-day window during which they would receive the full benefits associated with their category of eligibility based on self-attested information. With the new PE policy under this Demonstration, as of July 1, 2018, Massachusetts no longer provides PE for adult applicants with unverified income, except for individuals in a few exempted categories.

The Demonstration also authorized MassHealth to pay premiums, cost-sharing assistance, and benefit wrap-around coverage for Medicaid member students to enroll in commercial plans offered by post-secondary schools through its SHIP Premium Assistance (PA) program.

Goal 7 Key findings:

Evaluating the impact of the changes to PE coverage was not possible in the interim evaluation report due to data limitations. Both Medicaid Management Information System data and Daily Data Extracts were investigated as data sources for the interim evaluation. As discussed in Section VII of the report, the evaluation approach will be refined to allow examination of the changes to PE in the Summative report.

Premium and cost-sharing assistance and wrap-around coverage for Medicaid member students were associated with lower MassHealth expenditures. The actual cost to MassHealth for the SHIP PA program was about half the estimated cost compared to other coverage options. The savings to MassHealth were approximately $210 million over four years. SHIP PA members also indicated satisfaction with the program and improved health care service access, based on a MassHealth survey.

As noted in the report, despite the estimated cost savings and overall student satisfaction with the program, MassHealth decided, after internal data analysis, to end the program at the end of the 2019-2020 academic year and to transition participants to other MassHealth managed care plans for which they were otherwise eligible. This decision was made due to a large projected premium increase for non-Medicaid members on the commercial Student Health Insurance Plan.

Independent Evaluation Summary and Next steps:

Overall, our interim findings describe multiple areas of progress in the early years of Demonstration implementation. The interim evaluation has also served to identify areas where additional time, experience, and data will round out our understanding of the full impact of the Demonstration on the MassHealth population. The Summative Independent Evaluation report, covering the entire 1115 Demonstration period, will explore issues of causal inference and the relationship between Demonstration initiatives and overall program goals based on longitudinal data.

I. Overview of the Massachusetts Section 1115 Demonstration and Independent Evaluation

A. General Background Information

This is the Independent Interim Evaluation Report (IEIR) for the MassHealth Section 1115 Demonstration ("Demonstration") extension approved by CMS on November 4, 2016. This IEIR examines Demonstration activities from July 1, 2017, to December 31, 2020.

Through the Demonstration extension, MassHealth sought to advance seven goals:

- Goal 1: Enact payment and delivery system reforms that promote integrated, coordinated care and hold providers accountable for the quality and total cost of care
- Goal 2: Improve integration of physical, behavioral, and long-term services
- Goal 3: Maintain near-universal coverage
- Goal 4: Sustainably support safety net providers to ensure continued access to care for Medicaid and low-income, uninsured individuals
- Goal 5: Address the opioid addiction crisis by expanding access to a broad spectrum of recovery-oriented substance use disorder services
- Goal 6: Ensure access to Medicaid services for former foster care individuals between the ages of 18 and 26, who previously resided in another state
- Goal 7: Ensure the long-term financial sustainability of the MassHealth program through the refinement of provisional eligibility and authorization for SHIP Premium Assistance

1. Demonstration Population

MassHealth, the Massachusetts Medicaid and Children's Health Insurance Program (CHIP) program, serves over 1.9 million Massachusetts residents.[4] Most MassHealth members live in low-income households, and a significant portion faces housing

[4] MassHealth. 2021. MassHealth Snapshot Enrollment Summary of December 2020 Caseload. Unpublished report.

insecurity. Three-quarters of non-elderly MassHealth members live in working households, with employment mainly in the food service, sales, transportation, and administrative support sectors.[5] Most MassHealth members have very low incomes; two-thirds of enrollees had incomes below 86% of the federal poverty level (FPL) in 2018.[6] In a 2019 survey, one in ten MassHealth enrollees experienced homelessness or unstable housing in the past year.[7] With the global COVID-19 pandemic and economic downturn, Massachusetts residents' financial circumstances have likely worsened since this data was collected.

The Demonstration covers most Massachusetts Medicaid and CHIP members. Exclusions from the Demonstration are as follows. Refugees served through the Refugee Resettlement Program are not covered by the MassHealth Demonstration. Individuals aged 65 and older are only covered under the Demonstration in certain circumstances, including SUD treatment services and CommonHealth 65. PACE enrollees are only covered by the portion of the Demonstration that addresses the treatment of veteran annuity payments. [8]

2. Brief History of the Demonstration

Massachusetts uses the Demonstration to pilot innovative strategies for delivering and financing health care for many of its MassHealth enrollees.

Since its launch in 1997, the Demonstration has served as a vehicle for expanding coverage, encouraging better coordination and cost containment through managed care, and supporting safety net providers. The Demonstration was an essential component to Massachusetts' 2006 health care reform efforts which included changes in Medicaid eligibility and the establishment of the Massachusetts Health Connector insurance marketplace.

Following national trends, Massachusetts faced rising health care costs across public and private sectors. In 2012, Massachusetts passed legislation (Chapter 224) to address the high cost of health care and the need for better care integration. The legislation set health care cost benchmarks for the state and created a new state agency, the Health Policy Commission (HPC), to monitor health care costs across all

[5] MassHealth: The Basics - Facts and Trends. Blue Cross Blue Shield of Massachusetts Foundation (October 2020). Slide 14. Accessed at: https://www.bluecrossmafoundation.org/publication/masshealth-basics-facts-and-trends-october-2020

[6] Faces of MassHealth: Portrait of a Diverse Population. Blue Cross Blue Shield of Massachusetts Foundation (chart pack) (May 2019). Slide 6. Accessed at: https://www.bluecrossmafoundation.org/publication/faces-masshealth-portrait-diverse-population

[7] Faces of MassHealth: Portrait of a Diverse Population. Blue Cross Blue Shield of Massachusetts Foundation (chart pack) (May 2019). Slide 16. Accessed at: https://www.bluecrossmafoundation.org/publication/faces-masshealth-portrait-diverse-population

[8] MassHealth Special Terms and Conditions (STCs) 26 (March 31, 2021) accessed at: https://www.mass.gov/service-details/1115-masshealth-demonstration-waiver

payers. The legislation also directed MassHealth to implement new ways of paying for and delivering more integrated care. In addition to rising health care costs, Massachusetts faced an opioid addiction crisis. As in other states, opioid overdose deaths have dramatically increased in Massachusetts.

In the summer of 2016, Massachusetts sought a sixth extension of the Section 1115 Demonstration. Among other goals, the sixth extension aimed to improve care delivery, control costs, and address the opioid epidemic. On November 4, 2016, the Centers for Medicare and Medicaid Services (CMS) approved the Demonstration extension for July 1, 2017, through June 30, 2022. The extension did the following (described in further detail in 1.3 below):

(a) allowed for the development of new delivery systems to better integrate care and control costs;
(b) expanded coverage for SUD treatment;
(c) continued and modified authority for expanded coverage; and
(d) modified supplemental hospital payments.

Amendments to the current Demonstration were approved on December 14, 2017, June 27, 2018, and May 23, 2019. As described in more detail in **I.A.c** below, these amendments made minor changes to how MassHealth eligibility is determined.

3. Demonstration Changes in the July 2017 – June 2022 Extension

New delivery systems

The Demonstration extension seeks to transform the delivery of care for most MassHealth members through the implementation of the Medicaid Accountable Care Organization (ACO) program, the Community Partner (CP) program; the Flexible Services Program; and a series of Statewide Investments (SWI). These care delivery transformation efforts were supported through the Delivery System Reform Incentive Payment (DSRIP) program.

ACOs are provider entities responsible for integrating care and moderating rising health care costs while maintaining or improving quality. ACOs are held financially accountable for the cost and quality of their members' care. There are three types of MassHealth ACOs:

(1) Accountable Care Partnership Plans (also referred to as "Model A ACOs");
(2) Primary Care ACOs (also referred to as "Model B ACOs"); and
(3) MCO-Administered ACOs (also referred to as "Model C ACOs").

MassHealth contracted with 17 ACOs, and the program began in March 2018. As of December 31, 2020, 1,065,832 MassHealth members were enrolled in an ACO, representing about 83% of the overall managed care population of 1.279 million.

Community Partners (CPs) are responsible for coordinating and managing care for individuals with behavioral health and/or LTSS needs. CP supports have been made available to certain members enrolled in ACOs and managed care organizations (MCOs) and a subset of clients of the MA Department of Mental Health. MassHealth contracts with 27 CPs, including 18 Behavioral Health Community Partners (BH CPs) and nine Long-Term Services and Supports Community Partners (LTSS CPs). The CP program launched in July 2018. As of December 31, 2020, 123,872 MassHealth members had enrolled in the Community Partners Program. MassHealth also provided infrastructure and capacity-building funds to CPs and to 19 Community Service Agencies (CSA) that provide care coordination support for children with serious emotional disturbance.

The Flexible Services Program (FS) provides funding to address specific health-related nutritional and tenancy needs for ACO members. The program launched in January 2020. As of December 2020, 16 ACOs have partnered with 35 social service agencies to offer flexible services.

A portion of the DSRIP program funds a series of eight Statewide Investments (SWI) designed to address gaps in the statewide delivery system to build capacity for offering integrated, high-quality care for all members.

More detail on DSRIP and the evaluation of related demonstration initiatives can be found in Section II of this Interim Report.

Expanded SUD treatment coverage

In response to the opioid epidemic, the Demonstration extension allowed for an expansion of SUD treatment services. The Demonstration now gives MassHealth expenditure authority for residential rehabilitation services, (RRS), ASAM 3.1 and ASAM 3.3 services, previously provided at state cost by the Department of Public Health's Bureau of Substance Addiction Services (BSAS). ASAM Level 3.1 services are clinically managed low-intensity residential support services and transitional support services provided to an individual with a substance use disorder in a 24-hour setting, and ASAM 3.3 services are specialized 24-hour treatment services to meet more complex needs. MassHealth also added two new services: Recovery Support Navigator services, providing an individual with a SUD with a navigator to develop and monitor a recovery plan in conjunction with the member; and Recovery Coach services, providing an individual with SUD with a person with SUD lived experience to serve as a recovery guide and role model, providing nonjudgmental problem solving and advocacy to help members meet their recovery goals.

Recovery Coach services and Recovery Support Navigator services were implemented first in ACOs, MCOs, and the behavioral health vendor for the PCC Plan and Model B ACOs in July 2018. These services were expanded to One Care, Senior Care Options, and fee-for-service programs in January 2019. Demonstration SUD coverage includes

members over 65, a group typically excluded from the Demonstration. **Section V** of this interim evaluation addresses expanded SUD treatment coverage in more detail.

Continued and modified authority for expanded coverage

The current Demonstration invests in several programs to facilitate and sustain enrollment in insurance coverage. Some have been ongoing, such as:

1) expanded Medicaid eligibility;
2) streamlined redetermination procedures for select MassHealth members;
3) comprehensive enrollment materials and training to support consumer choice;
4) premium subsidies to low-income individuals to purchase commercial health insurance through the Health Connector;
5) premium assistance, coverage of out-of-pocket expenses, and a coverage wrap for members with Employer-Sponsored Insurance (ESI) through the Premium Assistance program; and
6) improved eligibility system and website/consumer functionality.

Other programs are new or newly funded by waiver authority in the current Demonstration period, including:

1) Premium Assistance for the Student Health Insurance Program (SHIP);
2) Health Connector cost-sharing subsidies for members in ConnectorCare;
3) The CommonHealth 65+ program (extending federal financial participation to CommonHealth coverage for individuals over age 65); and
4) An income disregard of state veteran annuity payments for Medicaid eligibility determination and post-eligibility treatment of income (PETI).

Sections III, VI, and VII of this interim report address the changes mentioned in the areas of SUD treatment coverage and continued and modified authority for expanded coverage.

Changes to Safety Net Care Pool

The Demonstration extension included changes to the Safety Net Care Pool (SNCP). The SNCP consists of DSRIP (described above), Designated State Health Programs (DSHP) that cover Health Connector subsidies, and a series of provider payments made to hospitals, Community Health Centers (CHCs), Institutes of Mental Disease (IMDs), and other providers. **Section IV** of this interim report addresses some of the changes made to provider payments under the SNCP.

4. Waiver Amendments and Implications for the Evaluation

Since initial approval in November 2016, amendments to the Demonstration Extension were approved by CMS in December 2017[9], June 2018[10], and May 2019[11].

The December 2017 amendment modified which MassHealth members may self-attest their income and receive provisional eligibility while their eligibility is undergoing verification. This amendment also expanded authority to cover former foster care youth who "age out" of foster care in another state but now live in Massachusetts. The June 2018 amendment allowed certain members who receive state-funded veteran annuity income to disregard it as income against MassHealth eligibility. The May 2019 amendment further addressed how individuals with a state-funded veteran annuity may count that income.

5. COVID-19 Implications for the Demonstration Implementation and Evaluation

MassHealth, with support from the federal government in the form of a COVID-19 Public Health Emergency (PHE) Demonstration, 1135 waivers, Appendix K authority, and Disaster State Plan Amendments and other actions, implemented multiple policy and programmatic changes intended to promote continued access to health care services and health insurance coverage during the COVID-19 pandemic. As recommended in CMS technical assistance guidance published in the fall of 2020[12], the IEIR provides an appropriate COVID-19 context concerning the impact of the pandemic on the Demonstration and the Evaluation focusing on the challenges of collecting primary data during the pandemic, isolating demonstration effects, and discussing potential implications for interpreting findings.

The pandemic required MassHealth to make several real-time policy changes that impacted the implementation of Demonstration programs. Emergency regulations had a significant impact on approaches used by ACOs and CPs to deliver integrated care. Among other things, requirements for the use of telehealth services were relaxed to allow participating providers to provide care to more members remotely. MassHealth

[9] CMS approval of MassHealth Demonstration amendment (December 14, 2017), accessed at ma-masshealth-demo-amndmnt-appvl-dec-2017.pdf (medicaid.gov)
[10] CMS approval of MassHealth Demonstration amendment (June 27, 2018), accessed at https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ma/MassHealth/ma-masshealth-demo-amndmnt-appvl-jun-2018.pdf
[11] CMS approval of MassHealth Demonstration amendment (May 23, 2019), accessed at ma-masshealth-demo-amndmnt-appvl-jun-2018.pdf (medicaid.gov) https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ma/MassHealth/ma-masshealth-appvd-demo-amndmnt-20190523.pdf
[12] CMS. Implications of COVID-19 for Section 1115 Demonstration Evaluations: Considerations for States and Evaluators. Accessed at https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/1115-covid19-implications.pdf

also introduced changes to the Flex Services program to mitigate the impact of the pandemic on members, including creating an expedited approval process for COVID-19 specific FS proposed programs. The Delivery System Reform Implementation Advisory Council (DSRIC), comprised of participating providers and Demonstration stakeholders and convened by MassHealth, was utilized to share best practices among DSRIP stakeholders during the pandemic. With approval from CMS, MassHealth used pre-pandemic performance measures to determine ACO and CP quality scores for 2020 and extend when certain ACO and CP measures transition to pay-for-performance. These and other pandemic-related changes to the Demonstration are discussed in greater detail throughout the IEIR. A complete list of pandemic-era policy changes to Demonstration programs can be found in MassHealth's Annual Section 1115 report.[13]

Examples of COVID-19 impacts on the Evaluation discussed in the Sections that follow include delays and the need to modify approaches to DSRIP primary data collection efforts such as the provider survey, member experience interviews, and site visits. Data collection for Goals 3,4, 6, and 7 were also delayed, as organizations that report primary or secondary data of interest have had to prioritize COVID-related activities. Examples of delayed data receipt include reports needed for secondary data analysis for Goals 3 and 4 and primary data (e.g., enrollment data for the pool of foster care children who moved from other states) for analyses related to Goal 6.

B. Independent Evaluation Design

1. Introduction to Evaluation Design

Massachusetts submitted a draft evaluation design document (EDD) for the overall Demonstration to CMS in March 2017 and received CMS comments in January 2018. In February 2018, CMS approved Massachusetts' request to combine the overall Demonstration and DSRIP evaluation designs into a revised, unified EDD and extended the deadline for submitting the revised EDD to June 2018. Massachusetts received and responded to several rounds of CMS comments on evaluation design and submitted a final evaluation design document to CMS in December 2018.

The development of the revised EDD was guided by the Demonstration Special Terms and Conditions (STCs), CMS comments on the previous drafts of the EDD, and subsequent communications with CMS. The revised EDD also incorporated feedback from MassHealth stakeholders and advisory groups and guidance from an independent Scientific Advisory Committee (SAC) comprised of national experts in health services research and Medicaid transformation. The revised EDD addresses research questions

[13] MassHealth Demonstration Year 23 Annual Report, accessed at https://www.mass.gov/doc/section-1115-demonstration-waiver-annual-report-fy20-0/download

and hypotheses suggested by CMS in the STCs and incorporates the evaluation design for DSRIP (see Section II).

Massachusetts received an official approval of the EDD in January 2019. The approved EDD can be accessed directly on the MassHealth website.[14]

2. Logic model Frameworks for the Demonstration

Figures I.B.b.1 and 2 below provide summary logic model frameworks for Goals 1 and 2 (inclusive of DSRIP – **Figure I.B.b.1**) and Goals 3-7 (**Figure I.B.b.2**). These logic models link the Demonstration Goals to the Demonstration initiatives to the specific desired Activities ("secondary drivers"), Outputs ("primary drivers"), and Outcomes ("purpose") of the Demonstration.

[14] See MassHealth website for full Evaluation Design Document (EDD): https://www.mass.gov/doc/ma-independent-evaluation-design-1-31-19-0/download

Figure I.1. Demonstration Logic Model: Goals 1 and 2 and the DSRIP Program

A. Demonstration Initiatives	B. Activities **Interventions/Programs[1] Delivery System Changes at the Organizational Level**	C. Outputs[2] **Improved Care Processes at the Organization Level**	D. Outcomes[2] **Improved Member Outcomes, Cost Trends, and Program Sustainability**
• DSRIP Funding (ACOs, BH CPs, LTSS CPs, CSAs, Statewide Investments) • State Operations and Implementation Funding (DSRIP and other sources) • Internal ACO and CP Program planning and investments	• ACO unique actions • CP unique actions • ACO, MCO, and CP common actions • Statewide Investments in: ○ Community-based workforce ○ Capacity building for ACOs and CPs (i.e. technical assistance and supporting APM adoption) ○ Addressing gaps in statewide care delivery (i.e. reducing emergency room boarding and improving accessibility for people with disabilities or for whom English is not a primary language)	• Identifying and addressing member needs • Access to care • Member engagement • Care plans and processes • Care integration • Cost management	• Improved member outcomes • Moderated cost trends • Program sustainability

The DSRIP Interim Evaluation will use a mixed methods design to evaluate delivery system actions, preliminary changes in care delivery, and preliminary outcomes during Performance Years PY0 to PY3 (07/01/2017 to 12/31/2020). The Summative Evaluation will use a mixed methods design to evaluate delivery system actions, changes in care delivery, and outcomes for the entire Demonstration period PY0-PY5 (07/01/2017 to 12/31/2022)
[1]See Appendix C for full list of DSRIP Research Questions and Hypotheses for more detail
[2]See Appendix F for full list of access and quality measures

Figure I.2. Demonstration Logic Model: Goals 3 to 7

Figure 2. Demonstration Logic Model: Goals 3-7

A. Demonstration Initiatives	B. Activities Interventions/Programs	C. Outputs	D. Outcomes
Goal 3: Maintain near-universal coverage			
• Student Health Insurance Program • CommonHealth 65+ • ConnectorCare • Employer-Sponsored Insurance	• Implementation of new and modified initiatives • Continued operation of existing programs	• Progressive increases in SHIP and Commonwealth 65+ enrollment • Maintenance of enrollment in ESI • Increased LTSS utilization among CommonHealth 65+ members	• Overall insurance rate remains high • Decrease in percentage of MassHealth members with a gap in coverage 45 days or longer
Goal 4: Sustainably support safety net providers to ensure continued access to care			
• Public Hospital Transformation and Incentive Initiative • DSH Pool • UCC Pool	• Implementation of modified SNCP, including increased performance-based payments ○ Increased portion of at-risk funding under PHTII and SNPP to help improve care quality	• Improved care quality at SNCP hospitals • Uncompensated care costs do not increase	• SNCP hospitals exhibit quality improvement, including access measures • Delivery reform efficiencies lead to savings for hospitals that counter-balance reduced supplemental payments, without compromising patient care
Goal 5: Address the opioid addiction crisis by expanding access to a broad spectrum of recovery-oriented substance use disorder services			
Implementation of new SUD residential and recovery support services	• Improved SUD service capacity • Diversion from inpatient to outpatient services • New residential and recovery support services	• Improved SUD identification, treatment initiation, and engagement • Improved access to care for comorbid physical and mental health conditions for anyone with SUD diagnosis • Improved adherence to treatment among individuals with SUD diagnosis	• Decreased ED utilization and inpatient hospital settings • Fewer opioid-related deaths
Goal 6: Ensure access to Medicaid services for former foster care members 18-26 years of age			
Strengthening coverage for former foster care youth	• Provide continuous coverage for foster care youth who previously resided in another state	• Continuous eligibility for health coverage for foster care youth • Foster care youth access care at rates comparable to other MassHealth members	• Former foster care individuals have positive health outcomes comparable to members with similar characteristics using established measures
Goal 7: Ensure long-term MassHealth sustainability			
• Updated Provisional Eligibility requirements • SHIP Premium Assistance	• MassHealth implements changes to provisional eligibility • MassHealth implements new SHIP Premium Assistance	• Fewer provisionally eligible individuals ultimately deemed ineligible • Progressive increase in SHIP enrollment	• Lower expenditures due to less provisional coverage unnecessarily provided to ineligible individuals • Cost savings due to SHIP • Improved member experiences and network access due to SHIP PA program

An overview of the methods used to evaluate Demonstration initiatives and programs follows. More detail related to the evaluation approach for specific Demonstration goals, research questions, and hypotheses are provided in subsequent sections of this Interim Evaluation.

3. Summary of the Evaluation Design

Data Analysis

Evaluation methods and data analysis vary by Goals, research questions, and related hypotheses. Specific methods and analyses are detailed in subsequent sections of this EDD associated with each Demonstration goal. Overall, the most appropriate qualitative, quantitative, and mixed methods approach for each research question has been deployed, based on the data available.

Section II describes the evaluation plan and interim findings for Demonstration Goals 1 and 2 and the DSRIP Program. The DSRIP interim evaluation (covering the Demonstration period 07/01/2017 – 12/31/2020 with a focus on 01/01/2015 – 12/31/2017 (baseline) and 01/01/2018 – 12/31/2019 for analyses of Medicaid administrative data). The IEIR focuses on the early implementation of the DSRIP and presents findings related to the first four of the six evaluation Domains. The summative evaluation (covering the entire Demonstration period 07/01/2017 – 06/30/2022, and the five DSRIP performance years ending 12/31/2022) will evaluate the DSRIP program across all Domains including the extent to which the investments made through the DSRIP program contributed to achieving the Demonstration goals as described in the STCs.[15]

In summary, mixed methods have been used for the IEIR to evaluate the extent to which state, organizational, and provider-level actions promoted delivery system transformation in six domains. Surveys, administrative data, and qualitative data, including document review, in-depth interviews, and case studies, have been collected and analyzed to understand how key stakeholders experienced delivery system changes. Quantitative analyses, including descriptive statistics, are used to characterize the demographic, clinical, and social characteristics of MassHealth populations (e.g., all managed care eligible members, all ACO enrollees, or MCO enrollees). Changes in member characteristics were tracked from 2015 (start of the baseline period) through 2019. Process and outcome measures were calculated for each population group in each year. These included quality metrics specified by the state for ACO and CP accountability and additional measures derived from administrative data or collected from primary sources (e.g., member and provider/staff surveys). Changes in study population characteristics and measure performance over time are described.

[15] See MA revised eval design (vet annuity disregard) approval letter_Signed.pdf (medicaid.gov)

Multivariable modeling was then used to understand how observed (i.e., crude, unadjusted) changes can be accounted for by shifts in the demographics, medical complexity, and other needs of the enrolled population.

The above methods will be applied to data for the entire Demonstration period in the summative evaluation. Additionally, quasi-experimental design methods will be used to address the question of how what “happened" compares to what "might have happened" in the absence of the Demonstration, both for the population overall and those subject to specific intervention components. Quasi-experimental design methods, such as interrupted time series, will be used to look for changes that occur as interventions are rolled out, propensity-score methods to identify highly comparable comparison groups, and sensitivity analyses to examine the robustness of findings of alternative analytic approaches. The EDD also provides details of the analytic approaches planned for evaluating cost-effectiveness, when appropriate and feasible, in the Summative Evaluation.

MassHealth identified interest in understanding the impact of the Demonstration on targeted subpopulations such as recipients of BH and LTSS CP supports and flexible services. MassHealth is especially interested in understanding differences in services received and related outcomes based on referral or non-referral to specific new programs – e.g., the BH and LTSS CPs. MassHealth is also seeking a deeper understanding of the effectiveness of specific approaches to promoting health system transformation (e.g., the effectiveness of requiring new collaborations between ACOs and CPs, the added value of CP care coordination supports for members with complex BH and LTSS needs, et al.).

Sections III-VII of the EDD address Demonstration Goals 3 through 7, which apply a range of quantitative methods appropriate to each Goal. Quantitative analyses are used to understand the effects of Demonstration programs on specific measures and subpopulations. Section III (Goal 3) will examine whether a near-universal level of insurance coverage in Massachusetts was maintained during the Demonstration. Section IV (Goal 4) will focus on the effect of incentive-based payments for safety net hospitals on hospital performance and hospital sustainability. In Section V (Goal 5), the relationship between new substance use disorder (SUD) services and member access, utilization, healthcare costs, quality, and outcomes will be studied. Selected health care utilization and quality measures will also be examined for the subpopulation of former foster care individuals in Section VI (Goal 6). Finally, Section VII (Goal 7) will consider the fiscal effects of refinements to provisional eligibility requirements and implementation of SHIP Premium Assistance.

Evaluation Timeline: **Table I.B.1** provides a timeline for major evaluation-related milestones, including reports, tasks, and activities. This IEIR covers the first 3.5 years

(only the first 2.5 years for analyses relying on Medicaid administrative data) of the Demonstration.

Table I.1. 1115 Independent Evaluation Milestones

	MassHealth Waiver Extension (7/1/17-6/30/22)																													
	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022													
	Demo Year 1				Demo Year 2				Demo Year 3				Demo Year 4				Demo Year 5													
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4										
	CY 2017				CY 2018				CY 2019				CY 2020				CY 2021				CY 2022				CY 2023				CY 2024			
Key Milestones	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Submit draft Evaluation Design Document to CMS	X																													
CMS Feedback to original Evaluation Design Document					X																									
Revised Evaluation Design Document due to CMS June 30,2018						X																								
Independent Assessor MPA submission to CMS December, 2020																X														
Draft Interim Evaluation Report due to CMS June 30, 2021																		X												
Final Interim Evaluation Report due to CMS (TBD)																				X										
Draft Summative Evaluation Report due to CMS June 30, 2024																														X		
Final Summative Evaluation Report due to CMS (TBD)																																X
Task and Evaluation Activity																																
IRB																																
Develop/design protocols for IRB submission							X																									
IRB submission							X																									
Qualitative and Survey Methods*																																
Key informant interviews																																
Develop interview protocols					X	X	X		X	X	X	X					X	X	X	X												
Protocols and documents to MassHealth for review and comment								X	X		X	X	X	X				X	X	X												
Schedule and perform Key Informant Interviews																																
ACOs/MCOs/CPs									X	X	X							X	X													
State representatives														X	X					X	X											
Member interviews														X							X											
Transcribe, code, and analyze interview text										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
Site visits																																
Develop site visit protocols													X	X						X	X											
Protocols and documents to MassHealth for review and comment													X	X						X	X											
Schedule and perform ACO site visits																X					X	X										
Schedule and perform CP site visits																X					X	X										
Transcribe, code, and analyze interview text from site visits													X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					
Member surveys																																
Provide input into development of state's member experience surveys						X																										
MHQP fields member experience surveys									X	X			X	X			X	X			X	X										
Receive data collected from member experience surveys												X				X				X				X								
Analyze member survey data													X				X				X				X							
Provider Survey																																
Design/revise provider survey											X	X								X	X											
Protocols and documents to MassHealth for review and comment											X	X								X	X											
Administer provider survey														X	X	X						X	X									
Analyze provider survey data																X	X						X	X								
Quantitative Methods																																
Administrative data																																
Receive Medicaid administrative data							X				X				X				X				X				X					
Receive DPH, BSAS, and other data											X				X				X				X				X					
Data cleaning and preparation							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					
Data analysis								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			

C. Summary of Interim Findings

Detailed background on Demonstration goals, evaluation approach, interim evaluation findings, and recommendations can be found in sections II-VII that follow. Here we summarize findings at the highest level and refer readers to the appropriate IEIR sections for details.

1. Goals 1 & 2: Payment/Delivery Reform and Integration of Care

The Massachusetts DSRIP Demonstration is an ambitious and innovative program designed to transform and improve care delivery and health outcomes for most MassHealth members. Key components of the program implemented to date include two-sided risk contracts with ACOs, the creation of the CP program to coordinate care for certain members, funding of FS to address health-related social needs (HRSNs), and SWIs to enhance the workforce and provide other necessary supports for delivery system reform. These programs were in their earliest stages during the period evaluated in this interim report with less than two full years of cost, quality, and member experience data available post-implementation of ACOs in March 2018, CPs in July 2018, and FS in January 2020.

Here we summarize the interim findings at the Domain level. Detailed analyses supporting these findings and initial recommendations can be found in **Section II** of this report.

Domain 1: State, organizational, and provider-level actions promoting delivery system transformation

1. State actions, including the provision of DSRIP funds, were essential to engage health systems, practices, and providers in delivery system transformation. The state utilized DSRIP funding to support delivery system transformation in numerous ways.

2. The ACOs took significant actions to transform care and move toward an accountable and integrated care model.

3. CPs took specific actions and targeted resources to develop the capacity to operate under an accountable and integrated care model.

4. Participating entities invested heavily within their organizations and across entities to test strategies to improve coordination and collaboration during early implementation.

Domain 2: Change in care processes

5. Members reported that their BH and LTSS needs were well met during the early DSRIP implementation. Member perceptions of management of needs by PCPs were stable or improved from 2018 to 2019. Substantial room for improvement remains for identifying health-related social needs (HRSNs), which ACOs are required to screen for annually. The launch of 67 new FS programs in 2020 and the enrollment of more than 3,000 members in the first three quarters of the program (Q1-Q3 2020) suggest that ACOs had improved their ability to screen for HRSNs and refer members to social service organizations (SSOs) to address those needs.

6. Members reported that access to physical care, BH care, and LTSS was timely without large year-over-year changes in 2018-2019. Most adults in ACOs had at least one outpatient or preventative care visit annually, and most children had at least one primary care visit annually. Large decreases in rates of ED boarding (an ED stay of >24 hours, as measured in administrative data) for members with BH conditions occurred from baseline (2015-17) to the early years of the DSRIP program (2018-2019); these findings suggest that access to diversionary and outpatient BH services improved.

7. Most BH and LTSS member survey respondents reported a wide choice of services during care planning and that all needed services were included in their care plan. Most PC survey respondents reported that they discussed specific goals for their health with their PCP, with modest year-over-year improvement from 2018 to 2019. These findings suggest that members were effectively engaged in care planning. However, most ACO providers and CP staff did not perceive members with chronic conditions or those with BH and LTSS needs to be engaged in managing their health.

8. Most ACO members responding to PC, BH, and LTSS surveys reported a positive care experience and perceived care to be well coordinated between their PCP and other providers in 2018 and 2019. Most ACO provider survey and CP staff survey respondents reported high levels of coordination internally and with external providers, with a smaller majority reporting care was well coordinated with community resources.

9. During 2018 and 2019, there appear to be favorable shifts in service use among adult ACO members, with increasing rates of primary care visits and decreasing rates of inpatient, post-acute, and low-value care.

Domain 3: Changes in member outcomes

10. Member outcomes improved (clinical outcomes, hospitalization rates) or remained largely stable (self-reported health ratings) during the early years of the DSRIP program.

11. Member ratings of their primary care and BH providers were highly positive in 2018 and 2019 among respondents to the adult and child surveys.

Domain 4: Change in healthcare cost trends

12. Program-wide, ACO expenditures were close to policy benchmarks set by MassHealth during the first year of the program (2018). Mean ACO expenditures were 101.23% of total capitated payments/benchmarks.

2. Goal 3: Maintain near-universal health insurance coverage

This Demonstration goal invests in several new and existing programs to facilitate and sustain enrollment in health insurance coverage, including premium assistance, cost-sharing subsidies, coverage wrap, and/or gap coverage for select populations.

Goal 3 Research Question: Has near-universal coverage in MA been maintained after the implementation of Demonstration investments?

- Overall, Massachusetts has been able to maintain near-universal coverage since the implementation of the Demonstration.

- The uninsurance rate, defined as the number of uninsured as a percent of the state's total population in Massachusetts, averaged around 3% before and during the Demonstration period and was associated with an overall downward trend.

- The uninsurance rate in Massachusetts remained substantially below that of the US and lower, to varying levels, than the 23 comparison states that do not provide subsidies during the Demonstration.

- Massachusetts' uninsurance rate increased by 0.9 percentage point ($p<0.001$), *relative to* the larger drop of uninsurance rates in the comparison states during the demonstration period. Massachusetts' uninsurance rate has been low - the lowest in the nation - and thus it is hard for the state to achieve further reductions in the uninsurance rate when compared to other states.

- The churn rate, i.e., the percentage of MassHealth members with a coverage gap of ≥45 days in a 12-mont period, ranged from 1.35% to 2.74% during the Demonstration. After rising in 2017 and quarter one of 2018, the percentage of members with a coverage gap declined in each subsequent quarter of 2018.

- The churn rate among "new" members increased to almost 12% before the Demonstration but steadily decreased to 4% - 5% in late 2018.

- The number of individuals enrolled in a Qualified Health Plan (QHP) with the Health Connector subsidy program's assistance grew by nearly 200,000 over the four-year analysis period.

- The percent of eligible MassHealth members who received Employer-Sponsored Insurance (ESI) premium assistance slightly decreased during the Demonstration period, from almost 32% in January 2015 to just under 25% in October 2020.

- The total number of individuals receiving services paid for through the Health Safety Net (HSN) Trust Fund showed an overall decline prior to and during the Demonstration. After peaking at about 500,000 individuals in Fall 2015 (pre-Demonstration period), it fell to just below 250,000 in Spring 2020.

3. Goal 4: Sustainably support safety net providers to ensure continued access to care for Medicaid and low-income uninsured individuals

This Demonstration increases the proportion of risk-based payments, through Public Hospital Transformation and Incentive Initiatives (PHTII) and Safety Net Provider Payments (SNPP), to selected safety net hospitals (SNHs) for quality performance and uncompensated care costs. PHTII and SNPP are both part of the SNCP.

Goal 4 Research Question: What is the impact of safety net funding investments on safety net hospitals' quality performance and financial sustainability?

- Overall, Cambridge Health Alliance (CHA), which receives Public Hospital Transformation and Incentive Initiatives (PHTII) funds, has shown mixed performance in meeting the performance targets on the four PHTII measure slates completed to date. In FY18, CHA achieved all reported metrics for three of the four measure slates (behavioral health and primary care integration, comprehensive systems for treating mental health and substance use conditions, referral management and integrated care

management, and evidence-based practices for medical management of chronic conditions).

- CHA's performance on Measure Slate 2 (Comprehensive Systems for Treating Mental Health and Substance Use Conditions) increased from 54% of measures achieved in FY19 to 69% of measures achieved in FY20. Target achievement on the other three measure slates trended slightly negatively during this period, as measured by the percent of measures on which CHA reported having met or exceeded the performance targets.

- The 15 safety net hospitals receiving PHTII or SNPP had decreasing rates in Adult Access to Preventive/Ambulatory Health Services, Initiation of Alcohol, Opioid or Other Drug Abuse or Dependence Treatment, and Engagement of Alcohol, and Opioid or Other Drug Abuse or Dependence Treatment. Also, the rate of emergency department (ED) visits (overall, for primary care sensitive conditions, and adults with Serious Mental Illness (SMI) and Substance Use Disorders (SUD)) was higher than expected.

- The 15 safety net hospitals receiving PHTII or SNPP had reduced rates of acute unplanned hospitalizations and hospitalizations due to acute ambulatory care sensitive conditions, chronic ambulatory care sensitive conditions among adults, or pediatric asthma.

- Overall, aggregate uncompensated care costs across the 14 safety net hospitals that receive SNPP decreased (with a slight rebound from FY18 to FY19) during the Demonstration, based on the Uncompensated Care Cost Report. Individual hospital performance during the Demonstration showed that uncompensated care costs increased consistently for five hospitals, decreased consistently for two hospitals, and performance was mixed for the remaining seven hospitals during the evaluation period. The trend of cost change needs to be reviewed over a longer period of time and further validated (e.g., referencing the trends in other cost reports) to inform a comprehensive view of cost trends.

4. Goal 5: Address the opioid addiction crisis by expanding access to a broad spectrum of recovery-oriented substance use disorder service

This Demonstration goal makes changes to substance use disorders SUD services to improve statewide capacity, divert SUD patients from inpatient hospital settings to community-based environments, and respond to the opioid crisis.

Goal 5 Research Question: What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with SUD?

- Utilization of the new services covered by MassHealth as part of the Demonstration, American Society of Addiction Medicine (ASAM) 3.1 residential rehabilitation services, recovery support navigators, and recovery coaches increased through the six calendar quarters after implementation.

- Trends in utilization of some SUD services, including outpatient SUD visits, clinical stabilization services, structured outpatient addiction programs, outpatient withdrawal management and acute treatment services remained similar or decreased relative to baseline trends; this finding may be due in part to improving trends in service utilization during the baseline period related to other Demonstration activities, the early phase of Goal 5 service implementation, or other external factors.

- Although trends in utilization of SUD outpatient visits, outpatient withdrawal management, and acute treatment services decreased or remained flat in the post-implementation period relative to baseline trends, utilization of these services appeared to increase in early 2018 and were overall higher during the post-implementation period relative to the baseline period. The launch of the ACO program during Q1 2018 may have contributed to these findings.

5. Goal 6: Continuing to provide coverage to former foster care (FFC) youth who aged out of foster care under the responsibility of another state

The Affordable Care Act (ACA) offered state health coverage to former foster care (FFC) youth who aged out of foster care while under the responsibility of another state and are currently living in Massachusetts. This Demonstration goal shifts expenditure authority from the State Plan to the Waiver to continue Medicaid coverage to FFC youth who were under age 26 and aged out of foster care under the responsibility of another state, putting both populations under the same funding mechanism. By continuing to provide care to FFC youth from other states, MassHealth aims to increase and strengthen overall health insurance coverage and improve health outcomes for these youth.

Goal 6 Research Question: Does the Demonstration provide continuous health insurance coverage for FFC youth meeting specified eligibility criteria?

- The Demonstration provides reasonably continuous health insurance coverage for FFC youth. The percentage of FFC youth continuously enrolled in MassHealth was 69.9% in FY18 and 68.4% in FY2019; FFC

youth were enrolled for an average of 310 days in FY18 and 312 days in FY19.

Goal 6 Research Question: How did FFC youth utilize health services?

- FFC youth generally utilized health services at comparable but slightly lower rates than non-FFC youth. However, the differences were not statistically significant.

- FFC and non-FFC youth have comparable use of behavioral health services. Among these services (e.g., office visits, specialist visits, emergency transportation use, pharmacy use), the numbers of users are all small due to the overall size of the population.

- The proportion of FFC youth who have had at least one pharmacy use for behavioral health conditions was slightly higher than non-FFC youth (2.5 to 4.4 percentage points difference); however, the differences were not statistically significant.

Goal 6 Research Question: How do health outcomes for FFC youth compare to similar Medicaid members?

- FFC youth had a rate of at least one adult preventive/ambulatory health visit, comparable to non-FFC youth.

6. Goal 7: Ensure the long-term financial sustainability of the MassHealth program through refinement of provisional eligibility and authorization for SHIP Premium Assistance

This Demonstration goal removes provisional eligibility coverage for non-exempted Medicaid applicants without income verification. It authorized MassHealth to pay the premium and cost-sharing assistance and benefit wrap-around coverage for member students to enroll in commercial plans offered by post-secondary schools through its SHIP PA program.

Goal 7 Research Question: What is the effect of the Demonstration's refinement of provisional eligibility?

- This Research Question will be addressed in the summative report because the current data sources proposed in the EDD are not feasible for this analysis. We will be refining the Research Question based on what data are available and/or use different data sources.

Goal 7 Research Question: What is the effect of the Demonstration's authorization of SHIP Premium Assistance on MassHealth expenditures?

- Models show that the actual cost to MassHealth for the SHIP PA program was about half of what the total cost would have been if these members were not enrolled in SHIP PA. Across a four-year study period, the estimate of cumulative cost savings was $210.5 million.

- With SFY17 being an outlier year due to being a program start year, models show that the estimated cost savings per year to MassHealth would be somewhere between $63.8 to $70.8 million per year.

- As noted in the report, despite the estimated cost savings and overall student satisfaction with the program, MassHealth decided, after internal data analysis, to end the program at the end of the 2019-2020 academic year and to transition participants to other MassHealth managed care plans for which they were otherwise eligible.

II. Goals 1 and 2: Payment/Delivery Reform and Integration of Care

A. Overview of the DSRIP Program

1. Program goals and description

In 2016, MassHealth faced a situation familiar to health systems across the nation, a predominantly fee-for-service payment model lacking integration of services and contributing to poor care coordination, uneven health outcomes, and rising health care costs. MassHealth submitted their 1115 Demonstration extension request to CMS in July 2016, recognizing "it must move away from a fee-for-service system that rewards volume, and move toward a more common-sense approach that rewards value by paying providers on the basis of the cost and quality of health care."[16]

In their 2016 Demonstration request, MassHealth proposed a series of programs designed to transform health care delivery. The focal program, Accountable Care Organizations (ACOs), were new organizations that would be held responsible for the cost and quality of care. The "building blocks" of the ACOs are primary care practices. Each primary care practice site serving MassHealth members was given a choice:

1. Affiliate with at most one ACO or,
2. Remain in the legacy managed care system serving patients enrolled with managed care organizations (MCOs) or those enrolled with MassHealth's primary care clinician (PCC) plan.

[16] Massachusetts Executive Office of Health and Human Services. Section 1115 Demonstration Project Amendment and Extension Request (7/22/2016)

Before the launch of the ACOs on March 1, 2018, every managed care eligible MassHealth member was assigned to a primary care provider (PCP) based on historical PCP assignment indicative of an existing relationship. Members then had the option to change their PCP-based assignment to an ACO, MCO, or PCC plan until June 30, 2018, and annually thereafter during MassHealth' 's 90-day Plan Selection Period.[17]

MassHealth used Delivery System Reform Incentive Payment (DSRIP) program funding to motivate and support health systems to transition to an accountable and integrated care delivery model (see **Table II.A.a.1**). Above and beyond regular ACO payments for healthcare delivery, DSRIP provides time-limited financial support to assist ACOs in their transformation to population health management and value-based care. MassHealth calculated DSRIP funds and payments to ACOs for administrative expenses on a per-member basis to incentivize ACOs to recruit primary practices and their members.

In addition to funding ACO development, the DSRIP program funds a range of supports provided by community-based providers through the Community Partners (CP) Program and the Flexible Services (FS) program, which provides funding to address specific health-related nutritional and tenancy needs for certain ACO members. CPs offer supports to certain ACO and MCO members with significant behavioral health (BH) or complex long-term services and supports (LTSS) needs. Similarly, the DSRIP program also provides funding to Community Service Agencies (CSA) that provide care coordination support for children with serious emotional disturbance.

Neither the CP program nor the FS program are entitlements, meaning that there is limited support capacity for each. Assignment of members to the CP program was initially performed by MassHealth using algorithms based on diagnoses and utilization identified in administrative claims data. By the third year of the CP program, ACOs and their providers are expected to identify eligible members and assign them to CPs. ACOs develop individual FS programs, often in partnership with CPs or social service organizations (SSOs), and ACOs identify which ACO members will receive FS program supports. The FS program seeks to improve health outcomes and reduce the total cost of care using supports targeted to specific member health-related social needs.

Massachusetts also used DSRIP to fund a series of Statewide Investments (SWIs) designed to improve the health care system's capacity to serve MassHealth members. SWIs pay for various initiatives, including workforce development, accessibility initiatives, and delivery and payment reform readiness.

[17] There are exceptions to this Plan Selection Period. For more information, see 130 CMR 508.003

Table II.A.1. DSRIP Anticipated Funding Streams by Demonstration Year[18]

Funding Stream	DY1	DY2	DY3	DY4	DY5	Total	% of Total
ACOs (including Flexible Services)	$329M	$290M	$229M	$152M	$65M	**$1,066M**	59%
CPs (including CSAs)	$57M	$96M	$132M	$134M	$128M	**$547M**	30%
SWIs	$24M	$25M	$24M	$25M	$17M	**$115M**	6%
State Operations & Implementation	$15M	$15M	$15M	$15M	$15M	**$73M**	4%
Total:	**$425M**	**$425M**	**$400M**	**$325M**	**$225M**	**$1,800M**	

2. Accountable Care Organizations (ACOs)

ACOs are responsible for integrating care and moderating rising health care costs while maintaining or improving quality and member experience. ACOs are held financially accountable for the cost of care, quality of care, and member experience. As described above, ACO members are each assigned to a primary care provider. MassHealth intentionally centered the ACO program on primary care, reflecting its belief that primary care is essential to improving member health and experience.

ACO Models

There are three types of MassHealth ACOs:

(1) Accountable Care Partnership Plans (also referred to as Model A ACOs);

(2) Primary Care ACOs (also referred to as Model B ACOs); and

(3) MCO-Administered ACOs (also referred to as Model C ACOs).

MassHealth contracted with 17 ACOs when the program began in March 2018. As of December 31, 2020, approximately 1.07 million MassHealth members were enrolled in an ACO, representing about 84% of the overall MassHealth managed care eligible population of 1.28 million people. The remainder of the 1.28 million managed care eligible members were enrolled in Managed Care Organizations (MCOs) or the state-administered Primary Care Clinician (PCC) plan. Select characteristics of MassHealth ACOs and the corresponding distribution of members are summarized in **Table II.A.b.2**.

Table II.A.2. Select Characteristics of MassHealth ACOs and Distribution of ACO Members as of December 31, 2020

Characteristic	ACOs, n (%)	Members, n (%)
Overall	**17 (100)**	**1,076,963 (100)**
ACO Model		
Accountable Care Partnership Plans (Model A)	13 (76.5)	640,024 (59.5)

[18] Table and descriptions taken and modified from the DSRIP protocol, accessed at https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/82006

Primary Care ACOs (Model B)	3 (17.6)	425,808 (39.6)
MCO-Administered ACOs (Model C[a])	1 (5.9)	11,131 (1.0)
No prior risk experience	4 (23.5)	208,087 (19.3)
For-profit entity	2 (11.8)	181,469 (16.9)
ACO Type		
Physician or community health center anchored	3 (17.6)	228,009 (21.2)
Community hospital anchored	5 (29.4)	130,059 (12.1)
Teaching hospital anchored	9 (53.0)	718,895 (66.8)
ACO size (enrollees, all contracts)[b]		
Small (<50,000)	5 (29.4)	143,130 (13.3)
Medium (50,000-150,000)	6 (35.3)	509,048 (47.3)
Large (>150,000)	6 (35.3)	424,785 (39.4)

[a] Enrollment for the Model C ACO is as of January 1, 2021
[b] Based on the 2019 ACO profiles published by the Massachusetts Health Policy Commission

ACO Structure and Funding

Each of the MassHealth ACO models (A, B, and C) involves two-sided risk-sharing. There is variation in risk-sharing among the models, with different levels of risk-sharing designed to provide flexibility to facilitate broad participation from small and large health systems in Massachusetts. Unlike most other public ACO programs at the time, MassHealth only offered two-sided risk. In other words, a MassHealth ACO could not be "shared savings" only – it had to share some downside risk, as well.

Each ACO is subject to quality monitoring, and quality is tied to payment. Each ACO is eligible for additional payments from DSRIP funds (described below).

Thirteen of the 17 MassHealth ACOs are Model As, composed of a partnership between a provider-led ACO and a health plan. Model A ACOs receive prospective capitated payments and bear insurance risk. In other words, Model A ACOs carry a similar risk to traditional MCOs, which includes insurance risk (the degree to which population acuity varies from what was projected during rate development). Model A ACO capitation payments are risk-adjusted for both medical and non-medical factors.

Model B ACOs are provider-led ACOs that contract directly with MassHealth. Services provided to Model B ACO members are paid on a fee-for-service basis by MassHealth. Model B ACOs are paid an administrative PMPM amount and are held accountable retrospectively to a total cost of care benchmark. Although only three MassHealth ACOs are Model Bs, their enrollment was disproportionately large (40% of the ACO program). Model B ACOs bear risk for utilization levels but do not bear insurance risk. MassHealth may retrospectively adjust the final PCACO TCOC Benchmarks to account for unforeseen fee schedule and other program changes, as well as other miscellaneous items that were unknown or otherwise unaccounted for in preliminary PCACO TCOC Benchmarks.

Model C requires the ACO to contract with one or more MCOs, which in turn contract with MassHealth. There is one Model C ACO contracted with two MCOs. The Model C ACO is required to share savings and losses with its contracted MCOs. The Model C ACO bears less financial risk than Model A and Model B ACOs.

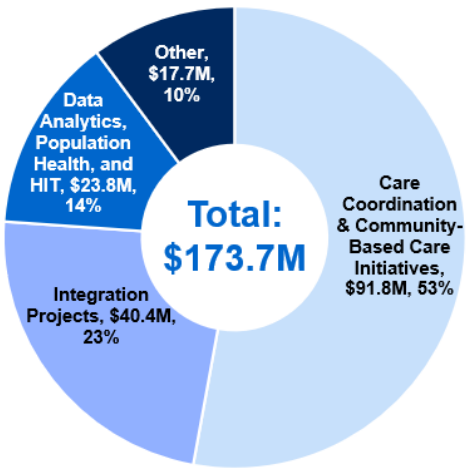
In addition to the payment structures described above, MassHealth ACOs also receive DSRIP funding. ACOs submit annual participation plans that include proposed budgets for how the DSRIP funds will be spent: ACO participation plans are reviewed and approved by MassHealth (with recommendations provided to MassHealth by the Independent Assessor).[19] The amount of DSRIP funding declines throughout the five-year program, while the percentage of DSRIP funding at risk increases over the course of the program (see **Table II.A.3**). For ACOs, the amount of at-risk DSRIP funding the ACO earns back is determined based on a weighted average of scores reflecting their quality and total cost of care performance (see **Table II.A.4**). ACO DSRIP funding includes four sub-streams (see **Table II.A.5**) (described in detail in Section 4.2 of the DSRIP Protocol[20]):

Substreams 1 and 2: Startup / ongoing funding is used for care coordination, community-based care initiatives, integration projects, data analytics, and other activities (see **Figure II.A.1**). A portion of this funding is reserved for investment in patient-centered primary care models, with the option to invest additional discretionary funding in primary care. The amount of startup and ongoing funding an ACO receives is based on a per member per month (PMPM) calculation, adjusted according to several factors. Factors considered include the number of attributed members, the ACO Model type, the number of ACO members attributed to community health centers and certain hospital-licensed health centers, and the proportion of an ACO's payer revenue mix derived from Medicaid and uninsured patients.

Substream 3: Flexible Services funding is based on an anticipated PMPM rate outlined in the DSRIP protocol as described below.

Substream 4: DSTI Glidepath funding is provided to hospitals that previously participated in the Delivery System Transformation Initiative (DSTI) and have a contract or provider arrangement with an ACO. The amount of DSTI Glidepath funding for each hospital is established in the DSRIP protocol.

Figure II.A.1. ACO DSRIP Expenditures by Category, 07/01/2017 through 12/31/19



[19] Per the MassHealth 1115 D… Independent Assessor is a designated entity that reviews ACO and C… recommendations to the state regarding those proposals, develops a M…s.

[20] MassHealth DSRIP Protoc…

Source: DSRIP protocol

Table II.A.3. ACO and CP Accountability to MassHealth by DSRIP Budget Period (BP)[1,2]

		Prep BP	BP1	BP2	BP3	BP4	BP5	Total
ACOs (Accountability to State)	***Total Funds***	**$138.2M**	**$284.1M**	**$238.0M**	**$192.5M**	**$132.7M**	**$64.0M**	**$1,049.5M**
	At-Risk %	**0%**	**4%**	**10%**	**19%**	**27%**	**20%**	**11%**
	At-Risk Funds	**$0.0M**	**$10.0M**	**$24.1M**	**$36.8M**	**$36.4M**	**$12.9M**	**$120.3M**
Startup/Ongoing: Primary Care Investment (Not At-Risk)	*Total Funds*	*$21.8M*	*$43.6M*	*$29.6M*	*$30.5M*	*$10.5M*	*$10.8M*	*$146.7M*
Startup/Ongoing: Discretionary	*Total Funds*	*$94.9M*	*$165.1M*	*$153.3M*	*$117.2M*	*$86.5M*	*$23.7M*	*$640.7M*
	At-Risk %	*0%*	*5%*	*15%*	*30%*	*40%*	*50%*	*18%*
	At-Risk Funds	*$0.0M*	*$8.3M*	*$23.0M*	*$35.2M*	*$34.6M*	*$11.9M*	*$112.9M*
Flexible Services (Not At-Risk)	*Total Funds*	*$0.0M*	*$40.8M*	*$32.1M*	*$27.9M*	*$23.6M*	*$24.3M*	*$148.7M*
DSTI Glide Path Funding	*Total Funds*	*$21.5M*	*$34.6M*	*$23.0M*	*$16.8M*	*$12.2M*	*$5.2M*	*$113.4M*
	At-Risk %	*0%*	*5%*	*5%*	*10%*	*15%*	*20%*	*7%*
	At-Risk Funds	*$0.0M*	*$1.7M*	*$1.1M*	*$1.7M*	*$1.8M*	*$1.0M*	*$7.4M*
Community Partners (Accountability to State)	***Total Funds***	**$15.8M**	**$59.0M**	**$105.6M**	**$125.5M**	**$122.0M**	**$118.9M**	**$546.7M**
	At-Risk %	**0%**	**0%**	**3%**	**11%**	**16%**	**20%**	**11%**
	At-Risk Funds	**$0.0M**	**$0.0M**	**$3.6M**	**$14.3M**	**$19.9M**	**$23.6M**	**$61.4M**
Behavioral Health CPs	***Total Funds***	***$11.7M***	***$46.3M***	***$80.2M***	***$91.1M***	***$86.5M***	***$83.1M***	***$398.9M***
	At-Risk %	***0%***	***0%***	***3%***	***11%***	***16%***	***20%***	***11%***
	At-Risk Funds	***$0.0M***	***$0.0M***	***$2.5M***	***$9.9M***	***$13.7M***	***$16.2M***	***$42.3M***
Care Coordination Supports	*Total Funds*	*$0.0M*	*$21.9M*	*$60.3M*	*$66.4M*	*$66.2M*	*$65.9M*	*$280.6M*
Infrastructure and Capacity Building (including CSAs)	*Total Funds*	*$11.7M*	*$24.4M*	*$19.9M*	*$23.6M*	*$19.3M*	*$16.2M*	*$115.3M*
	At-Risk %	*0%*	*0%*	*13%*	*42%*	*71%*	*100%*	*37%*
	At-Risk Funds	*$0.0M*	*$0.0M*	*$2.5M*	*$9.9M*	*$13.7M*	*$16.2M*	*$42.3M*
Outcomes-Based Stream (Incentive Pool, Not At-Risk)	*Total Funds*	*$0.0M*	*$0.0M*	*$0.0M*	*$1.0M*	*$1.0M*	*$1.0M*	*$3.0M*
LTSS CPs	***Total Funds***	***$4.0M***	***$12.7M***	***$25.3M***	***$34.4M***	***$35.5M***	***$35.8M***	***$147.8M***
	At-Risk %	***0%***	***0%***	***4%***	***13%***	***18%***	***21%***	***13%***
	At-Risk Funds	***$0.0M***	***$0.0M***	***$1.0M***	***$4.5M***	***$6.2M***	***$7.4M***	***$19.1M***
Care Coordination Supports	*Total Funds*	*$0.0M*	*$5.7M*	*$17.1M*	*$23.3M*	*$26.3M*	*$27.9M*	*$100.3M*
Infrastructure and Capacity Building	*Total Funds*	*$4.0M*	*$6.9M*	*$8.2M*	*$10.7M*	*$8.8M*	*$7.4M*	*$46.0M*
	At-Risk %	*0%*	*0%*	*13%*	*42%*	*71%*	*100%*	*41%*
	At-Risk Funds	*$0.0M*	*$0.0M*	*$1.0M*	*$4.5M*	*$6.2M*	*$7.4M*	*$19.1M*
Outcomes-Based Stream (Incentive Pool, Not At-Risk)	*Total Funds*	*$0.0M*	*$0.0M*	*$0.0M*	*$0.5M*	*$0.5M*	*$0.5M*	*$1.5M*

Source: MassHealth DSRIP Protocol effective July 1, 2017 – June 30, 2022

[1]Preparation Budget Period (Prep BP) corresponds to 07/1/2017 to 12/31/2017, and BPs 1 to 5 correspond to calendar years 2018 to 2022

[2] Details of the payment formula can be found in Section 5.2 and 5.3 of DSRIP Protocol Attachment M: https://www.mass.gov/doc/dsrip-protocol-0/download

Table II.A.4. Weights for the Quality and Cost Components of the ACO DSRIP Accountability Score, by Budget Period (BP)

ACO DSRIP Accountability Domain	Prep BP	BP 1-2	BP 3-5
Quality component of the ACO DSRIP Accountability Score[1]	N/A	100%	75%
Total cost of care component of the ACO DSRIP Accountability Score[2]	N/A	N/A	25%

Source: MassHealth DSRIP Protocol

[1] ACOs are eligible to earn two types of points towards their quality score for each quality measure: achievement against a program benchmark and improvement for that ACO

[2] The total cost of care (TCOC) component of the ACO DSRIP accountability score is based on a comparison of the ACO's performance (expenditures) against either a TCOC benchmark specified by MassHealth (for Model B and C ACOs) or the value of capitation payments to the ACO from MassHealth (for Model A ACOs), after taking into account risk-sharing arrangements with MassHealth for the BP.

Table II.A.5. ACO DSRIP Accountability Mechanism by Funding Sub-Stream

Funding Sub-Stream	Mechanism for Individual Accountability
Start-up/Ongoing: *Primary Care Investment*[1]	Fixed amount, not withheld or at-risk
Start-up/Ongoing: *Discretionary*[2]	Withheld portion is fully at-risk each BP based on ACO' 's Accountability Score
DSTI Glide Path[2]	Withheld portion is fully at-risk each BP based on ACO' 's Accountability Score
Flexible Services	Not at performance risk. ACOs entirely at risk for any expenses not approved by the state.

Source: MassHealth DSRIP Protocol

[1]The portion of Start-up/Ongoing funding that is provided for each ACO to support primary care investments is not at performance risk to give some measure of predictability and stability in this funding stream, to encourage innovative investments in primary care infrastructure, and to mitigate the risk of costly delays or changes in funding that might make front-line primary care providers more hesitant to invest in practice-level change.

[2] The at-risk withheld amount differs between the discretionary Startup/Ongoing stream and the DSTI Glide Path. In general, a smaller percentage of the DSTI Glide Path funding is at risk. This difference reflects the safety net status of these hospitals.

ACOs and Quality

ACOs are accountable for performance on a slate of quality measures. Their DSRIP funding and their potential shared savings/losses payments for services are subject to adjustment based on an ACO's quality performance.

The ACO measure slate consists of 22 measures, including two survey measures, 12 administrative measures, and eight hybrid measures (hybrid measures are those where medical record or chart review is used)[21]. All measures were reporting-only or pay-for-reporting the first year. In subsequent years, these measures will shift into pay-for-performance (see **Table II.A.6**), meaning ACOs are held accountable based on performance measures on the ACO slate.

Table II.A.6. ACO Quality Domains and Domain Weights by Budget Period (BP)

Quality Domain	Domain Weight: BP 1	Domain Weight: BP 2	Domain Weight: BP3	Domain Weight: BP 4-5
Clinical Quality Measures				
1. Prevention & Wellness	100% (P4R only)	85%	65%	45%
2. Care Integration	100% (P4R only)	--	20%	40%
Patient Experience Surveys				
3. Overall Rating and Care Delivery	--	15%	15%	7.5%
4. Person-centered Integrated Care	--	--	--	7.5%

Source: MassHealth DSRIP Protocol

ACOs and Care Delivery

ACOs are expected to promote coordinated and integrated care, including screening all members for care needs, providing a comprehensive assessment and care plan to members with BH, LTSS, and special health care needs, identifying high- and rising-risk ACO members, and providing those high- and rising-risk members with enhanced care management supports.

Model A and Model B ACOs are required to complete care needs screening[22] within 90 days of a member's enrollment. This screening includes information about a member's demographics, health history, self-perceived health status, need for culturally and linguistically appropriate services, need for accessible medical

[21] Massachusetts Delivery System Reform Incentive Payment Program | Mass.gov
[22] Model C ACOs are required to assist their contracted MCO with completing an initial care needs screening within 90 days of enrollment.

diagnostic equipment, and a member's health concerns and goals. ACOs are also required to conduct an annual screening of health-related social needs.

The care needs screening should include questions to identify members with special health care needs. Members with special health care needs include those with complex or chronic medical needs; those who are at high risk for admission or readmission to a 24-hour level of care; who are at increased risk of institutionalization; those who have significant mental health and/or substance use disorder needs; those who experience chronic homelessness; those who are at high risk of inpatient admission; those who are at increased risk of emergency department visits; and those who receive care from other state agency programs such as the Department of Mental Health.

A member may be eligible for additional care management and care coordination from a Community Partner (CP) (described below). ACOs and CPs are required (as a condition of DSRIP funding) to enter into formal arrangements to facilitate meeting BH and LTSS needs.

Starting in 2020, ACOs could also identify members to receive FS to help address health-related housing and nutrition needs as described below.

3. Community Partners (CPs)

CPs are responsible for coordinating and managing care for individuals with behavioral health (BH) and/or long-term services and support (LTSS) needs. CP supports are made available to certain MassHealth members enrolled in ACOs and managed care organizations (MCOs). CPs also help certain people enrolled in the Massachusetts Department of Mental Health's Adult Community Clinical Services (ACCS) program or transitioning out of the ACCS program.

The CP program is not an entitlement, meaning that there is limited capacity for CP supports. Assignment of members to the CP program was initially performed by MassHealth using algorithms based on diagnoses and utilization identified in administrative claims data. By the third year of the CP program, ACOs and their providers could identify eligible members and assign them to CPs.

MassHealth contracts with 27 CPs, including 18 BH CPs and nine LTSS CPs, to provide CP supports statewide. The CP program launched in July 2018.

The December 28, 2020 snapshot reported 33,118 MassHealth members were enrolled with a BH CP, and 10,896 members were enrolled with an LTSS CP.

For members enrolled in a BH CP, the CP is responsible for leading the member's care coordination, serving as the primary point of contact for the member and the primary convener of the care team. For members in an LTSS CP, the CP is a resource that works with the ACO's care team and helps the member navigate the LTSS delivery system.

<u>BH CPs are expected to:</u>

- Conduct outreach and engagement;
- Perform a comprehensive assessment and engage in person-centered planning;
- Develop a person-centered treatment plan;
- Coordinate and manage care;
- Support care transitions;
- Perform medication reconciliation;
- Engage in health and wellness coaching; and
- Facilitate connections to community, social, and flexible services

LTSS CPs are expected to:

- Conduct outreach;
- Engage in care planning;
- Engage in LTSS care coordination;
- Support care transitions;
- Engage in health and wellness coaching; and
- Facilitate connections to community, social, and flexible service

To facilitate these activities, CPs are expected to form collaborative relationships with state agencies (e.g., such as the Department of Children and Families (DCF), the Department of Mental Health (DMH), the Department of Developmental Services (DDS), the Massachusetts Rehabilitation Commission (MRC) and other providers. MassHealth also requires ACOs to partner with CPs in their service areas.

CP Funding

CP activities for MassHealth members are funded solely through time-limited DSRIP funds. **Figure 2.A.c.1** provides a summary of CP DSRIP expenditures by category between July 2017 through December 2019**.**

CP DSRIP funding includes three sub-streams (described in further detail in Section 4.3 of the DSRIP Protocol):

> **Substream 1: Care Coordination Supports Funding,** paid on a PMPM basis. For the first 90 days after a member is assigned to a CP, the CP may be paid for documented outreach. After those 90 days, a CP must perform a qualifying activity (not including outreach) to be paid under this substream.[23]

[23] These requirements have changed over the course of the Demonstration. For example, for individuals assigned to a CP from July 2018 to October 2018, CPs may be paid for qualifying activities other than outreach during the first 11 months of a member's assignment as long as a participation form was signed by the member by the 4th month. After the first 11 months of assignment, the State will not make payments to a BH CP for qualifying activities performed for a member, unless that member is engaged with a signed care plan. For members assigned to a CP beginning November 1, 2018, the CP may be paid for qualifying activities other than outreach during the first 150 days of a member's assignment. After the first 150 days of assignment, the State will not make payments to the BH CP for any qualifying activities performed for a member, unless that member is engaged with a signed care plan.

For BH CPs, member engagement requires completing a comprehensive assessment and person-centered care plan, signature or approval of the care plan by the member, and signature or approval of the care plan by the member's primary care physician (PCP) or their designee. MassHealth also requires the submission of a qualifying activity encounter record to document that this engagement process has been completed.
For LTSS CPs, member engagement requires completion of an LTSS care plan, signature or approval of the care plan by the member, signature or approval of the care plan by the member's PCP or their designee, and submission of a qualifying activity encounter record to MassHealth to document that this engagement process has been completed.
Substream 2: Infrastructure and Capacity Building Funding (e.g., care management software, recruitment support, and startup costs)**,** paid on a PMPM basis.
Substream 3: Outcomes-Based Payments, paid to CPs who do well on specific quality metrics related to avoidable utilization.

As part of the DSRIP program, MassHealth also provided infrastructure and capacity-building funds for 19 Community Service Agencies (CSA), currently supporting children with serious emotional disturbance.[24]

CP Structure

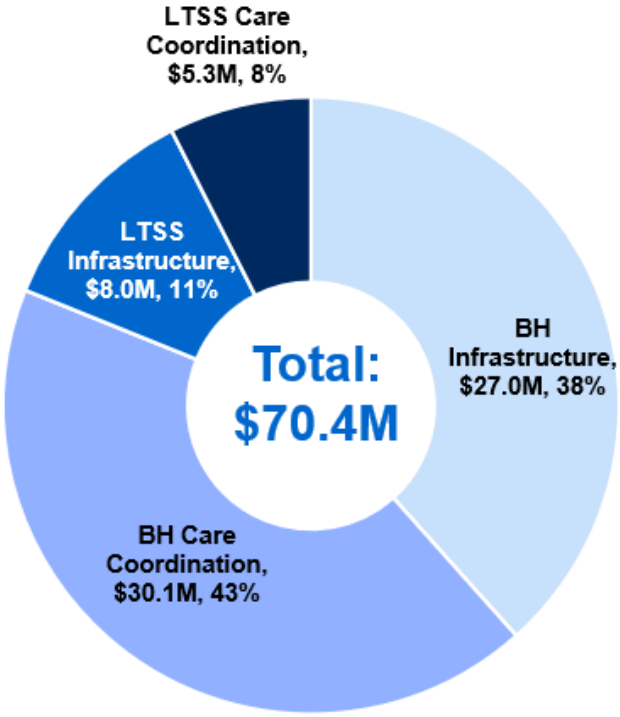
CPs can operate as a stand-alone organization, an organization comprising one or more consortium entities, or an organization with affiliated partners.

Of the 27 current CPs, eight are individual community-based organizations (CBOs), five comprise consortium entities, 12 have affiliated partners, and two include consortium entities with affiliated partners.

CPs offer care coordination supports for certain ACO or MCO members with BH and/or LTSS needs and partner with ACOs in the MassHealth DSRIP program. Specifically, at the start of the DSRIP program, ACOs were required to contract with all BH CPs in their shared service areas and at least two LTSS CPs in their shared services areas. CPs, in turn, were required to form relationships with the ACOs that operate within their service areas and work closely and collaboratively with those partners to support coordinated care. Requirements for CPs to partner with all ACOs in their service area were modified in 2020, allowing the formation of "preferred relationships."

[24] Specifically, CSAs provide Intensive Care Coordination and Family Support and Training, part of a number of services and supports available under the Children's Behavioral Health Initiative (CBHI).

Figure II.A.2. CP DSRIP Expenditures 07/01/2017 through 12/31/19



Source: DSRIP protocol

4. Flexible Services Program

The goal of the FS program is to improve health outcomes and reduce the total cost of care by addressing health-related social needs (HRSN) among ACO members. The scope of the FS program is limited to (1) nutrition support services and goods and (2) housing support services and goods. The FS program is intended to supplement and not duplicate existing state and federal social service programs and benefits.

To be eligible to receive FS supports, MassHealth members must meet at minimum these criteria: (1) be an ACO member; (2) Have at least one health-needs based criteria (behavioral health need, complex physical need, need for assistance with activities of daily living, need for assistance with instrumental activities of daily living, high emergency department use, or high-risk pregnancy); (3) Have at least one risk factor (experiencing homelessness, at risk of homelessness, at risk for a nutritional deficiency or nutritional imbalance due to food insecurity); and (4) Be a member of the target population for their specific ACO (examples include geographic region, enrollment in care management services).

The FS program is not an entitlement, meaning that there is limited capacity for the program, and meeting the criteria listed above does not guarantee eligibility for FS supports. ACOs develop specific FS programs and choose which supports are available and to which members meeting the criteria described above these

supports are offered. As with other DSRIP programs, MassHealth reviews and approves ACO FS participation plans for programs before they are launched.

Supports in the housing domain, termed tenancy preservation supports, include pre-tenancy supports, tenancy sustaining supports, and home modifications. Pre-tenancy supports may include assistance with the process for obtaining housing and payment for one-time costs such as security deposit, first month's rent, moving expenses, and some furnishings, but cannot include ongoing payment for rent or utilities. Tenancy sustaining supports include coaching, support, education, transportation to housing flexible services, and technical assistance in maintaining housing. Home modifications include limited physical improvements to 'members' housing that protect their health, safety, and independence. Supports in the nutrition domain, termed nutrition sustaining supports, include the provision of food (including medically tailored meals), food vouchers, support with nutrition benefits, transportation to nutritional flexible services, and education.

Flexible services supports are generally delivered by social service organizations (SSOs). In rare cases where there is no community organization better able to offer services (for example, due to geography or SSO capacity), the ACOs themselves may provide flexible services supports. Some CPs may operate as SSOs or as part of SSOs.

ACOs are allocated a PMPM dollar amount for FS that can be used for:

1. Direct costs to deliver those supports or,
2. Administrative costs related to FS at the ACO or the SSO.

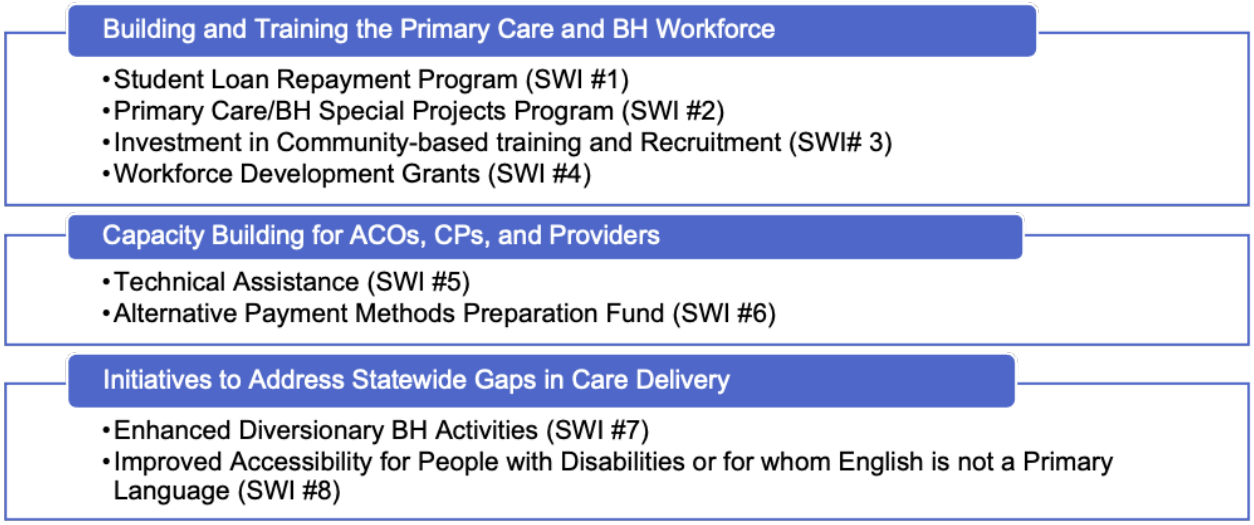
MassHealth has set a maximum percentage for administrative costs. Administrative costs can currently only be as high as 15% of their FS budgeted amount; that percentage is currently scheduled to reduce throughout the Demonstration. FS preparation funds and technical assistance and capacity-building resources were made available to a selected subset of SSOs to ready their organizations for FS support delivery. ACOs could use DSRIP startup funds to build infrastructure related to FS.

In response to the COVID-19 pandemic, MassHealth made several changes to the FS program. Examples include removing in-person screening and planning requirements for members receiving Flexible Services to lessen the risk of viral transmission for members and providers. Additionally, MassHealth established an expedited approval process for approving specific FS programs to quickly support ACO rollout of necessary COVID-19 related services for eligible members.

As of December 2020, MassHealth had approved 67 FS programs for 2021 (37 housing, 29 nutrition, and one housing/nutrition). In the first three quarters of 2020, ACOs budgeted $3.64 million for FS programs and provided services to an estimated 3,329 members. ACOs worked with 33 SSOs to implement these programs.

5. Statewide Investments

Figure II.A.3. DSRIP Funded Statewide Investments (SWIs)



A portion of DSRIP program funding is designated for Statewide Investments (SWI) (see **Figure II.A.3**), a series of 18 programs designed to improve integration and quality of care. These 18 projects are organized under three categories and are described below.

Category 1: Building and training the primary care and behavioral workforce

- The **Student Loan Repayment Program** provides student loan repayment support to eligible primary care and BH providers in exchange for a four-year commitment to work in a community setting. The program also offers quarterly Learning Days for all awardees to help address the burn-out that can compromise provider retention in community settings.
- The **Behavioral Health Workforce Development Program** provides student loan repayment support for masters-prepared behavioral health providers who commit to four years of service at a community-based behavioral health organization.
- The **Community Partner Recruitment Incentive Program** supports CPs in recruiting and retaining care coordinators, registered nurses, and licensed practical nurses by offering student loan repayment support. Eligible care coordinators and nurses must make an eighteen-month or four-year commitment to the CP organization respectively to receive support from the program.
- The **Primary Care / Behavioral Health Special Projects Program** provides grant funding for certain Massachusetts health care providers to work on projects related to accountable care implementation and/or primary care/BH integration.

- **Family Medicine and Nurse Practitioner Residency Training** provides funding to expand the number of community health center-based family medicine and family nurse practitioner residency training slots available in Massachusetts.
- **The Community Mental Health Center Behavioral Health Recruitment Fund** makes available recruitment packages possible for psychiatrists and nurse practitioners with prescribing privileges.
- **Community Health Worker Training Capacity Expansion Grants** expands access to training for community health workers employed by provider entities in ACOs and CPs.
- **Peer Specialist Training Capacity Expansion Grant** expands access to peer specialist training for individuals with lived experience with BH conditions.
- **Community Health Worker Supervisors Training Program Grant** expands the capacity and access to training for supervisors of community health workers.
- **Competency-Based Training for ACOs and CPs** creates a capacity-building training program for the front-line health care workforce of participating ACOs and CPs.

Capacity Building for ACOs, CPs, and Providers

- **Targeted Technical Assistance for ACOs and CPs** provides funding to each ACO and CP to access technical support for discrete, time-limited projects.
- **Learning Collaboratives** establishes forums for ACOs and CPs to learn from each other's experiences.
- **Standardized Trainings for CPs and CSAs** includes support for the development of online standardized training modules.
- The **Alternative Payment Methods Preparation Fund** provides funds to providers not yet ready to participate in alternative payment methods to complete projects that facilitate the future adoption of alternative payments.
- The **Community Health Center (CHC) Readiness Program** supports CHC participation in value-based payment and accountable care models through learning collaboratives and technical assistance.

Initiatives to Address Statewide Gaps in Coverage

- **Enhanced Diversionary Behavioral Health Activities** supports efforts to enhance behavioral health care in the most appropriate and least restrictive environment.
- A **Provider Directory** that will include the accessibility features and equipment of MassHealth providers.
- **Accessibility Grant Programs** to enable MassHealth providers to purchase accessible equipment and resources for people with disabilities and individuals for whom English is not a primary language.

B. Overview of the DSRIP Evaluation Approach and Evaluation Domains

The evaluation design summarized in this Section is specific to the evaluation of the DSRIP program and Demonstration Goals 1 and 2.

- **Goal 1:** Enact payment and delivery system reforms that promote integrated, coordinated care and hold providers accountable for the quality and total cost of care
- **Goal 2:** Improve integration of physical, behavioral, and long-term services

The interim evaluation examines the early implementation of the DSRIP program from 07/01/2017 – 12/31/2020, including analyses of Medicaid administrative data available for the period 07/01/2017 – 12/31/2019. Financial reconciliation data on ACO performance were only available through 12/31/2018 due to the extended time required for finalization. The Summative Evaluation (covering the whole Demonstration period 07/01/2017 – 06/30/2022 and the entire DSRIP program period 07/01/2017 – 12/31/2022) will evaluate the extent to which the investments made through the DSRIP program contributed to achieving the Demonstration goals as described in Special Terms and Conditions 57.

As described in the Evaluation Design Document[25] approved by CMS, the broad goals of the Massachusetts DSRIP evaluation are to:

> 1) Measure progress towards improving care integration, meeting members' needs, and moderating cost trends while maintaining or improving care quality, and
>
> 2) Ascertain stakeholders' (i.e., members, clinicians, representatives from participating organizations, MassHealth employees) perspectives regarding DSRIP implementation, successes, and challenges.

UMass Chan identified six evaluation domains in collaboration with MassHealth that align with the DSRIP implementation logic model[26] and meet the broad goals of the DSRIP evaluation.

> **DOMAIN 1:** State, organizational, and provider-level actions promoting delivery system transformation
>
> **DOMAIN 2:** Changes in care processes
>
> **DOMAIN 3:** Changes in member outcomes
>
> **DOMAIN 4:** Changes in healthcare cost trends

[25] See https://www.mass.gov/doc/ma-independent-evaluation-design-1-31-19-0/download for Massachusetts Demonstration Extension Evaluation Design Document (EDD) approved by CMS January 2019.
[26] See DSRIP implementation logic model, Figure 1 in Section 1

DOMAIN 5: Sustainability of innovative delivery system changes, including ACOs, CPs, and Flexible Services

DOMAIN 6: Effects of specific DSRIP investments and actions

Key programmatic elements of the DSRIP program are being evaluated at the member, provider, system, and state levels using qualitative and quantitative data relevant to each of the six evaluation domains.

As described in detail in the Evaluation Design Document[27], mixed qualitative and quantitative methods are used to evaluate the extent to which state, organizational, and provider-level actions promoted delivery system transformation and improved outcomes across the six domains.

A complete list of research questions and hypotheses corresponding to each of the six domains listed above is presented in Appendix C. Hypotheses include those suggested by the STCs, supplemented by a number of additional hypotheses developed to evaluate other important aspects of the Demonstration.

Table II.B.1 summarizes the analytic approach by Domain and report (Interim versus Summative). Methods specific to each of the Domains follow the introduction to the Domain and related research questions in each subsection below. Additional details on methods are also available in sections **II.C.a**, and **II.C.b**.

Table II.B.2 illustrates the implementation timeline of DSRIP programs in relation to crucial evaluation activities and milestones. It is important to note that many of the critical primary data collection activities - including key informant interviews, provider and staff surveys, and member experience surveys - took place during and were impacted to varying degrees by the COVID-19 pandemic discussed in more detail in Section C.

Section C provides further background, methodology, and interim findings on Domains 1-4 based on data available as of December 31, 2020. Analyses relying on MassHealth administrative data were based on data through December 31, 2019. Analyses of ACO financial performance relying on financial reconciliation data were based on data available through 12/31/2018. The Independent Evaluation team has also worked closely with the DSRIP Independent Assessor (IA) to leverage their DSRIP Mid-Point Assessment report submitted to CMS in Q4 2020 and the underlying data as additional data sources for the evaluation. In addition, the IE surveyed ACO providers and CP staff in 2020, analyzed Massachusetts Health Quality Partners' (MHQP) member experience surveys covering the performance years 2018 and 2019. Flexible services (FS) utilization was analyzed for the first

[27] See https://www.mass.gov/doc/ma-independent-evaluation-design-1-31-19-0/download for Massachusetts Demonstration Extension Evaluation Design Document (EDD) approved by CMS January 2019.

three quarters of 2020, and hybrid clinical quality measure data was analyzed for 2018 and 2019.

Table II.B.1. Summary of Analytic Approach by DSRIP Domain

Domain	Analyses: Interim Report	Analyses Summative report
1: State, organizational, and provider-level actions promoting delivery system transformation	• Qualitative analysis of existing documents • Qualitative analysis of data collected through key informant interviews • Qualitative analysis of case study data • Survey of ACO providers and CP staff	• Qualitative analysis of existing documents • Qualitative analysis of data collected through key informant interviews • Qualitative analysis of case study data • Survey of ACO providers and CP staff
2: Changes in Care Processes 3: Changes in member outcomes 4: Changes in healthcare cost trends	• Descriptive analyses (to understand what happened and for whom) • Predictive modeling (to understand how what happened during the Demonstration compared to what would have been expected based on conditions in the baseline period) • Member surveys	• Descriptive analyses (to understand what happened and for whom) • Predictive modeling (to understand how what happened during the Demonstration compared to what would have been expected based on conditions in the baseline period) • Propensity score balanced difference in difference comparisons (to estimate the difference between what happened during the Demonstration and what would have been expected in the absence of the Demonstration, while accounting for background trends) • Member surveys
5. Sustainability of innovative delivery system changes	• To be included in the summative report	• Key informant interviews • Case studies with site visits • Cost-effectiveness and return on investment analyses
6. Effects of specific DSRIP effects and actions	• To be included in the summative report	• Contemporaneous propensity score balanced comparisons between Demonstration populations exposed and unexposed to key DSRIP programs and health system characteristics (to understand associations between specific elements of delivery system reform [e.g., CPs, FS] and member outcomes)

Table II.B.2. DSRIP Implementation and Evaluation Milestones and Activities

			MassHealth Waiver Extension (7/1/17-6/30/22)																							
			FY 2018				FY 2019				FY 2020				FY 2021				FY 2022							
					DSRIP PY 1				DSRIP PY 2				DSRIP PY 3				DSRIP PY 4				DSRIP PY 5					
			Demo Year 1				Demo Year 2				Demo Year 3				Demo Year 4				Demo Year 5							
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
	CY 2017				CY 2018				CY 2019				CY 2020				CY 2021				CY 2022					
DSRIP Implementation Milestones	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**		
Demonstration Start Date			X																							
ACO Program Launched					***																					
CP Program Launched							***																			
Flexible Services Program Launched													*													
COVID Public Health Emergency																										
Evaluation Activities and Milestones																										
Evaluation Design Document approved by CMS									X																	
Administrative data for interim report	**																									
Primary data collected for interim report																										
Interim report due date																			X							
Summative report due date: 06/2024																										
Key informant interviews - Wave I																										
ACOs May - June 2019										X																
CPs May - June 2019										X																
MCOs August-2020															X											
Members (primarily **April/May 2020**; 1 in March, 1 in June)														X												
State representatives (**June/July 2020**; 1 in Sept 2020)														X	X											
ACO site visits (**primarily Oct 2020**; 1 in Sept 2020)																X										
CP site visits (**primarily Nov 2020**; 2 in Oct 2020, 1 in Dec 2020)																X										
Survey Deployment																										
Member Experience Survey									X	X					X	X										
Practice Site Administrator Survey – Deployment **July 2019**											X															
ACO provider survey Wave I (Feb 2020 stopped March 2020) **June 2020**														X	X											
ACO provider Survey Wave II -Deployment **September 2020**																X	X									
CP Staff Survey Deployment - **August 2020**																X	X									

Note: This chart illustrates the timing of interim evaluation activities in relation to implementation milestones.
*Staged rollout of the Flexible Services program started in 2020 Q1
** Interim report includes administrative baseline data from 2015-2017
*** Lighter color of year one after programs launched meant to indicate startup year

C. Interim Findings by DSRIP Evaluation Domain

II.C.a. Domain 1: State, organizational, and provider-level actions promoting delivery system transformation

Domain 1 examines the actions taken by the State and DSRIP "participating entities" and other key entities, comprising Accountable Care Partnership Plans (ACPPs, also referred to as Model A ACOs), Primary Care ACOs (also referred to as Model B ACOs), and MCO-Administered ACOs (also referred to as Model C ACOs) (together “ACOs”), ACPP MCO partners, CPs, and SSOs, to facilitate delivery system transformation. Domain 1 addresses four research questions (RQs):

> **RQ1:** To what extent did the state take actions to support delivery system transformation?
>
> **RQ2:** To what extent did ACOs take organizational-level actions to transform care delivery under an accountable and integrated care model?
>
> **RQ3:** How and to what extent did CPs target resources and take actions to operate under an accountable and integrated care model?
>
> **RQ4:** How and to what extent did ACOs, MCOs, and CPs align resources and take common actions to operate under an accountable and integrated care model?

Domain 1 interim findings provide an opportunity to understand the early impact of the DSRIP program on participating entities' activities and to identify facilitators and barriers to inform the next steps in delivery system reform. The evaluation team identified successes and challenges across all aspects of the DSRIP program, including funding, leadership, relationship building, communication, data availability and usage, organizational capacity, workforce development, and member engagement.

We relied on multiple, varied data sources and methods, including document review, key informant interviews with diverse stakeholders, and surveys to explore these research questions and their associated hypotheses in-depth.

Methodology

The evaluation team collected data from diverse stakeholder participants to gather a wide range of viewpoints about the DSRIP implementation. Data were rigorously analyzed to identify themes relevant to the evaluation goals and the facilitators and barriers to implementation. Data were collected between March 2019 and December 2020 for the interim report.

Table II.C.a.1 provides an overview of the study participants, methods, domains of interest, and timing of each data collection activity

Table II.C.a.1: Participants, Methods, Conceptual Domains of Interest, and Timing

Participants	Methods	Domains of Interest	Timing
ACOs and their partner MCOs, MCOs (not in their capacity as ACO partners), and CP key informants 17 ACOs; 2 MCOs; 27 CPs 96 interviews with 108 key informants	Individual or group interviews lasting 60-90 minutes; In-person, telephone, or videoconference	Facilitators and barriers to DSRIP implementation; process and progress adapting structures and processes to promote integrated and accountable care; Perceived impact of state actions to support transformation	March – June 2019 (ACOs and their MCO partners/CPs) September – October 2020 (MCOs, not in their capacity as ACO partners)
ACO and CP in-depth case study key informants 4 ACOs and 4 CPs 35 interviews with 139 key informants	Group interviews lasting 60-90 minutes; Videoconference	In-depth understanding of process and progress adapting structures and processes to promote integrated and accountable care; Unique, innovative actions implemented under DSRIP	September – December 2020
MassHealth member interviews 30 interviews with 25 adults and five parents of pediatric members	Individual interviews lasting 30-60 minutes; Telephone	Health status, knowledge about ACO and CP programs, experiences and opinions about health care interactions and coordination, telehealth use, the impact of COVID-19 on care access	March – June 2020
MassHealth staff key informant interviews 8 interviews with 19 staff	Individual or group interviews lasting 30-60 minutes; Videoconference	Actions taken to support DSRIP implementation; Challenges that emerged; Solutions implemented	June – September 2020
ACO practice site administrator survey	Online survey of group practice or health center site administrator	ACO implementation; organizational characteristics; early implementation changes	July-September 2019

Participants	Methods	Domains of Interest	Timing
ACO primary care provider survey	Online survey of PCPs, nurses, and social workers	Provider experience delivering care within newly formed Medicaid ACOs	March – December 2020
CP staff survey	Online survey of staff delivering care coordination supports to MassHealth members	Staff experience delivering care within newly formed CPs	August – November 2020

The Samples

ACO, MCO, and CP Key Informants

The evaluation team interviewed up to three senior administrators at the executive or leadership level (i.e., CEOs, CMOs, CTOs) at each of the 17 ACOs and two MCOs and up to two senior administrators at each of the 27 CPs. The sites identified the staff they believed would be able to respond to questions corresponding to several topic areas about the organization.

ACO and CP In-depth Case Studies

In-depth interviews were conducted with a cross-section of staff at four ACOs and four CPs, selected to represent diverse organizational types and structures as well as geographic variation. Each site identified the staff (i.e., front-line care coordinators or nurse managers, program managers, or mid-level administrators such as supervisors overseeing care coordinators) they believed would be able to respond to questions corresponding to several topic areas about their ACO/CP.

MassHealth Members

The evaluation team interviewed 30 MassHealth members who use ACO services, including some who use CP supports, and represent the diverse populations served by MassHealth, including subgroups targeted by DSRIP programs. These populations include members or parents of children/members who access Behavioral Health (BH) services or Long-Term Services and Supports (LTSS), and those who are medically complex and not utilizing CPs. To identify members, the team engaged and coordinated with EOHHS, patient advocates, and health care providers to outreach to MassHealth members. Nomination forms that collected contact information and demographic characteristics were completed by members or by ACO/CP staff on behalf of members and submitted to and reviewed by the evaluation team. A diverse group of members was strategically selected to be contacted regarding interview participation.

MassHealth Staff Key Informants

The evaluation team conducted eight interviews with 19 MassHealth staff participants with leadership roles and responsibilities related to implementing and/or overseeing aspects of the DSRIP program.

Practice-site Administrator Survey

The sampling frame for the ACO practice site administrator survey included group practices, community health centers, and hospital licensed health centers participating in the ACO program at the time the program launched (i.e., 2018). The following sites were excluded from the survey: solo physician practices, sites that only provide acute care, practice sites located outside of Massachusetts, sites with fewer than 50 MassHealth members, and sites with an unknown number of MassHealth members. From within the sampling frame, up to 30 practice sites per ACO were selected (including all sites for those ACOs with less than 30 sites and a random sample of practices for ACOs with more than 30 practice sites), thereby oversampling the ACOs with fewer practice sites. This yielded a sample of 353 unique practice sites to which the practice site administrator survey was sent. (**Figure II.C.a.1**)

ACO Provider and CP Staff Surveys

The ACO front-line provider survey sampling frame included primary care providers practicing at the 353 practice sites identified as the sample for the practice site administrator survey. All providers from those sites were included in the sample, except for those from one ACO with a disproportionately large number of providers across all sites, where a sample of providers was included. (**Figure II.C.a.1**)

The CP staff survey sample frame included all CP staff providing or directly supervising staff providing care coordination supports to MassHealth members. Sampling was not performed and all CP staff in the sample frame were included.

Procedures

Interview Guides

The evaluation team conducted a review of documents provided by MassHealth and the IA to prepare for data collection. Interview guides and further details can be found in Appendix D.

Practice Site Administrator Survey Development and Administration

After a thorough literature review, the questionnaire used for the survey was drafted collaboratively by the Independent Assessor, Independent Evaluator, and a research group administering similar surveys. The survey was shared with stakeholders to gather feedback, field-tested with ACO administrators, and further refined before administration.

A full list of practice sites and contact information for appropriate respondents was collected from ACO administrators. One administrator was allowed to respond for multiple sites when necessary. The survey was administered via email over three waves of administration from 07/2019 to 09/2019.

ACO Provider and CP Staff Survey Development and Administration

The questionnaire used for the survey incorporated the previously validated measures of perceptions of care integration from the Provider and Staff Perceptions of Integrated

Care (PSPIC) (Derrett, et al., 2017) and new questions developed and pilot tested by the research team to address specific aspects of DSRIP implementation. Efforts were made to align questions between the practice site administrator survey conducted by the IA and the provider survey so that differences, if any, could be assessed at the administrator versus provider levels. The questionnaire was pilot tested with a convenience sample of between10 to 15 ACO providers and 5 to 10 CP staff and revised based on cognitive testing and assessments for clarity, completeness, and respondent burden. Some of the questions included in the survey instruments are included in Appendix H.

The research team collected provider contact information from practice and ACO administrators. The questionnaire was emailed to eligible providers (i.e., MDs, DOs, NPs, PAs, RNs, LPNs, and LCSWs) practicing at each ACO's selected practice sites. The CP staff contact information was collected from administrators at all 27 CPs, and the questionnaire was emailed to all staff identified as eligible. Reminder emails were sent approximately weekly to non-respondents to encourage participation. The ACO survey was administered between 09/2020 and 12/2020, while the CP survey was administered between 08/2020 and 11/2020. The sample size and response rates for both surveys are presented in Table II.C.a.2 below; characteristics of respondents follow in Table II.C.a.3.

Table II.C.a.2. Sample Sizes and Response Rates for the ACO Provider, and CP Staff, and Practice Site Administrator Surveys

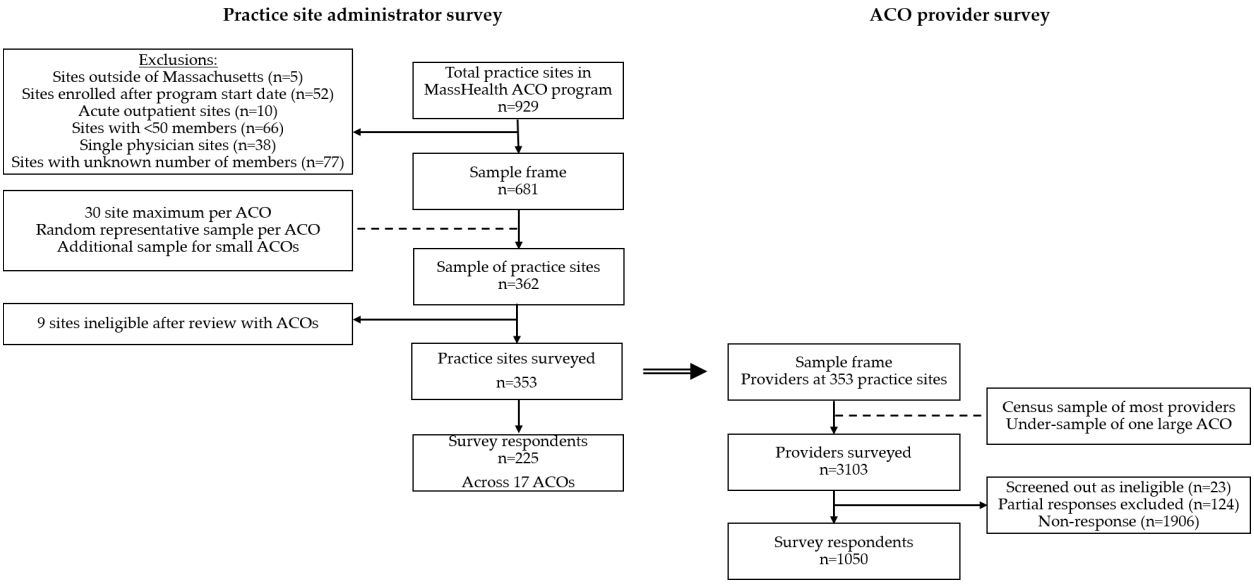
	ACO Survey Count	ACO Survey Percent	CP Survey Count	CP Survey Percent	PSA Survey Count	PSA Survey Percent
Total Sample size	3,103	100%	716	100%	362	100%
Total Survey Responses	1,174	38%	497	69%	225	62%
Complete	871	28%	460	64%		
Partial (included)[1]	179	6%	22	3%		
Partial (excluded)	124	4%	15	2%		
No response	1,906	61%	174	24%	128	35%
Ineligible: Screened out[2]	23	1%	45	6%	9	2%
Response Rate[3]		**38%**		**74%**		**64%**

[1]Partial cases that completed at least the first nine questions are included for data analysis and reporting
[2]Not eligible based on provider type, position, or responsibilities
[3]Equal to Total Responses / (Total Sample Size – Ineligible)

Table II.C.a.3. Select ACO Provider and CP Staff Survey Respondent Characteristics

	ACO Survey	CP Survey
Total respondents, n	1,050	482
Respondent type, %		
Physicians	50%	<1%
NPs and PAs	20%	<1%
Nurses	24%	14%
Social workers	6%	7%
Licensed counselors and therapists	-	5%
Community health workers and peer support specialists	-	33%
Other/unspecified	-	40%
Years of professional experience, %		
< 5 years	25%	35%
5-14 years	28%	29%
≥15 years	47%	36%

Figure II.C.a.1. Sample selection process for Practice Site Administrative Survey and ACO Provider Survey



Interview Scheduling and Procedures

Interviews were scheduled and organized by the evaluation team. Each interview was conducted by two members of the research team. For more detail, please see Appendices D and E.

Data Analysis

Demographic data were summarized as part of the analysis process. The evaluation team used a systematic process to analyze the data in Dedoose, a web-based qualitative data management software. Researchers ensured a shared understanding and application of the codes. For more detail about data analysis procedures, please see Appendix E.

Characteristics of the Key Informants

Overall, the evaluation team conducted 169 individual or group interviews with 296 individuals, comprising MassHealth ACO members, MassHealth DSRIP leadership, ACO/MCO/CP organizational and clinical leaders, and ACO/CP front-line licensed and support staff. The perspectives elicited from these participants provided a rich set of data for analysis and evaluation.

The evaluation team aimed to have a sample of perspectives within each data collection effort that was responsive to the aims of the research goals and hypotheses. Table II.C.a.4, below, describes, at a high level, each group of participants. Detailed demographics and descriptive information of the sample can be found in Appendix E.

Table II.C.a.4. Characteristics of Domain 1 Interview Participants

Participants	Description
ACO key informants	• The majority were from Model A ACOs. • Almost half were program management level staff and one-third were executive level. • Representative of all areas of the state, with some entities serving the entire state and others serving specific areas. • Years of experience with the ACO and in the health care field varied.
MCO key informants	• Only two entities in the state. • Interviewees were higher-level leadership.
CP key informants	• Majority from behavioral health CPs. • Almost half were program management level staff and one-third were executive level. • Representative of all areas of the state, with some entities serving the entire state and others serving specific areas. • Experience levels varied.
MassHealth members	• Of participating adult members (*n*=26), approximately half were female, white/Caucasian, not Hispanic/Latino, age 51 to 60, and English-speaking and had medical complexity or behavioral health needs, or both. • Pediatric members represented in parent interviews (*n*=4) were primarily male, white/Caucasian, Hispanic/Latino, 11 to17 years old, and English-speaking.
MassHealth staff key informants	• Represent all levels of DSRIP administration, such as Chief, Director, Deputy Director, Senior Manager, and Manager. • Areas of focus include contracting, quality, data management, integration, SWIs, ACO program, and CP program. • Some have been with MassHealth prior to DSRIP start; others have joined since program start; many have prior experience in health care.
ACO/CP In-depth case study key informants	• ACO/CP leadership roles include CEOs, COOs, Vice Presidents, Executive Managers, and Senior Directors • Program Directors represent clinical and management areas, including behavioral health, patient experience, population health, human resources, and quality • Frontline staff include care coordinators, community health workers, Registered Nurses, and enrollment managers

Interim Findings

Here we summarize the major themes that emerged from the analysis at the research question-level with illustrative quotes from Key Informant Interviews (KIIs) where appropriate. The RQ summaries are followed by more detailed descriptions of interim findings at the hypothesis-level.

RQ1: To what extent did the state take actions to support delivery system transformation?

RQ1 Summary

The state used DSRIP funding to substantially restructure Medicaid programs by recruiting dedicated staff to oversee the DSRIP program and providing financial support for ACO and CP transformation activities. The state offered essential development funding and showed ongoing and consistent engagement with key stakeholders as they pursued system transformation objectives. Targeted Statewide Investments (SWIs) were vital to enhancing the essential workforce. DSRIP infrastructure funding provided direct support, and SWI technical assistance grants provided funding, for technical assistance for implementing and operationalizing new health information technology systems and data analytic capabilities. Additional statewide activities included 1) operational changes, 2) data and reporting supports, 3) stakeholder engagement, 4) on-going program refinements, 5) guidance and support provided to ACOs and CPs, 6) changes and ongoing refinements to our payment models wherein ACOs take on financial risk, and 7) launching of quality measure slate tied to financials". These are discussed in further detail in the following sections.

Many DSRIP entities expressed that they could not have participated in the enterprise of system transformation without DSRIP funds; new entities were created with DSRIP implementation funding. In addition, ACOs enthusiastically recognized the accessibility and responsiveness of MassHealth DSRIP program staff in hearing their concerns and addressing challenges and barriers as they arose, which supported implementation efforts. Participating entities began to realize the goals of the DSRIP program by improving integration across the care continuum. Overall, it is clear that state actions and DSRIP funding were essential to implementing delivery system reform at the organizational level. The time-limited nature of DSRIP funds, however, raised concerns regarding the sustainability of DSRIP-funded initiatives.

> *"The DSRIP program really enabled organizations like ours to get started and build the data assets. That all costs a lot of money…So, the DSRIP helped us build that asset… I think probably the most challenging part of the DSRIP program from my perspective, is the shape of the funding curve. Particularly for us as a new ACO, knowing right away exactly how we wanted to execute on that funding and hiring the people and building the IT systems and everything in 2018, and then, knowing that the funding was going to fall -- I think next year will be 60% lower than a 2018 peak…We knew when we hired people in 2018 that we could not keep them all in*

2021. Nobody feels good about that, and you worry about sustainability of the program... that's been the biggest challenge." - an ACO participant

DSRIP SWIs that sought to increase the supply, preparedness, and retention of the community-based workforce were seen as facilitators to implementation by participating organizations. SWIs such as student loan repayment helped organizations recruit and retain staff and entice staff to practice in the community-based setting. Staff, including community health workers, nurses, social workers, recovery support specialists, are essential in the DSRIP model. They provide outreach and care coordination support for hard-to-reach members. At the same time, providers such as psychiatrists and nurse practitioners with prescribing privileges continue to be scarce resources, particularly in community-based settings.

The SWIs were successful in strengthening the community-based workforce and assisted organizations in engaging in delivery system transformation.

"Based on feedback from stakeholders, we added, in year one, an arm of student loan repayment that we called the behavioral health workforce development program, which targeted licensed behavioral health providers in community mental health centers, and then we also created a layer for master's prepared behavioral health providers in these same settings with a view to building the pipeline. What we heard was that a lot of master's-prepared behavioral health providers will spend clinical time in community mental health centers in order to get their clinical hours that they need to be licensed, and then they leave once they become licensed. So, we were trying to bridge that gap." – a MassHealth staff participant

Technical assistance grants were extremely beneficial for organizations, especially when used for implementing and operationalizing new health information technology systems and data analytic capabilities. Other SWIs were also used by organizations, as reported by MassHealth, to improve access to care. For example, MassHealth participants reported that providers used the grants to adapt their practices to accommodate physical and mobility disabilities, such as installing stair climbers, and invested in technology for language and comprehension needs, and verbal communication needs. MassHealth also developed a member-facing directory of providers and the accommodations they provide.

See below for more detailed results organized by each RQ1 hypothesis.

H1.1. DSRIP ACO and CP funding will support delivery system transformation.

Organizations participating in DSRIP reported that the state's actions to facilitate delivery system transformation in Massachusetts during the early months and years of implementation had varying levels of success. Actions included "official" actions, such as creating program requirements and providing financial resources, and "unofficial" actions, such as hiring supportive and responsive MassHealth staff to provide help and guidance for participating entities. Most notably, the State was described unanimously as responsive to concerns and issues raised by participating organizations, reflected in the decision to actively update program requirements over time.

DSRIP Funding

The DSRIP funding provided by MassHealth was integral to and a major facilitator of system transformation. Organizations noted that the infrastructure funding was necessary for implementing DSRIP funded changes as well as achieving organizational goals. Organizations were able to use the funds to recruit and train staff, improve on or create new electronic health records (EHRs) and other health information technology (HIT) systems (i.e., to facilitate case management, population health efforts, etc.), data analytics, and, in the cases of some ACOs and CPs, to form and begin operations.

Organizations desired more flexibility within the budgeting process, specifically, to move funding between budget lines. Additionally, spending restrictions were also a barrier, as one respondent implied regarding unspent funds in one category that could not be used for other purposes, "*There's only so much furniture you can buy*" (*a CP participant*). Apart from some spending restrictions, the infrastructure dollars for DSRIP were the most important facilitator of system transformation.

> *"But I do think that the DSRIP funding is accomplishing what it desired - develop some of the strategies and infrastructure that will allow us to succeed*." *- an ACO participant*
>
> *"The DSRIP program really enabled organizations like ours to get started and build the data assets. That all costs a lot of money [and] doesn't yield any immediate benefit. DSRIP helped us build that asset." - an ACO participant*
>
> "*[DSRIP] was an amazing opportunity for provider groups and health plans to come together in partnership to find a way to manage this population. If you think about what has been happening in health care for the past 10 years or so, there have been commercial ACOs through various commercial payer contracts…the emergence of the Medicare ACOs. It was certainly time for a Medicaid ACO, I know the state has been talking about it for a long time. So, it seems [ACO name redacted] saw this as an opportunity to jump in and be part of the strategy, and part of the solution. I should also note about [ACO], this Medicaid ACO is the first contract that the… member organizations have done together, which is very significant. And it's a risk contract on the Medicaid population, with DSRIP sort of coming in and overlaying things. So, this is a significant undertaking, but really, I believe the organization saw it as an important step as an emerging health care*

system to come together with all of its member organizations and be part of this plan with the state." – an ACO participant

Respondents acknowledged the historical challenge of caring for Medicaid members, who are generally more complex and for whom practices may receive lower payment rates compared with Medicare or commercially insured patients. The DSRIP funding was vital for ACOs to launch new programs to help practices care for complex Medicaid members with medical and social needs. However, respondents voiced concerns about the sustainability of new DSRIP funded initiatives after the end of the DSRIP program

Respondents from CPs cited concerns regarding inadequate payment rates for the intensive engagement activities and care coordination supports delivered to members. CPs are paid on a per member per month (PMPM) basis to provide a set of services. In response to stakeholder input regarding payment rates, CP care coordination rates were subsequently increased by MassHealth in January 2020. DSRIP infrastructure funding decreases each year, with the intention that organizations will find a way to sustain their efforts independent of DSRIP funds over time. Organizations reported in interviews in 2019 that they were already concerned about sustainability into the future.

"*…I think there should be a redistribution of some of [the financial resources] and some should go to a higher PMPM because we're busting our butts for the $180.00 a month and, even with that when we meet our targets, we're running about a $600,000 deficit…"- a CP participant*

"I'm delighted with what we've been able to put together with providing DSRIP resources to be able to start the kinds of programs that we really needed to be able to do an adequate job of taking care of these patients. It's an incredibly challenging group of patients that have a huge number of needs, both medical and social, and to give the practices some of the resources that we've needed to be able to do a good job of taking care of these patients. Another challenge is that the rates that are paid for the care of these patients are lower than any other rates: Medicare, commercial, etc. And I think that has always been a challenge for practices and for other providers in terms of being able to provide the resources that are needed to take care of these patients. I think that's another issue that needs to be addressed in the future." – an ACO participant

"Sustainability is a significant factor of concern. I think the ability to really drive the outcomes that were intended by this program, we have to do that within the next two years to really ensure its viability. But I think there's still a lot of work that has to be done with the ACOs in order for there to be a financial balance…Do we think the program benefits the community? Absolutely. Do we think that it has the opportunity to continue that improvement? I think that improvement is incremental with time, certainly. But I think the financial viability is very much at the cornerstone of any risk or any decision that could be made, which is unfortunate that that drives the health care, is the financial piece. But that's the reality. If there isn't a

relationship and a balance, without DSRIP funding, it does not really have the sustainability." - an ACO participant

Risk-Adjustment of Capitation and Total Cost of Care Benchmarks

In recognition of the relationship between certain social factors and healthcare spending, MassHealth implemented a first in the nation payment model in 2016 that adjusted for social risk factors in addition to traditional demographic and medical risk factors.[28] Since implementation, MassHealth has sought to improve model performance and recalibrate the model as new data becomes available, which includes addressing potential underpayments for certain subgroups. To the extent payments or total cost of care benchmarks for a subgroup are below the cost of caring for those members, ACOs who disproportionately serve those members may be disadvantaged relative to other ACOs.

Children may be less medically and socially complex than adults, therefore on a risk-adjusted basis, average capitation payment rates and total cost of care benchmarks are lower for children than adults. One ACO reported this to be a barrier to meeting pediatric member needs. Pediatric members were described as "*the least budgeted in this program by far and the lowest spenders in this program by far, and it's frustrating*" (an ACO participant). In response to stakeholder concerns regarding under-recognition of the costs of caring for pediatric populations, particularly those with medical complexity, MassHealth incorporated markers to calibrate payments for these subgroups better in a 2020 update to the risk adjustment formula used to adjust ACO capitation payments and total cost of care benchmarks based on the medical and social risk of their member populations.

Organizational Structure and ACO-CP Relationships

MassHealth specified requirements for participation in the DSRIP program that governed ACO-CP relationships, care timelines, and quality measures. This included contracts between MassHealth and each of these entities ACOs and CPs created documented processes as part of their contractual obligations which outlined processes between their organizations. Certain work-flow processes were noted as helpful in delivery system transformation. As an example, having an identified key contact at a partner ACO/CP streamlined communication efforts so that staff were in contact with one consistent person who was knowledgeable about their organization's activities and could provide relevant information and troubleshoot issues.

Responses to the practice site administrator and ACO provider survey demonstrated that familiarity with the CP program was not universal. As of Fall 2020, only 50% of ACO providers agreed that relationships had been established with CPs, with 15% disagreeing, 23% neither agreeing nor disagreeing, and 12% responding "don't know." This proportion is similar to what was reported by practice site administrators one year

[28]See Ash et al: https://pubmed.ncbi.nlm.nih.gov/28783811/

earlier; half (50%) of practice site administrators reported that more than a few of their members were receiving services from CPs, while one third (34%) reported they didn't know or weren't sure. Of the practice site administrators who were able to report an opinion (57% of respondents), 52% reported that the CP program made it easier to care for members.

Despite early difficulties operationalizing the ACO-CP relationship, the value in collaborative care was seen over the course of this interim evaluation, as reported by organizations. Half (49%) of ACO providers agreed that relationships had been established with CPs. Of those that reported relationships with CPs, 64% agreed that CPs helped them better meet members' needs. One ACO representative explained in an interview that they saw considerable value in the CP role, as CPs could alleviate the burden on providers by addressing non-medical needs. However, other requirements, especially around information sharing, were challenges to effective implementation, as discussed below.

Overall, participants in first-round key informant interviews (conducted fromMay to June 2019), who primarily comprised program and executive leaders, found that the relationships between ACOs and CPs were beneficial in coordinating and integrating member care during the implementation period. While MassHealth specified certain aspects of the relationship between ACOs and CPs (including the number of CPs with which the ACOs must contract), they also provided organizations with flexibility in the day-to-day management of those relationships. Both ACO and CPs often found the volume of relationships to be challenging, as each relationship could have very different care coordination processes. In those situations, programmatic inflexibility could be a barrier to effective care management. Indeed, some original specifications created barriers in implementation, and in response, MassHealth actively made changes to the structure of these organizational relationships.

Originally, ACOs were required to partner with all BH CPs in their service area and at least two LTSS CPs. Many organizations found this obligation burdensome. As reported by one CP representative in the spring of 2019:

> *"[MassHealth] said to the ACOs, set up your own systems…How many ACOs are there? About 20. How many systems out there? About 20. We have to manage all that. It's ridiculous." - a CP participant*

In CP case study interviews, conducted in Fall 2020 after MassHealth had relaxed ACO-CP relationship requirements to promote a smaller number of preferred partnerships and reduce the number of ACO-CP relationships, participants still indicated that CPs found the multiple systems difficult to manage.

Some participants expressed a desire for MassHealth to develop a centralized system or portal to help manage information sharing. Having multiple partners increased difficulties in managing information sharing between organizations, both electronic and person-to-person (e.g., sharing care plans and member health information, managing member outreach), which, subsequently, may have impacted member care.

Furthermore, many of the nuts-and-bolts requirements for these relationships, especially regarding the transfer of care plans between organizations, were not prescribed by MassHealth. The lack of standardization made implementation and operation difficult for many organizations.

> *"One of the things that the program needs to figure out going forward is sort of map out at the highest level how to better integrate and better provide some uniformity around how we interact with the CPs. In part because, you know, many are also underfunded or understaffed, [but] we found that almost none of them have electronic systems and those systems that they have then aren't interoperable with other EHRs or the platform people are using. We're sort of doing the best we can passing paper around, but I think that's probably one of the larger issues to be addressed." – ACO participant*

MassHealth respondents reported that issues with different information sharing systems had been raised with them, and they understood why organizations would ask for standardization. However, MassHealth also recognized issues with standardization. For example, standardizing for one program or business line could create more challenges than it solved for organizations involved in multiple MassHealth health plans, what one MassHealth staff participant called "*siloed standardization*." Additionally, MassHealth predicted that organizations would typically want standardization to match up with their preferred system and that it is "*hard to please everyone*" (a MassHealth staff participant). As one MassHealth staff participant said, standardization would:

> *"…have required more than just mandating it, it would have required real purchasing and infrastructure building and adoption, driven by the state with participation from everybody. Part of what is contributing to the diversity of approaches is the inherent diversity of the delivery system…Because it's not like everyone is using a fairly standard data infrastructure and we can come over the top and say, 'Okay, everyone's using [commercial EHR platform], so everyone give your CPs read access to your [EHR] system and that's where you should store your care plans, that's how you should exchange your information.' We talk about internally whether the Massachusetts delivery system would benefit from much more top-down direction on IT integration overall." – a MassHealth staff participant*

ACOs do not always use the same EHR across all practice sites, meaning that standardizing systems would require a system-wide change for many health systems in the Commonwealth. This would require potentially significant additional financial investment, which may or may not be feasible for all organizations.

> *"We did spend a lot of time just thinking about this and talking about it with stakeholders, and it's always this thing where everyone is talking about standardize, standardize, standardize. But then, when [the] rubber meets the road people are like, 'If we want to standardize, we want it to be the way that we do it.' I think, based off of all the conversations that we had, we thought it made sense to standardize certain things, like the elements in the care plan, but not, for example,*

the way that the ACOs and the CPs should be exchanging this information. I think that decision also reflects what our assessment was, from what we were hearing from folks about the diverse set of capabilities out in the ACO/CP worlds and what they were currently able to do in an effective and scalable way. As you can imagine, there's a diverse set of capabilities out there." - a MassHealth staff participant

Another concern both ACO and CP participants raised was that relationships were more challenging to manage when the shared patient load was low, as it made case conferences or other meetings of limited use. Organizations often reported that they found relationships easier to manage and more effective for patient care when the number of shared MassHealth members was substantial. MassHealth intentionally developed those initial requirements to effectively leverage community expertise and experience while recognizing that preferred relationships would eventually emerge. Indeed, allowing ACOs to assign members to CPs fostered closer and more collaborative relationships between organizations.

"We started with these many-to-many relationships to give these community-based organizations, which have such valuable expertise and connections in the field, a boost, but we would always eventually move to preferred relationships, and these many-to-many relationships would whittle down, and issues of standardization wouldn't be as amplified as they were at the beginning of the program." - a MassHealth staff participant

"At the start of the program, to provide some structure and some stability, MassHealth decided where and which members would be assigned to the CP program. It's a very slow and planned process to allow ACOs to assign to whichever of their CPs they contract with. And that way, as they develop these relationships, [they] have that understanding of which CPs are most well-positioned to serve which types of members. Relationships that they have that they want to make stronger they can direct more volume to, if there's capacity on the CP side. Our hope is that those conversations are happening between the ACOs and the CPs and they're working on both the CP side having the capacity to take on membership and on the ACO side, to direct referrals to those CPs." - a MassHealth staff participant

At program launch, ACOs were required to enter into agreements with all BH CPs and at least two LTSS CPs in each of the Service Areas or Regions the ACO/MCO serves. As of 2020, ACOs and CPs had the ability to request to end agreements with CPs, with MassHealth approval. The change in MassHealth expectations regarding partnerships allowed organizations to streamline relationships for increased efficiency and effectiveness.

Information Sharing and Care Coordination

One goal of the DSRIP program was to promote information sharing and member care coordination among providers to achieve cost savings and better health outcomes. Care

coordination for ACOs can be defined, in general, as "the organization of patient care activities between two or more participants (including the patient) who are involved in care, to facilitate appropriate delivery of health care services. Organizing care involves marshaling of personnel and other resources needed to carry out care activities, and often managed by the exchange of information among participants responsible for different aspects of care."[29] Further, care coordination is facilitated by integration of care, which is the "teamwork with a unified care plan that comprises all clinical and nonclinical disciplines as a standard approach to care for designated populations."

The care plan is a prime example of how the DSRIP program sought to encourage both information sharing and care coordination by having a care team work collaboratively to address members' needs. Care plans are ideally jointly developed by the member, their CP, and their ACO, working together. The plan is reviewed and signed by the member, sent to the PCP or PCP designee for signature, and the signed version is returned to the CP. The care plan includes goals, medical or non-medical, based on a member's needs and desires. Providers involved in members' care, including care coordinators or community health workers, are considered members of the care team, along with others designated by the member (e.g., family, caregivers).

ACOs and CPs indicated that an integrated information sharing platform facilitated member care coordination and helped to achieve DSRIP goals. When present, clear communication among providers was a key facilitator of care integration for MassHealth members. MassHealth did not specify information sharing procedures between participating organizations, partly because it was likely each organization would want the standard practice to be their practice in an effort to encourage more relationship building and collaboration. Each ACO and partnering CP were required to develop and submit documented processes to MassHealth that specified the relationship's operational aspects, including information sharing procedures and platforms. However, there were no standards, guidelines, or specifications for electronic or other methods of sharing care plans between ACOs and CPs. Some organizations viewed this as a barrier to implementation.

Members inconsistently experienced goal setting as a collaborative process with care team providers and staff, whether through the creation of a care plan or otherwise. From the member perspective, the care team's structure and purpose were sometimes understood in a clear, formal way, including the function of a CP or ACO care coordinator and members' physicians. In other situations, members reported they spoke to their family and informal support systems about their care or made care decisions on their own. Some described the care team as not addressing their needs holistically or not engaging the member in determining their care. Members of the team (such as just the doctor, a family member, or a care coordinator) might assist the patient/member, but

[29] See AHRQ Lexicon Reports available at: https://integrationacademy.ahrq.gov/products/lexicon

members were often uncertain about whether these distinct team members worked together.

> *"Q: Do you talk with [your care coordinator at the CP] about -- say, "Oh, I really want to get my diabetes sugars lower"? Do you have conversations about how to work on that?*
>
> *A: Oh, no. No, I talk -- my medical health, I talk with my doctor.*
>
> *Q: Okay.*
>
> *A: I don't talk to her about that.*
>
> *Q: Okay. And so, what services do they help you with? I know you mentioned transportation.*
>
> *A: Well, for example... What can I say? About the dentist, like I said, I've been looking for a while, and someone just told me to give her a call, and in, like, two weeks she told me to call this dentist and they can help me. You know, I called, and they've been helping me ever since.*
>
> *Q: So, she helps connect you to some care, it sounds like.*
>
> *A: Right, yeah." – a MassHealth member*

When asked whether and how their care had changed over the last two to three years since the DSRIP program began, members reported that their health care had improved, as had communication with and among providers. Indeed, members who indicated they felt "heard" by providers appeared to be more likely to be engaged in their own care (i.e., attending appointments, managing medication). Clear communication among providers was a facilitator of both health care engagement and better care from the members' perspectives. Members expressed that having to share information repeatedly was a burden and were exasperated when providers did not communicate with each other.

> *"My previous primary, and even the one who I just see -- who I just started to see, they both listen to what I say and were familiar with my case beforehand. I feel like, and they really did their research before, and were willing to listen" – a MassHealth member*
>
> *"Those two – [my doctor and my coordinator] do not work together very much. I don't know why, but it's almost like my doctor is almost apprehensive about working with her. Like she thinks she's from my insurance company." – a MassHealth member*

Case study interviews with CPs in Fall 2020 highlighted that they found MassHealth's changes to information sharing helped improve care coordination, member outreach and engagement. Switching from a "refresh file" to an "834 file" made it much easier to work with the data shared by MassHealth.

"Where we had the refresh [file] before, and you'd have to check your member roster and get your refresh file and figure out who was where, what didn't match, and how to fix the issue. Now you can run the 834 and you can see the disenrollment reason, the date of disenrollment…it's an easier thing to interpret and get your data out of, and…it's going to be the source of truth, they say." – a CP participant

There is evidence that organizational leadership, providers, program staff, and members had different experiences or perspectives on the effectiveness of care coordination efforts. For example, contrary to members' experiences, surveyed providers reported a high degree of care coordination at their practice sites, with 84% reporting that patient care was well-coordinated among internal providers and staff and 64% reporting care was well-coordinated with external providers. A smaller proportion of providers (59%) reported having good systems to track referrals to external providers.

Care Timelines

MassHealth initially developed specific member outreach and care timeline requirements that were perceived as barriers to effective member care. For example, CPs were accountable for a quality measure that specifies follow-up with members should occur within seven days of discharge from an ED visit and within three days of discharge from an acute or post-acute stay. ACOs are held accountable for two similar measures that require follow-up within seven days of an ED visit or hospital stay for mental illness. The follow-up requirement for the CP post-ED visit follow-up measure was changed by MassHealth in August 2019, after key informant interview data collection had concluded. CPs are no longer required to follow up with a BH provider or CP within seven days; the measure was revised to require follow up with the CP specifically. Representatives from BH CPs reported that members were not always ready to engage in services immediately following discharge. The timeline was not perceived by many providers as reflective of the reality "on the ground."

"Some of these [member] follow-ups are a challenge…after an inpatient psych hospitalization, you need to have follow-up with a BH provider within seven days. That's a real challenge because…we don't get the information on BH discharges…even with the exchange of information with all of these CPs, you can't hold us accountable to all this stuff but really provide us no guidance on how to get around all…the BH restrictions on information sharing." – a CP participant

Along with designing the DSRIP program's initial features, MassHealth took steps to rectify issues that emerged in real-time. For example, based on feedback from stakeholders, MassHealth revised the initial outreach and engagement timeline for members newly assigned to CPs. CP interviewees indicated that, as specified by a quality measure, they originally had 90 days to reach out and engage a member in care coordination supports. CPs faced difficulties engaging members in care under the original timeline, particularly given the sometimes outdated or incomplete contact information provided to CPs by MassHealth. Therefore, organizations needed to take

time to locate the member if possible, which often meant reaching out to the ACOs and, in some cases, searching for members who were unstably housed, which cut into their time to reach the member and encourage their interest and engagement in CP care coordination efforts. The engagement process also included the care plan process – from performing a comprehensive assessment to developing the care plan with the member to acquiring the member's and the PCP or PCP designee's signatures. BH CPs were required to do the entire comprehensive assessment themselves, while LTSS CPs were required to complete only the LTTS portion of the assessment or contract with the ACO to perform this function unless contracted by the ACO to complete the other parts of the assessment. Just as with the discharge timeline requirement, the timeframe for engaging members was often reported to be difficult to meet.

In response to concerns with expectations of CP engagement within 90 days, MassHealth and CMS extended the timeline for compliance with the CP engagement quality measure to 122 days while also extending the period during which CPs could be paid for qualifying activities whether or not a member had completed the engagement process.[30] Participating organizations appreciated this clear and direct response to a flagged issue. While issues with accurate contact information for members and the time needed for member engagement and connection to supports persisted through the start-up and implementation period, the timeline change alleviated some of the burdens and barriers to success for CPs.

Quality Performance Indicators (QPIs)

MassHealth's quality performance improvement measures were meant to focus organizations on achieving the goals of the DSRIP program. Achievement and/or improvement on measures also can lead to financial benefits for participating ACOs and CPs. The measure slates are available in Appendix F.

In some cases, quality measures, and the expectations they conveyed, were described as undermining what providers considered to be high-quality care and, therefore, from the providers' perspective, successful program implementation. Concerns about QPIs (e.g., successfully meeting timeline expectations) were explicitly mentioned, for example, in the case of following up with members after discharge. Staff members at one CP reported that they often did not worry about the quality measures, as the measures did not guide how they provided care coordination supports for members. Many felt that the measure related to meeting the original timelines undermined quality care by pushing organizations to encourage people to engage before they were willing,

[30] Per the DSRIP Protocol: "A BH CP will be paid for outreach only during the first 90 days of a member's assignment to the BH CP if outreach is attempted and documented during that 90-day period. For members assigned to a BH CP between July 1, 2018 and October 31, 2018, inclusive, the BH CP may be paid for qualifying activities other than outreach during the first 10 months of a member's assignment. After the first 10 months of assignment, the State will not make payments to a BH CP for qualifying activities performed for a member, unless that member is engaged. For members assigned to a BH CP beginning November 1, 2018, the BH CP may be paid for qualifying activities other than outreach during the first 150 days of a member's assignment. After the first 150 days of assignment, the State will not make payments to the BH CP for any qualifying activities performed for a member, unless that member is engaged."

possibly jeopardizing participation and hindering relationship-building efforts. This was particularly true for CPs, who felt their work was more holistic than just "hitting numbers." Furthermore, MassHealth had delays in finalizing the metrics, which also may be delayed pending CMS approval. CPs expressed confusion during interviews conducted in early 2019 regarding which measures organizations were going to be held accountable for. However, ACO and CP quality measures were not in pay-for-performance (i.e., all ACO and CP administrative measures were reporting only, while ACO hybrid measures were pay-for-reporting) for the first year of the program. Nine ACO measures were in a pay-for-performance structure in year two, while CP measures mostly remained pay-for-reporting only, with the exception of one measure that was pay-for-reporting. in year two, Therefore, poor performance would not have a financial impact for measures that were not yet in pay-for-performance in the early years of the program.

> *"The MassHealth quality slate, it still has the draft watermark on it. So, I don't know if those are really going to be the measures that we use." – a CP participant*

Certain metrics could be particularly challenging for ACOs as well. In some cases, as reported by ACO participants, they did not accurately reflect the makeup or capacity of the ACOs. For example, representatives from an ACO without dentists in its network suggested measuring how many children receive fluoride treatments in an ACO's provider office rather than the percentage of an ACO's patients that go to a dentist, which is dependent on the number of dentists in the area who accept MassHealth and not something over which ACOs have control. For ACOs with large pediatric populations, concerns were expressed, at the time of the interviews in Spring 2019, that the metrics designed for adult member populations were more challenging to address in a pediatric population, which might have required special consideration. Of the 20 ACO quality measures, 10 included children or children plus adults, while four focused specifically on pediatric populations. For each quality measure, ACOs were not held accountable if they did not exceed a minimum threshold for the denominator.

> "*Because we are a pediatric ACO, we are not going to perform on quality measures in a similar way to other ACOs [that focus on adult members and measures]." – an ACO participant*

MassHealth selected the measures to promote the fulfillment of the DSRIP program goals while also being clinically sound and evidence-based. MassHealth sought to curate a quality slate that was not "*just measurement for the sake of measurement, but measurement for meaning,"* and *"thus focused on priority issues and populations" (a MassHealth staff participant*). This led MassHealth to develop custom measures to address DSRIP program priorities when existing measures were unavailable or did not seem to be feasible or relevant to the goals of the initiative. MassHealth also valued stakeholder input into quality measurement efforts, particularly as they related to or reflected the implementation process.

"… the third piece is capturing from stakeholders their perspectives as they represent providers that are in the field and will actually move the measures and achieve the goals of the program…" – a *MassHealth staff participant*

"I think the issue is there aren't that many process measures, so I think what you see is a mix of outcome measures, which are the ones that are out there that offer good validity… we recognize those are probably the best measures, but also recognizing that especially for the LTSS and behavioral health, where the science is a little newer…you do rely on process." – a MassHealth staff participant

MassHealth took various actions internally to facilitate the successful application of the slate of quality measures. First, given the financial accountability tied to the measures, MassHealth invested internally in data capabilities and infrastructure to support data reporting. MassHealth knew that the numbers they were producing needed to be accurate and trusted by the participating organizations in order to hold organizations financially accountable for improvement and achievement. Additionally, MassHealth had to improve its internal collaboration to implement the DSRIP program and achieve its aims. This level and scope of collaboration was relatively new to MassHealth; respondents reported that, in the past, MassHealth offices often worked independently of each other. The size of the DSRIP program and associated quality slate required MassHealth to increase its internal collaboration efforts.

"This is the first time that we are holding managed care accountable from a dollars perspective. Previously, we did have quality measures for our MCOs, but there wasn't any money tied to them. But now with our ACOs, there's actually dollar impacts for quality performance, and so in some ways, that has meant that we have needed to really invest in our internal infrastructure and data capabilities to put these numbers in front of the ACOs and say, "Hey, we trust these numbers, the rates that we're calculating for you are trustworthy, and therefore we can hold you accountable for them." - a MassHealth staff participant

"I would also say, historically, we used to actually have within MassHealth the silo-ing of the strategic ownership and financial performance functions held in a very different place in the organization from the program teams that actually had oversight responsibility for the managed care plans. Those were totally different, they reported to different [executive] leads, they were in different offices in different towns, and they barely spoke to each other. I think one of the big things that we have tried to do, particularly with the organization design on [MassHealth's division of Payment and Care Delivery Innovation (PCDI)], is bridge those, and start to bring those under one place. The people that are doing the front-line work, engaging with the plans, have exposure to and understanding of the strategic context, and what we're trying to achieve." - a MassHealth staff participant

One innovative approach to data tracking facilitated by DSRIP funding was the creation and utilization of dashboards by CPs. The dashboards incorporated data from multiple sources and allowed CPs to monitor benchmarks and performance. As noted in the

DSRIP Independent Assessor's Mid-Point Assessment report, there were seven CPs that did not have an in-house dashboard they could use in this way; instead, they relied upon centrally produced reports with data from the EHR/care management platform.

MassHealth Support for Quality Improvement

MassHealth also provided organizations with support in improving or developing QI projects. MassHealth required ACOs to target measures or to try to improve aspects of performance with which they struggled. MassHealth produced and shared member-level claims and encounter data files so that ACOs could conduct analyses using MassHealth's data to support population health management and quality improvement efforts within the ACOs. MassHealth also produced and shared performance metric data with the ACOs. In one case study interview, an ACO participant explained that when they saw their poor performance (relative to other participating ACOs) on emergency room visits, they worked with internal data to improve performance.

In MassHealth, ACO, and CP key informant interviews, participants indicated that MassHealth often provided beneficial guidance on various aspects of the DSRIP program, including the quality measures. Overall, MassHealth staff were perceived as helpful and supportive of organizations, despite some initial qualms about MassHealth staff turnover. MassHealth staff were perceived as willing to listen, answer questions, and provide guidance, all of which supported the organizations in operationalizing the DSRIP program. The actions of individual staff were important, as was the overarching effort by the state. In addition to one-off emails and conversations, regular office hours and conference calls were reported as helpful in implementing the DSRIP program.

CP representatives commented:

> *"Our account managers [have] been very helpful. The communication's been good. We don't feel like there have been gaps. And in fact, sometimes I'll get two or three emails a day from EOHHS. They're very supportive. They take questions back to the team." - a CP participant*

> *"I think it starts with their [MassHealth's] culture, which is always listening. Always listening, thinking and thoughtfully processing, and closing the loop. We always feel like, if we have a problem, that we have no reservations in bringing it to them. I think that they have taught us discipline in how to bring things to them. Do your homework, do your analytics, bring it ready, help them to do their work. Their instincts are really good. They have been helpful on a technical basis: when we think we have a technical problem, and we bring them the facts, they have been helpful in thinking things through from a policy perspective. So, yeah, from a policy, leadership, and technical perspective…they've just been incredible." - a CP participant*

Mass Health staff reported:

"Our engagement with ACOs and CPs is very frequent through office hours, which have always been very well-attended; they're always a lively discussion as well, in terms of getting their input on the ground. Those office hours are attended by quality teams, they're also attended by clinical teams at the ACOs and at the CPs, and hearing their perspective and their concerns about measures, their concerns about meeting various benchmarking standards and the fairness of those have been absolutely essential in the design of the program…from where we began to where we are now." – a MassHealth staff participant

Additionally, MassHealth sends out regular bulletins (e.g., Managed Care Entity bulletins, Provider bulletins) and ACO and CP digest emails to participating organizations. Notably, to supplement verbal guidance provided during office hours or other meetings, ACO and CP organizations often reported that they wanted written guidance, especially for difficult or challenging issues, such as navigating the operational challenges arising from the limitations in the exchange of member information that arose due to Health Insurance Portability and Accountability Act (HIPAA) and Confidentiality Of Substance Use Disorder Patient Records (i.e., 42 CFR Part 2) regulations, though this specific guidance was not provided.

"*Then one area where I would love to see more of is putting detailed guidance in writing. We have weekly office hour telephone meetings with the EOHHS team. We talk through a number of nuanced, detailed situations. They get verbal guidance, and everyone goes off interpreting that slightly different. When it goes from those who are on the call, those who ask questions on the call, then taking it back to their teams and saying, 'This is what we just heard.' Then you've got 27 CPs all hearing something a little different." – a CP participant*

Stakeholder Engagement in Quality Measurement

MassHealth respondents reported working with Centers for Medicare & Medicaid Services (CMS), National Committee for Quality Assurance (NCQA), and other quality measure stewards (such as the American Medical Association (AMA) and American Dental Association (ADA)) when drafting and developing the quality measure slate. They worked with these organizations to ensure that the measures MassHealth intended to use were properly specified and supported by the quality steward, which was essential to receiving CMS's approval for the program. Additionally, MassHealth worked with different work groups, providers, the ACOs, and the CPs to develop and manage the quality program. Stakeholder groups included: the EOHHS Quality Measure Alignment Taskforce and the Taskforce's DSRIP Quality Subcommittee, DSRIC, New England States Consortium Systems Organization (NESCO), State Health & Value Health Strategies (SHVS), other Medicaid agencies, and measure stewards, as discussed above.

"That required a lot of engagement with NCQA about exactly how we could adapt the measures to fit our program, so we're taking these traditional health plan metrics and applying them to some relatively smaller populations in some

cases…In terms of operationalizing and getting those permissions in place across NCQA, across the American Medical Association, across the American Dental Association, across CMS and their metrics, it's a tremendous amount of work, because it was very clear, and understandably so, from CMS, that we were not to utilize the measure, nor would we, without full knowledge and approval by the steward. In terms of operationalizing, that was a huge challenge to align across the stewards, to make sure they were comfortable with and approved what we were doing." *– a MassHealth staff participant*

Quality Measure Financial Implications

As outlined above, MassHealth holds the ACOs and CPs financially accountable for reporting (in the early years) and performance (in subsequent years) on quality measures. This was new for the ACOs, CPs, and MassHealth and required internal changes for the agency. MassHealth developed a system in which organizations would get achievement points for meeting minimum performance attainment thresholds and would obtain increasing points until a goal benchmark was exceeded. Additional points were awarded for improving on previous years' performance (i.e., improvement points). Given the possible financial incentives attached to performance, MassHealth needed to have robust data analytics capabilities and needed to ensure that benchmarks were fair and attainable.

"Generating the scoring system and refining the scoring system in terms of considering fairness… We wanted to create, and I think successfully have created a system that both rewards high-performing ACOs and low-performing ACOs equally, and I think one of the factors that helps equalize those two are the allocation of improvement points where lower-performing ACOs have a greater opportunity just inherently to demonstrate improvement and can be rewarded as such, whereas higher-performing ACOs have arguably less opportunity to earn dollars through demonstration of improvement, but they're also through a separate system of achievement points and are incentivized for being high performers." *– a MassHealth staff participant*

The COVID-19 pandemic presented unique measurement challenges, given changes in practice and clinical guidelines that would make accountability hard to enforce fairly. Therefore, MassHealth worked with CMS to adjust the program to extend the reporting period for certain ACO and CP measures while also providing flexibility in determining quality scores for 2020 (e.g., by using performance from the pre-pandemic period). This type of real-time responsiveness is similar to MassHealth's work to adjust care timeliness; their ability to be nimble and change in response to issues may be a key facilitator to implementing delivery system transformation successfully.

"We basically have not been able to identify a measure that doesn't have major validity issues this year [due to COVID] because of changes to your clinical guidelines, issues with data access, and other things that I think would make it inappropriate to hold people fully accountable for performance. We're in the

process of discussing with CMS what modifications they would approve, based on what they've approved in other states and how they're thinking about it [due to COVID]. That's a very active conversation at the moment." – a MassHealth staff participant

Stakeholder Engagement

MassHealth supported the DSRIP implementation by proactively engaging ACOs/CPs and modifying program specifics in response to their concerns. The state conducted substantial stakeholder engagement efforts, including working with quality measure stewards, as noted above, hosting regular office hours for ACOs and CPs, and being generally available to these stakeholders for questions and support.

MassHealth procured, organized, and convened meetings with the Delivery System Reform Implementation Advisory Council (DSRIC) comprised of a group of representatives from ACOs, CPs, advocacy groups, and other stakeholders (e.g., MassHealth members). These meetings were perceived as helpful by both participating organizations as well as MassHealth staff. DSRIC meeting agendas cover a wide array of topics, including but not limited to payment structures, program restructuring, care coordination, ACO-CP alignment, FS programs, workforce development, SWIs, quality and performance improvement metrics, HRSNs, and health equity. Meetings in mid-2020 also included discussions on COVID-19, including explaining the need for organizations to reach out to members about prevention, testing, and treatment of the virus. DSRIC meetings included report-back sessions in which MassHealth and other state agencies reported the status of DSRIP financials, quality performance, or other state initiatives related to DSRIP work, and discussions in which feedback and input from stakeholders were solicited. These meetings helped MassHealth refine and redesign aspects of the program to promote delivery system transformation, including changes in ACO-CP relationship requirements.

Another stakeholder group that was procured and organized by MassHealth to contribute to DSRIP is the Social Services Integration Workgroup (SSIWG). This group was formed for the purpose of integrating social services into the DSRIP program. It helped to design and launch the Flexible Services Program. It also provided input and support for the development of the flexible services screening tool and a Verification, Planning, and Referral Form and collection of race, ethnicity, and language data of ACO members.

Member Engagement

MassHealth developed a CP member engagement quality measure that is on the ACO and CP quality slates. For this quality measure, member engagement requires completion of a comprehensive assessment and person-centered treatment plan (BH CPs) or a care plan (LTSS CPs), signature or approval of the treatment/care plan by the

member, signature of the treatment/care plan by the member's primary care physician (PCP or designee), and submission of a qualifying activity encounter record to MassHealth to document that this engagement process has been successfully completed.

Interviews with members enrolled with CPs provided limited data regarding the frequency or extent to which members were engaged in creating or signing off on their treatment/care plans. MassHealth members were asked about their health care goals, their care plans, and who worked with them to make decisions about their health (i.e., their care team) during interviews. Some members reported not knowing if they had a care plan or what it included; others knew it by a different name. Treatment/care plans did not appear to be created in a consistent, collaborative manner across organizations. The inability to specify or remember a collaborative goal planning process suggests it is not possible to assess from the member's perspective whether the process did or did not occur or how involved care team members were. We cannot evaluate whether being unaware of participating in a care planning process had a consequent impact on member care outcomes, but it does suggest members may not be fully aware of changes in care processes in general.

> *"I think I created my new action plan/care plan -- it's all the same thing -- back in November. I'm not sure where my copy of it is." - a MassHealth member*

> *"In the community partners context, we have a pretty specific definition of how we think about member engagement. We consider members to be engaged when they've been contacted, they've agreed to be supported by the community partners program, they've had an assessment completed that identifies their care needs in a person-centered, member-driven way. They've got a care plan that has been created that they've approved, and their primary care physician has approved that to support their care team in addressing those needs. A lot of times, the really hard part of member engagement is that first piece of just getting the member to 'lowercase e' engage with the people that are trying to contact them, particularly in our current delivery system where you do have a lot of care coordinators, a lot of different types of people that are trying to contact these members, and they may not be members that have the most trust in the health care system to support them." – a MassHealth staff participant*

While a signed treatment/care plan represented a member being "capital E" engaged for the quality measure, according to a MassHealth staff participant, members also first needed to be connected to their ACO and/or CP to begin that process (i.e., "lower case e" engagement).

DSRIP Rollout

Overall, the transition to the ACO program was relatively smooth; efforts were made to sustain continuity of care for MassHealth members. Assignments to ACOs were made by MassHealth; assignments were based on the organization with whom the member's PCP was affiliated. This may explain why, in many cases, respondents reported

retaining their primary care doctors, some of whom members had seen for 20 years or more. When asked to recount the experience of getting started with their ACO, many members reported they did not know what an ACO is, did not know they were part of an ACO, or had not realized anything had changed at MassHealth or with their plan. Members described not having clear memories of receiving paperwork or documents that explained the ACO program or a change in plans. In some cases, they only remembered receiving a new insurance card. Despite not always knowing that they switched into the ACO program, even though MassHealth conducted initial mailed and electronic outreach, members did not report facing barriers in access to care as a result of the transition and often reported that communication between their providers had improved in the last few years MassHealth made policy decisions during the ACO launch that promoted a smooth transition, which included a lengthy plan selection period (90 days) to change plans (within or outside the ACO program) during which time members could continue to use services from both their new and previous provider networks.

> *"I just remember that it [the ACO] changed, the name of it changed, but none of my benefits or anything changed, so it didn't really make a difference. I just got a new card that had a different name on it. But I didn't lose anything, I didn't really gain anything." – a MassHealth member*

> *"The way the member communication worked was they basically told people primary care attribution is still key from our perspective, we basically said something along the lines of here's your primary care physician and, based on your primary care physician's affiliation, we have essentially enrolled you in this product, this ACO product. And you have the option to change basically for 90 days, and then they list everything that is available in their service area. They have the member handbook and all the benefits associated with all the other products. So, we did make the kind of initial primary kind of affiliation with primary care and basically suggested that to the member, but they had the option to opt out of the program entirely or change their ACO for 90 days." – a MassHealth staff participant*

The newly formed CPs faced greater difficulties than the ACOs during the roll-out period. While members were assigned to ACOs whose provider networks included their providers so that relationships were already established, CPs were in new territory and needed to do active outreach to members. For CPs, a serious barrier to engaging assigned members was poor contact information. They suggested that MassHealth maintain better records with accurate contact information; however, MassHealth follows specific processes for updating contact information after member enrollment, as they are required by contract to update MassHealth when they become aware of changes to member contact information, which do not include reaching out to members. CPs also recommended that members be asked for updated information at doctors' visits. Obtaining this information was particularly challenging when language information was inaccurate, resulting in members not receiving accessible information.

"To me, it seems like a very simple thing to do for MassHealth, even in the rollout of this program. They sent out letters and mailers, and it was this wonderful, great thing, and all these people were going to receive information, and I was working in a similar program, and people were not receiving the information because it was going to an address from 10 years ago. It was going to maybe their correct address, but no one ever asked them or updated their file that they prefer Spanish literature. So, they were receiving a letter in English, you know, just, there's a lot of inconsistencies and MassHealth has asked us, when we facilitate a phone call between an enrollee and MassHealth, to assist in updating the information, but in order to get through and actually speak with somebody at MassHealth, it could be half an hour on hold." – a CP staff participant

Health-Related Social Needs (HRSN) Screenings

One goal of the DSRIP program was to integrate the health care system with community-based organizations to address health-related social needs (HRSNs), particularly related to housing and nutrition. This was facilitated through MassHealth's creation of a related quality metric on the ACO slate for completing an HRSN screening and a corresponding contractual requirement for HRSN screening. MassHealth staff described differences between contractual requirements and quality measure specifications for HRSN screening, which were informed by input from clinical staff regarding the sensitivity of screening for certain HRSNs.

"Our contract does require that any member-facing [HRSN] tools or assessments or screens have to be submitted to MassHealth for review and approval. And then, if there are data elements for positive findings or findings with HRSN, it has to come from an approved tool. There's four required domains and then there's three supplementals [for the HRSN screening quality measure], whereas the contract has those domains and more, or is missing some that are in the quality measure." – a MassHealth staff participant

Although many members did not perceive that they had gone through a formal screening of their HRSNs in the last two or three years, some did report that their providers or case managers inquired about certain needs. A member's inability to recall a formal screening does not mean that members were not screened, though MassHealth staff explained that ACOs had low numbers for completing the HRSN screening during the first year of the program. There may have been some reluctance on the part of ACOs to screen for health-related social needs, depending on their perception of available services and resources.

"Yeah, one thing that we had heard is, and I think to some extent we still hear, is the 'What now?' questions. So, you do the screening, and you identify the needs, and then…what now? If the ACO doesn't necessarily have the resources to help meet the needs that are identified, is it the right thing to screen for?" – a MassHealth staff participant

MassHealth provided organizations with DSRIP funding and technical support to conduct the HRSN screenings as well as connect members to services. MassHealth provided IT investments to add the screening to the EHR, facilitating communication and member care coordination among providers, and working on selecting and implementing an appropriate screening tool. A catalog of technical assistance (TA) vendors and dedicated funding was offered to ACOs and CPs to help with an array of activities including accessing community resource databases and assisting ACOs with connecting members to community organizations to address members' HRSNs.

> *"We try to make available other sorts of resources, [such as] the DSRIP technical assistance program, we procured a catalog of TA vendors to help the ACOs and the CPs, in a number of different domains –,we chose nine initial domains, two of which were flexible services and social determinants of health. The kind of assistance the vendors could offer include helping to figure out what is the right community resource database that an ACO can tap into to actually make connections with other community-based organizations in the field, who might be able to help address some of these needs. We give technical assistance dollars to the ACOs and CPs to work with these consulting companies, these TA vendors to do this work… We view these as incremental steps, moving in the right direction of really emphasizing and focusing on the health-related social needs." – a MassHealth staff participant*

> *"It might be a little early for us to be able to assess the true impact on performance. A lot of the emphasis has been on technical assistance and implementation of the screening tools, making sure that all of the domains are addressed, so as previously noted, the quality team has been providing both contract-level support as well as clinical support for implementation of the domains and providing some direct technical support." – a MassHealth staff participant*

Members stated that doctors could probably help them with certain needs if they arose and/or were brought to the provider's attention. Members reported facing multiple HRSNs such as homelessness or inadequate housing, but lack of transportation was most often cited as a major barrier to care. While members took advantage of PT1 rides (a MassHealth benefit for non-emergent transportation arranged by a provider) from MassHealth, those rides sometimes were late or were unavailable to manage quick turnarounds (i.e., same day appointments). In other cases, members found it hard to get to providers' offices via public transportation, or the physical locations of offices made it difficult to park or otherwise access the office. While ACOs and others made attempts to overcome transportation challenges, restrictions on how DSRIP funds could be spent arose as a barrier, as funding could not be used for services duplicative of available services.

> *"One of our hospitals was already using Uber Health in some capacity…And then we … investigated Rideshare, and Uber Health, and all these different vendors, and we finally get it to the point where like, 'ok, great, submit it to the state', and they just shut it down. They said nope, you can't use DSRIP for…transportation. It was all that*

tremendous amount of work and time, and we still can't get rides for our patients" – an ACO participant

It appeared that respondents were not aware of the requirement that, because MassHealth covers PT1 rides, other transportation services cannot be covered by DSRIP funds. Continued issues of getting to providers' offices suggest that more support for PT1 rides or other transportation services from the state would be beneficial.

Flexible Services (FS) Program

To address health-related housing and nutrition needs and support integration between community resources and health systems, MassHealth created the Flexible Services (FS) program, which launched in January 2020. This program provided additional funding for ACO organizations that submitted FS participation plans detailing their planned programs, which MassHealth then approved. MassHealth sought, through programmatic standards, to encourage ACOs to build relationships with social service organizations (SSOs) to develop FS programs instead of building out programs internally. MassHealth required ACOs that chose to expand internal capacity to demonstrate that they have engaged community organizations and determined that the organizations did not have the capability or capacity for or did not want to provide the services. The proposed FS internal programs offered by these ACOs needed to meet the same high level of qualifications and experience as would be provided by an SSO. (The CP program has a similar goal, which is to promote and leverage the expertise of community-based organizations.) MassHealth recognized that not having everything under one roof posed some integration issues, especially regarding data sharing and privacy.

"We want people to work with what's already in the community, they've got the expertise…but even despite some of those data and privacy challenges, we still do think that working with the community is the right policy. But it's not vacant of an understanding that there are real challenges that are associated with that." – a MassHealth staff participant

MassHealth reported being asked to consider more direct educational supports, such as using FS funding to hire an attorney to advocate for individual education plans.

"…in the nutrition/housing space, we've also been pushed to think about straight up educational supports, such as funding to help with legal considerations for individual education plans, being able to pay for legal support as parents try to work with the school system to align on what's actually good for their child." – MassHealth staff participant

To prepare SSOs to partner with ACOs to implement FS programs, MassHealth and the Massachusetts Department of Public Health (DPH) jointly administered an SSO Flexible Services Preparation Fund, distributing funds to 19 SSOs to support infrastructure and

capacity building. As part of the SSO Flexible Services Preparation Fund, MassHealth, DPH, and a technical assistance organization jointly offered a series of learning collaborative meetings to foster shared learning between the SSOs receiving preparation funds, the ACOs, and the SSOs that were not receiving preparation funds.

To operationalize the FS program, MassHealth developed relationships with community resources and other state agencies. This was both to educate ACOs about existing resources, terminology, and organizations as well as to help MassHealth evaluate proposed FS programs. A key requirement of DSRIP is to avoid duplicating existing activities; therefore, it was necessary for MassHealth staff to know what other housing and nutrition initiatives were already occurring.

> *"…we spent a good amount of the time in 2019 educating ACOs about housing in Massachusetts and nationally, and who are the players, and how do you get housing, and what is a shelter, and what's the difference between being in a shelter and being housed, and what is experiencing homeless, etc. …we teamed up with our housing experts in our agency as well as our sister agency - the Department of Housing and Community Development - to do this work…Because the goal is not to teach our ACOs how to be the housing community, but how to work with and understand the housing community." – a MassHealth staff participant*

> *"This outreach to the other state agencies was really important, the interagency collaboration, it's hard because we also have to learn about their programs, and then we need to figure out, as we're reviewing the proposals that ACOs are giving us, how is there non-duplication, and what are the resources that are out there already." – a MassHealth staff participant*

Consistent with the FS protocol approved by CMS, MassHealth staff interviewees discussed ACOs' plans to assist MassHealth members with housing (pre-tenancy and tenancy sustaining supports), home modifications, and nutritional supports.

Due to COVID-19, MassHealth staff categorized FSs into two types, standard FS and COVID-specific FS, to help differentiate the programs. MassHealth staff noted that there was a cap placed on funding that could be allocated to COVID-specific FS programs, which preserved funds to be used consistent with the original pre-COVID design and goals of the FS program. Interviewees also stated that certain programmatic requirements were "relaxed" in a few areas, enhancing the ability to reach a broader target population and allowing ACOs and SSOs the ability to use FS money to pay for administrative costs. Additionally, MassHealth worked with CMS to relax standard FS protocols for in-person screening and planning requirements, which helped address members' challenges in juggling multiple priorities, including parenting and other activities of daily life, while also reducing the potential for in-person COVID exposures in the office setting. ACOs and CPs experienced COVID-related challenges, including having to furlough or redeploy staff who were supposed to manage their FS, which stressed the programs further.

"The difference is [for]…the COVID programs…we relaxed some of the requirements that we had imposed for the standard programs…You could have the ability to pay for sanitation products, which are necessary for healthy nutrition, as an example…We also relaxed some of the requirements around how strictly we would be checking to see if you were working with internal versus external partners…We did impose a financial cap on how many dollars could be allocated to COVID-specific programs which was 15% or $250K, whichever was lower." – MassHealth staff participant

H1.2. Statewide investment initiatives aimed at increasing the supply, preparedness, and retention of the community-based workforce (SWI 1 through 4) will support delivery system transformation.

Participating ACOs and CPs found the statewide investments (SWI) and different funding streams provided by the state to be extremely beneficial in implementing the DSRIP program. These included the loan repayment SWI, the technical assistance funding, and the DSRIP start-up funding, as discussed elsewhere in this section. These funding streams helped organizations facilitate program implementation.

MassHealth engaged stakeholders when developing and refining programs to address their needs and service gaps and worked with outside organizations with relevant expertise, including the Massachusetts League of Community Health Centers and Commonwealth Corporation, to manage the programs, especially for Statewide Investments, described below.

Student Loan Repayment Program (SWI 1)

Many organizations reported taking advantage of the Student Loan Repayment Program (SWI 1), which provided community-based providers the ability to partially pay back student loans, as a recruitment and retention strategy. This program aimed to address the shortage of primary care and behavioral health providers working in community-based settings. The Learning Days component of the Student Loan Repayment Program was also noted as being of value for workforce recruitment and retention. This program, for which attendance was mandatory for Loan Repayment Program participants, allowed participants to take time away from clinical duties on a quarterly basis to focus on topics and skills to encourage and enhance community-based care.

In the initial cycle, April 2018, a total of 70 awards (up to $2.5 million over two years) were disbursed: 20 for MD/PhD providers, 13 for NP, PA, APRN, PCNS providers, and 37 for LICSW, LMHC, LCSW, LMHFT, LADC1 staff[31]. In 2019, 71 awards were similarly

[31] NP = nurse practitioner, PA = physician assistant, APRN = advanced practice registered nurse , PCNS = psychiatric clinical nurse specialist, LICSW = licensed independent clinical social worker, LMHC = licensed mental health counselor, LCSW = licensed certified social worker, LMFT = licensed marriage and family therapist , LADC1 = licensed alcohol drug counselor

disbursed for practitioners. In the 2020 cycle, a total of 89 awards totaling $2.7 million was recommended for disbursement: eight for PCPs, Psychologists, and Psychiatrists; 15 for NPs, PAs, APRNs, and PCNS providers; and 66 for licensed BH providers (LICSW, LMHC, LCSW, LMFT, LADC1). There will be one additional cycle for this particular SWI. As part of the award, practitioners commit to four years of service in a community-based organization

Two additional programs aimed to facilitate workforce retention for specific provider types. First, the Behavioral Health Workforce Development Program offered partial repayment of student loan obligations as a strategy to address the shortage of behavioral health providers in certain community-based settings. During its only cycle (April 2018, the first year of DSRIP), 43 awards were made, each offering up to $30,000 in partial repayment of student loans over two years (for a total of up to $1.29 million over two years) to masters-level behavioral health providers who commit to four years of service in a community-based organization.

The second program, the CP Recruitment Incentive Program facilitated recruitment and retention within Behavioral Health and Long Term Services and Supports CPs for the roles of Care Coordinator, Registered Nurse, and/or Licensed Practical Nurse. The program, offered only in the first year of the MassHealth CP program, had 88 total awards, 77 for Care Coordinators and 11 for RN/LPNs. There is an 18-month commitment to remain at the sponsoring CP, and in exchange, the Care Coordinators were each awarded $7,500 in loan repayment for a total of $577,500 across all awardees. There is a four-year commitment to practice at a CP for the RN/LPNs, and in exchange, they were awarded $30,000 towards their loan repayment, for a total of $330,000 across all awardees.

Recruitment was difficult in the Commonwealth, in part because multiple organizations were recruiting for the same positions at the same time. It was additionally difficult for CPs given the relatively low salaries for many of the positions. Therefore, having additional financial resources to provide a benefit for employees was a major facilitator in recruiting and retaining talent for both ACOs and CPs. One CP respondent indicated a sentiment shared by ACO and CP respondents alike, noting that student loan repayment was *"…probably, maybe, the single greatest, most effective tool I have seen in making an impact on helping us to retain staff."*

Primary Care/ Behavioral Health Special Projects Program (SWI 2)

To help address provider burnout, MassHealth implemented the primary care and behavioral health special projects program as SWI 2. Specifically, SWI 2 offers providers the chance to explore professional development while also working to support and improve the primary care and behavioral health integrated workforce in the community. Another goal of SWI 2 is to support innovative practices that encourage community-based primary care while working to support the goals of the ACO program.

There are five total award cycles anticipated over the DSRIP program. In the first cycle, which was awarded April 2018, 23 awards were given, each at $40,000, for a total of

$920,000 towards one-year grants to help providers lead their own projects at DSRIP-participating CPs. The second application cycle in 2019 totaled $760,000 for 19 project awards and the third cycle in 2020 also funded 19 projects for $737,000. At the time of interviews, the special projects program and student loan repayment SWIs were lauded, especially for their emphasis on community-based care, and MassHealth staff also discussed this program at length, as seen in the example, below.

> *"Improving the primary care or strengthening the primary care and BH workforce in community settings really came out of a couple of different spaces. One is [that] our ACO program is centered on primary care. The building blocks of our ACOs are primary care practice sites. We knew from the very beginning that it would be really important for us to invest in primary care. That concept of primary care BH integration was a very strong driving force behind this particular category of investments. Having an adequate sort of provider network, or workforce for members with those needs we thought was very important." – a MassHealth staff participant*

Investment in Community-based Training and Recruitment Program (SWI 3)

Building on addressing community behavioral health needs and provider shortages, MassHealth sought to invest in community-based training and recruitment and retention programs (SWI 3).

The Family Medicine and Nurse Practitioner Residency Training programs sought "to increase the number of primary care physicians and nurse practitioners trained in community health centers, with the broader goal of expanding the pool of providers who are committed to serving underserved populations and well prepared to care for patients in community settings".[32] The first of these, the Family Medicine Residency Training program, focused on increasing the supply of Family Medicine PCPs practicing in community health centers. This program had two total award cycles. The first cycle awards were disbursed in September 2018 to four Family Medicine residents and two slots were awarded at each of two community health centers in 2019. Each community health center awarded Family Medicine slots received $170,000 per slot.

The Nurse Practitioner Residency Training program had a similar goal of increasing the supply of nurse practitioners in community health centers. Awards in the first of four cycles were disbursed in September 2018 for ten NP resident slots. For cycle two in 2019, eight NP resident slots were funded, and in 2020 (cycle three) that number increased to ten slots. All awards were $105,000 for each slot.

Awarded funds for both Family Medicine and Nurse Practitioner Residency Training programs are expected to cover costs such as curriculum development, training, educator and administrator time, and residency compensation. Public comments from

[32] https://www.mass.gov/info-details/building-and-training-primary-care-and-behavioral-health-workforce#community-based-training-and-recruitment:-family-medicine-and-np-residency-training-(swi-3a)-

Massachusetts League of Community Health Centers which is administering the program for MassHealth highlighted that these programs led to the creation of new training programs that could be sustained after the SWI funding ended and that providers in these programs could be retained at the sites where they were trained to have an impact for that site beyond the training period.

The Community Based Training and Recruitment piece of this investment focused on building a recruitment and retention fund for CMHC behavioral health to increase the number of psychiatrists and nurse practitioners at CMHCs. These provider types were specifically targeted for their ability to prescribe medication and because having them on-site at the CMHC would decrease barriers for members with these behavioral health needs. The program provides recruitment packages to CMHCs as a strategy to reduce barriers that keep psychiatrists and NPs from working in community settings.

Each recruitment award for psychiatrists totaled $150,000, comprised of up to $50,000 towards student loan repayment and up to $50,000 per year for two years towards a provider-led special project related to accountable care. Each recruitment award for NPs with prescribing privileges totaled $110,000, comprised of up to $30,000 towards student loan repayment and up to $40,000 per year for two years in support of a provider-led special project related to accountable care. This program administered two award cycles and the first awards were disbursed in August 2018. A total of five NP awards and seven psychiatrist awards were made in the first cycle of awards.

> *"We created the CMHC BH recruitment fund, which tethered together our student loan repayment with our special projects program to make recruitment packages that were awarded to CMHCs to help incentivize recruitment of psychiatrists and nurse practitioners with prescribing privileges to try to get at that difficulty - just getting that shortage of prescribers in community-based settings, and that difficulty just getting them to kind of step over the threshold and actually take the job." - a MassHealth staff participant*

Workforce Development Grant Program (SWI 4)

MassHealth also invested in programs to build out and train the frontline workforce, including the community health worker and peer specialist workforces and frontline workers with less than an associate's degree (SWI 4). These programs provided grants to organizations to provide additional training slots for those CHWs and peer specialists employed by participating DSRIP organizations. Completion of CHW trainings qualifies participants for voluntary certification as CHWs in Massachusetts via a new statewide process overseen by MA DPH. In addition to trainings for CHWs and peer specialists, MassHealth invested in the design and delivery of a training curriculum for CHW supervisors as a means of advancing the effective integration of CHWs in healthcare settings. MassHealth also invested in the creation of a Competency-Based Training program for employees in ACOs and CPs with less than an associate's degree that enables them to earn a Healthcare Management Fundamentals Certificate from Southern New Hampshire University and puts them on the path to higher education, if they so desire. MassHealth undertook a stakeholder engagement process that informed

them about training and education gaps in the workforce, which drove their decision to invest in these specific trainings.

> *"The investments in community health workers, peer specialists, etc., do not necessarily get at retention and recruitment in the same way. Part of the rationale for that is that a lot of community health workers and peer specialists may not necessarily have any student loans, that they may not have advanced degrees, right? Some do, a lot don't. We were also looking to fill gaps in the statewide resources. After…many, many conversations with subject matter experts in the CHW and peer specialist space what we learned from that was that the gaps that needed to be filled specific to community health workers were the availability of training resources in the state, and so that's where we've invested…. With the long-term goal of building a more sustainable, better prepared and better recognized CHW workforce and peer specialist workforce in the Commonwealth." – a MassHealth staff participant*

H1.3 SWI initiatives aimed at providing technical assistance to ACOs and CPs, supporting provider preparedness to enter alternative payment models, reducing emergency department boarding, and improving access for people with disabilities and for whom English is not the primary language (SWI 5 through 8) will support delivery system transformations.

Technical Assistance (TA) (SWI 5)

This SWI is divided into the following categories:

- Direct TA to ACOs and CPs
- ACO/CP Integration Learning Collaborative – focused on better collaboration on care plans
- SWI Popups – short sessions and/or webinars related to different topics such as member engagement, oral health integration, system integration, and materials relevant to CHWs, recovery coaches, and peer specialists. A total of four sessions have been held at the time of this report.
- Standardized Trainings for CPs and CSAs – a variety of materials are available for CPs to help with health and wellness coaching, member care planning, tobacco cessation, care coordination, and more
- Technical Assistance specific to CHCs - multiple components related to supporting team-based care, participation in other learning collaboratives, TA for workforce development, and telehealth best practices (especially related to COVID), including coaching for telehealth. Trainings also included funding development and delivery of TA such that CHCs can work towards thoughtful systems-level change required to effectively integrate CHWs into provider organizations.

Of these five individual programs, the first four are deployed through Abt Associates and the CHC specific trainings are delivered by the MassLeague. Described above is the Targeted TA for ACOs and CPs program, wherein MassHealth has invested about $15.2 million in direct support to the participating entities.

Since the launch of the program through December 31, 2020, there have been a total of 167 TA projects – one joint ACO/CP project, 100 ACO projects, and 66 CP projects.

In general, TA projects fell into the following categories:

- Actuarial & Financial
- Care Coordination/Integration
- Community-Based Care and Social Determinants of Health
- Consumer Engagement
- Flexible Services
- HIT/HIE
- Performance Improvement
- Population Health Management
- Workforce

Given the strong focus by ACOs and CPs on information sharing, having a working electronic information sharing system could be the key to success. MassHealth staff respondents reported that a number of TA projects were in the health information technology and health information exchange (HIT/HIE) domain. ACOs took advantage of the funding to support technology development and further their strategies and capacities in other DSRIP realms. One CP participant reported that they hired consultants via the TA grants and that the consultants were:

> *"…really helpful in assessing why our existing platform wasn't working as we needed it to work and helping us to transition to the new platform. They were hugely helpful in that, and they were able to identify much more clearly where the issues were." – a CP participant*

Organizations also used the TA funds to address workforce issues, such as training and recruitment and to support their HRSN screening and flexible services programs. ACOs and CPs alike were appreciative of the technical assistance (TA) program (SWI 5), which allowed them flexibility and innovation in addressing needs specific to their organizations.

> *"You know, the technical assistance has also been helpful to us. We have a couple projects in the works that are technology-focused, and we're thinking about using our remaining dollars for this year on a consulting project to help us revisit our behavioral health strategies. So that's been good." – an ACO participant*

"In the early days, we saw CPs really hitting the information exchange and data very hard and not really tapping in as much to member engagement, for example, or understanding your member population, because that was the space that they lived and breathed, right, was understanding their member population. By contrast, we saw a lot of ACOs tapping into, in the early days, honoring your provider needs and priorities, and better understanding your member population, because again, they already had their EHRs, for example, but they needed to work more on understanding who is their MassHealth member population." - a MassHealth staff participant

The Learning Collaboratives are another important part of this investment, and these were the crux of the successes touted by ACOs and CPs alike. A goal of the Learning Collaborative program is to improve ACO and CP integration and provide ongoing training for healthcare workers in both organizations. Additionally, multiple "Pop Ups" conferences presented the opportunity for continuing education that allowed attendees to delve deeper into accountable care. For this initiative alone, MassHealth has spent about $725,000 in the first year of the DSRIP implementation. In total, MassHealth plans to invest about $5 million in this program throughout the course of the DSRIP implementation.

The final program embedded in SWI 5 are the Standardized Trainings for CPs and CSAs. This program allows CPs the opportunity to benefit from online standardized training modules to better understand new ACOs and MCOs and how they as CPs fit into the program structure.

Alternative Payment Methods Preparation Fund (SWI 6)

To accommodate organizations that may operate on older fee-for-service type models but are interested in taking steps towards other payment models, MassHealth established an Alternative Payment Methods (APM) Preparation Fund (SWI 6). MassHealth received ten applications for this SWI in Year One and ultimately awarded grants of $440,000 to five organizations in Central and Western Massachusetts:

- Community Health Connections, Inc
- Harrington Health Care System Physician Organization
- Baystate Medical Practices
- Pediatric Physicians' Organization at Children's
- Springfield Health Services for the Homeless Health Center

Four of these five practices eventually joined three ACOs (two joined the Model B ACO, C3; one joined the Model A ACO, BACO; and one joined the Model A Tufts CHICO ACO), representing 18,961 MassHealth members. Funding was used to develop complex care management programs, hire staff, and implement and develop population health strategies.

"We also had this APM preparation fund for folks who are not yet participating in alternative payment methodology or contracts but want to get involved." - a MassHealth staff participant

The organizations above used these funds to carry out new projects including:

- Community Health Connections, Inc
    - Funding was used to establish a complex care management model and improve organizational data functionality and patient scheduling processes.
- Harrington Health Care System Physician Organization
    - Created a comprehensive care navigation program, which provided the necessary infrastructure to join an ACO.
    - Funds were also used to hire several positions necessary for accountable care, including a nurse navigator, behavioral health specialists, and community health workers.
- Baystate Medical Practices
    - Leveraged the funds to create better integration of their processes and developed best practices. Ultimately unable to join an ACO during the duration of the APM Preparation Fund grant
- Pediatric Physicians' Organization at Children's
    - Established a medical home model and patient safety program in the four practices that wanted to join the ACO.
    - Enabled these practices to connect to the ACO's shared EHR platform
- Springfield Health Services for the Homeless Health Center
    - Implemented a comprehensive population health strategy to align with the ACO's population health systems and goals that specifically allowed them to develop documented processes, improve reporting capabilities and improve their technical infrastructure.

Enhanced Diversionary Behavioral Health Activities (SWI 7)

To help address the frequency and duration of emergency department visits among members with BH conditions, MassHealth contracted with the Massachusetts Hospital Association to implement a new tool that promoted information exchange across all hospitals in the state with emergency departments. This would facilitate communication in ED departments in different hospital systems and between different EHRs as, prior to the initiative, EDs could only receive certain patient information from other EDs in the same health system and with the same EHR system. MassHealth spent about $1.3 million on these activities in the first year of DSRIP implementation. Our interviews did not reveal any insights into the use of this particular platform at the time of initial data collection; however, this was examined quantitatively in Domain 2, Research Question 6.

Improved Accessibility for People with Disabilities or for whom English is not their Primary Language (SWI 8)

SWI 8 was used to offer grants to MassHealth Fee-For-Service providers to improve healthcare access for people with disabilities or for whom English is not their primary language. The program has two parts – an Accessibility Grant Program and a Provider Directory.

Interviews with MassHealth staff indicated that providers did take advantage of this funding opportunity. MassHealth participants reported providers used the grants to adapt their practices for physical and mobility disabilities, such as installing stair climbers, and for investments in technology for language and comprehension and verbal communication needs.

> *"There were a number of pieces of equipment that we funded that did get at the language barrier, and I think the most common one of those was translation software. There's a number of different types of iPads or tablets that have images on them that may assist with some of the other types of disabilities that aren't physical in nature." – a MassHealth staff participant*

MassHealth is in the process of addressing the Provider Directory aspect of this SWI by adding information about the accommodations and language services available from provider offices to existing databases. Regarding the Accessibility Grant Program, two cycles have already completed for this award and the third cycle application period (for 2021) has closed. In 2019, approximately $144,000 was awarded for Cycle 1 to 11 MassHealth providers for this SWI and a total of $2 million in grants was awarded to 65 MassHealth providers in 2020 Cycle 2.The third cycle includes grant funding for remote monitoring equipment and includes infection control components to expand access to services for members with disabilities and/or language barriers.

RQ2: To what extent did ACOs take organizational-level actions to transform care delivery under an accountable and integrated care model?

Summary

MassHealth ACOs took extensive actions at the organizational level to transform care delivery. Regardless of the model type or governance structure, all ACOs were required by contract to make changes aimed at promoting accountable and integrated care at the provider and member level while leveraging community-based resources where appropriate. ACOs used DSRIP funding to improve care delivery by investing in IT infrastructure and bringing on dedicated staff to monitor and improve care delivery. Our interviews confirmed that ACOs were active in identifying and addressing barriers while promoting facilitators to implementation. Effective internal program leadership and governance from the early planning stages were instrumental to ACO progress during the first few years of DSRIP implementation.

ACO clinical providers were engaged to varying degrees at all ACO levels, including governance, quality, performance improvement initiatives, and participation in financial incentive programs. About one-third (35%) of all primary care providers and about half of the physicians (53%) reported receiving financial incentives based on performance or quality measures, though this varied significantly by ACO. The proportion of providers

who reported receiving financial incentives ranged from 10% to 80% across ACOs. Less than half (44%) of practice site administrators reported that individual financial incentives were used to engage providers, while 32% reported not knowing one way or the other.

Overall, it appears that provider engagement and perspectives are evolving in a positive direction due to the DSRIP program.

> *"Giving providers a voice and feeling like they're really part of the decision-making, I think, really creates buy-in from their perspective…allowing them to have that voice deepens the level of engagement so that we can actually implement programs that are going to require them to change some other practice workflows in order to ensure that we're going to be able to perform under the incentives that we've been provided." – an ACO representative*

Despite significant efforts toward engagement, just over half of ACO providers reported understanding the program's goals or believing that the program helped improve care. (Table II.C.a.5). In 2019, half of all responding practice site administrators reporting not knowing if any members were receiving CP supports or not knowing if members' care was better because of the CP program. That said, only 21% of practice site administrators reported having a majority of their patient panel covered by cost accountability contracts.

Table II.C.a.5. Percentage of ACO providers that agreed or strongly agreed with the following statements

Survey Item	Total n=1,050[1]	Physicians n=524[1]	NPs/PAs n=248[1]	Nurses n=73[1]	Social Workers n=73[1]
I had a clear understanding of the purpose and goals of the MassHealth ACO program	52%	57%	43%	50%	68%
I believe this practice site was performing well under the MassHealth ACO program	71%	75%	64%	70%	75%
I believe the MassHealth ACO program helped improve quality of care for our patients	57%	54%	52%	66%	66%
I believe the MassHealth Community Partners program helped us better support our patients' needs	56%	52%	56%	64%	54%
I received financial incentives based on performance on quality measures	35%	53%	31%	11%	4%

[1]Overall number of responses to the survey, the number of responses to specific items varies

ACOs used DSRIP funding to improve existing technology infrastructure and/or establish new infrastructure and protocols for HIT/HIE. Efforts related to improving technological capacity centered around facilitating information exchange between participating entities (ACOs, CPs), improved identification of health-related social needs (HRSNs), benchmark tracking and quality and performance improvement, and establishing more defined norms in patient-centered care. Improved HIT /health information exchange (HIE) resources supported automated risk-stratification systems. It appears that one of the most important early uses of HIT/HIE technology occurred when ACOs established interoperable health information systems with their partner CPs. Technological investments were also critical for establishing procedures to monitor quality and cost performance to promote success under the accountable care model. In particular, the technical assistant grants were instrumental in most effectively operationalizing HIT/HIE systems around quality and cost performance:

> *"We've used technical assistance in developing some of our performance analytics…so we used that to develop an internal system of creating a monthly financial statement of performance on TCOC [Total Cost of Care]. So, we used some TA to support the development of that infrastructure. We've used TA to support our quality program. We've used TA to run an MA [medical assistant] upskilling program. Yeah, it's been great." – an ACO participant*

Organizations cited funding as the most significant facilitator for implementing innovative solutions to meet the challenges and opportunities of shifting to value-based health care. Some ACOs with prior experience operating under commercial or Medicare accountable care models leveraged existing programs and moved towards a payer-agnostic approach because of the MassHealth ACO program.

> *"… [we] have to create a lot of new infrastructure for basic chronic care management, quality initiatives, patient experience initiatives, those are things that we've done for several years now and could just slot Medicaid in, and the new things that we would be able to create and bring to the table around behavioral health and social determinants enabled us. We created the program for the Medicaid population, but in the spirit of a payer-agnostic approach, once the program was piloted, we've been able to integrate many of our risk patients into those programs, which is exactly the vision that we had about creating a holistic, integrated care model for the whole patient, not just the physical health needs of the patients. This Medicaid program has really enabled us to do" – an ACO participant*

ACOs have begun to adopt strategies to reduce the total cost of care. As summarized in the Mid-Point Assessment report from MassHealth's DSRIP Independent Assessor, early findings suggest that "full continuum collaboration" is key to understanding member risk, pinpointing services more effectively, and cost-effectively supporting each member.

> *"…patients are identified as eligible for CCM through a data-driven algorithm that identifies patients who are in the top two percent of cost and utilization across the*

[ACO] network. And, it's the entire [ACO] population that then is divided up by where that patient might be assigned to...And then from that algorithm, the high-risk list that's generated is disseminated to the teams, who then review it and sort of prioritize patients based on what clinical picture they're presenting for outreach and enrollment into the program." - an ACO participant

ACO key informants indicated that the initial focus has been to learn what services were needed, where responsibilities were housed, and how best to coordinate within and between organizations. ACOs were near-unanimous in recognizing MassHealth's awareness of their implementation challenges and responsiveness in working to address problems as quickly as possible.

ACOs engaged MassHealth members in the governance structure and ACO activities by having members participate in Patient and Family Advisory Committees (PFACs) and other innovative approaches. As a direct result of feedback from their PFAC, one ACO, for example, used an innovative doula program to help postpartum members feel more engaged and supported in their care. As noted earlier, while members expressed during interviews that they were often not aware of their ACO attribution, most felt that communication between their providers had improved in the last couple of years.

Although the measurement of the impact of DSRIP organizational changes on patient outcomes is still in the nascent stages, most ACOs were able to identify promising practices that were perceived as contributing to improved care processes. MassHealth requires that ACOs perform self-evaluations of DSRIP funded programs. ACOs have begun this process to inform which successful programs are prioritized for continuation. Sustainability after DSRIP program completion was a significant concern for all ACOs.

H2.1. ACOs will vary with respect to governance structure (e.g., lead provider, role of provider and patients), service scope, and local conditions (e.g., experience participating in payment reforms, local context/market served).

ACOs implemented the required governance structure; however, its format varied. In addition, many used committees and workgroups to perform much of the work necessary for system transformation. These aspects are described below.

Governance Structure

Most Model A ACOs had a joint operating committee (JOC) consisting of the provider and health plan partners, with some of these ACOs also having a Board of Directors reporting to the JOC. A small number of Model A ACOs and all Model B ACOs use a Board of Governors as their primary governance structure. An advisory council or executive committee was formed to provide leadership for the remaining ACOs. ACO leadership is responsible for overseeing the ACO implementation and making decisions about organizational aspects such as budgeting, contracting, risk-sharing arrangements, and clinical programming. Governance concerns are communicated between this leadership and the participating organizations and providers, with the board or JOC acting as the final decisionmaker. These governance structures have representation primarily from providers, as contractually required, along with payers,

finance, and operations department staff, and include patient representatives or advocates.

> *"…we have a combined governance ACO…we have our own board of directors, and every one of our products flows up to the [health plan] board. But aside from the [health plan] board, we have a board of governors that consists of members from [clinical partner] and mostly providers or provider representatives. There are, I believe, nine on the governance from [clinical partner] and then three folks from [health plan] who sit on that board. And that governance board meets quarterly, and they really are responsible for the decision-making for financial, DSRIP, for knowing or having the awareness of where we are financially as an ACO partnership; what are the initiatives, the quality comes up to them; where are we as far as overall program satisfaction; where are the strengths and where are the things we need to work on as an ACO partnership." - an ACO participant*

Committees and Workgroups

Committees are a vital part of the ACO governance structure and have evolved as implementation needs have changed. The committees are responsible for one area or component of the overall ACO and provide content expertise, guidance, review, and oversight. While committee focus varies based on each ACO's unique needs, ACOs most commonly have included committees overseeing quality and finance, information technology, data management, member outreach, performance management, and integrated care. All ACOs have a patient and family advisory committee, or PFAC, as part of their governance structure to represent patients and families' needs. For some ACOs, the PFAC was in place before implementation as part of their existing structure. One ACO noted that it also employs working groups on an ad hoc and temporary basis to respond to a specific need, such as completing a policy and procedure manual, determining appropriate skilled nursing facility utilization, and reducing inappropriate emergency department utilization. While these workgroups fall under the formal leadership structure, their members do not sit on governing boards. Membership consists of individuals such as community physicians, providers, and administrative staff, depending on the groups' needs.

> *"Because year one, we had the communications -- speaking back to that, we had implementation groups, and there was a communication group, and then there was a quality group, and there was a model of care group, and so, you know, it was really all of those folks getting ready with our partners involved: how were we going to do these different pieces? Now that we are in year two, what groups need to replace [those] in order to be able to get all of the information to the governing board that they need to have?" - an ACO participant*

H2.2. ACOs will engage providers (primary care and specialty) in delivery system change through financial (e.g., shared savings) and non-financial levers (e.g., data reports).

ACOs undertook different strategies to engage providers in delivery system reform. In broad strokes, these can be categorized into financial incentives and non-financial incentives, as described below. The majority of these ACOs had prior risk management or managed care experience, facilitating the implementation of activities tied to incentives.

Financial Incentives

Multiple forms of financial incentives associated with the DSRIP program were available to engage providers. The potential to receive DSRIP funds to support practice transformation efforts represented an incentive ACOs could use to motivate providers and practices to participate in the ACO program.

Some financial incentives include grants for providers to support the development of innovative new practices as described earlier in this report under Statewide Investments, as well as DSRIP funded grants developed and administered by ACOs.

One ACO practice site was "*funded [by] $2 million in innovation grants…that emphasized coordination of care for kids with medical complexity or behavioral health conditions…and actually funded some significant work" – an ACO representative.*

In this example, the incentives facilitated provider engagement in developing new ways to manage care for their patients, specifically around coordinating care for complex patients, a key goal of DSRIP. Providers, therefore, were actively engaged to develop and trial new care approaches, in some cases setting their own internal quality improvement goals in addition to meeting externally determined quality metrics.

Some respondents perceived DSRIP funds as necessary to implement the more intensive care management and coordination programs required to adequately address the complex needs of a Medicaid population. Respondents implied that without DSRIP funding the connection between the ACO and its practice sites may be unsustainable.

> *"I'm delighted with what we've been able to put together at [ACO] and I think in the ACOs in general, with providing DSRIP resources to be able to start the kinds of programs that we really needed to be able to do an adequate job of taking care of these patients. It's an incredibly challenging group of patients that have a huge number of needs, both medical and social… Part of the other challenge is that the rates that are paid for the care of these patients are lower than any other rates: Medicare, commercial, etc. And I think that has always been a challenge for practices and for other providers in terms of being able to provide the resources that are needed to take care of these patients. I think that's another issue that needs to be addressed in the future." – an ACO representative*

At the ACO level, two-sided risk contracts are an incentive for ACOs to reduce costs and achieve quality benchmarks to share in savings with MassHealth. Among providers participating as part of an ACO, payments tied to quality and cost performance represent a mechanism for engaging providers in the ACO's efforts to achieve quality and cost benchmarks. ACOs provided financial incentives to both primary care and

specialty providers. However, differences in specialties and practice focus impacted the level of provider engagement in financial incentives. According to one respondent, because patient sharing is quite common in pediatrics, it was not feasible to institute financial incentives for quality performance or patient outcomes.

> "*…pediatric practices share patients much more than adult medical practices do. So, it would be very common that if you are my partner, I see your patient on the weekends, or you're out on Thursday, or you're rounding on Thursday, and I see your patient on Thursday. So, you don't want to create incentives that say 'oh, well Dr. Joe has more of those high-risk patients; he's getting paid for those. Why should I deal with them on the days when he's not here?'" - an ACO participant*

About one-third (35%) of all primary care providers and about half of physicians (53%) surveyed reported receiving individual, performance-based financial incentives (different from the delivery system-level incentives discussed above) based on performance or quality measures, though this varied significantly by ACO. While only 10% of providers in some ACOs reported receiving financial incentives, up to 80% in other ACOs did. While nearly all of the providers receiving incentives surveyed received them for privately insured patients, 70% reported receiving financial incentives for MassHealth patients.

Non-Financial Incentives

Organizations also employed non-financial strategies to engage providers in delivery system reform. These included utilizing providers in governance structures, eliciting their feedback and opinions on implementation activities, and providing additional education and data for delivery system reform. Organizations wanted to capture providers' views, opinions, and clinical expertise on the new programs because they were going to be working on the frontlines. This would improve buy-in from providers while at the same time leveraging their expertise. However, decentralized governance structures in some ACOs impeded communication from individual practice sites and/or providers up the leadership structure. This, in turn, weakened the leadership's ability to influence practice performance.

> *"And I think in particular if you're talking about anything that might change the way that we care for kids, or thinking about care for kids, at the end of the day, the front line is the providers. In particular, the primary care providers. We want to make sure that we're hearing them and bringing their voices to light all the time". – an ACO participant*

Along with having providers formally involved in governance decisions, organizations also captured provider perspectives through other means. These included inviting their providers to present on subjects at governance committee meetings, bringing together practice chiefs annually to decide on strategic initiatives, or convening biannual meetings with provider leadership to answer questions. These activities gave providers a sense of ownership over their work. This sense of buy-in has truly facilitated provider engagement in reforming delivery systems.

"*We invite providers in to talk to the direct care committee so that they're working -- if they're part of the committee, they're not a practice transformation coach, but they're working on something, then they can come and present, and I think that's helpful*." – *an ACO participant*

"We have many different forums that, just to give you some sense of what they are, so we have the population health forum, and that includes quality leads, behavioral health directors, folks that need to understand what quality means within the ACO program. And we do what we call CMO [Chief Medical Officer] forums -- so the medical directors and the CMOs -- that's not a governance meeting; this is a best-practice sharing, and sometimes we bring things like, 'How are we going to work on quality during COVID?' 'How do you do quality work in a pandemic?'…So that's an example." – an ACO participant

Delivering performance reports to providers to facilitate tracking of progress and help identify areas for targeted initiatives represent another important area of non-financial engagement.

"…we've produced a reporting package that is I think probably pretty comprehensive…we have developed over the last year performance metrics…that look at both med surg inpatient admissions, and then we look at ambulatory-sensitive admissions and see how that percentage is going, year over year and then month over month. We do the same thing for med surg readmits…we look at ER and then we break that out between emergent and avoidable, so we can actually see what are those drivers, and we can give that information down to the practice and the PCP, and the patient-level…the medical directors will send it out to the practices for them to be able to take a look at it." - an ACO representative

In addition to provider incentives, ACOs made an effort to help educate providers about the new model and otherwise engage them in care delivery. Education about the ACO and quality metrics was another key aspect of this. This was partly to inform the physicians and practice sites about the program, expectations, and performance but also to educate practices that lacked a background in value-based contracting (such as those focusing on pediatrics). Responses to the ACO provider survey indicate that most providers remain unaware or unversed in the future of value-based payment structures. When asked if they believed value-based payments would be a major and sustained model of payment at their practice site over the next five years, 29% of surveyed providers responded affirmatively, 16% neither agreed nor disagreed, 6% responded negatively, while the remaining half responded that they were not sure or declined to answer the question.

Other education topics included information about the CP program and which members were best served by CPs. CP respondents reported that they faced major obstacles in their jobs when they encountered PCPs who did not know what the program was or what their expected role was in it. Therefore, educating providers about the program enhanced their buy-in, in turn facilitating the implementation of other program aspects.

"[We] did a whole series of meetings as we were rolling out the program with groups all across of our network to basically explain the basic structure of the program, how it was going to work, what the central role would be, what the role of the local chapter performance teams would be, and just to give folks an understanding of sort of how this program was structured, and what their role was in it. We've been working hard to communicate on an ongoing basis, as issues come up" – an ACO participant

Prior knowledge through past experience in risk-based contracting was a facilitator to provider engagement in DSRIP. It meant that providers did not need much education around those issues and were comfortable with expectations. The additional data from the quality metrics and claims data from MassHealth made available to providers was, in fact, a boon for many organizations, as they could use those data to understand their population and their practices better.

"*So, all of our providers, all of our member organizations, have been involved in risk contracts for a long time… So, they are very engaged, I think the health center is becoming even more engaged…it's so much of their business, it's so much of their population, and now that they have data, and they have care teams that are becoming part of their daily work and their huddles, they are very much engaged*." – an ACO participant

"I think, historically at least, having been on the Medicaid plan side before, providers don't have necessarily a strong voice. So having come over…and giving providers a voice and feeling like they're really part of the decision-making, I think really creates buy-in from their perspective; and as the ACO is at risk, and as the providers are at risk, allowing them to have that voice deepens the level of engagement so that we can actually implement programs that are going to require them to change some other practice workflows in order to ensure that we're going to be able to perform under the incentives that we've been provided." – an ACO participant

Overall, provider engagement strategies may not have produced a clear understanding of the goals and scope of the ACO program. About half (52%) of providers surveyed reported having a clear understanding of the MassHealth ACO program's purpose and goals. A higher proportion (71%) reported that they believed their practice site was performing well under the program; more than half (57%) reported that the ACO program helped improve the quality of care for their patients.

H.2.3. ACOs will implement Health Information Technology (HIT)/Health Information Exchange (HIE) infrastructure to support population health management (e.g., reporting, data analytics) and data exchange within and outside the ACO.

A high proportion of ACO providers reported that their HIT/HIE infrastructure supported care processes. Around 72% of providers surveyed reported that their electronic care management or clinical documentation system supported care coordination and adequately supported data exchange with other providers. Of practice site

administrators surveyed, 72% reported that their electronic health record improves their ability to coordinate care for members. Half (50%) of practice site administrators reported that a care management platform is used at their practice and of those, 69% reported that the platform improves care coordination.

ACOs expressed appreciation for the DSRIP Technical Assistance (TA) funding available to invest in support of HIT, which was used to improve their data analytics and quality improvement capacity. TA funding allowed ACOs and CPs to invest in both inter- and intra-organizational communication capabilities, which are essential to care coordination and integration.

HIT Infrastructure

The DSRIP start-up and ongoing funding and TA funding afforded many ACOs the chance to enhance new HIT capacity that could support an effective care coordination system within and beyond the ACO itself. Others used the funding to expand existing capabilities. As discussed earlier, many organizations adopted new platforms for increased interoperability across practice sites and implemented care management and transitions of care software. Shared access to EMRs across sites was seen as very helpful to member outreach and care coordination. As indicated in the Mid-Point Assessment report from MassHealth's DSRIP Independent Assessor, a few ACOs granted “read only” access for their EMR to a CP, which allowed the CP to have access to member clinical, demographic, and contact information. It also allowed the ACO and CP to see the member care plans stored in the EMR, which facilitated care integration between the ACO and CP. Other ACOs added access to or capacity for event notifications for hospitalizations in HIT platforms.

The most ubiquitous barrier to successfully utilizing HIT was the lack of standardization across technology platforms, data collected, and EMR/EHRs used within ACOs. The lack of standardization among an ACO’s practice sites was extra challenging to navigate, especially in the early months of implementing the DSRIP program.

> *“I think our IT issues were all our PCPs are on different systems; our hospitals are on different systems, that was magnified with the ACO because once you introduced all of the community partners and the MCO, that has been a significant challenge for us and we had to figure out how to navigate around that and build IT bridges.” – an ACO participant*

> *“We find that the more organizationally complex ACOs that may have several electronic health record systems face more challenges in terms of integration of data… So, we find that there are, maybe, varying levels of support that we may need to provide to ACOs based on their data infrastructure. That certainly affects the overall completeness and timeliness of the data, but we try to provide that technical assistance and involve the account managers and leads as much as possible as well in that process.” - a MassHealth staff participant*

Data and Data Practices

Barriers associated with HIT centered around data quality and data practices. Almost all of the sites discussed receiving inaccurate and/or incomplete member data from MassHealth, which made it difficult to reach out to members without first spending time trying to research the information gaps. Another common barrier was the inability to share data, even if the capability is present, due to legal restrictions or perceived legal restrictions associated with HIPAA and 42 CFR Part 2 federal privacy regulations. This finding is similarly noted in the MassHealth's DSRIP Independent Assessor's Mid-Point Assessment report.

> *"The only group that is missing, because of privacy, we don't get any notifications for behavioral health discharges. And I forgot to mention that when you asked about any population that was more difficult to care for. It would be the population that had discharges from behavioral health facilities. We've got the staff who are capable of helping them, but they're the highest-risk members and we don't even know that they're having a transition of care." – an ACO representative*

HIT - Quality Measure Alignment

There was a focus on aligning HIT with the quality measures for DSRIP in addition to standardizing EHRs within multisite organizations. However, barriers as a result of improper or incomplete HIT implementation resulted in difficulty creating data metrics to monitor performance and quality. Additionally, there were barriers to effectively gathering information due to federal privacy regulations and to sharing information across sites due to the lack of EHR integration. Organizations made considerable investments in overcoming these barriers.

> *"I think one of the investments that we have made is we're continuing to make is in our data warehouse, our ability to ingest information from multiple EMRs, aggregate the information from multiple sources, claims data, patience experience surveys, other places, pull it all together into a single sort of portal that we can leverage for various performance improvement initiatives" – an ACO participant*

H2.4 ACOs will implement non-CP-related population health management (PHM) activities, including risk stratification, needs screenings and assessments, and programs to address identified needs.

ACOs developed programs and the capacity to perform risk stratification and other data analyses to classify people into populations of focus. They also developed registries of patient populations, such as members with diabetes or who were homeless, to identify potential needs more quickly. As noted elsewhere, ACOs developed and administered various screenings to understand the health and social needs of their members. Access to event notifications and real-time data allowed ACOs and providers to understand their patient population better and specify needs. Once patient populations are identified, ACOs deployed targeted programming to work with members on specific medical needs.

"And just to say another thing about the registries, they do pull from our claims data, including pharmacy data, any lab data that we have, any EHR data that we have. It aggregates all of that data to identify members that are either special health care needs, have chronic conditions, maybe high-risk pregnancy, has substance use disorder, behavioral health conditions, have certain social determinants of health, such as homelessness, and then identify all of those members on a monthly basis." – an MCO participant

"So, we've been able to get real-time data about who is admitted to the hospital and then actually deploy a team of people to work with them over the 30 days post-hospitalization. And so, I would say for the 30% of people high risk who are in the medical admission and for all of our behavioral health admissions, there's much more focus on continuity, and making sure there's services in place in the community." – an ACO participant

H2.5 ACOs will implement structures and processes to coordinate care across the care continuum.

ACOs undertook a number of steps towards coordinating care across the care continuum. Our analysis revealed several components necessary for coordination, including facilitating relationships between ACOs and CPs, developing a workforce with requisite skills, and shifting care culture.

Relationship-Building Across the Care Continuum

Relationship-building was a key activity during DSRIP implementation and took many forms. Relationships are informal and/or formal operational or functional affiliations between individuals and/or entities, such as clinicians or provider organizations, to provide multidisciplinary medical care that is collaborative and integrated among those involved. These established relationships can serve to increase associations and rapport among staff within organizations or across entities to build teams and provide effective services to members.

All ACOs noted the importance of establishing rapport with CPs and shared that identifying preferred relationships with CPs facilitated care coordination. One ACO shared that they are "*actively working with a couple CPs in creating, especially preferred, co-located CP primary care group, or regional groups, to try and improve this process*." ACOs also built relationships between primary care and specialty providers. Generally, this took the form of service co-location, such as locating behavioral health staff in primary care practices or embedding staff, such as care coordinators, within provider practices. This proximity increased communication among different care team facets, thereby facilitating integration and coordination of members' care. ACOs reported needing to build bridges with community organizations outside of the CPs, usually for coordinating services to address health-related social needs. For all organizations, these were key relationships since many MassHealth members presented with health-related social needs that had to be addressed before focusing on their health care needs. These relationships expanded access to services that the

ACOs could not themselves provide and are critical to integrating health care with social services.

> *"…through the DSRIP, we've been able to create these regional care teams, which have brought a lot of new support to the PCP practices with this population. We get referrals all the time from the PCPs. Our care teams go to them with patients that they recommend be included in the program, based on how they've screened, or based on looking at the data. We have a lot of really positive feedback from the PCPs about the additional support that their practices are seeing, especially with the behavioral health social workers, having them in some of the practices actually onsite and available to see patients"* - an ACO participant

> *"…on the LTSS side of things, again it goes back to that, when our care managers are involved, or get involved, and they learn this member's recently been assigned to an LTSS CP, they're really, they're trying to make those calls to them, they're trying to collaborate in real-time, do some joint visits, those kinds of things. And so, it's happening" - an ACO participant*

Workforce Development

Innovative solutions were implemented within ACOs to help with shortfalls identified in operations around staffing, developing relationships with the CPs, addressing endemic health care issues (i.e., chronic physical or behavioral health conditions), and working to mitigate barriers, such as communication between ACO and CP care coordinators, heavy caseloads, and outreach expectations, inherent in the original DSRIP model design. Concerning workforce development, ACOs implemented training, strategized to improve recruitment and retention, and created learning communities for staff and training for community health workers (CHWs). Most surveyed providers (57%) reported that their organization offered training opportunities to support them in their roles. Regardless, fewer than half of providers (45%) reported that their organizations prioritized employee retention, and a similar proportion (49%) reported that their site was adequately staffed to provide high-quality care.

Considerable effort went into hiring culturally competent staff to help improve the patient care experience. One ACO noted that:

> *"A lot of our community health workers have lived experience…We have a very large Hispanic population…, and a lot of our community health workers are Hispanic and are bicultural and bilingual….the community health worker seems to get a better response from the patients, because they've been there, and they've lived this life as well." - an ACO participant*

Care System Infrastructure and Transformation

To support care system transformation, ACOs had to change existing practices. Changes in the culture of care occurred in tandem with tangible infrastructure changes. One of the biggest cultural challenges that ACOs shared was that the switch from an

older care model (such as fee-for-service) to the new value-based, collaborative care paradigm was particularly challenging for some providers.

> *"[The providers are] so used to working independently, and now they have different people in their office. And I think, even on the inpatient medical side, they are, as far as case coordination, and case management, aftercare planning, still needing to transform." - an ACO participant*

Despite significant investments in care system transformation, nearly two-thirds (65%) of ACO providers responding to the survey reported that the processes and approaches to caring for MassHealth patients changed very little or not at all during the year before the pandemic (i.e., year two of DSRIP). Similarly, when asked if caring for MassHealth patients became easier or harder over the same period, 61% reported no change. In contrast, only 33% of practice site administrators reported very little or no change. More providers reported that it became easier than reported that it became harder to care for MassHealth members.

Early in implementation of the DSRIP program, 40% of responding practice site administrators indicated that providing high quality care for MassHealth members had gotten easier, while 47% reported little change at that point. Practice site administrators who reported a greater degree of change in their processes and approaches to caring for MassHealth members were more likely to report that providing high quality care had gotten easier, suggesting value in these changes early on. When asked whether difficulty providing high quality care for vulnerable populations had changed, approximately half of practice site administrators reported no change (52%) and one-third indicated that it had gotten easier (33%).

Another common theme was the institution of new infrastructure to successfully implement the program model. ACOs were pleased to have the opportunity to make these changes in order to provide better care at (hopefully) reduced costs.

> *"… [we] have to create a lot of new infrastructure for basic chronic care management, quality initiatives, patient experience initiatives, those are things that we've done for several years now…and the new things that we would be able to create and bring to the table around behavioral health and social determinants …which is exactly the vision that we had about creating a holistic, integrated care model for the whole patient, not just the physical health needs of the patients, this Medicaid program has really enabled us to do" – an ACO participant*

Despite the strides made in system integration, barriers to a fully integrated system across the care continuum were noted. One MCO respondent felt that their voice, and thus their perspective, was not included in discussions with MassHealth and ACOs about DSRIP. This may result in programmatic changes that did not fit well with the MCO needs.

> *"I think one of the opportunities that we see, particularly with the CP program, is around advocacy and looking at the program and system success as a whole. …I think the piece that has been missing throughout this first part of the waiver is how*

the ACO voice, and the link back into how the system is running, is really missing. Certainly, MassHealth reaches out to us and talks to us on an ongoing basis, around problems when they arise…But if you're wanting to get to the point of sustainability long-term, then you need to have a voice from the entire system. And often, solutions that are put forward are not effective from an MCO…perspective. And if we had a voice at the table that was actually, sort of, equally loud, I think we'd all be better further down the road." – an MCO participant

Similarly, the lack of integration of ACOs with the Veterans Administration (VA) system creates barriers to communication and care for members. One member noted that they face duplication of services due to the disconnect with the VA system, contributing to costs in both systems.

"When Governor Romney signed the bill that said peacetime vets could get the same benefits as wartime vets, that's when I started having a VA doctor…when I signed up for that, they told you, you have to maintain an outside provider as well…Which can be very confusing at times, because they don't communicate with each other. Now if I want a prescription that [the non-VA PCP] had prescribed, I actually have to go to the VA clinic, have lab work done again in order for them to prescribe that." – a MassHealth member

H2.6 ACOs will implement processes to identify and address health-related social needs (HRSN), including management of Flexible Services.

All ACOs made advancements in identifying and addressing members' HRSN, improving communication with members and service providers around these needs. ACOs encouraged better rapport between members and providers by meeting the member where they were "at," physically, mentally, and emotionally. In addition, ACOs found success by considering when the member was ready to receive services and appropriately sequencing how the needs were addressed.

Information Sharing and Relationship Building

Information sharing, both within practice sites in the ACOs and across ACOs and CPs, has generally facilitated addressing members' social needs. However, when information sharing capacity was poor, addressing those needs was hindered. The majority of sites felt that having a health technology infrastructure that allowed EMR interoperability with case management platforms would be helpful. Outside of the HIT realm, a best practice that worked for many sites included having a CHW, care coordinator, or care navigator who was heavily involved in all aspects of a particular member's care. The engagement activities undertaken by individuals in these roles made it more likely that members would meet their goals.

"*The referral goes in, those referrals are done every day, and then the screener, who is either a community health worker or a nurse, will run, look at the patient's chart, go through that screening tool, and then would send it off to the right person." - an ACO participant*

"…so, within each team, there's RNs, a social worker, or maybe two, and then, the CHWs. And they sort of work as a group and they have access to the EMRs…pre-COVID, they were going in and meeting patients right at the bedside. Now, they're calling patients while they're inpatient or they'll work directly through our either the social worker at the facility or the discharge planners…they participate and assist with the discharge planning…[patients are] made aware I'll be calling so they can connect a face with a phone call…and [we] also identify while they're inpatient, what types of particular needs they have…So, there's things that, you know, we can identify while they're still inpatient that we know that they'll need post-discharge." - an ACO participant

Those organizations that described the greatest success had built relationships and worked to create an integrated information sharing plan to meet members' needs. Similarly, where the relationships were weakest, the information received was least helpful and often hindered care. Having multiple EHRs that were not connected to each other also created a barrier to communication. Building solid relationships (e.g., having a consistent point of contact, regular communication, and dependability) – both between member and provider and between providers and staff – appears to have promoted positive outcomes for all aspects of patient care.

"When you look at information sharing from an infrastructure or foundational perspective, one of the practical challenges we face as a CP is working with 15, 16 different ACOs, and because of the way the numbers game is right now, you'll often have a care coordinator who ultimately needs that information but is servicing a dozen or so ACOs. So how that information transmits to them, how it gets to them -- once it reaches the CP organization, how it funnels down to them -- I think we see a lot of variability on just how that functionally moves through the system." - an ACO participant

HRSN Screening

ACO provider sites' size and structure influenced the ability of ACOs to implement screenings, with FQHCs easily adding it to the work they were doing and smaller sites feeling that it was a burden. A majority (61%) of surveyed providers agreed that they were well-informed regarding patients' current health-related social needs, such as housing and transportation, and about half (49%) agreed that patient care was well-coordinated with community resources such as support groups, food pantries, and shelters.

Most ACOs are using a variety of validated SDOH screening assessment tools. Some have modified the questionnaires to be shorter to ease member burden, and others created their own tools.

"we've now screened over 30,000 [members] already for health-related social needs since we implemented that. We have two separate questionnaires, one embedded in the EHR at the [physician organization], and a second which is sort of a much

deeper, and sort of a more academically rigorous, questionnaire that we're working on in our primary care practices at the hospital." – an ACO participant

Many ACOs noted the different technology platforms they use to track the social determinants of health needs of their members. HIT implemented via DSRIP funding made it easier to manage referrals and members' needs. Some ACOs noted that they utilize service databases to find local resources to fulfill member needs.

"In [city], we have recently engaged with [a community resource database]. So, we're trying to educate patients on how they can utilize that service if they have internet access to connect to services on their own." - an ACO participant

Members indicated that ACO, CP, and medical office staff supported them in addressing HRSNs. However, they were not always clear which organizations provided services, either because they did not remember or did not understand the relationships between organizations and/or support staff. The types of supports reported by members included providing a list of local food banks, delivering food to a home, assisting in filling out applications, or finding service providers. Some ACOs and CPs noted that they initially struggled with delineating roles and responsibilities around HRSNs screening and comprehensive assessments

Members did not see the role of medical providers as conducting HRSN screenings or supporting them with non-medical needs. Typically, members saw medical providers as focusing on physical health needs. Care coordinators or CP staff were noted more frequently as assisting with addressing health-related social needs.

"…we talked about what my goals were and, you know, that was very helpful…Like I said, your doctor makes sure that your blood gets checked, they're not making sure that you have furniture that you can live with. My refrigerator quit, the CP helped me with that. You know, all of these things that are so not obvious but are part of necessary living. How am I going to live without a refrigerator in the middle of July?" - a MassHealth member

Many ACOs developed successful facilitation strategies, including more effective care integration, warm handoffs for care coordination, and building a referral system to work with the CPs in the community. One ACO noted that their process included *"giving a warm handover to the care navigator…if a patient had a behavioral problem, the doctors [called] the [care navigator] to let her know…truly integrated this, so that the patient has a whole team of resources."*

Another ACO noted that becoming an ACO *"directed [their] strategic priorities for the year…and one of the top five initiatives was the spread of social determinant screenings."* The variation in uptake and implementation of screenings by each ACO is, in part, a testament to flexibility and responsiveness in dealing with the challenges the DSRIP program presented in its early days.

"…we would give [provider] a warm handover, and then she would start seeing them. She'd get involved with the patient. And vice versa. If a patient had a

behavioral problem and [redacted] was the first one in for some reason, the doctors just decided to call [redacted] instead. She would call the care navigator and let her know. So, we've truly integrated this, so the patient has a whole team of resources" - an ACO participant

Community Health Worker Role

All sites stressed the importance of CHWs in carrying out the "*high touch*" work of improving care coordination and management, citing the "*integrative health approach*." One ACO summarized CHW value by sharing that they "*have teams, a nurse, a behavioral health clinician, a CHW…super solid, and that's where I think we're going to see the change of having a team-based approach.*" CHWs share similar lived experience and cultural characteristics of the members they serve, which enhances their ability to connect with members and understand their perspectives. Some ACOs opted for even more personalized care; one ACO noted that they would *"meet [patients] at the grocery store to teach them how to buy healthy food…we've done a lot of meeting patients at the stores and teaching them how to read the labels."*

Pediatric Population Needs

ACOs had to consider the pediatric population's uniqueness when addressing their medical and social needs but experienced barriers within DSRIP. One ACO stated that they could not obtain information about a pediatric member's parents because they and the child were on different health insurance plans. They have "*pleaded with the state to share some level of family information*." Their analysis revealed that "*only 4% of parents were in [their] plan,*" which made it difficult to fully understand the pediatric member's home and healthcare environment.

Some ACOs that had not previously focused on pediatric outcomes reported that the programmatic focus on social determinants of health allowed them to create effective "*pediatric care coordination, when historically [they] had not had the impetus to do so*," which was considered a positive outcome.

Additionally, many ACOs are working to build referrals in "*the pediatric space, trying to get childcare or after school care, or connecting to some kind of community program, [like] the YMCA.*"

Flexible Services (FS)

For FS delivery, ACOs negotiated service contracts, co-designed programs and evaluation plans, and established referral workflows with CPs and SSOs (or CPs acting as SSOs), following MassHealth program guidance.

In the first three quarters of implementation, ACOs had varying levels of participation in the FS program. While a few ACOs had no members participate, the majority saw over 100 members receive services through the program. Members from one ACO accounted for more than half of all program participation, representing 1850 out of 3329 unique members participating in the first three quarters of calendar year 2020. A small portion (9%) of providers responding to the evaluation survey reported being aware of

the FS Program. The survey was administered during the first year of the FS program amidst pandemic-related delays, which likely contributed to the low level of awareness.

Target populations for FS supports varied across ACOs and included, but were not limited to, those previously identified for services and supports (e.g., CCM and transitions of care (TOC) eligible populations), high utilizers (e.g., four or more ED visits per year), and those members with particular diagnoses (e.g., uncontrolled diabetes, serious mental illness).

Of the 61 FS programs approved by November 2020, 32 began serving members within the first two quarters of 2020, with many of those providing COVID-specific supports. FS supports were typically coordinated between ACOs and SSOs, and delivered by SSOs. This was true for those programs also delivering supports for members with COVID or who were self-isolating. Nutrition and housing supports were made available to members who contracted or were at risk of contracting COVID. COVID-related supports included medically tailored meals, food vouchers, and food boxes/ grocery delivery to support self-isolation and mitigate the economic impacts of the pandemic.

Overall, the number of members receiving FS increased substantially in each of the first three quarters of the program from 53 unique members in Q1, to 1,225 in Q2, and 3,141 in Q3 for a total of 3,329 unique members and 4,419 member-quarters of FS delivered. The majority (90%) of supports provided to members as part of FS were nutrition supports, as of November 2020. Nutrition supports included, but were not limited to, medically-tailored meals, nutritionist support, SNAP enrollment, home-delivered groceries, transportation, and home visits. Most nutrition support programs integrated an aspect of culturally relevant food, whether in medically-tailored meals or supports with nutritionists.

Housing supports for members experiencing homelessness or at risk of homelessness included pre-tenancy supports, tenancy sustaining supports, transportation, and home modifications. Approved FS programs covered a variety of pre-tenancy supports included providing security deposits, providing first month’s rent, providing utility arrears or deposits, completing housing applications and agreements, finding apartments, speaking with property managers, facilitating an expedited Residential Assistance for Families in Transition (RAFT) process, addressing barriers to housing (e.g., low credit score, criminal record), and setting up bank accounts. Approved tenancy sustaining supports included budgeting and money management skills, attending court proceedings with, but not as a representative of, the member, engaging with landlords to address concerns, and ensuring members receive all eligible state and federal supports such as SNAP. Approvable home modifications include changes to support healthy air such as vacuum cleaners and mattress covers, and changes to support mobility such as portable ramps, night lights, and grab bars.

H2.7 ACOs will implement strategies to reduce the total cost of care (e.g., utilization management, referral management, administrative cost reduction), excluding the population health management /care programs mentioned above.

ACOs employed risk management assessments to identify member populations on which to focus as a way to reduce the cost of care. They increased data analytics capacity and developed algorithms to analyze data to understand service utilization and guide their efforts. The results then allowed the ACOs to focus on providing the type of care and education that would reduce the member's need for costly services.

> *"…patients are identified as eligible for CCM through a data-driven algorithm that identifies patients who are in the top two percent of cost and utilization across the [ACO] network. And, it's the entire [ACO] population that then is divided up by where that patient might be assigned to...And then from that algorithm, the high-risk list that's generated is disseminated to the teams, who then review it and…prioritize patients based on what clinical picture they're presenting for outreach and enrollment into the program." - an ACO participant*

> *"The overarching mechanisms for reducing cost involve, I think, coordination with [utilization management] and [care management]. We are identifying high-risk members in the hospital. Early on, we have a high-risk readmission score that we are beginning to apply to our members. We are doing integrated case management [utilization management], and sometimes [behavioral health] rounds to identify the discharge plan that's going to be most appropriate and avoid readmissions." - an MCO participant*

The spectrum of responses regarding how ACOs felt their member care was affected by DSRIP implementation ran the gamut from "*no, [it's] not working, not really,*" to one ACO noting that they are "*connecting families to services because of the ACO*." The majority of sites felt that broadening the discussion around patient care to include addressing basic needs has been a net positive. Many are concerned by the perceived lack of behavioral health providers and the inability to address member needs in this area or to share the necessary data between ACO and CP sites. ACOs continue to work towards reducing total cost of care in these and other areas.

> "*…and this is an area where they would like to continue working with them on…being able to invest more upstream, if you will, in these health-related social needs. We believe there's a strong business case to be made that that will actually help with improving the quality and reducing the cost of care. So, this is definitely an area where it's one of the more innovative areas that we're trying to dive into with the ACOs." - MassHealth staff participant*

H2.8. Accountable Care Partnership Plans (Model A) will transition more of the care management responsibilities to their ACO partners over the course of the demonstration.

The transition of care management responsibilities is in the beginning stages. While ACOs have been moving this process along, at least one ACO anticipates continuing to share those responsibilities under DSRIP. One ACO interviewee noted that she was only recently made aware of the services the health plan partner was providing and has

started to work with them to manage member engagement to avoid multiple contacts to members.

> *"At the beginning, [health plan partner] did the majority of our transitions of care. Now we do most of those, and lesser associated with a pregnancy, a solid tumor, or cancer, the things that they manage. And partly because our team is local, and patients don't want to have somebody from [city] calling them, asking them about it. They would rather have the local team do that. So, I think we've had better success with that." - an ACO representative*

H2.9 ACOs will establish processes to facilitate member engagement.

ACOs identified several components of a successful member engagement process, as discussed below.

Communication and Relationship Building

ACOs cited the importance of communication – across entities, within organizations, with patients and patient advocates, and between MassHealth and the organizations. Without rapport and trust with their care providers, members are less likely to engage in services provided and less likely to understand the services offered. Additionally, relationship-building was identified as integral to the member engagement process. Relationship building within the community and among providers, staff, members, and their supports (i.e., families, friends, and other agency staff who may be assisting) builds trust and rapport and promotes effective engagement. Keeping the member at the center of the planning process and involving them in the goal-setting and care planning process was a large component of relationship-building efforts.

> *"…we've created these care teams, these care pods. Each of them is staffed by an RN, a community health worker, and a licensed social worker or equivalent. And their job has been to identify moderate to high risk members in our organization, patients in our organization, reach out to them, do an initial care needs screening, follow up with if they meet criteria in the initial care needs screening with a complex care management plan which is offered to the member, can be accepted or declined. And then, communicate and interact with the primary care practices relative to the movement of those members, right? So, everybody that, any one of those members, as well as any [ACO] member that, for example, comes into the emergency department, would hopefully have an interaction with the care pods, the care teams." – an ACO participant*

> *"We spent a lot of time just listening and waiting for patients to be ready to share with us and asking open-ended questions. We could sit with an intoxicated patient in the emergency department for quite -- our community health worker will just be at their side until they are ready and able to talk about what brought them to the emergency department." - an ACO participant*

Member Engagement Strategies

CHWs were cited as being extremely helpful in promoting member engagement. In some ACOs, CHWs were dedicated to working with specific populations, such as the homeless. For some ACOs, use of the CHW was new; acceptance of the CHW role varied. Some staff struggled with how to incorporate CHWs into the care team in a defined role, while others found that the CHW role was incredibly helpful and cost-effective. CHWs were employed to go into the community and focus on finding individuals from hard-to-reach populations, such as those who are homeless or unstably housed. This helped to mitigate the barrier some ACOs and CPs experienced in reaching members with incomplete or missing contact information or who can be hard to find.

> *"I'd love to have more community health workers, because what we found the biggest bang for our buck has been, the community health workers going down to housing, going with the patients, meeting the anxious patient who never shows up to the doctor, because they're too afraid." - an ACO participant*

Another successful strategy for effective member engagement is training staff on how best to work with the member populations with whom they interact. This includes training staff to use motivational interviewing techniques with members, and holding full team meetings to debrief on problematic situations and solutions. Training is offered in in-person groups, webinars, or mentoring.

> *"All of our trainings, like the targeted monthly trainings that we hold in the onboarding, focus on trauma-informed care. We also held a big training on motivational interviewing. So, some of the concepts that really relate to complex care management in particular, those are all new since with DSRIP funding. We also have offered Narcan training to all of our staff and then did a very intensive suicide/ homicide assessment seminar and mandated reporting through that as well." – an ACO participant*

While 76% of surveyed providers report that providers and staff routinely encourage members to participate in setting goals and 72% reported routinely working with members to develop self-management skills, they did not frequently agree that most members took responsibility for managing their health. About one-third (36%) of providers agreed that most members with chronic conditions took responsibility, a similar proportion agreed that most members with long-term services and support needs took responsibility, and about one-fourth (26%) agreed that most members with behavioral health needs took responsibility for managing their health.

Members reported challenges in accessing care.ACOs worked to fix this in real-time. One ACO noted that even though "*many of [their] practices have extended hours, nights and weekends, promoting that is one component, but also making it accessible is a third piece. [We made an] investment in non-emergency transportation in order to sort of wrap around the PT1 benefit that MassHealth already offers to provide same-day and next-day appointments which are otherwise not accessible to the current PT1 program, to connect folks with their primary care providers*." While PT1 is available for same-day

appointments, members reported in interviews conducted in March to May 2020 that they were occasionally not available or difficult to access.

Care Planning

As described above, the patient-centered treatment or care plan drives care management activities for CP enrolled members and is utilized as an effective way to engage members in their care. Care Coordinators and CHWs work with members to assess their health status and determine their health-related goals. A lack of standardization in the care planning process madeunderstanding next steps difficult for ACOs.

> *"We kept hammering on our health centers. Within 30 days you have to call the CP and identify yourself as the care manager. "Do you want to meet with your CP?" And they're like, "Oh yeah, I have no idea [who] those people are. Could you create [the care plan]?" I just think there could have been a little bit more focus -- and I think the providers also feel a little bit like they're getting care plans and they look different from different CPs. I don't think it's been proven at the provider level what the value is." - an ACO representative*

ACOs felt member engagement was hindered by a lack of understanding of different aspects of the CP program. Many noted that there was a disconnect between how the ACO sees the CP role and how the CP sees their role. As a result, ACO staff noticed duplications in care coordination and a disconnect in whether members were actually connected with the intended CP. Another key difference between ACOs and CPs is that ACOs can encompass numerous sites, making it difficult to estimate blanket levels of member engagement throughout the entire ACO. Many ACOs felt that some of their sites had high levels of engagement, whereas others continued to struggle.

One key to success with primary care and BH integration within certain ACO practice sites was the positioning of a BH provider within the practice office so that members could be immediately connected. By having the opportunity to meet a BH provider in person (facilitated by staff with whom they were already familiar), members could discuss appropriate and available services in a more timely way and be set up to receive these services in a setting in which they were already comfortable. This facilitated their acceptance of these services. In addition, these onsite BH providers could provide information about BH topics and address staff concerns in a formal or ad hoc manner, increasing staff knowledge and comfort with addressing members' BH concerns.

> *"We've done a lot with our integrated behavioral health work to try to get people to understand that they can receive care within our practices. Almost all of our practices have gone through full education on delivering behavioral health services in the practice…about 60% of the practice sites actually have an embedded behavioral health provider." – an ACO participant*

H2.10 ACOs will monitor quality performance and establish mechanisms to support quality improvement efforts.

ACOs are in the beginning stages of DSRIP-related quality management activities. Some sites have required minimal changes to existing quality infrastructure, while others required new processes to collect and analyze data.

Quality Performance Experience

ACOs that had contracts with other payers have prior experience with quality initiatives and have the staffing and technology to collect, analyze, report, and act on data, which has been transferable to DSRIP. Some sites hired staff, funded under DSRIP, responsible for quality metrics, such as a population health manager, and some have added quality-related responsibilities to staff roles.

> *"So, the main thing here is that we've had a quality infrastructure, in particular, staff who [are] performance liaisons who work directly with practices on quality improvement initiatives. And so that infrastructure has been in place; we grew it to include the Medicaid. I think, where we had to make specific adaptation is around the BH quality measures that have not historically been part of the measure slates for other payers, but really the infrastructure existed, a little bit of modifications around the edges..." – an ACO participant*

Quality Metrics Data Collection

Data are used for quality metrics reporting, process improvements, and cost/utilization reduction. Thus, data are generally care-related, (e.g., tracking completion of assessments and screenings), process-related (e.g., documenting qualifying activity completion), or utilization and outcome-related (e.g., laboratory values, ED visits). Many sites are implementing quality initiatives to improve processes and are measuring or tracking activity completion, including screening/assessments for uncontrolled hypertension, pediatric vaccinations, or depression. To improve the chances of success with measures, ACOs proactively engaged with members to get them into the practice in order to perform assessments or tests that are part of their measures.

DSRIP-related measures are not the only metrics that ACOs are tracking/reporting. Some ACOs participate in other contracts with similar requirements, and some are creating and tracking metrics used to measure site-specific program performance or to identify where they can reduce cost and utilization. Some ACOs built dashboards to measure and track progress in real-time, and others are working with their IT departments to create reports. Data are shared with providers and staff to make them aware of individual and/or practice-level performance so they can make adjustments to improve performance. Some education is required to teach staff about new measures and build awareness about and buy-in to collect and act on data.

> *"We do a lot of visual management, so the chiefs or their supervisors may…have a whiteboard in their practice where we've identified…how many patients did we capture, how many we were missing; You put that on the board and you measure it, and then you share as a group in a huddle. A lot of our improvement processes are done in that way, at the group level...." – an ACO participant*

"It's probably getting health centers to focus on things that haven't been quality measures before, like initiation and engagement, like that seven-day BH follow-up measure. That's really new to them. So, I think it's probably increased the focus on the things that -- you get what you measure" – an ACO participant

"…where it came to HPV vaccination, we brought a statewide leader on HPV vaccination to our annual pediatric evening meeting, where we had, you know, great turnout and great participation and covered…why HPV by 13 is critical." – an ACO participant

The number of measures was often considered an administrative burden and barrier to monitoring quality performance, as ACOs have many contracts with different measures that they need to satisfy.

"I think the other thing, and this is a general philosophical point… it would be really nice if the payers could get together and agree on a single slate of quality measures, as opposed to everybody having their own slate of quality measures and driving the providers crazy because they have to pay attention to 60 or 70 different quality measures…Even if you just do that at the state level as opposed to the national level, it would be enormously helpful in terms of our trying to actually improve the quality of care." – an ACO participant

RQ3: How and to what extent did CPs target resources and take actions to operate under an accountable and integrated care model?

RQ3 Summary

Community Partners (CPs) took specific actions to develop the capacity to operate under the accountable and integrated care model. CPs targeted DSRIP program resources to enhance internal IT systems. They also targeted staffing resources to support collaborative relationships with ACOs and improve member engagement and care coordination strategies. In consortium CPs and those with affiliated partners, internal relationships among participating organizations also had to be developed and/or strengthened.

"We've had a history of working with places like [community organization], which strengthened what we were doing. For many of our partners, we, obviously, as the health care provider, we're pretty comfortable on the Medicaid landscape but a lot of our partners in this were not, and it was an opportunity. One of the hard things I think for human services and homeless service providers is that there's not a broad funding stream, and you live and die by grants and pretty siloed state funding. This was an opportunity to see if there was a way that we could not only leverage each other, but leverage Medicaid dollars in a broader sense." - a CP participant

By leveraging DSRIP funding and SWI programs, CPs established staffing and infrastructure to operate in this new accountable and integrated care model. SWIs were especially helpful in recruiting and retaining staff.

"The DSRIP fund, we've appreciated, the student loan repayments are definitely good in terms of the workforce. - a CP participant

Overall, CPs had dedicated staff committed to engaging members, addressing their health and social needs, and improving care coordination.

"Part of the appeal also is our team approach because we really do live it. And it's kind of rare these days to have that kind of support and resources available from your coworkers…we try to make it a good environment" - a CP participant

CPs expanded upon existing technology when available. In many cases, CPs leveraged DSRIP funds to install new HIT/HIE specifically to coordinate with ACOs. Several CPs created dashboards to monitor performance. Many built on HIT platforms to improve care coordination, member engagement (e.g., one CP provided members with cell phones),), and relationships with the community, ACOs and MassHealth. CPs were able to engage with MassHealth to request guidance and provide feedback on program elements.

"We built a set of analytics dashboards just on the benchmark, so we used the specs that they gave to build something to look at and see how we're doing…How are we doing with getting care plans signed within 90 days?" - a CP representative

CP staff were much more likely on average to report that they had an understanding of the program goals of and recognized the value in the MassHealth ACO program compared to ACO providers, despite a similar proportion of staff receiving financial incentives for performance under the program (Tables II.C.a.5 and II.C.a.6).

Table II.C.a.6. Percentage of CP Staff that agreed or strongly agreed with the following statements

Item	Total n=482[1]	BH Staff n=357[1]	LTSS staff n=87[1]	BH and LTSS staff n=21[1]
I had a clear understanding of the purpose and goals of the MassHealth ACO program	78%	77%	86%	70%
I believe this practice site was performing well under the MassHealth ACO program	81%	80%	84%	92%
I believe the MassHealth ACO program helped improve quality of care for our patients	79%	78%	81%	85%
I received financial incentives based on performance on quality measures	32%	29%	49%	31%

[1]Overall number of responses to the survey, the number of responses to specific items varies

Many MassHealth members enrolled in the CP program could identify the CP with which they worked. However, it is important to note that they may not have been fully aware of the distinction in roles between ACO care coordination efforts and the CP activities. Furthermore, interviewed members did not always remember creating a care

plan or could not remember what was in the document. Despite this, members reported that CP services were very helpful and beneficial to them.

> *"I don't know what her job title is at the health insurance, but she's a nurse. Oh, she would be my care coordinator, wouldn't she? She has been huge… I couldn't get one of my doctors to call me back for weeks. And she makes one phone call and the doctor calls me back. (laughs) So, the care coordinator through the ACO has been very helpful." – a MassHealth member*

H3.1 CPs will engage constituent entities in delivery system change.

Perhaps the most important facilitator to implementing delivery system reform was effective and collaborative relationships among participating organizations, including those that were required (ACO and CP) and those that developed organically (CPs with external service providers or community resources). In consortium CPs and those with affiliated partners, internal relationships among participating organizations also had to be developed and/or strengthened.

> *"Whenever we can develop relationships with people, referrals go much smoother and collaboration goes much smoother." - a CP participant*

> *"… Having one person who was able to facilitate the conversation at a very high level and a very day-to-day operations level [was helpful]. If there was something going astray with almost anything, or something we didn't understand, you called one person." – a CP participant*

The majority of CP organizations serve exclusively or mostly MassHealth members. CP providers and staff responding to the survey characterized their client population as an average of 70% to 100% MassHealth members, with half of all CPs characterized by their responding staff as serving 90% or more MassHealth members. This reflects the reality that many CP organizations formed explicitly to participate in the MassHealth ACO-CP program, commonly through consortium efforts with multiple existing organizations.

Care Coordination and Management

Collaborative relationships are developed through various means. Many ACOs and CPs would meet quarterly or monthly to discuss members' health and social needs. These meetings helped CPs and ACOs know who they were speaking to on the other end of the phone. Relationships were also enhanced when CPs either had a specific internal staff member to communicate with the ACO or had a specific person at the ACO with whom to communicate (i.e., a designated contact or someone known to the CP leadership from past experiences or time in the field).

> *"I know who to call if something goes wrong; if we don't get a care plan back, I can get a live person [on the phone]." - a CP participant*

Another important facilitator in building relations was the co-location of ACO and CP staff. For those CPs with community health centers that are also a part of different

ACOs, it was easy to build relationships with PCPs and check in on the status of care plans, member health, and appointments because of the physical proximity of staff and providers. This setup not only provided effective care coordination from the member perspective but also facilitated relationship-building between the CP staff and the ACO providers.

Co-location was also key for consortium CPs. Staff could be hired by and work out of different organizations under the umbrella of the lead agency. This allowed them to operate in different locations (but still within a shared facility or in close local proximity) while interacting in person with staff from different organizations. The co-location of providers and CP staff facilitated communication, built trust, and helped organizations function effectively for both internal and external partners.

> *"All of our other partners, we get together a minimum of once a month, have constant email and phone calls back and forth, and we're all within walking or driving distance, for the most part. So, like, for example, our care coordinator, he's on-site with us two or three days a week, so he's physically present when he's not [out with] members. It couldn't work out any better than that." - a CP participant*

To overcome barriers where staff may feel separate from other CP staff, organizations instituted policies to build a CP-specific identity that was key to building internal relationships, as seen in the example below; employees needed to feel as if they were part of one team. Consortium CPs conducted CP-specific orientations (versus agency- or organization-specific only), co-located teams, and conducted other team-building activities, many of which also served a dual purpose of improving workplace morale and, therefore, retention. (See more below in RQ3 H3.2).

> *"We refer to them as the [Consortium Name] care coordinators, [which helps staff] see themselves as [a part of] their program within [the Consortium]." – a CP participant*

In addition to contracted relationships, CPs reported the need to develop relationships with external service providers and other entities such as food banks, social service organizations like the YMCA, and other organizations that address basic needs. While some of these relationships may have been pre-existing, CPs reported learning about resources in their community that they were previously unaware of or had not previously worked with, which led to new relationships. For some, this included developing relationships with the Massachusetts Department of Mental Health (MA DMH) and Adult Community Clinical Services (ACCS) providers. CPs reported that developing relationships with ACCS providers or case managers meant that the CP and ACCS providers could coordinate care and engage the member in services without being duplicative or disruptive.

> *"We had all of the BH CP staff reach out to the assigned ACCS staff that had an established relationship with the member and let them introduce the BH CP staff. That's really all we did. And it worked." - a CP participant*

"I think a lot of it has been with ACCS and DMH. We do biweekly -- there's three meetings biweekly at the DMH office to review their members, the members that we share together. And that is probably where we plan a lot of the complex needs, housing, primary care, any of the concerns that we have with members." - a CP participant

Relationships with external organizations helped CPs to know both what services were available in their community and how to connect members to those services. In some cases, links to service providers (such as Acute Treatment Services (ATS) or Inpatient Detoxification Services programs) helped CPs find members during transitions of care. One CP reported:

"*We have found ways around that in that we've asked to go and present our program to sober houses and places and left our cards and our brochures, and we've made phone calls and said hey, we think you may have one of our people there." - a CP participant*

In one instance, the CP reported that an organization where a MassHealth member was receiving services could not divulge the member's name due to HIPAA and 42 CFR Part 2 privacy considerations but, because of the established relationship between the CP and a person in that organization, the CP was able to have the contact person in that organization provide material and information to the member on the CP's behalf. CPs leveraged relationships with organizations serving shared members, which they found helpful in providing members with information for additional services, setting up meetings, transitioning members from points of care, and improving engagement. Given that CPs are often part of larger organizations, some of those services may be provided by sections of their parent organizations that could be considered external to CP program operations.

In many cases, past relationships with individuals or organizations were beneficial for building collaborative relationships with the CP. This included having a previous relationship with a PCP or, as was the case for a few CPs, having been part of an ACO.

More recent examples from CP case study interviews implemented in Fall 2020 illustrated that this service navigation work is still ongoing. Connecting patients to services addressing health related social needs continues to be an important aspect of the work that CPs are doing. One of the consortium CPs shared the following:

"As a program, when we were [just getting started], we pulled in community partners [to connect patients to services]. It's really tough to do the kind of work that we do in a silo, and so [we partnered with] those who are doing mental health and addiction services and housing." – a CP representative

H3.2 CPs will recruit, train and/or retrain staff by leveraging SWIs and other supports.

Workforce Development

CPs were asked about their strategies to recruit, train, and retain staff during the interview process. Information about workforce development also arose organically, especially when discussing changes organizations needed to make when implementing the CP program. *“Happy employees don’t quit as quickly.” – a CP participant.* (See Table II.C.a.7.)

There was wide variation across organizations in CP staff reporting employee retention being prioritized, with only 10% of surveyed staff agreeing that it was an organizational priority at some sites and close to 90% at other sites.

Table II.C.a.7. Community Partner Actions Taken, Facilitators and Barriers

	Actions Taken	Facilitators	Barriers

Recruitment	Strategies:
	• Advertising on job-seeking websites like Indeed
	• Using recruiters to target specific populations:
	  ○ specific languages
	  ○ specific roles, such as nurses
	• Recruiting internally from other programs
	• Providing bonuses and other financial support as enticements
		• Recruiting from programs within the CP was an important facilitator - CPs hired more qualified individuals that had worked in case management or care coordination.
		• ACCS changed to a more clinical program; movement away from the care management model allowed CPs to recruit ACCS un-licensed or un-certified staff who became available
		• CPs needed to be creative in their benefits offerings in order to attract staff. Strategies included offering flexible work schedules and locations and allowing individuals to work out of offices closer to their homes.
			• Competition among CPs for staff
			• Barriers related to benefits were harder to overcome - salaries were relatively low, especially near large cities.
			• Internal unions or agency policies meant that pay raises were not possible unless universal

Training	• Multiple topics including motivational interviewing, person-centered planning, accessibility and accommodations, health and wellness principles , and trauma-informed care.
	• Some topics were part of existing programming, but many were new as part of DSRIP.
	• Staff training began during orientation.
	  ○ Orientation could be up to four weeks
	  ○ Could include agency-specific and CP-specific training.
	• Informal mentoring and shadowing were beneficial ways to train staff about their roles and expectations.
	• Some CPs offer annual refresher training for all staff so all staff have the same training regardless of when they started
		• Given the challenging nature of care coordination and the CP's role, hands-on training proved to be more beneficial in training individuals than simply having formal classroom training.
		• CHWs and recovery coaches were supported and encouraged to attend external training
		• CPs would leverage relationships with, and expertise at, ACOs to provide staff trainings
		• Flexible and adaptive leadership was appreciated by staff and created a pleasant work environment
			• Timing; extensive training could only happen during the pre-implementation phase of DSRIP, when organizations had not yet started operations.
			• New staff had a different training experience than internal staff taking on new roles. Insufficient in-service training to keep staff up to date on best practices.
			• Lack of standardization across CPs due to the innovative nature of the DSRIP program.
			• Leadership undecided on which topics would be most pertinent, especially with constantly changing program requirements

	Actions Taken	Facilitators	Barriers
	with the program (i.e., at the start of DSRIP or not) . • Recovery principles and engagement training		

Retention	• Team-building activities
	• Flexible schedules
	• Professional development opportunities
	• Retention bonuses
	• Performance monitoring
	• Creating a supportive work environment
	• Monitoring performance through data review and supervision.
	  ○ Supervision was key to supporting and retaining staff by helping staff improve their work performance.
	  ○ Supervisors use meetings to check in with staff to discuss their goals and interests.
	• Organizations made sure to imbue their activities with person-centered treatment, a key aspect of DSRIP, and engage staff in governance decisions.
		• Promoting internal staff who were planning to leave due to program changes to new positions.
		• Intangible and non-financial rewards engage and support staff, such as meals, all-staff meetings, team shout outs, and celebrations
		• Awarding staff members with a parking spot near the building for having the most outreach and engagement activities
		• Giving staff team spirit awards and small gifts in recognition of hard work and to boost morale.
		• Creating supportive work cultures
			• Barriers to retention mostly relate to compensation, leading to staff turnover.
			• Low pay for CP care coordinators, particularly in high cost of living areas.
			• Hiring newer staff, or staff with less experience, such as students looking for short term work between educational endeavors.
			• Salary could be difficult to sustain for those who are parents or caregivers.
			• Turnover can also be partially explained by people pursuing higher education, resulting in CPs losing institutional knowledge and an experienced workforce.
			• Staff burnout from high caseloads and emotionally burdensome work
			• A disconnect between the imagined role and the role in reality.
			  ○ Many thought the role would be mostly interactions with members, but ultimately “felt like salesmen”
			• Burden from MassHealth documentation requirements also disillusioned staff, who “felt disconnected from the social services work they had intended to do.”

Recruitment

CPs set a goal to recruit staff who were reflective of the population they were serving in terms of lived experience, language, and racial diversity. This approach to representative, inclusive staff was intended to make member engagement and care coordination more effective since members could more readily relate to their care coordinator. CPs reported that the inability to hire staff who could effectively respond to members' needs undermined the provision of care coordination supports. One CP shared that they would employ more Spanish-speaking people immediately if given the opportunity, since they were having difficulty keeping up with and responding to that population's needs. Another shared that they were unable to provide adequate compensation to attract diverse staff into these roles.

> *"So, if you have a bunch of white, post-Harvard grad people working with a homeless population that is much more racially and socioeconomically diverse, that is not best practice …, right? And so, to diversify the population of our service providers, it's great to have some folks who have lived experience, who maybe come out of those neighborhoods, who maybe didn't go to college, but have years of experience working in the field, and to honor that is -- there's evidence to suggest that that's really powerful in terms of outcomes." - a CP participant*

> *"It started from scratch; we need so many care coordinators, we need so many RNs, we need so many directors, we need a trainer. I can't say there were any gaps because it started from the ground up. For the recruitment piece, [we] had advertising in schools, marketed this program online. I did a lot of digging in terms of referrals from current employees because we have about 2,000…and I can't say it was hard. I was able to attract a lot of people and we had a lot of interviews. I'm big on quality." – a CP participant*

Training

ACOs and CPs invested time in training new staff and orienting existing staff to DSRIP. Training took many forms, such as web-based courses, group sessions, and one-on-one mentoring. Training covered topics specific to each agency, such as its mission and policies, and skill-building, including motivational interviewing, trauma-based care and EMR documentation. Most CP staff (79%) reported that their organizations offered training opportunities to support them in their roles.

> *"The model that we have found to be most effective is to have, like, a mentoring or coaching, whereas care coordinators are coming on, they partner with somebody that has been here for some time. We find that to be most successful in learning the role." - a CP participant*

> *"I'd say the biggest barrier is there's this question of what do you train these folks on. Because it's an evolving program. It's really a start-up. So, you can't just say it's not so obvious what to train them on. It's not like here's 25 years of evidence-based practice related to care management and the best way to do it with this population. So, I think that's a barrier. I think some of it is less about training and more about*

engaging your team and problem solving with them. And then bringing in resources or staff you might have or experts to deal with whatever issue you're dealing with." - a CP participant

"In the beginning, we leveraged our Community Support Person (CSP) workforce. We took our highest-performing CSP staff…And at this point, we're trying to use our CSP program as a training ground for the BH CP staff" - a CP participant

CPs also partnered with existing training programs for different staff. For example, one CP shared that the CHW pathway program through the Center for Health Impact was a helpful training for new care coordinators:

"A good thing about these programs [is that they] are free because they're grant-funded [compared to] other training programs. It saves on our training budget and we can spend the money on other things." – a CP participant

Retention

Retention efforts included offering a team-based environment, taking advantage of training and certification programs, and benefit offerings. Some organizations offered debriefing sessions to allow staff to debrief and process their work.

"Part of the appeal also is our team approach, because we really do live it. And it's kind of rare these days to have that kind of support and resources available from your coworkers…So we just – we try to make it a good environment" - a CP participant

"To really see that, or go to Section 35 or watch somebody being, you know, go to court with them. They [staff] experience a lot, and you want to make sure, hey, this is what you do with self-care. Then if you experience any of these things, nightmares, and this and that, here is the name that goes with it. It's called vicarious trauma. You're witnessing just so much. And here are the tools that you need to do to take care of yourself, so you could manage those 40 clients that we've assigned you to." - a CP participant

"It's a very difficult job, especially if you're a people person. A lot of is done on the phone. So it has not always been in everybody's wheelhouse who thought they were going to come in and be, do case management, and have a lot of face-to-face time. It's different than what they expected" - a CP participant

While ample efforts are taken by CPs to ensure staff retention, invariably there was a lot of turnover for some organizations. The main concern was the overwhelming amount of responsibility attributed to the care coordinators themselves. Some CPs reported that they don't formally track retention but that they know many employees stay while others go. Many CPs also reported that being unable to change the salary of these positions also contributed to this issue. One of the CPs reported that incentives were helpful – both in terms of morale-boosting events like staff potlucks to celebrate holidays, but also in terms of professional development opportunities:

"[We instituted an] incentive program [that] staff needed to be employed [for a certain amount of time]. I believe 18 months or so in which they need to be employed by the agency in order to obtain the incentive. You would think, in that instance, they would be only in the role for 18 months to get the incentive, then they would leave, but they're still there. So that's definitely a bonus on our end." – a CP participant

Statewide Investments

Statewide Investments (SWI), as discussed previously, have been implemented in phases since the start of the DSRIP program. SWIs help ACOs and CPs meet program goals and provide incentives, funding, and support for DSRIP implementation. One of the most popular and effective SWIs was the student loan repayment program (SWI 1), which was potentially the greatest facilitator in recruiting and retaining staff for CPs. Employees could choose to have $7,500 sent from the Mass League of Community Health Centers, administrators of this program, to their lender to pay down their loan balance as part of the SWI, which was reportedly making a considerable difference in employees' lives. However, there were some complaints about the program – namely that the amount offered for loan repayment should either be increased or made available to more employees. Additionally, the loan repayment was only available to those with college degrees, excluding some CP staff from qualifying for the benefit.

"I think probably what would have helped in terms of those positions is for the EOHHS-sponsored slots is for the student loan repayment to be higher. Because with $7,500, it isn't really – I mean, it's great, but there might need to be more slots and a higher degree of student loan repayment." - a CP participant

"So, the DSRIP fund, we've appreciated, the student loan repayments are definitely good in terms of the workforce." - a CP participant

H3.3 CPs will develop HIT/HIE infrastructure and interoperability to support care coordination (e.g., reporting, data analytics) and data exchange (e.g., internally with ACOs & MCOs, and externally with BH, LTSS, specialty providers, and social service entities).

Functioning well as a CP requires sophisticated EHRs and information sharing strategies. CPs leveraged DSRIP implementation dollars and utilized SWI funding to build and effectively use new or expand existing HIT infrastructure to support care coordination/ management, data analytics, reporting, and quality and performance improvement. CPs received information about members from MassHealth and/or ACOs, but often in the early period of the CP program development this information was outdated or incomplete

Staff conducted their own outreach to engage members, which often took longer than expected. Once engaged, CP staff work with members to conduct a comprehensive assessment and fill out the care plan, which is then sent to the PCP or PCP designee for signature and then sent back to the CP. Many CPs lacked control over which systems to use to receive member lists or share care plans, especially given the

requirement to coordinate with multiple, large provider systems managed by the ACOs. ACOs occasionally requested that CPs send information to a centralized point of contact who would then coordinate with PCPs, but this was not a standard practice. The systems used for this workflow were determined individually by the ACOs. Systems include web-based file sharing (e.g., Dropbox), secure file transfer protocol (SFTP), fax, or secure email. In some instances, CPs would hand-deliver care plans to PCPs and/or meet with ACO partners in person or via phone to discuss member needs. While some found the diversity in systems helpful, most felt the lack of standardization undermined the innovative, collaborative spirit of DSRIP, which promoted modernizing and improving electronic information sharing systems. Phone calls and meetings may have been beneficial, compared to hand-delivery of documents, given the importance of relationship building for the program.

Information sharing and collaboration procedures were most successful when there was a concentrated effort to achieve integration between entities. One CP reported having read-only access to an ACO's EMR as beneficial, which allowed them to collect pertinent information on the member and facilitated care coordination. PCPs could then upload care plans directly, making them available to the entire care team.

Internally, CPs implemented care management platforms (e.g., EHRs and care management-specific platforms) event notification systems, or data analysis systems. For many of the organizations with newly implemented systems, there was a learning curve for staff to become confident in using the technology. While care management and EHR systems allowed CPs to better document care, supports, and services provided, the event notification systems were key for member outreach. These systems, however, were often not used for sharing behavioral health data, given the caution in response to restrictions on data sharing per 42 CFR Part 2.

One CP used a data warehouse that allowed consortium entities to document data in a location that made it available for all partners. This same CP was connected to the Homeless Management Information System, which also allowed them to manage care for their homeless members better. While this CP was directly connected to other social service providers, generally, CPs did not mention having electronic or HIT-based systems to coordinate care with other outside agencies apart from the ACOs. A few CPs also functioned as SSOs for the purposes of the FS program.

CPs also used DSRIP resources to build out data analytics capabilities, including claims and internal data analysis that helped track and analyze quality and performance measures and improved care coordination. CPs used MassHealth claims data to identify the services used or needed by members and risk stratification to distinguish which members were the highest need. The data also allowed CPs to monitor their quality measure performance against program benchmarks and helped them motivate and improve staff performance. Data analysis allowed them to identify gaps in services and provided them the opportunity to reconfigure operational procedures.

"We built a set of analytics dashboards just on the benchmark, so we used the specs that they gave to build something to look at and see how we're doing…How are we doing with getting care plans signed within 90 days?" - a CP participant

"It's an imperfect system, obviously, using claims and whatever, but it means that people who have high needs are being put in front of us, and we are then engaging them and connecting them to care. And that's just so wonderful. I love that. In the homeless population, especially, that is a wonderful thing. It's a very patient-centered thing, I think, and I do really like that." - a CP participant

In some respects, CP staff used telehealth and community-based care more frequently than ACO staff to reach members. In the time before the pandemic, 94% of CP staff reported using email, patient portal, or text messaging to reach members at least some time, 66% used live telephone calls to contact members at least some time, and 16% used live audio-visual interactive telehealth visits at least some time. Very few CP staff used audio-visual telehealth visits weekly, while telephone, email, or text contact with members was reported as being used at least weekly by greater than half of all CP staff. After the start of the pandemic, CP staff reported in-person contact with members decreased and remote contact increased significantly. More than half (58%) of CP staff reported using live audio-visual telehealth visits with members at least some of the time, while telephone and text-based electronic communication was used, respectively, by 90% and 97% of surveyed staff at least some of the time.

A majority (75%) of surveyed CP staff reported that their electronic care management or clinical documentation system supported care coordination, but a smaller proportion (51%) reported that those systems adequately supported data exchange with other providers. With a few exceptions, there was not a very wide variation in responses between CP organizations for these two measures.

H3.4 CPs will develop systems to engage members and coordinate services across the care continuum that complement services provided by other state agencies (e.g., DMH).

Member Engagement

CP staff conducted outreach to members to engage them in services and coordinate their care. Member contact information provided to CPs by MassHealth was often incomplete, making it difficult for CPs to make the initial outreach attempt to members. Additionally, CP staff shared that members were often confused or suspicious of phone calls from organizations they did not know or recognize.

"So, I think that the problems that we are running into currently are actually in members being suspicious of what our role is, the care team, because there's not been any [information] about what being in an ACO means…I'm getting a lot of messages from people who we enroll, outreach. You can't get in touch with them, just enroll. MassHealth sends them a letter, and then they call back and say what service is being terminated? I thought you were a scammer." – a CP participant

When interviewed, most members did not understand the distinction between ACOs, CPs, or the MassHealth program in general. Outreach and engagement worked best when CPs could meet members when they were interacting with the health care system. One CP shared an example where they received an event notification about a member they could not locate who was arriving in the ED; they were able to speak to her on the phone in the ED. In that setting, the CP staff member was able to make a follow-up appointment at another provider's office and successfully enrolled the member in the program. Many CPs found success in this strategy, working to meet members where they were or could be found. Members felt that they benefitted from CP care coordinators meeting in a location that worked best for the member. Outside of hospitals, CPs utilized connections to Acute Treatment Services (ATS) or Inpatient Detoxification Services facilities, homeless shelters, and other provider sites to facilitate meeting members, though perceived barriers around 42 CFR part 2 often limited data sharing.

After members were enrolled, CPs needed to develop and use strategies to engage members in their care and assist them in service navigation. Some CPs used secure, HIPAA-compliant texting apps to send members information and appointment reminders. Members told CPs that they were more likely to respond to texts rather than calls and, those who received cell phones as part of the program were grateful. CPs also used reward strategies such as store-specific gift cards for members who achieved milestones or goals on their treatment/care plans. Some CPs were able to help members with material supports, such as providing cellphones or helping them get clothing, to assist them in achieving their goals. A key piece of the DSRIP plan to improve member engagement was the use of the patient-centered treatment/care plan for CP enrollees. CPs strove to make the care plan reflective of what the member saw as their important goals and needs. Many members did not know the treatment/care plan by its name in talking to members about the care plans. Some members also felt that the treatment/care plans were not reflective of their needs due to pressure from the PCP to prioritize medical needs over basic social needs, and some members shared that they did not have a written plan.

Other CPs cited that while the care plans are an effective tool for member engagement, the relatively short timeline for completion of the care plan specified by the model is not always conducive to building rapport, as each person's needs are different, and the relationship-building that underpins care plan development can be a gradual process. In addition, many felt that the care plans elicited multiple goals, which became overwhelming for members, who had trouble identifying their most pressing needs. Finally, as was noted by some of the ACOs, many agreed that integrated behavioral health care would be a facilitator to increasing member engagement in behavioral health treatment and follow-up.

Other barriers to engagement arose as a result of administrative burdens built into the DSRIP model. CPs were given seven days to follow up with a patient following a hospital discharge, but following program implementation, it became clear that the

timelines were overly ambitious as it took longer than expected for CPs to engage members. There were concerns that this effort to meet timelines took away from the quality of the work and ability to meet other program goals:

> *"I think there's a lot of focus on the timelines and completing certain requirements, but I think it takes away from the quality of the work." - a CP participant*

> *"Engagement is a long game, right? And I know our street [outreach] workers who are engaged with DMH will sometimes say that it's like a ten-year game to really engage somebody in behavioral health, you know? And so, to be measured on a seven-day turnaround, there's a misalignment there that is very hard to reconcile." - a CP participant*

Care Coordination

CPs were asked about the strategies they used to assist members in navigating BH or LTSS services. Additionally, CPs mentioned providing members support with filling out applications, such as for Social Security Disability Insurance (SSDI). Members confirmed that these services were helpful in enhancing their care.

Care coordinators also helped members find transportation to their meetings and appointments. In some cases, care coordinators would directly call providers to schedule members' appointments, and many members, especially those for whom English was not their first language, and parents of pediatric members, confirmed this to be very helpful. These efforts were designed to help members develop skills to navigate the health care system better and independently. Some CPs broadened this to include assisting members in connecting with community-based providers and resources outside the ACO/CP network, such as dentists, or other social supports, such as food banks. CPs also worked to address gaps in services that other organizations did not provide.

> *"He had no financial benefit. It seemed pretty obvious that he was going to qualify for SSDI. So, the care coordinator helped him go through the application process. And then he had an appointment for an SSDI physical… So, they had worked and arranged transportation to that appointment. She'd given him a wakeup reminder call earlier in the morning. And the fellow still missed the appointment… So, they rescheduled it and they're going to go through the process again. Actually, this time the care coordinator asked the program director if it was OK if the care coordinator gave the person a ride to the actual SSDI physical" - a CP participant*

> *"…a lot of us have worked in the community. We have a lot of great connections with people… I had a homeless gentleman and housing came in [to do a training in the agency] and it happened to be a guy that I have known for years…I tapped on him…This [homeless] guy had just applied, and they put him in for emergency housing. Three months later, he was in the housing because I made this connection with this guy that I had known for years." - a CP participant*

CP staff reported a wide variation in care coordination results across organizations, with just as many staff agreeing and disagreeing that they are well-informed about members' medical history and current treatments (41% and 37%, respectively). Staff reporting being well-informed about members ranged from 0% to 80% across organizations. However, most CP staff (69%) report that care is well coordinated with external providers. Even so, there were reported gaps in care coordination efforts, with only 39% of surveyed staff reporting receiving discharge summaries after their patients were hospitalized.

CPs are already well connected with the communities that they serve. Most (74%) surveyed CP staff reported that their organizations had established relationships with other community agencies to facilitate referrals to them and that their referrals to community-based organizations were effective in addressing the patient's HRSNs. Developing systems to engage members and coordinate services is baked into their organizational model, and the DSRIP program took this model and amplified it. Several barriers around initial MassHealth-imposed timelines, inaccurate member data, and overworked staff were addressed in MassHealth revisions to the CP model and, by the time of the most recent interviews in Fall 2020, CPs reported an advanced ability to engage members effectively.

RQ4: How and to what extent did ACOs, MCOs, and CPs align resources and take common actions to operate under an accountable and integrated care model?

RQ4 Summary

Participating entities used DSRIP funding and support to establish structures and processes to promote member service coordination in the interest of delivery system reform. Strategies included using documented procedures early on in implementation (as mandated by MassHealth), allowing CPs to access ACO EHRs (for at least three participating CPs), and co-locating staff.

The location of CP staff at provider sites facilitated communication, built trust, and helped organizations function effectively for both internal and external partners.

Member care coordination was enhanced by prior relationships between staff members at ACOs and CPs (i.e., a history of working together before the ACO and CP programs launched) and clear communication pathways and processes. Intraorganizational relationships were also particularly helpful, especially in the few cases where parts of a CP organization also operated at an ACO provider site. Coordination of member care was often hindered by the lack of standardized practices for all participating entities and a lack of trust among participating organizations.

Improving data processes and systems was a helpful first step for many organizations in transforming care delivery. Partnerships between CPs and ACOs were strengthened with improved interoperability and information exchange. CPs repeatedly spoke about the importance of effective HIT/HIE as a facilitator for care coordination and data exchange.

Most providers and staff at ACOs and CPs agreed that member care was well coordinated within their organizations (Table II.C.a.8). CP staff, on average, were better informed about member social needs and were more likely to report having the knowledge, relationships, and infrastructure necessary to address those needs.

Table II.C.a.8. Percentage of ACO providers and CP Staff that agreed or strongly agreed with the following statements

Item	Total n=1532[1]	ACO providers n=1050[1]	CP staff n=482[1]
Patient care was well coordinated among providers, nurses, and clinical staff	89%	88%	89%
Providers and staff were well informed about patients' current social needs (e.g., housing, transportation)	66%	65%	70%
Providers and staff were well informed about available community resources for patients	67%	60%	82%
Patient care was well coordinated with community resources (e.g., support groups, food pantries, shelters)	66%	55%	87%
We had established relationships with other community agencies to facilitate our referrals to them	66%	60%	79%
Our electronic care management or clinical documentation system adequately supported care coordination	76%	72%	82%

[1]Overall number of responses to the survey, the number of responses to specific items varies

ACOs, MCOs, and CPs were required to align resources and take joint actions to create an integrated care model to reduce the total cost of care and improve member outcomes. The alignment of resources across the care continuum in member engagement and outreach, clinical integration, and quality and performance management is one overarching goal of the DSRIP model. In this first phase of implementation, participating entities worked both within their organizations and across entities to test different practices to improve collaboration and care coordination.

Participating entities established processes to improve clinical integration through strategies such as having regular meetings to review shared members, designating key contact persons at each organization, and having clear and established information-sharing systems. These procedures included improving health information exchange (e.g., the ability for CPs to access EHRs) and low-tech routines such as hand-delivering care plans. Clinical integration was not as successful when the volume of shared members was low or data exchange systems were not adequate. Having previous relationships in place and HIT interoperability facilitated clinical integration between ACOs and CPs.

> *"We actually meet on a monthly basis [with the Case Study CPs]. Mass Health's contractual requirement is at a minimum quarterly, but because of the volume of*

shared members that we have with them and especially with two CPs having two essentially service lines, we really felt like it was important to make sure that we had a really strong working relationship with them and understanding of their workflow and processes." – *an ACO participant*

Holistic patient-centered care that addresses physical health, behavioral health, and social needs are becoming the "new normal" for all ACOs. While participating organizations reported working together through meetings and other collaborative actions, member perspectives from Spring 2020 did not always reflect this collaboration. In interviews, some members did not feel that it was the medical provider's role to meet non-medical needs and acknowledged the complementary role of the CPs. Many members did not recall being asked by providers about their non-medical needs. Generally, care transformation and changes in operations were not always readily apparent to members.

“Like I said, your doctor makes sure that your blood gets checked; they're not making sure that you have furniture that you can live with. My refrigerator quit. The CP helped me with that. You know, all of these things that are so not obvious but are part of necessary living. How am I going to live without a refrigerator in the middle of July?" - a MassHealth member

We have limited data at this point on the actions taken by participating entities to manage performance, quality, and conflict resolution jointly. ACOs and CPs were required to contract directly with MassHealth. At the time of our interviews, participating entities cited the lack of direct contracting and agreed-upon standards between entities as a barrier to collaborating to improve performance. They felt that, because they had no governance relationship, they could not direct the activities of the other entity.

Many entities report that the coordination learning curve was steep with regard to aligning resources, sharing information, and building new relationships. That said, most informants developed new ways of working collaboratively across organizations in this first phase of implementation.

"I think one of the structural challenges we see is because of the way the contracting relationships are, where the CPs are contracted with MassHealth directly for their core responsibilities, we are contracted with MassHealth to say, ‘Go contract with the CPs,’ which we do. It becomes a challenge just in terms of oversight because the CPs are ultimately beholden to the state for their responsibilities. We oversee and manage that, but it, it definitely creates some challenging situations, where if we were given, like, 'Here's, here's the rules, you have to have a CP program, and, you know, go forth and implement,' we could do that in a different way and bring a different level of ability to manage performance based on shared goals for the CP and the ACO... So having this third party of the state… ultimately managing that relationship, can cause barriers in our ability to really manage the CP, and for them to, you know, come to us and say, 'Hey, as an ACO, like, what's important to you and what can we do to help?'" – an *ACO participant*

The Flexible Services (FS) program roll-out was delayed and, as of December 2020, still in the relatively early implementation stages. ACOs have been taking steps to align resources and taking joint actions with CPs and SSOs to implement the FS program, including negotiated service contracts, co-designed programs, and evaluation plans. ACOs established referral workflows with CPs and SSOs (or CPs acting as SSOs) to deliver FS supports, following MassHealth program guidance. As of February 2021, MassHealth had approved 72 FS programs (37 housing, 34 nutrition, and one housing/nutrition). ACOs worked with 39 SSOs to implement these programs. In the first three quarters of 2020, ACOs budgeted $3.66 million for FS programs and provided services to an estimated 3,329 members.

The text box below provides an illustrative example of the approach that one of the ACOs is taking to enhance care management programs to target FS to high-risk members.

ACO Flex Services Case Study

One ACO has formed partnerships with fourteen SSOs to address food insecurity and housing instability, including a permanent supportive housing pilot program. Nutritional and housing supports will be available across all of this ACO's primary care practices statewide. This ACO has established goals for its FS programs that include decreasing the total cost of care by reducing high-cost acute care utilization, improving health outcomes (e.g., better HbA1c control for members with diabetes), and supporting the needs of members affected by COVID-19. To help achieve these ambitious goals for its FS program, the ACO is building on existing care management programs that already engage with high-risk member populations. Specifically, the ACO has targeted its FS programs to its highest risk members with recent hospitalizations, multiple emergency department visits, and/or chronic medical and BH conditions

H4.1: ACOs, MCOs, & CPs establish structures and processes to promote improved administrative coordination between organizations (e.g., enrollee assignment, engagement, and outreach).

ACOs, MCOs, and CPs developed their plans for administrative coordination through the documented processes, which were developed when ACO and CP programs started implementation activities. These plans outlined how each CP and ACO would share member assignment and contact information, care plans, and clinical information. These documented processes were not standardized across organizational relationships, leading each ACO-CP combination to develop its own unique information sharing strategy.

Some ACOs and CPs were able to align efforts and resources among outreach and engagement by having staff co-located or embedded. In a few instances, CPs were part of a larger health system incorporated under an ACO and had PCPs located onsite. As one CP reported:

"It's obviously much easier when their PCP is here. It's a very different relationship. Not just because they're right here, but we also have relationships with those PCPs. It's huge. I mean, there's also an immediate conversation, that, like, this is the care plan. And then there's a conversation about it right then and there, and that is just so big for patient care, let alone the administrative burden of getting it signed. For external ACOs, it's just very complicated because every single process is different, and every single team lead has had to become fluent in those processes." - a CP participant

In other cases, CPs had read-only access to EMRs, allowing them to find background or contact information for a shared member or check the status of care plans and other documentation. This level of integration was perceived as a major facilitator of effective care coordination and member engagement, as it provides each side of the care continuum real-time access to patient health information.

"One of our most successful relationships is with an ACO that actually has granted us access only to their EMR, read-only, so that we can actually obtain contact information, demographic information. They review cases and have a discussion and then when we get the care plan signed up, they can actually upload it into their EMR and integrate it much more successfully." - a CP participant

Both CPs and ACOs reported that having a previous relationship with either an individual employee or an organization helped build a collaborative relationship between organizations; they already knew individuals and did not need to use resources to build new relationships. ACO and CP leaders shared that they utilized previously established relationships to connect members to effective care. Especially for CPs, who are dependent on PCP or PCP designee to sign care plans, being able to work collaboratively and effectively with PCPs allowed the CP care coordination process to be much smoother and simpler.

For newer relationships, investing additional effort to develop relationships was a key facilitator for coordinated care and integration. One CP summarized it best: *"Whenever we can develop relationships with people, referrals go much smoother and collaboration goes much smoother."* Interview respondents reported that relationship-building and collaboration were very important for facilitating care coordination across multiple payer and provider systems. CPs and ACOs reported different referral pathways they developed as their relationships developed. For example, internal ACO care management may refer individuals to a CP. Additionally, CPs often informed or educated ACO partners on which members would be the "best fit" for the CP's expertise. This, in turn, helped ACOs target which members they assigned to which CPs.

"We had really good relationships with the primary care physicians who were under that ACO from our CSP experience. We leveraged existing relationships with those PCP offices and with, honestly, one of the women, a couple of the women, that were in charge of that ACO, women that I had worked with 25 years ago as an emergency

services clinician. First-name basis kind of stuff. Texting, and a really close relationship." - a CP participant

"I so strongly believe in that co-located model, the integrated model. I love the integration of primary care and behavioral health. Love it, love it, love it. And so, I have loved this thing that we were talking about, getting these teams integrated and starting to see rapport building, and seeing how powerful that can be in terms of patient care." - a CP participant

Ultimately, alignment of actions was most successful when there was an agreement and standardization in the care coordination process and data sharing systems. Barriers hindering ACO/CP alignment included the lack of or an underdeveloped relationship between participating organizations, lack of HIT interoperability, and the lack of standardization among and within both ACOs and CPs around data and information sharing. Outside of the organizations' control, patient privacy rules such as 42 CFR Part 2 were repeatedly reported as barriers to sharing behavioral health information among organizations.

The lack of standardization in communication protocols for information and data sharing was the most commonly cited barrier. As one CP participant indicated, *"Different ACOs have different rules about whether or not we're allowed to reach out to that client [to make that first outreach contact] directly or whether we have to go through them, and so we have different results with that, as well."* This lack of standardization has caused a high level of administrative burden and has hindered rapport and relationship-building.

"I say challenging only because [of the] variation and a challenge in the actual relationship itself. We work extremely closely with a ton of community partners. And there's a ton of variety. The staffing's different. A community health worker at community partner A is different than a community health worker at community partner B. It's a challenge to work with multiple community partners and have the same workflow across the board." – an ACO participant

Additionally, where trust has grown between ACOs and CPs, and there is cooperation between them for member care, the care processes work better for members.

"I think this is where the ACOs need to really start taking better care of their clients, because for us, we have ACOs that we prefer to work with, because they're nice to our clients. Their doctors are nice to us…and I think we're almost like a checks and balance system, where they vet us out, and they're like, well they're doing good care, so we're going to go to them. And we kind of vet them out." - a CP participant

"A lot of that is also about building trust in both directions, That, if this person's going to be responsible for this, that it's going to happen. It's about building relationships and working relationships. So again, the more sort of closeness of the CP and the practices, in terms of working together on a regular basis, I think the faster that trust gets built." - an ACO participant

H4.2: ACOs, MCOs, & CPs establish structures and processes to promote improved clinical integration across their organizations (e.g., flow of patient and patient information across settings, integrated care plans).

ACOs, MCOs, and CPs established processes and structures to improve clinical integration through common actions such as EHR access, establishing a single point of contact for information and support with provider care plan sign-off, clinical/case review meetings, and shared responsibility/role definition. As previously stated, some CPs had access to read the EHR of participating ACOs to gather member contact information, health status, and the status of documentation. Other forms of information sharing included the use of Dropbox, secure fax, or email. Not all of these methods were consistently employed across sites, creating burdens on CPs. Further proof of the benefits of facilitated or improved information sharing practices came directly from members who noted a difference in how their doctors communicated and that communication reduced redundancy in questions and tests.

> *"Q: Do you feel like you have to share information over and over again from one provider to the next?*
>
> *A: The information that I give to my therapist is shared with my psychiatrist. The information I tell my therapist is shared with ACCS. The information I share with ACCS is shared with the caseworkers and the nurse.*
>
> *Q: And how do you know that?*
>
> *A: They'll come and they'll ask me. They'll say "oh, you didn't see your therapist today, did you?" And I'm like "how did they know that?" And they've already spoken and that's right. I didn't see my therapist." - a MassHealth member*

ACOs and CPs also established communication channels for care coordination, including monthly or quarterly meetings and an identified key contact. MassHealth contracts required a minimum of quarterly meetings, but organizations found that more regular meetings strengthened relationships and care coordination efforts, a finding similarly noted in the IA's Mid Mid-Point Assessment report. One CP respondent reported:

> *"The place where it works best is the one ACO where we have the regular, case-by-case coordination. Because our staff are connected to their staff, and so if somebody's in the hospital, [they'll] call and say, 'Hey,' you know, 'Marty's in the hospital again. Do you want to come with me? We can both meet with him, and then we can figure out who's going to do what.'" - a CP participant*
>
> *"We actually meet on a monthly basis [with the Case Study CPs]. MassHealth's contractual requirement is at a minimum quarterly, but because of the volume of shared members that we have with them and especially with two CPs having two essentially service lines we really felt like it was important to make sure that we had a really strong working relationship with them and we're really understanding of their workflow and processes*." *– an ACO participant*

"We have what we call "mutual member meetings," where we have the ACO team and the CPs meet routinely, at least once a month, to have internal case reviews to talk about the signature process, things like that." - an ACO participant

Some CP and ACO staff may co-locate in another organization's offices (in addition to some CPs being part of an ACO provider network). This allows instant coordination and communication among organizations, as well as facilitates relationship building.

"We've had a few good successes, where we've been working with some BH CPs where we have them come onsite to our hospital where our care teams are and that has been better -- it's definitely better communication; we're able to immerse them when the patient appears and we're able to do the work of engagement sometimes for them." *- an ACO participant*

"A couple of our offices, too, the care management team is actually co-located with a community partners program. Like, [a LTSS CP] is embedded within the hospital system, which makes it much easier for them to collaborate with their providers. [a BH CP], down in the [city] area, our CCM team sits in the same office with the Community Partners. So, when possible, that co-location really facilitates shared resources and shared care planning as well." – an ACO participant

One CP respondent reported a story in which the care coordinator and the ACO needed to collaborate to get a patient into stable care. The ACO coordinated with the hospital to provide a bed for the woman, and the CP was later able to help connect her to additional state and other services. The respondent said, "*So that to me was extreme, and that was all systems go, an ACO and that care manager on that end working really closely with us*." (a CP participant) This story also highlights how many resources may need to be dedicated to engaging one person in treatment and care.

Some ACOs worked to streamline efficiencies with LTSS CPs by delegating to them the comprehensive assessment to them.

"I think one of the things that we struggled with early on was the fact that the ACO is responsible for the comprehensive assessment, for members who were assigned to an LTSS entity and so we've actually decided this year to implement a sort of full delegation with our LTSS CPs where we had started, I think initially with two, two of our largest, and we've moved that to basically all of our CPs at this point, where we delegate the LTSS comp assessment to them, which improves the efficiency and the effectiveness of the member experience." – an ACO participant

Despite efforts to coordinate care, care coordination between organizations did not always happen or happen well. Interviews with MassHealth members did not reveal evidence of care coordination between ACOs, PCPs, and CPs, at least in ways that directly involved the member's input or understanding. When asked if their CP care coordinator and their PCP could collaborate to help a member achieve goals, many responded similarly to this member:

"Those two – [my doctor and my coordinator] - do not work together very much. I don't know why, but it's almost like my doctor is almost apprehensive about working with her. Like, she thinks she's from my insurance company" – a MassHealth member

As previously stated, co-location and relationship building were key facilitators in coordinating member care between ACOs and CPs. Furthermore, CPs reported that building relationships with PCP offices directly often helped facilitate the sign-off of care plans.

The patient-centered care plan at the heart of the DSRIP model was designed as a tool to increase member engagement and improve overall care coordination. However, given differences in the operational processes across ACOs and CPs, this was difficult for ACOs and CPs to implement in practice in the context of many-to-many relationships. The importance of successful care planning was magnified for CPs, who have a different payment model than their ACO counterparts. CPs are paid on a PMPM and, after an initial outreach and engagement period, CPs are not paid without complete care plans – which requires a signature from the ACO PCP or PCP designee. One CP said that "*the big rub is the care plan signatures. And when that doesn't go well, we don't get paid, and they still do. It's not really their priority to make it happen, no matter how much we bug them."* This leads to strained relationships, making it difficult to build rapport and align resources. CPs reported in case study interviews in Fall of 2020 that they were worried that, post-DSRIP, they would become competitors with ACOs, instead of collaborators and would struggle to compete financially.

H4.3: ACOs, MCOs, & CPs establish structures and processes for joint management of performance, quality, and conflict resolution.

ACOs, MCOs, and CPs established structures through their documented processes to manage conflict and detail how to resolve conflict. While conflict was rare, the documented processes helped de-escalate conflicts quickly and improve workflow and care delivery.

Jointly managing processes for performance and quality was difficult. Several quality measures were included on the accountability slates for both ACOs and CPs. However, ACOs were held financially accountable for quality performance as early as year two of the DSRIP program, while CPs remained in pay-for-reporting for that year (pay for performance will begin in Year 3), which may have contributed to differences in priority setting between ACOs and CPs.

"One of the challenges that we continue to have with this CP program is alignment of incentives. And while we think that the CPs are doing great work, they're not accountable for the total cost of care. They're not accountable for quality like we are. As we look to evolve and sustain that program, it's going to be really important that there's a closer alignment between the ACO's incentives and the CP's incentives and that the CPs gain an understanding of how to set targets and track performance and evaluate outcomes." – ACO participant

From the ACO perspective, one participant shared that, *"financially it's just not at all aligned, and what that meant for us is that if the CP is taking their time or not working really hard to try to engage this patient, that meant the ACO was doing it; we were doing it, because we care."*

II.C.b. Populations, Data Sources, and Analytic Plans for Domains 2 and 3

Populations

For all claims/encounter-based measures, we studied the overall managed care eligible population, i.e., those eligible to be enrolled in ACOs, MCOs, and Primary Care Clinician program (PCC) (~1.28 million members as of 12/31/2020), and the major subpopulations that are the targets of Demonstration reforms. The primary population of interest was ACO members (~1.08 million). We also study the ~100,000 MCO members who were not directly targeted by most DSRIP program components; MCO members are expected to serve as a comparison group in analyses conducted for the Summative Independent Evaluation report. Although the primary care clinician (PCC) program is not a focus of the Demonstration, as the third sector comprising the MassHealth managed care eligible population we included PCC members as part of the overall managed care eligible population.

Characteristics of managed care eligible members, ACOs and MCOs at baseline and each of the first two years of the DSRIP program are summarized in **Tables II.C.b.1 and II.C.b.2**. We limited our study population to members enrolled for at least 320 days in a calendar year, therefore our study population is smaller than the total MassHealth enrollment at any point in time. The majority of the study population was enrolled with ACOs (76% in 2018 and 80% in 2019), while 12.8% and 9.6% were enrolled with MCOs in 2018 and 2019, respectively. While most characteristics remained relatively stable over the 2015-2019 study period, medical complexity as measured by the diagnosis-based hierarchical condition (DxCG) relative risk score (RRS) increased in 2018 and 2019 compared with the baseline period (2015-2017). Among the ~850,000 MassHealth managed care eligible members enrolled for at least 320 days in a given calendar year, more than 40% are children. Children also represent a majority of certain ACO's member populations; thus, we studied children as a subpopulation of interest for several measures.

The ACO program was launched on March 1, 2018. During the first year of the demonstration, we assigned MassHealth members to an ACO if the sum of the time spent enrolled with an ACO plus the time spent enrolled before March 1 with a PCP who would join an ACO on March 1 was greater than or equal to 320 days. This same approach was used to assign members to the MCO population.

To understand associations between Demonstration programs and a range of outcomes for members with specific health conditions that plans are held accountable for through quality measures, we also characterize members with conditions that place them in the denominator of accountability measures (e.g., members with diabetes, those with SMI/SUD).

For member survey measures (surveys of adult members and the parents of child members) and hybrid quality measures, data are available only for samples of those enrolled with ACOs or CPs. We studied members with BH and LTSS needs (including those receiving CP supports) as a subgroup of interest because the integration of BH and LTSS care with medical care is a primary goal of the Demonstration.

Under the demonstration, ACOs and MCOs are encouraged to identify and address health-related social needs (HRSNs). While we cannot comprehensively identify everyone who needs these services, we have begun to observe increasing numbers of people referred to the FS program to address housing and nutritional needs that have been identified. Members who received FS are another subpopulation of special interest for the evaluation. Since the FS program did not launch until 2020, only descriptive analyses of FS delivered in early 2020 are included in this report.

Table II.C.b.1. Characteristics of the MassHealth Managed Care Eligible Population at Baseline (2015-17) and in 2018-2019

Characteristics	2015-2017	2018	2019
Population Size, n	2,413,065	858,349	839,433
Enrollment days, mean (SD)	359.26 (11.5)	359.82 (10.3)	361.61 (8.8)
Female, %	53.7%	53.1%	53.2%
Age in years, mean (SD)	26.53 (18.1)	26.27 (18.2)	26.48 (18.3)
Adults (18-64), %	58.4%	55.3%	55.1%
DxCG RRS, mean (SD)	1.01 (2)	1.11 (2.2)	1.22 (2.4)
Housing Problems, %	11.4%	11.6%	10.7%
Any Disability, %	14.0%	13.6%	13.9%
NSS, mean (SD)	0.06 (1.8)	0.04 (1.0)	0.04 (1.0)

Note: Each year includes members who are managed care eligible (MCE) for at least 320 days that year. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. The normalization was conducted to all enrollees in a given year regardless of the length of their enrollment. The results reported in this table represent the normalized RRS score for all MCE members who were continuously enrolled for 320 days during the measurement year. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 within the MassHealth MCE baseline (2015-2017) population.

Table II.C.b.2. Characteristics of MassHealth Members Enrolled in ACOs and MCOs in 2018 and 2019

Characteristics	ACOs 2018	ACOs 2019	MCOs 2018	MCOs 2019
Population Size, n	652,655	677,101	110,563	80,261
Female, %	53.6%	53.5%	50.7%	50.7%
Age in years, mean (SD)	26.04 (18.2)	26.1 (18.3)	29.19 (17.5)	31.41 (17.3)
Adults (18-64), %	45.7%	46.2%	33.8%)	27.8%
DxCG RRS, mean (SD)	1.12 (2.2)	1.23 (2.4)	1.07 (2.1)	1.21 (2.4)
Housing Problems, %	11.6%	10.9%	11.4%	9.7%
Any Disability, %	13.8%	13.9%	9.9%	0.8%
NSS, mean (SD)	0.11 (1.8)	0.09 (1.0)	-0.18 (0.9)	-0.2 (1.0)

Note: Each year includes members who are managed care eligible (MCE) for at least 320 days that year. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 within the same population (e.g., MCEs, ACOs, and MCOs).

Summary of Measures

For the Interim Report, we used several process and outcome measures as specified in the Evaluation Design[33] to address research questions in Domains 2 and 3, to evaluate changes in identifying member needs (RQ5), healthcare access (RQ6), member engagement (RQ7), care processes (RQ8), integration of care (RQ9), utilization patterns (RQ10), member outcomes (RQ11), and member experience (RQ12), over the course of the study period (2015-2019). MassHealth had specified a subset of these measures for calculating accountability scores for ACOs and CPs. MassHealth is monitoring other quality measures, and the remainder are endorsed by the NQF and/or were selected from sets of measures maintained by reputable stewards (e.g., AHRQ, NCQA). Other states' 1115 Waiver Demonstration Evaluations also informed measure selection (e.g., Michigan, New Hampshire, Oregon).[34] Finally, a subset of measures was operationalized by UMass Chan, drawing from the peer-reviewed literature. UMass Chan used 2018 specifications to enable consistent comparisons over time. In addition, UMass Chan used a standard modeling approach for all measures, and reports population level average results. In contrast, MassHealth reports present results (e.g., medians) at the ACO level, typically use updated measure specifications when changes occur, and uses custom risk adjustment models for two of its 20 performance measures.

For all quantitative measures included in this report derived from existing data sources, measure descriptions are presented in Administrative Measures Appendix F. Similar to recent evaluations in other states, the set of measures considered provide a robust understanding of Demonstration programs. For measures with national benchmarks such as those included in the Medicare Shared Savings Program, NCQA HEDIS measures, and the Medicaid-eligible Adult and Child Core Sets of Health Care Quality Measures, we interpret our findings in the context of these national benchmarks in the discussion section of Volume I of the IEIR.

To implement the analyses described below for each research question, we collected primary data and used the data sources below to measure changes in processes and outcomes over time.

Data Sources

[33] https://www.mass.gov/doc/ma-independent-evaluation-design-1-31-19-0/download
[34] See Michigan 1115 waiver evaluation proposal 2014: https://www.michigan.gov/documents/mdhhs/Attachment_B_-_Healthy_Michigan_Plan_Evaluation_Plan_601840_7.pdf
See also Oregon 1115 Waiver Evaluation 2017: https://www.oregon.gov/oha/HPA/ANALYTICS/Evaluation%20docs/Summative%20Medicaid%20Waiver%20Evaluation%20-%20Final%20Report.pdf

Medicaid administrative data

This member-level database comprises eligibility, enrollment, and billing records for healthcare services for the MassHealth member population. The traditional services (e.g., medical, pharmacy, laboratory) included in this administrative database of claims and encounters are supplemented with new data on enrollment with and supports delivered by CPs (i.e., qualifying activities). Unique provider identification numbers included on billing records enable linkage to the MassHealth provider characteristics file, containing information on provider type, demographics, and ACO affiliation. The MassHealth administrative data is of research quality (Ash, 2017; Alcusky, 2020; Mick; 2021).

Hybrid data

MassHealth has contracted with analytics vendors (CareSeed and Telligen) to develop datasets, conduct analyses, and produce reports to support monitoring and accountability measurement activities. The vendors aggregate and maintain data submitted by ACOs and CPs with data obtained from MassHealth and CMS. We obtain selected fields for evaluation from the datasets maintained by the analytics vendors, including individual-level indicators of compliance with quality measures for a subset of each organization's members (~n=400 per each ACO and each CP) to calculate hybrid quality measures for accountability. Hybrid measures require information extracted from medical charts and/or the Electronic Health Records (EHR) that cannot be calculated from administrative data sources alone. As the CP program does not presently include hybrid quality measures, we will measure change in applicable hybrid measures (Diabetes, Blood Pressure Control, Health-Related Social Needs Screening) across the entire CP program using the hybrid data collected from the ACOs, where feasible.

Flexible Services (FS) Utilization

Using DSRIP expenditure authority, MassHealth allocated FS funding to ACO on an annual basis. ACOs must submit to MassHealth plans and budgets for how they plan to utilize those funds and are only allowed to begin spending those funds after MassHealth review and approval. At present, MassHealth receives quarterly member-level utilization and cost data from each ACO with active FS programs. FS's utilization and cost data are categorized broadly as either nutrition sustaining supports, pre-tenancy individual supports, pre-tenancy transitional assistance, tenancy sustaining supports, and home modifications.

Member surveys

Data from member experience surveys conducted by Massachusetts Health Quality Partners (MHQP) were used to assess change in MassHealth members' experience during the first two years of the demonstration. Results from two rounds of primary care, behavioral health (BH), and long-term services and supports (LTSS) surveys are included in this report. Each round included a child (<18 years of age) and an adult (age ≥18 years) survey for each surveyed population. Sampling was designed to select no

more than two single household members across all surveys within a calendar year. The first round asked about member experience during the calendar year 2018 (i.e., the first ACO performance year) and was administered between January and April 2019 using mail and email survey modes for primary care and BH surveys and included a phone survey for LTSS survey. The second round asked about member experience during the calendar year 2019 and was administered between January and May 2020 using mail, email, and web survey modes for primary care, BH, and LTSS surveys. MassHealth canceled the phone survey for the LTSS survey due to concerns raised by the COVID-19 pandemic[35].

The primary care survey items were drawn from the Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) and CAHPS Patient-Centered Medical Home surveys. Items included in the BH and LTSS surveys were drawn from several existing surveys, including the MassHealth One Care survey (of dual eligible members), the Massachusetts Department of Mental Health Member Experience Survey, CG-CAHPS, the Family Experiences with Care Coordination survey, and the Behavioral Risk Factor Surveillance Survey. Additional customized questions were developed and added by MHQP after cognitive testing and piloting. Items from the survey instruments are included in Appendix G.

Primary Care Surveys

MassHealth members were attributed to primary care practices based on their primary care provider, and each medical practice was assigned to one of 56 medical groups, which were each exclusively associated with 1 of the 17 MassHealth ACOs.

The eligibility criteria for MassHealth members to be included in the sample frame for the primary care surveys included:

1. The member was actively enrolled in MassHealth on October 31 of the measurement year 2018 and on November 29 of the measurement year 2019;
2. The member was attributed to one of the 17 participating ACOs;
3. The member had at least one primary care visit at one of the ACO's practices between March 1 and October 31 of the measurement year 2018 and between January 1 and November 29 of the measurement year 2019.

The sample frames for the primary care surveys consisted of 442,394 members in 2018, of which 220,349 were adult members, and 222,045 were children, and 570,084 in 2019, of which 279,854 were adult members and 290,230 were children. Random samples were drawn of 111,190, and 138,875 children enrolled in MassHealth for the 2018 and 2019 surveys, respectively, and random samples of 66,879 and 89,953 adults enrolled in MassHealth for the primary care 2018 and 2019 surveys, respectively.

[35] MHQP June 2020, MassHealth Patient Experience of Primary Care, Behavioral Health and Long-Term Services and Support Surveys: 2019-2020 Program Technical Reports. Page 24

Behavioral Health Surveys

The eligibility criteria for MassHealth members to be included in the sample frame for the BH surveys included:

1. Member was actively enrolled in MassHealth on October 31 of the measurement year 2018 and November 29 of the measurement year 2019.
2. Member was attributed to one of the 17 participating ACOs and/or one of the 18 participating Behavioral Health Community Partners (BH CP)
3. Member had a BH diagnosis and at least one BH service between March 1 and October 31 for the measurement year 2018 and between January 1 and November 29 of the measurement year 2019, described as:
    a. BH diagnoses (primary or secondary) from one or more of the three acuity groups used by MassHealth for identifying members for potential enrollment with BH CPs, including highest need (Group 1), high need (Group 2), and Substance Use Disorder (SUD-Group 3)
    b. BH services defined by MassHealth according to Massachusetts Behavioral Health Partners' (MBHP) list of covered services; select diagnostic services were excluded.
    c. For ACO members, the BH services had to occur while the member was enrolled in their attributed ACO.

The ACO members eligible to be included in the sample frames for the BH surveys were 111,766 members in 2018, of which 98,156 were adult members, and 13,610 were children, and 128,690 in 2019, of which 111,943 were adult members and 16,747 were children. Random samples were drawn of 9,855 and 9,819 children for the BH 2018 and 2019 surveys, respectively, and random samples of 22,369 and 16,079 adults were drawn for the BH 2018 and 2019 surveys, respectively.

Long-Term Services and Supports (LTSS) Surveys

The eligibility criteria for MassHealth members to be included in the sample frame for the LTSS surveys included:

1. Member was actively enrolled in MassHealth on October 31 of the measurement year 2018 and November 29 of the measurement year 2019
2. Member was enrolled with one of the 17 participating ACOs and/or one of the 9 participating Long Term Services and Supports Community Partners (LTSS CP)
3. Member had at least three consecutive months of LTSS services between March 1 and October 31 of the measurement year 2018, and between January 1 and November 29 of the measurement year 2019, described as:
    a. LTSS services defined by CPT codes and Provider Types utilized in the MassHealth algorithm for identifying potential LTSS CP enrollees
    b. The last LTSS service had to occur for ACO members while the member was enrolled with their attributed ACO.

The ACO members eligible to be included in the sample frames for the LTSS surveys were 33,145 members in 2018, of which 20,951 were adult members, and 12,194 were children, and 96,693 in 2019, of which 68,024 were adult members and 28,669 were children. Random samples of 8,137 and 15,903 children were drawn for the 2018 and 2019 LTSS surveys, respectively, and random samples of 8,920 and 13,787 adults were drawn for the 2018 and 2019 LTSS surveys.

Usable Responses and Weighting

Ineligible cases were identified and removed from the survey count. Ineligible cases were defined as those who (1) resided outside MA, (2) did not pass the screening question (Q1: Our records show that you got care from a provider in the practice named below in the last 12 months. Is that right (Yes/No)), (3) were deceased at the time of survey administration, (4) did not get the specified type of care, (5) were not Medicaid members, or (6) for the primary care survey, the member contacted the survey vendor to report the specified provider is not their primary care provider. Ineligible members were removed from the denominator.

Useable responses were defined as survey's respondents who answered yes to the screening question and answered 50% of survey questions prior to the demographics section at the conclusion of the survey. Eligible non-respondents were defined as those who had language barriers, were mentally/physically unable to complete the survey, refused to complete the survey, non-responses, and those who returned a less than 50% completed survey. **Table II.C.b.3** presents the number of usable responses by survey and the final response rates.

We compared observed characteristics of respondents and non-respondents to explore the potential for non-response bias. These characteristics included sex, age, MassHealth rating category, MassHealth region, member's primary language, and Census-based area-level measures of education, poverty, and race/ethnicity.

For the primary provider survey, there were statistically significant differences between respondents and non-respondents in most characteristics. Several characteristics of adult respondents and non-respondents to the BH survey differed, including age, MassHealth rating category, MassHealth region, education, and race/ethnicity. For the BH survey of children, the characteristics of respondents and non-respondents were similar for sex, age, and MH rating, but other characteristics differed. The characteristics of adult respondents and non-respondents to the LTSS survey were similar for sex and poverty level, but differences between respondents and non-respondents were observed for the remaining characteristics. For the LTSS survey of children, most characteristics differed between respondents and non-respondents.

Inverse probability weighting was used to address potential bias due to non-response.[36, 37] A binary variable was created to differentiate respondents from non-respondents. A logistic model estimated the probability of response based on the individual-level covariates and area-level covariates described above. Non-response weights were generated as the inverse of the probability of response (1/p). To mitigate extreme weights, these weights were stabilized by dividing the mean weight in the sample by each observation weight value.[38] All member experience survey findings presented in the interim report are weighted results.

For respondents to BH and LTSS surveys, we limited the analyses to respondents who have a child enrolled in an ACO or are themselves enrolled in an ACOs. For the BH survey, the subgroup analysis by CP enrollment focused on those enrolled in an ACO and CP. However, the LTSS adult survey might include some members enrolled with a CP but not an ACO.

[36]Little, RJA. Survey non-response adjustments for estimates of means. International Statistical Review, 1986. 54(2):139-157

[37] Seaman SR, White IR. Review of inverse probability weighting for dealing with missing data. Stat Methods Med Res. 2013 Jun;22(3):278-95.

[38] Austin, P.C. and Stuart, E.A. 2015. Moving towards best practice when using inverse probability of treatment weighting (IPTW) using the propensity score to estimate causal treatment effects in observed studies. *Statistics in Medicine*. 34: 3661-3679. DOI: 10.1002/sim.6607.

Table II.C.b.3. Sample Sizes and Response Rates by Demonstration Performance Year (2018, 2019) for the Primary Care (PC), Behavioral Health (BH), and Long-Term Services and Supports (LTSS) Member Experience Surveys

	Eligible Sample	Total Responses	Usable Responses	Response Rate
PC Survey				
2018				
Child	111,190	11,344	10,890	9.8%
Adult	66,879	12,062	11,526	17.25%
2019				
Child	138,875	10,158	9,517	7.03%
Adult	89,953	12,474	11,724	13.29%
BH Survey				
2018				
Child	9,855	1,123	987	10.02%
Adult	Total: 42,802 ACO: 22,369 CP: 20,433	Total:5,073 ACO: 3,003 CP: 2,070	Total: 4,380 ACO: 2,545 CP: 1,835	10.24%
2019				
Child	9,819	913	903	9.20%
Adult	Total: 30,069 ACO:16,079 CP: 13,990	Total: 4,009 ACO: 2,065 CP: 1,944	Total: 3,982 ACO: 2,052 CP: 1,930	13.25%
LTSS Survey				
2018				
Child	Total: 9,911 ACO: 8,137 CP: 1,774	Total: 814 ACO: 637 CP: 179	Total: 813 ACO: 634 CP: 177	8.20%
Adult	Total: 14,496 ACO: 8,920 CP: 5,576	Total: 1,895 ACO: 1,187 CP:708	Total: 1,649 ACO: 1,017 CP: 632	11.38%
2019				
Child	Total: 17,339 ACO: 15,903 CP: 1,436	Total: 1,362 ACO: 1,195 CP: 167	Total: 1,347 ACO: 1,181 CP: 166	7.77%
Adult	Total: 17,642 ACO: 13,787 CP: 3,855	Total: 2,472 ACO: 1,829 CP: 643	Total: 2,423 ACO: 1,794 CP: 629	13.73%

Note: Usable responses are defined surveys returned by a member who answered yes to the screening question and answered 50% of survey questions prior to the demographics section at the conclusion of the survey. The final response rate is derived by dividing the number of usable responses by the number of members in the eligible sample. Sources: Massachusetts Health Quality Partners, 2019. MassHealth Patient Experience of Primary Care, Behavioral Health, and Long-Term Services and Supports Surveys: 2018-2019 Program. Technical Report. Watertown, MA. Massachusetts Health Quality Partners, 2019. MassHealth Patient Experience of Primary Care, Behavioral Health, and Long-Term Services and Supports Surveys: 2019-2020 Program. Technical Report. Watertown, MA. Authors' computations.

ACO Practice Site Administrator Survey

The Independent Assessor (IA) surveyed practice site administrators to examine the characteristics of ACO primary care practice sites and to examine administrators' perspectives of the DSRIP program. Additional details of the survey methods are included in Domain 1.

ACO and CP provider/staff survey

To understand how providers and staff experience delivery of care within the ACO model, we conducted a wave of ACO provider and CP staff surveys, between March and December 2020, to assess the degree to which implemented projects and ACO/CP formation are translating into changes in how care is actually delivered from the perspective of front-line ACO providers and CP staff. Additional details of the survey methods are included in Domain 1.

Statistical Analyses

The effects of the DSRIP program on quality, cost, and member outcomes are hypothesized to build over time as organizations gradually develop infrastructure, implement and refine new programs, and share and expand best practices within and between participating entities. For quality measures, claims and encounter data available for the interim report was limited to the first two years of the DSRIP program, the first of which was less than a full year due to a March 1, 2018 launch date. Therefore, quantitative analyses of these data for the interim report focus on describing what changes have occurred thus far and addressing whether changes are likely to be due to changes in member characteristics. To maintain consistency over time the IE will use the 2018 measure specifications, and will update information, codes and value sets when appropriate.

For member survey (2018-2019) and hybrid measures (2018-2019), where data were available for only ACO members during 2018 and 2019, we report results of descriptive analyses by year and report the year over year differences. Weighted frequencies and percentages are presented separately by year (2018 and 2019), along with the difference between years.[39] Chi-square tests and t-tests were performed (alpha=0.05) for year over year differences. ACO provider and CP staff survey (2020) and practice site administrator survey (2019) results were analyzed overall, by the participating entity (ACO, CP), and ACO provider and CP staff type.

Flexible Services utilization data reported by ACOs to MassHealth were analyzed overall and by quarter for the first three quarters of the program (Q1 to Q3, 2020).

[39] MassHealth and its survey vendor report member experience measure results as a composite score computed from averaging of responses across several questions addressing a defined attribute. However, for the purpose of the IEIR, we report frequencies for individual questions aligned measures descriptions and definitions of concepts from the evaluation design document such as member needs, access to healthcare, member engagement, care processes, integration of care, member outcomes, and member experience.

For the administrative measures, we report crude and adjusted results for the baseline period (2015-2017) and annually during the Demonstration period (2018, 2019) for the overall MCE population (ACO, MCO, and PCC), and the two subpopulations of interest, i.e., the ACO and MCO populations, and we plot trends over time for selected measures. To report results during the baseline period that are interpretable as a pre-period for the DSRIP program, we assigned members to "virtual" ACO, MCO, or PCC programs based on their primary care provider's (PCP's) affiliation at the time of the launch of the ACO program in March 2018, using MassHealth's assignment algorithm.

For administrative measures, multivariable models, based on an individual's sociodemographic and clinical characteristics, were used to estimate expected values for measures in each year at the population level. A consistent set of characteristics was included in all models (i.e., only the coefficients change for each measure): age, sex (men or women), disability status (either client of the Massachusetts Department of Mental Health, a client of the Department of Developmental Services, or eligible for Medicaid due to disability), housing problems (either 3+ addresses in the year or homelessness by ICD-10 code), the Neighborhood Stress Score (NSS), and the DxCG v312 medical morbidity summary score.

We report adjusted results as observed to expected (O: E) ratios, where the observed value for a measure is divided by the expected value predicted by a statistical model. The ratio of observed to expected values varies around 1.0; ratios <1 indicate lower than expected outcomes while ratios >1 indicate higher than expected outcomes for the measure[40]. This approach helps differentiate measure changes that are due to shifts in population characteristics from those that are not due to changes in population characteristics, and that are thus more likely to be associated with the Demonstration. We noted observed rates greater than or equal to 5% and color coded the summary tables to highlight these results. We also separately highlight O:E ratios greater than or equal to +/-15% to facilitate identification of larger changes in performance versus baseline.

In this report, expected values were produced for each year of the study (2015-2019) from the multivariable models built on baseline (2015-2017) data. For each measure, generalized linear models were developed to predict an individual's value for each measure based on member characteristics readily available from administrative data

[40] Mick EO, Alcusky MJ, Li NC, Eanet FE, Allison JJ, Kiefe CI, Ash AS. Complex Patients Have More Emergency Visits: Don't Punish the Systems That Serve Them. Med Care. 2021 Apr 1;59(4):362-367.

and that are used in risk adjustment models applied by MassHealth for payment and quality measurement purposes.[41,42]

Limitations

Our data sources and analytic approaches have several limitations. Multiple data sources, including the member surveys, hybrid quality measures, ACO provider and CP staff surveys, and practice site administrator survey, were only available for a subset of the populations and years of interest. Furthermore, analyses using these data sources lack a comparison group, limiting the strength of inference that can be drawn regarding whether changes are caused by the DSRIP program.

Our approach using MassHealth's algorithm to assign members to the virtual ACO, MCO, and PCC populations based on their primary care provider's (PCP's) affiliation at the time of the launch of the ACO program may have misclassified PCPs and misattributed some members.

The ACO program was launched on March 1, 2018. During the early months of the ACO program members' movement between plans might have hindered ACOs' ability to manage their members' care. Additionally, the CP program was launched in the summer of 2018, and a small number of ACO members received supports from the CP program for a short duration in the 3rd and 4th quarters of 2018.

For adjusted analyses using administrative data, the model predicted values for the Demonstration period assume a consistent relationship between a given characteristic and a measure over time. To the extent that such relationships change (for reasons other than the Demonstration) between baseline and the Demonstration period, the predictive model will be less accurate, which is why comparative designs will be used in the Summative Report to account for secular changes over time. Secondly, if a new category of members entered the study population who were not present at baseline, the model may be less accurate in making predictions for this new population. Thirdly, some organizations may have enhanced the comprehensiveness of their data submissions and coding practices over time. The managed care eligible population observed increase in medical morbidity in 2018 and 2019, which was likely due in part to these changes in recorded medical conditions and due to a secular trend where healthier members have been exiting from the MassHealth program to the private insurance market. Our modeling adjusted for medical morbidity changes, but to the extent that apparent morbidity was greater during the DSRIP program period because of changes in data submissions, observed to expected ratios may be biased in favor of improvement during 2018 and 2019. For example, for a measure where declining

[41] Alcusky M, Mick EO, Clark MA, Ash AS. Calibrating Medicaid payment to need for long-term services and supports. Am J Manage Care. 2020 Dec 1;26(12):e388-e394.

[42] Mick EO, Alcusky MJ, Li NC, Eanet FE, Allison JJ, Kiefe CI, Ash AS. Complex Patients Have More Emergency Visits: Don't Punish the Systems That Serve Them. Med Care. 2021 Apr 1;59(4):362-367.

utilization is desirable and more medically complex patients have higher utilization, if crude utilization rates remained stable then increased identification of medical morbidity over time would give the appearance of a decline in utilization (i.e., the observed would be less than expected because the expected would increase due to increased identification of morbidity). Another potential source of bias operating in the opposite direction, against improvement, was the inclusion of members enrolled with MassHealth pilot ACOs during 2017 in our baseline population. If pilot ACOs implemented changes that improved performance during 2017, because 2017 data were included in the baseline period used for model development, this would set a higher expectation for performance during the DSRIP period than would have been set if the pilot ACO enrollees were not included.

Stated more broadly, the limitations associated with our modeling approach can be summarized as an assumption that the conditions during the baseline period will remain consistent during the Demonstration period, except for those changes that occur due to the Demonstration. Because the potential for unobserved time-varying factors cannot be excluded, we will implement more rigorous comparative designs for the Independent Evaluation Summative Report as described in the Evaluation Design. We have also focused our evaluation on members enrolled in MassHealth for almost the entire calendar year (320+ days). Since members with shorter periods of enrollment in MassHealth comprise almost one-third of MassHealth members in any given year, we plan to conduct analyses for this subgroup to understand whether changes in performance for relevant measures are consistent with members who have longer periods of enrollment. In addition to an expanded set of analyses, additional measures will be included in the summative report. Selected custom administrative measures still in development and testing have not been included in the interim report but are planned for inclusion in the summative report. These measures are identified within the full list of the evaluation measures[43].

The member experience surveys have several limitations: (1) low response rates and the potential for residual non-response bias despite our weighting adjustments to correct for it, (2) limited data on clinical conditions and healthcare utilization to adjust for non-response bias, (3) changes to BH and LTSS surveys including revised definitions of BH services, revised definitions of LTSS and LTSS providers, expanded response categories for several questions to accommodate the change in response options[44], (4) 2019 data were collected between January and May 2020, the beginning of the COVID-19 epidemic, which might have impacted members memories of services and care received before the epidemic, (5) the survey instruments were developed recently, and some new items may require further refinement and validation, (6) members may have been surveyed in multiple years but we do not have unique member IDs to account for

[43] Independent Evaluation Design Document. Massachusetts 1115 Demonstration Extension 2017-2022. Appendix B pages 135-160; https://www.mass.gov/doc/ma-independent-evaluation-design-1-31-19-0/download.
[44] MHQP June 2020, MassHealth Patient Experience of Primary Care, Behavioral Health and Long-Term Services and Support Surveys: 2019-2020 Program Technical Reports. Pages 25, 26

repeated measurements within individuals, and (7) large sample sizes increased the likelihood of detecting statistically significant differences between 2018 and 2019 results that were not of clinical or policy significance.

The ACO provider and CP staff surveys' administration was paused and delayed due to the COVID-19 pandemic. To collect results that reflected the early DSRIP implementation period and reduce potential confounding associated with changes in perceptions due to the pandemic, survey instruments were revised to ask respondents to base their responses on the pre-pandemic period. This may have increased recall bias. The surveys are also susceptible to non-response bias. However, the response rate was very good for the CP staff survey, while the ACO response rate was consistent with other provider surveys, and for both surveys, we applied inverse probability of response weights to adjust for observed sources of non-response bias.

Finally, due to differences in purpose and scope, our evaluation approach differs in several respects from MassHealth's own internal monitoring of its programs and accountability calculations. Our populations of interest are programs (i.e., ACO, CP, FS) or subgroups of members or organizations within those programs with a specific characteristic, whereas MassHealth's focus is often on the performance of specific organizations. As such, MassHealth typically reports median ACO performance for a given measure (i.e., an N of 17 ACOs) in contrast to our reporting of aggregate results for the ACO program (i.e., an N of all members in the denominator for the measure). Another key difference related to our focus on entire program level performance is our application of looser continuous enrollment requirements (e.g., at least 320 days in any ACO) versus MassHealth's stricter requirements (e.g., at least 320 days in a specific ACO). Other differences were noted elsewhere in this section. We primarily use 2018 measure specifications and hold specifications constant over time. For member experience surveys, we perform analyses at the item-level and use weighting for non-response, while MassHealth primarily performs analyses for multiple items (composites) and does not use weighting to address non-response bias.

II.C.c. Domain 2: Changes in care processes

B*ackground and Research Questions*

Domain 2 examines changes in care processes over the baseline (2015-2017) and DSRIP (2018-2022) periods to address six research questions (RQs 5-10). Domain 2 interim findings establish the MassHealth delivery system's historical baseline for utilization and care processes before the start of the DSRIP program while providing an initial indication of changes during the early DSRIP implementation period from March 1, 2018, through Dec 31, 2019. For measures where baseline performance was high, we hypothesize that care processes will not deteriorate. For other measures with substantial opportunity for improvement, we hypothesize that changes in quality are most likely to be observed in the latter years of the DSRIP program, i.e., third, fourth, and fifth years, as knowledge accumulates, programs are refined, and participating entities improve their ability to operate under an accountable and integrated care model.

Therefore, Domain 2 interim findings reflect the outcomes observed during the first two years of the program (the first of which was abbreviated to 10 months) but do not seek to conclusively address whether hypothesized effects of the DSRIP program were realized. The hypotheses that are associated with each RQ and which will be addressed directly in the Summative Report are presented in Appendix C.

Interim findings for RQs 5-9 include results of descriptive analyses of hybrid clinical quality measures and results from surveys of ACO providers, CP staff, practice site administrators, and MassHealth members. Hybrid quality measure data were available during 2018 and 2019 for five hybrid measures included in the MassHealth ACO quality performance measure slate for Domain 2. The remaining three hybrid measures are covered in Domain 3. Member experience data were collected through two rounds (2018, 2019) of primary care (PC), behavioral health (BH), and long-term services and supports (LTSS) surveys, each of which was conducted separately among adults and children. Selected results for the BH (adult) and LTSS (adult and child) surveys are reported stratified by CP enrollment. As noted in **Section II.C.b.,** there are several limitations associated with the member surveys, notably, revised definitions of BH services, revised definitions of LTSS and LTSS providers, expanded response categories for several questions to accommodate the change in response options, and the timing of the data collection for the 2019 data, which were collected between January and May 2020, the beginning of the COVID-19 epidemic. The timing might have impacted members memories of services and care received before the epidemic. These exploratory results should be cautiously interpreted because CP enrollees and members not enrolled with CPs have different characteristics; by design, individuals selected for CPs are more medically and socially complex. Therefore, rather than compare CP enrollees with those not enrolled with CPs, we separately examine changes over time within the CP and non-CP enrolled subgroups. The perspectives of ACO primary care providers (PCPs) and CP staff were collected in surveys administered in the second half of 2020. As described in the methods section, we present survey results that were weighted to reflect the characteristics of the full sample of members, ACO providers, and CP staff, to adjust for potential bias related to differences between the types of members, ACO providers, and CP staff who did and did not respond.

In RQs 5-10, we also report on changes in measures of care processes calculated using administrative data for the overall managed care eligible population (i.e., ACO, MCO, or PCC) and for the subpopulations of interest including ACO members, MCO members, and CP enrollees. The longitudinal nature of the MassHealth administrative claims and encounters data enabled the evaluation of changes in care processes during the baseline (2015-2017) and early DSRIP period (2018-2019). As described in the methods section, in addition to describing changes in measures over time, we used multivariable modeling to examine the extent to which observed changes can be explained by changes in member characteristics between the baseline and DSRIP period. To facilitate interpretation of changes over time, we report results during the baseline period for the "virtual" managed care sector (i.e., ACO, MCO, PCC). During

this ‘virtual’ period, members are assigned to an ACO, MCO, or PCC plan based on where a member would have been assigned using MassHealth's PCP attribution algorithm at the time the ACO program launched in March 2018. Our approach limited the study population to members enrolled for at least 320 days in a calendar year. Therefore, our study population is smaller than total MassHealth enrollment at any point in time. To facilitate interpretation of changes over time, we report results during the baseline period for the "virtual" managed care sector (i.e., ACO, MCO, PCC) that a member would have been assigned to using MassHealth's PCP attribution algorithm at the time the ACO program launched in March 2018. We report observed (i.e., unadjusted) results, expected values, and adjusted results as the observed to expected (O:E) ratios. With O:E ratios, the observed value for a measure is divided by the expected value predicted by a statistical model based on an individual’s sociodemographic and clinical characteristics. The model was developed using 2015-2017 data and applied to each year of the study period. See the methods section (**Section II.C.b)** for further discussion of modeling. The ratio of observed to expected values varies around 1.0; ratios <1 indicate lower than expected outcomes, while ratios >1 indicate higher than expected outcomes for the measure. We noted observed rates greater than or equal to 5% and color coded the summary tables to highlight these results. We also separately highlight O:E ratios greater than or equal to +/-15% to facilitate identification of larger changes in performance versus baseline. Complete results for each specific measure and population are included in Appendix F.

For clinical outcomes and member survey data, we summarize results within each year and noted differences in the distribution of results between years. Although the results of Chi-square tests and t-tests are presented, differences in the distribution of responses that are statistically significant are not necessarily of clinical or policy significance. Changes from 2018 to 2019 should not be interpreted as causally related to DSRIP, considering several limitations with the data sources and the absence of a comparison group, as summarized in **Section II.C.b** of this report.

Summary of Domain 2 Interim Findings

The interim results for each of the six Domain 2 RQs are summarized in this section.

> **RQ5** To what extent did the identification of member needs, including physical, BH, LTSS, and social needs, improve?

In the first and second years of the DSRIP program, most members responding to the BH and LTSS member experience surveys reported that their BH and LTSS needs were very well met. From the first to the second year of the DSRIP program, changes in how well member needs were met were either positive or neutral. Administrative data measures of needs identification were generally consistent from the baseline to the early DSRIP years. Health-related social needs (HRSNs) screening rates were low in both years.

RQ6 To what extent did access to physical care, BH care, and LTSS improve?

Most members who responded to the PC, BH, and LTSS surveys reported timely access to care in 2018 and 2019, without notable year-over-year changes in the distribution of responses. Among adult LTSS survey respondents, there was a significant improvement in access to transportation services for medical appointments. The number of days spent boarding in the emergency department (ED) (an indicator of poor access) was reduced from baseline to 2018 among managed care eligible members with serious mental illness (SMI) and/or substance use disorder (SUD), with further improvement in 2019. More than three-quarters (83.0%) of managed care eligible adults had at least one ambulatory or preventative care visit annually during the baseline period and this remained stable in 2018 and in 2019. Among younger and older children who were managed care eligible, the percentage with an annual primary care visit was high (>95%) at baseline and remained high (>93%) in 2018 and 2019.

Several pre-pandemic barriers to the use of telehealth were common, including lack of telehealth-specific workflows, inadequate payment, and technical challenges for providers, staff, and members. Few providers used live audio and/or visual telehealth prior to the pandemic, but the majority used these care delivery modalities routinely during the pandemic (Massachusetts instituted a policy of payment parity for telehealth early in the pandemic[45]), and most expressed a willingness to continue doing so after it ends. Among ACO providers surveyed in 2020, more than half reported that delivering equitable access to care had become more difficult during the pandemic for their members with chronic conditions, BH needs, LTSS needs, and those with unmet HRSNs. Among ACO practice site administrators surveyed in 2019, 29% reported that it had become easier to meet the needs of patients affected by health inequities in the year prior, however, nearly twice as many reported that it had become harder (16%).

RQ7 To what extent did member engagement with physical care, BH care, and LTSS improve?

Most respondents to the BH and LTSS surveys reported complete choice of services during care planning and complete inclusion of needed services in their care plan, suggesting members were effectively engaged in the care planning process. The year-over-year improvement in these metrics was observed from 2018 to 2019. The proportion of members who agreed or strongly agreed that BH and LTSS services were effective varied by measure (e.g., better socially, better able to work/study, better with money). However, perceived effectiveness remaining relatively stable for most BH measures, while reductions in perceived effectiveness occurred for several LTSS measures. About half or fewer ACO providers and CP staff agreed or strongly agreed

[45] https://www.mass.gov/doc/bulletin-2020-04-emergency-measures-to-address-and-stop-the-spread-of-covid-19-coronavirus/download

that most patients with chronic conditions, BH needs, or LTSS needs took responsibility for managing their health.

RQ8 To what extent did care processes improve for physical, BH, and LTSS?

Among ACO members responding to PC, BH, and LTSS surveys, most reported a positive care experience in 2018 and 2019, stating that providers always listened carefully to them, showed respect for what they had to say, spent enough time with them, communicated information about their health in a way that was easy to understand, and seemed informed about their medical history. In addition, most members discussed specific goals for their health with their PCP. Among ACO providers and CP staff, the majority agreed or strongly agreed that their organizations delivered patient-centered care, including communicating with members in a way they can understand, seeing patients as equal partners in their care, and encouraging them to actively participate in setting goals, designing care plans to meet the preferences of patients and their families, and routinely using patient feedback to improve services. Hybrid measures of care processes improved from 2018 to 2019, including timeliness of prenatal care and immunizations for children and adolescents. Flexible Services (FS) were utilized in increasing numbers by a diverse subgroup of MassHealth members during the first three quarters after the program launched (Q1-Q3, 2020). Most members (90.1%) receiving FS received nutrition supports.

RQ9 To what extent did integration between physical, behavioral, and long-term services increase?

Most MassHealth members responding to the PC, BH, and LTSS surveys perceived care to be well coordinated between their PCP and other providers in the early years of the DSRIP program. Year-over-year changes varied by survey population and measure, including improvements for select measures among children receiving BH services and decrements for select measures among children receiving LTSS. Among ACO provider survey respondents, most reported high levels of coordination internally and with external providers, with a smaller majority reporting care was well coordinated with community resources. Among CP staff survey respondents, most were well informed about available community resources for members. Most agreed their institutions had established relationships with other community agencies to facilitate referrals to these institutions, and the majority agreed that their referrals to other community-based organizations were effective in addressing members' HRSNs. Few CP enrollees had a timely follow-up with their CPs after ED visits (BH CPs) and hospitalizations (BH and LTSS CPs) in 2018 and 2019, although the year-over-year improvement was observed for both measures.

RQ10 How did the volume and mix of services utilized by members change during the course of the Demonstration?

The results of RQ 10, viewed together with declines in ED boarding described in RQ6 and in inpatient utilization described in RQ11, suggest the volume and mix of services were starting to shift towards lower-cost outpatient settings. On average, adult ACO

members visited their primary care provider with increasing frequency: 7.2 (median: 3; Q1 1, Q3 8) times per year at baseline, 8.5 (median: 4; Q1 1, Q3 10) times per year in 2018, and 9.3 (median: 4; Q1 1, Q3 11) times per year in 2019. Increases in primary care utilization were also observed and of similar relative magnitude in subgroups with diabetes and BH conditions. Post-acute care utilization rates were below expected levels (based on pre-DSRIP experience) in 2018 and 2019. Among ACO members, institutional post-acute care utilization declined from baseline, and rates of home-care utilization remained stable. In contrast, rates of institutional post-acute care remained stable, and home care rates declined among MCO members.

Evidence of avoidance of low-value care was highly prevalent at baseline, and changes in low-value care were neutral or positive during 2018 and 2019. Nearly all children treated with antibiotics for pharyngitis received appropriate testing, very few adults received combined (i.e., duplicative) abdominal CT scans, use of opioids at high dosages for patients without cancer was uncommon, and few adults with newly diagnosed low back pain received imaging studies within the first-month post-diagnosis.

Interim Findings by Research Question

In the following sections, we separately report in greater detail the interim findings for RQs 5 through 10.

RQ5 To what extent did the identification of member needs including physical, BH, LTSS, and social needs improve?

Both direct measures of member need and indicators of the need identification process were used to evaluate RQ5. This section presents the results of two rounds (2018, 2019) of member experience surveys for six populations: 1) pediatric primary care, 2) adult primary care, 3) pediatric BH, 4) adult BH, 5) pediatric LTSS, and 6) adult LTSS. Adults were age ≥18 years, and children were <18 years of age. RQ5 also includes results for several administrative measures, Practice Site Administrator Survey, and two-hybrid quality measures. The results for all RQ5 administrative measures are summarized for the managed care eligible populations in **TablesII.C.c.1** and for the ACO members in **Table II.C.c.2**, with additional information on characteristics and performance included in the Administrative Measures Appendix F.

Primary Care Needs

Practice Site Administrator Survey

Half of all responding primary care practice site administrators (52%) agreed that providers followed a clear, established process for screening for service needs at home that are important for a patient's health.

Needs of the Pediatric Population

Administrative Measures

At baseline, an average of the pre-demonstration period 2015 through 2017, 80.1% of managed care eligible (i.e., ACO, MCO, or PCC Plan enrolled) children two to three

years of age received an annual developmental screening, **Table II.C.c.1**. The percentage receiving screening increased from baseline (80.1%) to 84.3% in 2018 and 83.0% in 2019.

About two-thirds of managed care eligible children received an annual oral health evaluation at baseline, and this percentage remained stable during 2018 and 2019. A majority of managed care-eligible adolescents (57.4%) received well-care visits annually at baseline, however, this percentage decreased in 2018 (49.8%) and 2019 (47.2%).

Primary Care (PC) Member Experience Survey

In 2019, 63.6% of respondents reported talking with someone at their child's primary care provider office about specific goals for their child's health; a 2.2 percentage points increase from 2018. In addition, 42.2% of respondents reported being asked by someone from their child's primary care provider's office if there are things that make it hard for them to take care of their child's health in 2019, a 3.4 percentage points increase from 2018 (Appendix H).

Needs of the Adult Primary Care Population

Primary Care (PC) Member Experience Survey

In 2019, 72.7% of respondents reported being asked by someone from their primary care provider's office if there was a period of time when they felt sad, empty, or depressed, a 3.6 percentage points increase from 2018. Similarly, 63.5% of respondents reported being asked about things in their life that worry or cause them stress, a 2.1 percentage points increase from 2018. Additionally, more than half of respondents (54.6% in 2018 and 55.3% in 2019) reported being asked by someone from their primary care provider's office if there are things that make it hard for them to take care of their health (Member Experience Survey Appendix H).

Needs of the BH Population

Administrative Measures

Among managed care eligible adults with a new episode of alcohol, opioid, or other drugs (AOD) abuse or dependence, more than one-third (38.3%) initiated treatment within 14 days during the baseline period, and 14.8% received multiple subsequent services representing engagement with treatment in the 34 days following initiation, **Table II.C.c.1**. The percentage of managed care eligible adults with a new AOD initiating treatment remained relatively consistent in 2018 and 2019. The percentage engaged with treatment declined slightly in 2019 to 13.2%. The results among ACO enrollees were similar to those in the overall managed care eligible population, Table **II.C.c.2**. Modest increases in initiation and engagement were observed for MCO enrollees from baseline to 2018-2019 (Administrative Measures Appendix F).

Table II.C.c.1 Baseline Performance and Observed to Expected (O:E) Ratios for Administrative Measures of Needs Identification Among Managed Care Eligible Members

Measure and Population	2015-17	2015-17	2018	2019
	%	O:E Ratio	O:E Ratio	O:E Ratio
Oral health evaluation (>18 years)	65.8	1.00	0.99	1.01
Developmental screening (age 2-3 years)	80.1	1.00	1.03	1.03
Initiation of AOD abuse treatment	38.3	1.00	0.96	0.97
Engagement with AOD abuse treatment	14.8	1.00	0.97	0.91

Table II.C.c.2. Baseline Performance and Observed to Expected (O:E) Ratios for Administrative Measures of Needs Identification Among ACO Members

Measure and Population	2015-17	2015-17	2018	2019
	%	O:E Ratio	O:E Ratio	O:E Ratio
Oral health evaluation (>18 years)	65.9	1.00	0.99	1.01
Developmental screening (age 2-3 years)	80.2	1.00	1.06	1.05
Initiation of AOD abuse treatment	37.9	0.99	0.93	0.94
Engagement with AOD abuse treatment	14.5	0.98	0.93	0.88

Each year includes members who are managed care (Table II.C.d.1) or ACO (Table II.C.d.2) eligible for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. In the managed care eligible population, the O:E ratio is 1.0 exactly by design for the baseline period (2015-2017). During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or PCC sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14

Practice Site Administrator Survey

At least half of all responding practice site administrators reported that members were systematically screened for behavioral health and health-related social needs. Of those who reported they systematically screened for BH and HRSN 91% screened for substance use, 98% for depression, 59% for food insecurity, 73% for housing instability, 53% for utility needs, 67% for transportation needs, and 51% for need for financial assistance with medical bills.

Behavioral Health (BH) Member Experience Survey

In 2019, 74.9% of respondents reported their child's needs for mental health services were very well met, an 18 percentage points increase from 2018 (56.8%), **Table II.C.c.3**. Similarly, an improvement of 16 percentage points was observed for respondents who reported their child's need for BH prescription medications was very well met; 63.1% in 2018 compared to 79.1% in 2019, **Table II.C.c.4**.

In 2019, 72.9% of adult respondents completely agreed their BH needs were identified and fully addressed during their assessment, compared to 65.9% in 2018, with a year-over-year increase of 7.0%. For those enrolled with CP, 67.9% completely agreed their BH needs were identified and fully addressed during their assessment in 2019, a 6.2 percentage point increase from 2018 (Member Experience Surveys Appendix G).

Among adults, 76.4% of respondents reported their mental health needs were very well met in 2019, an increase of 8.1% from 67.7% in 2018, **Table II.C.c.5**. In 2019, 78.4% of respondents reported their need for substance use treatment services were very well met compared to 72.1% in 2018, **Table II.C.c.6**. The percentage of respondents who stated they were very well able to meet their BH prescription medication needs improved by 9.5 percentage points from 70.1% in 2018 to 79.6% in 2019 (Member Experience Surveys Appendix G).

Table II.C.c.3. How well were your child's needs for mental health services met?

Survey Response	Child, 2018 (n=815)	Child, 2019 (n=724)	Difference*
Not at all	4.7%	2.9%	-1.8%
Somewhat	38.5%	22.2%	-16.3%
Very well	56.8%	74.9%	18.0%
*Chi-square<0.001			

Table II.C.c.4. How well were your child's needs for behavioral health prescription medications met?

Survey Response	Child, 2018 (n=610)	Child, 2019 (n=486)	Difference*
Not at all	4.3%	4.0%	-0.3%
Somewhat	32.6%	16.9%	-15.7%
Very well	63.1%	79.1%	16.0%
*Chi-square<0.001			

Table II.C.c.5. How well were your needs for mental health services met?

Survey Response	Adult, 2018 (n=3,475)	Adult, 2019 (n=2,650)	Difference*
Not at all	4.2%	4.7%	0.5%
Somewhat	28.3%	19.7%	-8.6%
Very well	67.6%	75.6%	8.1%
*Chi-square<0.0001			

Table II.C.c.6. How well were your needs for substance use treatment services for problems with alcohol or drugs met?

Survey Response	Adult, 2018 (n=1,300)	Adult, 2019 (n=926)	Difference*
Not at all	4.2%	4.8%	0.6%
Somewhat	23.5%	15.9%	-7.7%
Very well	72.3%	79.3%	7.0%
*Chi-square<0.001			

Needs of the LTSS Population

Long-term Services and Support (LTSS) Member Experience Survey

Overall, access to LTSS services and other BH and specialty services improved for pediatric members receiving LTSS. More than half of respondents reported their child's need for mental health services was very well met in 2018 (60.9%), and this fraction increased by 12.9% in 2019, **Table II.C.c.7**. In 2019, 91.5% of respondents reported their child's need for prescription medications was very well met, a 9.3 percentage point increase from 2018, **Table II.C.c.8**.

There were improvements in access to LTSS services and other BH and specialty services for pediatric members enrolled in ACOs. In 2019, 75.9% of respondents reported their child was able to get the needed physical, occupational, or speech therapy services compared to 70.2% in 2018**.** In 2019, 72.0% of respondents reported their children were able to meet their personal care and everyday task needs compared to 65.3% in 2018**.** In 2019, 86.9% of respondents reported their child's needs for medical equipment and supplies were met, compared to 73.7% in 2018. About half of parents and guardians reported their child's need for assistive technology in 2018 (45.6%) and 2019 (52.4%) was met (Appendix G).

In 2019, 91.5% of respondents reported their child's need for prescription drugs was very well met, compared to 82.2% in 2018. Three-quarters (74.5%) of respondents reported their child's needs for services from a skilled nurse were very well met in 2018 versus 80.0% in 2019. Most (86.2%) respondents reported their child's need for specialty care services was very well met in 2019 and 2018 (77.6%).

The LTSS survey results highlight the greater needs of children enrolled with CPs. For children enrolled with a CP, there were improvements in the percentage of respondents who reported their child's need for medical equipment or supplies, assistive technology, mental health services, and prescription medication were met (Appendix G).

Table II.C.c.7 How well were your child's needs for mental health services met?

Survey Response	Child, 2018 (n=801)	Child, 2019 (n=1,328)	Difference*
Not at all	9.2%	7.9%	-1.4%
Somewhat	29.9%	18.3%	-11.6%
Very well	60.9%	73.8%	12.9%
*Chi-square=0.25			

Table II.C.c.8. How well were your child's needs for prescription medications met?

Survey Response	Child, 2018 (n=548)	Child, 2019 (n=939)	Difference*
Not at all	1.9%	1.1%	-0.8%
Somewhat	15.9%	7.5%	-8.5%
Very well	82.2%	91.5%	9.3%
*Chi-square<0.001			

There were improvements in the percentage of adult respondents who reported their need for LTSS services and other BH and specialty services were met. The percentage of respondents reporting their needs for physical, occupational, or speech therapy services were very well met increased by 16.1% from 60.4% in 2018 to 76.5% in 2019. Most adults reported their needs were very well met for skilled nursing, medical equipment, personal care, special assistance, an interpreter, specialty services, mental health services, **Table II.C.d.9**, day programs, substance use treatment, **Table II.C.d.10**, and transportation in 2018 and 2019, with year-over-year increases ranging from 3.0% to 13.3% (Appendix G).

The LTSS survey highlights the greater needs of adult respondents enrolled with CPs. Adult respondents enrolled with CP enrollees reported similar or better fulfillment of their needs compared with adult respondents who were not enrolled with CPs (Appendix G).

Table II.C.c.9 How well were your needs for mental health services met?

Survey Response	Adult, 2018 (n=755)	Adult, 2019 (n=904)	Difference*
Not at all	5.3%	5.8%	0.5%
Somewhat	24.3%	11.9%	-12.4%
Very well	70.4%	82.4%	12.0%
*Chi-square<0.0001			

Table II.C.c.10 How well were your needs for substance use treatment services for problems with alcohol or drugs met?

Survey Response	Adult, 2018 (n=80)	Adult, 2019 (n=122)	Difference*
Not at all	9.2%	12.5%	3.3%
Somewhat	18.5%	13.2%	-5.3%
Very well	72.2%	74.3%	2.0%
*Chi-square=0.53			

Health-Related Social Needs (HRSN) and Depression Screening

Hybrid Measures

The HRSN screening measure captures the percentage of ACO attributed members 0 to 64 years of age who were screened for health-related social needs (HRSNs) during the measurement year. The measure requires screening for at least four core HRSNs (i.e., food, housing, transportation, and utility) and one supplemental HRSN chosen by the ACO (e.g., employment, training or education, experience of violence, or social support). On average, 10.8% (830 of 7,701) of members were screened for HRSN in 2018 and 10.4% (728 of 6,987) in 2019, **Table II.C.c.11**.

The depression screening and follow-up measure captures the percentage of ACO attributed members 12 to 64 years of age screened for clinical depression using a standardized tool, and if screened positive, have a documented follow-up plan. There was a 9.9 percentage point increase in depression screening and follow-up for those enrolled in the ACO program. On average 34.2% (2,324 of 6,801) of ACO members received depression screening and follow-up in 2018 and 44.1% (2,770 of 6,289) in 2019, **Table II.C.c.11**.

Table II.C.c.11. Percentage of ACO members who received an HRSN and depression screening during the performance years 2018 and 2019

	2018 % (Denominator)	2019 % (Denominator)	Differences
HRSN Screening (4 core measures + at least 1 supplemental)	10.8% (7,701)	10.4% (6,987)	-0.4% NS
Depression Screening and Follow-up	34.2% (6,801)	44.1% (5,930)	9.9% ***

NS denotes Statistically non-significant; *** denotes p-value <0.001

RQ6 To what extent did access to physical care, BH care, and LTSS improve?

Access has been defined as "the timely use of personal health services to achieve the best health outcomes."[46] To examine changes in indicators of access over time, we use several data sources. This section presents the results of two rounds (2018, 2019) of member experience surveys for six populations: 1) pediatric primary care, 2) adult primary care, 3) pediatric BH, 4) adult BH, 5) pediatric LTSS, and 6) adult LTSS; adults were age ≥18 years and children were <18 years of age. RQ6 also includes results for several administrative measures and results of surveys of Practice Site Administrator, ACO PCPs, and CP staff. The results for all RQ6 administrative measures are presented for the managed care eligible population in **Table II.C.c.12,** and reported for ACO members in **Table II.C.c.13**, with additional information on characteristics and performance included in Appendix F.

Access to Physical Care services

Administrative Measures

Eighty-three percent of managed care eligible adults had at least one annual outpatient or preventative care visit during the baseline period, and this percentage remained stable in 2018 and 2019, **Table II.C.c.12**. The results were similar to ACO members, **Table II.C.c.13**. Among younger and older children who were managed care eligible, the percentage with an annual primary care visit was high (>95%) at baseline and remained high (>93%) in 2018 and 2019. The percentage of adult ACO members with an annual well-care visit increased from 40.0% at baseline to 43.2% in 2018 and was closer to baseline in 2019 (41.1%) (Appendix F).

Access to BH services

Administrative Measures

Boarding of patients presenting with BH conditions in the ED is an indicator of poor access because such boarding is typically due to the limited availability of inpatient beds and/or outpatient providers. Large reductions in the number of days spent boarding in the ED were observed from baseline to 2018 among members with serious mental illness (SMI) and/or substance use disorder (SUD), with further improvement in 2019. Between 2015 and 2017, boarding of members with SMI/SUD conditions in the ED was occurred for both members of virtual ACOs (568 days per 1000 persons per year) and MCOs (725 days per 1000 persons per year). A reduction in the number of days spent boarding in an ED was observed for the overall managed care eligible, ACO, and MCO populations in 2018 and 2019 compared with the baseline period, and these reductions persisted after adjustment for member characteristics. In 2019, the observed rate of ED boarding was 0.47, 0.46, and 0.80 times the expected rate in the managed care eligible, ACO, and MCO populations, respectively, suggesting access improved from baseline.

[46] As defined by the Institute of Medicine (1993): https://www.ncbi.nlm.nih.gov/books/NBK235882/

Table II.C.c.12. Baseline Performance and observed to expected (O:E) ratios for measures of access among adult Managed Care Eligible Members

Measure and Population	2015-17	2015-17	2018	2019
	%	O:E Ratio	O:E Ratio	O:E Ratio
Adult outpatient/preventive visits	83.0	1.00	1.00	0.99
Primary Care Provider Visit (Younger Children)	97.3	1.00	1.00	0.99
Primary Care Provider Visit (Older Children)	95.1	1.00	1.00	0.99
Annual primary care visit (adults)	39.9	1.00	1.03	1.00
ED Boarding of Adults with Serious Mental Illness (SMI) and/or Substance Use Disorder (SUD) (days per 1000 member)	563.5	1.00	0.58	0.47

Table II.C.c.13. Baseline Performance and observed to expected (O:E) ratios for measures of access among pediatric ACO Members

Measure and Population	2015-17	2015-17	2018	2019
	%	O:E Ratio	O:E Ratio	O:E Ratio
Adult outpatient/preventive visits	82.6	0.99	1.00	0.99
Primary Care Provider Visit (Younger Children)	97.1	1.00	1.00	0.99
Primary Care Provider Visit (Older Children)	95.0	1.00	1.00	0.99
Annual primary care visit (adults)	40.0	1.00	1.07	1.01
ED Boarding of Adults with Serious Mental Illness (SMI) and/or Substance Use Disorder (SUD) (days per 1000 member)	567.8	1.00	0.57	0.46

Each year includes members who are managed care (Table II.C.d.12) or ACO (Table II.C.d.13) eligible for at least 320 days that year. “Observed” equals the calculated outcome for the quality measure. “Expected” is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. “Observed:Expected” is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. In the managed care eligible population, the O:E ratio is 1.0 exactly by design for the baseline period (2015-2017). During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or PCC sector based on their primary care provider’s affiliation at the time of the ACO program launch in 2018.

Lower is better legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14
Higher is better legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14

Timely Access to Routine, Urgent, and After-Hours Care

Member experience surveys collected data on the ability of pediatric and adult ACO members to get needed services, including LTSS and BH, in a timely manner. **Tables II.C.c.14** through **II.C.c.27** present results for the first two years of the Demonstration.

Primary Care (PC) Member Experience Survey

In both 2018 and 2019, 72% of respondents reported their child was always able to receive timely access to their PCP for urgent and routine care, and *the majority (86%) were informed of after-hours care, **Tables II.C.c.14-II.C.c.16**. Year over year differences in these measures, between 2018 and 2019, were modest.*

Table II.C.c.14. In the last 12 months, when you called this provider's office to get an appointment for care your child needed right away, how often did you get an appointment as soon as you needed?

Survey Response	Child, 2018 (n=7,454)	Child, 2019 (n=6,627)	Difference*
Never	0.8%	1.3%	0.5%
Sometimes	6.6%	7.0%	0.3%
Usually	20.2%	19.2%	-1.1%
Always	72.4%	72.6%	0.2%
*Chi-square<0.01			

Table II.C.c.15. In the last 12 months, when you made an appointment for a check-up or routine care for your child with this provider, how often did you get an appointment as soon as your child needed?

Surevey Response	Child, 2018 (n=9.850)	Child, 2019 (n=9,134)	Difference*
Never	0.7%	1.0%	0.2%
Sometimes	7.6%	7.3%	-0.3%
Usually	24.2%	23.6%	-0.6%
Always	67.5%	68.2%	0.7%
*Chi-square=0.24			

Table II.C.c.16. Did this provider's office give you information about what to do if your child needed care during evenings, weekends, or holidays?

Survey Response	Child, 2018 (n=10,767)	Child, 2019 (n=10,016)	Difference*
Yes	86.4%	86.1%	-0.3%
No	13.6%	13.9%	0.3%
*Chi-square=0.52			

More than 60% of adult respondents reported they were always able to receive timely access to their PCP for urgent and routine care, and 79% were informed of after-hours care, Tables II.C.c.17, Tables II.C.c.18, and II.C.c.19. Year-over-year differences in these measures were small.

Table II.C.c.17. In the last 12 months, when you called this provider's office to get an appointment for care you needed right away, how often did you get an appointment as soon as you needed?

Survey Response	Adult, 2018 (n=7,643)	Adult, 2019 (n=7,598)	Difference*
Never	2.3%	2.1%	-0.2%
Sometimes	10.2%	11.3%	1.1%
Usually	25.5%	25.9%	0.4%
Always	62.1%	60.7%	-1.4%
*Chi-square=0.13			

Table II.C.c.18. In the last 12 months, when you made an appointment for a check-up or routine care with this provider, how often did you get an appointment as soon as you needed?

Survey Response	Adult, 2018 (n=11,423)	Adult, 2019 (n=12,182)	Difference*
Never	1.4%	1.4%	0.0%
Sometimes	8.7%	9.2%	0.4%
Usually	27.5%	27.8%	0.3%
Always	62.3%	61.6%	-0.8%
*Chi-square=0.65			

Table II.C.c.19. Did this provider’s office give you information about what to do if you needed care during evenings, weekends, or holidays?

Survey Response	Adult, 2018 (n=11,351)	Adult, 2019 (n=12,146)	Difference*
Yes	79.0%	78.7%	-0.3%
No	21.0%	21.3%	0.3%
*Chi-square=0.59			

Practice Site Administrator Survey

Reported use of best practices for increasing access to care for complex, high-needs patients varied, with 96% of administrators reporting that scheduling enables same-day appointments, 60% reporting that appointments are available outside of regular work hours, 31% reporting that pharmacy services are available on-site after discharge and 26% reporting that members can receive home visits by practice providers or staff.

One year into DSRIP implementation, 52% of practice site administrators reported no change in their ability to tailor care delivery to meet the needs of vulnerable populations.

In contrast, 33% reported improvements, and 15% reported that tailoring care became more difficult.

Access to BH services

Behavioral Health (BH) Member Experience Survey

In 2019, 80.4% of respondents agreed or strongly agreed that BH services were available at times convenient to them and their children, compared to 78.8% in 2018, **Table II.C.c.20**. In 2018, 71.8% of respondents, and 76.0% in 2019, agreed or strongly agreed their child was able to access BH care as often as necessary, **Table II.C.c.21**.

Table II.C.c.20. Behavioral health services were available at times that were convenient for me and my child

Survey Response	Child, 2018 (n=862)	Child, 2019 (n=674)	Difference*
Strongly disagree	4.4%	2.6%	-1.9%
Disagree	5.8%	4.3%	-1.5%
Neither disagree nor agree	11.0%	12.7%	1.8%
Agree	42.7%	39.1%	-3.5%
Strongly agree	36.1%	41.3%	5.2%
*Chi square=0.07			

Table II.C.c.21. Behavioral health providers were able to see my child as often as I felt was necessary

Survey Response	Child, 2018 (n=860)	Child, 2019 (n=670)	Difference*
Strongly disagree	4.4%	3.7%	-0.7%
Disagree	10.6%	6.9%	-3.6%
Neither disagree nor agree	13.3%	13.3%	0.0%
Agree	37.6%	38.9%	1.3%
Strongly agree	34.2%	37.1%	2.9%
*Chi square=0.20			

In 2018, 82.6% of respondents agreed or strongly agreed that BH services were available at times convenient to them, and 81.5% did so in 2019, **Table II.C.c.22**. In 2018**,** most adult respondents (79.5%) agreed or strongly agreed they were able to access BH care as often as they felt was necessary, and 77.3% did so in 2019, **Table II.C.c.23**.

Table II.C.c.22. Behavioral health services were available at times that were convenient for me

Survey Response	Adult, 2018 (n=3,491)	Adult, 2019 (n=2,531)	Difference*
Strongly disagree	3.0%	3.6%	0.6%
Disagree	4.5%	4.1%	-0.4%
Neither disagree nor agree	9.9%	10.8%	0.8%
Agree	43.5%	43.2%	-0.4%
Strongly agree	39.0%	38.4%	-0.7%
*Chi square=0.62			

Table II.C.c.23. Behavioral health providers were able to see me as often as I felt was necessary

Survey Response	Adult, 2018 (n=3,503)	Adult, 2019 (n=2,541)	Difference*
Strongly disagree	3.4%	4.2%	0.8%
Disagree	6.0%	7.0%	1.0%
Neither disagree nor agree	11.2%	11.5%	0.4%
Agree	41.6%	40.4%	-1.2%
Strongly agree	37.9%	36.9%	-0.9%
*Chi square=0.26			

Practice Site Administrator Survey

Most ACO practice site administrators surveyed in 2019 reported that members with behavioral health conditions were referred to services when needed. Sixty-nine percent of respondents reported that members were always or often referred to prescribing clinicians when required, and 79% responded that members were always or often referred to counseling therapists or clinical social workers when needed.

Over two-thirds (70%) of practice site administrators report that providers and staff follow an established process for scheduling members for appropriate behavioral health services, while 54% report that a process is followed to confirm those services were received.

Almost a third (29%) of practice site administrators reported that it had become easier to meet the needs of patients affected by health inequities in the year prior to the 2019 survey, nearly twice as many as reported that it had become harder (16%).

Timely access to LTSS services

Long-term Services and Support (LTSS) Member Experience Survey

In 2018, 89.3% of respondents agreed or strongly agreed that LTSS services were scheduled at times convenient to them and their children, and 85.8% in 2019, **Table II.C.c.24.** In 2018, 85.3% of respondents agreed or strongly agreed their child was able

to access LTSS services as often as necessary, and 79.9% did so in 2019, **Table II.C.c.25.**

Table II.C.c.24. Long-term services and supports were scheduled at times that were convenient for me and my child

Survey Response	Child, 2018 (n=267)	Child, 2019 (n=253)	Difference*
Strongly disagree	1.8%	1.1%	-0.7%
Disagree	3.2%	2.3%	-0.8%
Neither disagree nor agree	5.7%	10.8%	5.1%
Agree	48.3%	48.1%	-0.2%
Strongly agree	41.0%	37.7%	-3.3%
*Chi square=0.37			

Table II.C.c.25. Long-term services and support provider(s) were able to see my child as often as I felt was necessary

Survey Response	Child, 2018 (n=269)	Child, 2019 (n=247)	Difference*
Strongly disagree	2.5%	4.8%	2.3%
Disagree	5.6%	6.2%	0.6%
Neither disagree nor agree	6.5%	9.1%	2.5%
Agree	46.1%	42.1%	-4.0%
Strongly agree	39.2%	37.8%	-1.4%
*Chi square=0.54			

In 2018, 89.7% of adult respondents agreed or strongly agreed LTSS services were scheduled at times convenient to them, and 88.2% did so in 2019, **Table II.C.c.26**. Similarly, in 2018, 86.0% of adult respondents agreed or strongly agreed they were able to access LTSS services as often as they felt was necessary, and 84.4% reported so in 2019, **Table II.C.c.27**.

Table II.C.c.26. Long-term services and supports were scheduled at times that were convenient for me

Survey Response	Adult, 2018 (n=648)	Adult, 2019 (n=653)	Difference*
Strongly disagree	1.4%	1.4%	0.0%
Disagree	2.7%	3.0%	0.3%
Neither disagree nor agree	6.2%	7.aa4%	1.2%
Agree	44.9%	45.2%	0.4%
Strongly agree	44.8%	43.0%	-1.8%
*Chi square=0.92			

Table II.C.c.27. Long-term services and support provider(s) were able to see me as often as I felt was necessary

Survey Response	Adult, 2018 (n=651)	Adult, 2019 (n=649)	Difference*
Strongly disagree	1.8%	2.4%	0.6%
Disagree	3.9%	4.0%	0.2%
Neither disagree nor agree	8.3%	9.2%	0.9%
Agree	46.2%	44.0%	-2.2%
Strongly agree	39.8%	40.4%	0.6%
*Chi square=0.90			

Transportation to Medical Appointments among LTSS Populations

Long-term Services and Support (LTSS) Member Experience Survey

There was an improvement in access to transportation services to medical appointments for both pediatric and adult members. In 2019, 58.8% of respondents reported their child's need for transportation services to medical appointments were very well met compared to 54.7% in 2018, **Table II.C.c.28.** Similarly, in 2019, 68.4% of adult members reported their need for transportation services for medical appointments were very well met, compared to 62.0% in 2018, **Table II.C.c.29**. In 2019, 68.6% of adult respondents enrolled with a CP reported their need for transportation services to medical appointments were very well met, a modest increase from 64.2% in 2018 (Appendix G).

Table II.C.c.28. How well were your child's needs for transportation services to get to medical appointments met?

Survey Response	Child, 2018 (n=144)	Child, 2019 (n=149)	Difference*
Not at all	15.3%	23.4%	8.2%
Somewhat	30.1%	17.8%	-12.3%
Very well	54.7%	58.8%	4.1%
*Chi-square=0.04			

Table II.C.c.29. How well were your needs for transportation services to get to medical appointments met?

Survey Response	Adult, 2018 (n=788)	Adult, 2019 (n=851)	Difference*
Not at all	11.3%	14.5%	3.2%
Somewhat	26.7%	17.1%	-9.6%
Very well	62.0%	68.4%	6.4%
*Chi-square<0.0001			

Non-traditional Encounters

ACO Provider and CP Staff Surveys

The ACO provider and CP staff surveys included questions regarding the type and frequency of non-traditional encounters that may facilitate member access to care (e.g., telemedicine, email, home visits) during the 12 months prior to the COVID-19 pandemic. The results are presented in **Tables II.C.c.30** and **II.C.c.31**. Other questions asked about using such non-traditional care delivery modalities and challenges faced during the pandemic are covered in Appendix H.

Prior to the COVID-19 pandemic, email, patient portal, or text messaging were frequently used by ACOs providers for their MassHealth members, **Table II.C.c.30**, with 62% of physicians, 68% of NPs/PAs, 65% of nurses, and 53% of social workers using these modalities at least two times a week (Appendix H). Live telephone was used by 47% of CP staff, with small variation across CP type: 48% of BH staff communicated at least two times a week with their members through live phone, 41% of LTSS only staff, and 45% of staff at combined BH/LTSS CPs.

Table II.C.c.30. In the 12 months just before the pandemic, how often did you use the following types of telehealth and community-based care coordination for your members from this organization?

Survey Item	ACO* >= Once per week**	ACO* <Once per week**	CP* >= Once per week**	CP* <Once per week**
Live audio-visual interactive telehealth visits	2%	8%	4%	11%
Live telephone (audio-only) telehealth visits	7%	8%	56%	11%
Remote monitoring of a patient (e.g., blood pressure or O2 monitoring)	11%	18%	Not applicable	Not applicable
Communication with a patient through email, patient portal, or text messaging	73%	15%	76%	18%
Care at a community site (e.g., senior center, cultural center)	9%	8%	60%	23%
Home visits	7%	15%	78%	16%
Home testing or lab services	15%	21%	Not applicable	Not applicable

*Overall ACO n=1,050, CP n=482. Sample size varies by survey question.
**The response option not shown is “Never”

Prior to the pandemic, several barriers to the use of telehealth were common among ACO providers and CP staff. Lack of telehealth-specific workflows was a key challenge (56%) facing ACO providers, followed by technological challenges for their patient population (47%) and lack of technological infrastructure (44%). Technical challenges for CP members were a key obstacle reported by CP staff (63%), followed by low patient interest (41%), lack of technological infrastructure (27%), and lack of telehealth-specific workflows (27%), **Table II.C.c.31**.

Most providers reported using telehealth routinely during the pandemic and were willing to continue using telehealth for at least some of their patients if the temporary regulatory and payment environment for telehealth services were to continue after the pandemic

has ended. Some of the perceived barriers before the pandemic, such as technology infrastructure and insufficient work-flows, were not as commonly reported during the pandemic. Others, such as technology challenges for patients, were more significant than anticipated (Appendix H).

Table II.C.c.31. Thinking of the time just before the pandemic, which of the following, if any, were barriers or challenges to your use of telehealth at this organization?

Survey Item	ACO providers (n=1,050)[#]	CP staff (n=482)[#]
Low patient interest	28%	41%
Patient/member concerns regarding privacy and security	11%	21%
Technology challenges for your patient population/members (i.e., access to smart phone, WiFi, internet connection, etc.)	47%	63%
Lack of technology infrastructure	44%	27%
Lack of technical support	36%	18%
Lack of telehealth-specific workflows	56%	27%
Lack of integration with the electronic health record (EHR)	30%	12%
Inadequate reimbursement	51%	<11%
Lack of translation services compatible with telehealth platforms	17%	13%
State or federal policies	22%	14%
Other	<11%	<11%
None of the above	<11%	14%

[#] Sample size varies by survey question.

Provider Perceptions of Changes in Access to Care During the Pandemic

ACO Provider and CP Staff Surveys

More than half of ACO providers surveyed in the fall of 2020 reported that providing equitable access to care became more difficult for patients with chronic conditions (53%), with behavioral health conditions (55%), those needing LTSS (59%), and for those with health-related social needs (66%) during the pandemic. Less than one-third of providers reported that providing equitable access to care became easier for these subgroups: chronic conditions (21%), behavioral health conditions (28%), those needing LTSS (13%), and for those with health-related social needs (7%), **Table II.C.c.32**.

Table II.C.c.32. Since the start of the pandemic, has it become easier or harder for you to provide equitable access to care for the following types of patients?

Patient type	ACO, Total (n=780)[#]	ACO, Physicians (n=402)[#]	ACO, NPs/Pas (n=159)[#]	ACO, Nurses (n=192)[#]	ACO, Social Workers (n=27)[#]
Patients with chronic conditions					
Much / Somewhat easier	21%	20%	26%	18%	41%
No change	25%	25%	19%	33%	15%
Somewhat / Much harder	53%	55%	55%	50%	44%
Patients without chronic conditions					
Much / Somewhat easier	26%	24%	30%	23%	44%
No change	40%	43%	33%	43%	27%
Somewhat / Much harder	34%	33%	37%	35%	29%
Patients with behavioral health needs					
Much / Somewhat easier	28%	27%	38%	19%	48%
No change	17%	18%	14%	18%	8%
Somewhat / Much harder	55%	56%	48%	63%	44%
Patients needing long-term services and supports					
Much / Somewhat easier	13%	11%	18%	13%	24%
No change	28%	30%	17%	36%	19%
Somewhat / Much harder	59%	60%	65%	52%	56%
Patients with unmet health-related social needs (e.g., housing problems)					
Much / Somewhat easier	7%	6%	3%	11%	22%
No change	26%	25%	30%	29%	17%
Somewhat / Much harder	66%	69%	67%	61%	61%
Children and adolescents					
Much / Somewhat easier	12%	9%	14%	13%	21%
No change	41%	42%	41%	44%	18%
Somewhat / Much harder	47%	49%	45%	43%	61%
Black patients					
Much / Somewhat easier	9%	6%	10%	12%	24%
No change	68%	69%	70%	68%	51%
Somewhat / Much harder	23%	25%	20%	20%	25%
Hispanic patients					
Much / Somewhat easier	9%	6%	9%	13%	25%
No change	66%	68%	63%	67%	46%
Somewhat / Much harder	25%	26%	27%	20%	29%

Patient type	ACO, Total (n=780)[#]	ACO, Physicians (n=402)[#]	ACO, NPs/Pas (n=159)[#]	ACO, Nurses (n=192)[#]	ACO, Social Workers (n=27)[#]
Asian and Pacific Islander patients					
Much / Somewhat easier	8%	5%	9%	13%	21%
No change	72%	76%	73%	68%	51%
Somewhat / Much harder	19%	19%	18%	20%	28%
Indigenous patients					
Much / Somewhat easier	8%	6%	4%	13%	15%
No change	73%	76%	73%	67%	53%
Somewhat / Much harder	20%	18%	23%	19%	33%
Patients whose preferred language is other than English					
Much / Somewhat easier	7%	5%	5%	12%	11%
No change	51%	50%	45%	61%	28%
Somewhat / Much harder	42%	45%	50%	27%	61%

[#] Sample size varies by survey question

More than half of CP staff surveyed in the fall of 2020 reported that providing equitable care coordination became more difficult for patients with chronic conditions (56%), those needing LTSS (55%), and for those with health-related social needs (72%) during the pandemic. Most of CP staff reported no change in providing equitable care coordination for minority sub-population (Appendix H).

RQ7 To what extent did member engagement with physical care, BH care, and LTSS improve?

Member engagement is defined broadly as "actions an individual must take to obtain the greatest benefit from the healthcare services available to them."[47] To address the question of whether member engagement improved, we used several data sources. This section presents the results of two rounds (2018, 2019) of surveys for four populations: 1) pediatric BH, 2) adult BH, 3) pediatric LTSS, and 4) adult LTSS. Adults were age ≥18 years, and children were <18 years of age. RQ7 also includes results for several administrative measures and results of surveys of ACO providers and CP staff. The results for all RQ7 administrative measures are summarized for the managed care eligible population in **Table II.C.c.33** and in **Table II.C.c.34** for ACO members, with additional information on characteristics and performance included in the Administrative Measure Appendix F.

Member Engagement with Physical Care Services and Care Management

Administrative Measures

[47] See Gruman et al. (2010): https://pubmed.ncbi.nlm.nih.gov/20202780/

The gaps in care between human immunodeficiency virus (HIV) medical visits and antidepressant medication management measures were examined as proxies for members being better informed and engaged with the health care services recommended for managing their clinical conditions. Among managed care eligible adults with HIV, a small minority (7.1%) had a six-month gap or greater in care at baseline. The prevalence of gaps in care remained essentially unchanged in 2018 and 2019, **Table II.C.c.33**. However, gaps in care were observed for 12.4% and 11.0% of MCO members with HIV in 2018 and 2019, respectively (Appendix F). The higher prevalence of gaps in care for MCO members with HIV in the early years of the DSRIP program was not explained by changes in member characteristics since the baseline period. An increased frequency of gaps in care for members with HIV was not observed for ACO members in 2018 and 2019, **Table II.C.c.34**.

Among managed care eligible members, a minority (21.4%) of patients 18 years of age and older with a diagnosis of major depression who were treated with antidepressant medication remained on an antidepressant medication treatment for at least 12 weeks during the baseline years. This percentage decreased in 2018 (41.2%) but increases to 45.3% in 2019/ A similar trend was observed for ACO and MCO members (Appendix F).

Table II.C.c.33. Baseline Performance and observed to expected (O:E) ratios for measures of member engagement Among Managed Care Eligible Members

Measure and Population	2015-17	2015-17	2018	2019
	%	O:E Ratio	O:E Ratio	O:E Ratio
Antidepressant medication management, acute	42.1	1.00	0.97	1.07
Gap in HIV medical visits	7.1	1.00	1.05	0.99

Table II.C.c.34. Rates and observed to expected (O:E) ratios for member engagement in physical care service Among ACO Members

Measure and Population	2015-17	2015-17	2018	2019
	%	O:E Ratio	O:E Ratio	O:E Ratio
Antidepressant medication management, acute	41.9	0.99	0.96	1.05
Gap in HIV medical visits	7.0	0.99	1.03	0.97

Each year includes members who are managed care (Table II.C.d.33) or ACO (Table II.C.d.34) eligible for at least 320 days that year. “Observed” equals the calculated outcome for the quality measure. “Expected” is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. “Observed:Expected” is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. In the managed care eligible population, the O:E ratio is 1.0 exactly by design for the baseline period (2015-2017). During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or PCC sector based on their primary care provider’s affiliation at the time of the ACO program launch in 2018.

Higher is better legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14

Member Engagement with Behavioral Health Services

Consistent with the definition of member engagement described above, we report results from the BH member experience survey for several measures of needs identification and discussion, outreach to providers and success in obtaining help,

participation in treatment planning, and perceived effectiveness of services as indications of members taking such actions to obtain the greatest benefit from healthcare services.

Identifying Needs, Seeking Advice, and Obtaining Help from BH Providers

Behavioral Health (BH) Member Experience Survey

In 2019, 74.3% of respondents reported their child's behavioral health needs were completely identified and discussed with their care team, an 8.2% improvement from 2018, **Table II.C.c.35.** In 2018, 61.6% of respondents reported contacting their child's health care team for help or advice compared to 54.6% in 2019; among those who contacted their child's care team, 89% received the help or advice they were seeking in 2018, and 80% did so in 2019 (Appendix G).

Table II.C.c.35. To what extent do you feel that your child's behavioral health needs were identified and discussed during the assessment?

Survey Response	Child, 2018 (n=758)	Child, 2019 (n=633)	Difference*
No	2.0%	5.7%	3.8%
Somewhat	32.0%	20.0%	-12.0%
Completely	66.1%	74.3%	8.2%
*Chi-square<0.001			

In 2019, 72.9% of adult respondents reported their behavioral health needs were completely identified and discussed with their care team, a 7.0 percentage point increase from 2018, **Table II.C.c.36.** Less than half of adult respondents (47.4% in 2018 and 45.7% in 2019) reported contacting their care team for help or advice, and among those who did, 88% received the help or advice they were seeking in 2018, and 77% did so in 2019 (Appendix G).

Table II.C.c.36. To what extent do you feel that your behavioral health needs were identified and discussed during the assessment?

Survey Response	Adult, 2018 (n=2,938)	Adult, 2019 (n=2,230)	Difference*
Not at all	2.3%	8.1%	5.8%
Somewhat	31.8%	19.1%	-12.8%
Completely	65.9%	72.9%	7.0%
*Chi-square<0.0001			

Participation in Treatment Planning

Behavioral Health (BH) Member Experience Survey

In 2019, 61.9% of respondents reported they and their child had a complete choice of services and providers during the care planning process compared to 58.1% in 2018, **Table II.C.c.37**. In 2019, 63.6% of respondents reported their child's care team explained who was responsible for different parts of the care plan compared to 59.5% in 2018 (Appendix G). There was a 14.0% increase in the percentage of respondents who

felt their child's care plan included all the services their child needed, 66.1% in 2019 compared to 52.1% in 2018 (Appendix G).

Table II.C.c.37. Did you and/or your child have a choice of services and providers during the care planning process?

Survey Response	Child, 2018 (n=562)	Child, 2019 (n=482)	Difference*
No	8.7%	13.5%	4.8%
Yes, somewhat	33.3%	24.7%	-8.6%
Yes, completely	58.1%	61.9%	3.8%
*Chi-square<0.01			

Most adults reported having a care plan in 2018 (60.3%) and 2019 (55.9%). In 2018, 64.2% of respondents enrolled with a CP had care plans, and 62.7% reported having care plan in 2019 (Appendix G). In 2019, 65.2% of adult members reported having a complete choice of services and providers during the care planning process, an increase of 7.5 percentage points from 2018, **Table II.C.c.38**. The was a 7.1 percentage points improvement in CP enrollees respondents reported having a choice of services and providers during the care planning process from 56.6% in 2018 to 63.7% in 2019, **Table II.C.c.39**.

Table II.C.c.38. Did you have a choice of services and providers during the care planning process?

Survey Response	Adult, 2018 (n=2,419)	Adult, 2019 (n=1,792)	Difference*
No	8.9%	12.0%	3.0%
Yes, somewhat	33.4%	22.8%	-10.5%
Yes, completely	57.7%	65.2%	7.5%
*Chi-square<0.0001			

Table II.C.c.39. Did you have a choice of services and providers during the care planning process, by enrollment with CP status

Survey Response	Adult non-CP, 2018 (n=1,428)	Adult non-CP, 2019 (n=1,000)	Difference*	Adult CP, 2018 (n=991)	Adult CP, 2019 (n=792)	Difference*
No	8.7%	10.3%	1.6%	9.3%	14.0%	4.7%
Yes, somewhat	32.8%	23.3%	-9.5%	34.1%	22.3%	-11.8%
Yes, completely	58.5%	66.5%	8.0%	56.6%	63.7%	7.1%
*Chi-square			<0.001			<0.001

Perceived Effectiveness of BH Care on Member Ability to Manage Needs, Money, School/Work, and Housing

Behavioral Health (BH) Member Experience Survey

The BH member experience survey asked about the perceived effectiveness of BH services on members' abilities to manage needs, money, school/work, housing. In both 2018 and 2019, most parents and guardians agreed or strongly agreed that BH services improved their children's coping skills, schoolwork, work activities, ability to do what they wanted to do, their children's social skills, and family life, **Table II.C.c.40**. Year-over-year changes were small but generally positive.

Table II.C.c.40. As a result of behavioral health services, my child is better able to:

Survey Response	Child, 2018 (n=951)#	Child, 2019 (n=873)#	Difference*
Better coping skills			
Strongly disagree	4.2%	4.0%	-0.2%
Disagree	8.2%	6.1%	-2.1%
Neither disagree nor agree	24.6%	26.7%	2.1%
Agree	44.7%	40.8%	-3.9%
Strongly agree	18.3%	22.4%	4.1%
*Chi-Square=0.09			
Better in school, work and/or other activities			
Strongly disagree	5.1%	5.4%	0.3%
Disagree	9.6%	9.1%	-0.5%
Neither disagree nor agree	26.3%	24.1%	-2.3%
Agree	40.7%	40.6%	-0.1%
Strongly agree	18.3%	20.9%	2.6%
*Chi-Square=0.69			
Better able to do the things he or she wants to do			
Strongly disagree	4.2%	3.9%	-0.4%
Disagree	7.0%	9.6%	2.6%
Neither disagree nor agree	30.3%	26.8%	-3.5%
Agree	42.5%	41.0%	-1.6%
Strongly agree	16.0%	18.8%	2.9%
*Chi-Square=0.12			
Better in social situations			
Strongly disagree	4.3%	5.0%	0.7%
Disagree	11.6%	7.8%	-3.8%
Neither disagree nor agree	31.5%	32.1%	0.5%
Agree	38.6%	38.9%	0.3%
Strongly agree	14.0%	16.3%	2.3%
*Chi-Square=0.10			

Sample size varies by survey question

In both 2018 and 2019, most adults agreed or strongly agreed that BH services improved their ability to take care of their needs, manage money, pay bills, and engage in schoolwork and work activities. Additionally, respondents agreed or strongly agreed that BH services improved their housing situation and social lives, **Table II.C.d.41** and Appendix G. Year-over-year changes were small.

Table II.C.c.41. As a result of behavioral health services, I am better able to:

Survey Response	Adult, 2018 (n=4,041)#	Adult, 2019 (n=3,277)#	Difference*
Take care of my needs			
Strongly disagree	5.0%	5.0%	-0.1%
Disagree	6.4%	6.2%	-0.2%
Neither disagree nor agree	23.8%	24.9%	1.2%
Agree	40.7%	40.3%	-0.4%
Strongly agree	24.1%	23.7%	-0.5%
*Chi-Square p=0.87			
Manage my money and pay my bills			
Strongly disagree	5.6%	5.9%	0.3%
Disagree	7.8%	7.3%	-0.6%
Neither disagree nor agree	27.1%	25.4%	-1.7%
Agree	28.2%	26.0%	-2.2%
Strongly agree	16.6%	18.2%	1.6%
Not applicable	14.6%	17.2%	2.6%
*Chi-Square p<0.05			
Work or go to school			
Strongly disagree	9.3%	9.1%	-0.2%
Disagree	11.6%	10.2%	-1.4%
Neither disagree nor agree	19.4%	22.1%	2.7%
Agree	15.8%	16.5%	0.8%
Strongly agree	10.1%	12.0%	2.0%
I do not work or go to school	33.9%	30.1%	-3.8%
*Chi-Square<0.001			
Improve my housing situation			
Strongly disagree	9.7%	8.7%	-1.1%
Disagree	11.7%	11.5%	-0.1%
Neither disagree nor agree	44.7%	45.2%	0.6%
Agree	25.0%	24.6%	-0.4%
Strongly agree	9.0%	10.0%	1.0%
*Chi-Square=0.48			

Sample size varies by survey question

Participation in Treatment Plan

Long-term Services and Support (LTSS) Member Experience Survey

In 2018, 47.4% of respondents reported their child had a care plan, and 38.2% reported so in 2019. More than half of respondents with a child enrolled with a CP (56.4%) reported their child had a care plan, and 53.6% reported so in 2019 (Appendix G).

In 2019, 66.7% of respondents reported having a complete choice of services and providers for their child during the care planning process; an 8.7 percentage points increase from 2018, **Table II.C.c.42**.

Table II.C.c.42. Did you and/or your child have a choice of services and providers during the care planning process?

Survey Response	Child, 2018 (n=355)	Child, 2019 (n=496)	Difference*
No	11.5%	12.4%	0.9%
Yes, somewhat	30.5%	21.0%	-9.6%
Yes, completely	58.0%	66.7%	8.7%
*Chi-square<0.05			

In 2018, 51.1% of respondents with a child enrolled with a CP reported that their child had complete choice of services and providers during the care planning process, and 64.5% reported the same in 2019, an increase of 13.4%, **Table II.C.c.43.**

Table II.C.c.43. Did you and/or your child have a choice of services and providers during the care planning process by enrollment with CP status

Survey Response	Child non-CP, 2018 (n=258)	Child non-CP, 2019 (n=404)	Difference*	Child CP, 2018 (n=97)	Child CP, 2019 (n=92)	Difference*
No	12.7%	11.7%	-1.0%	8.3%	15.1%	6.8%
Yes, somewhat	26.5%	21.2%	-5.3%	40.5%	20.4%	-20.1%
Yes, completely	60.8%	67.2%	6.4%	51.1%	64.5%	13.4%
*Chi-square			0.27			0.01

Fifty-three percent of adult respondents reported having a care plan in 2018 and 44.6% in 2019. Although the fraction of members with care plans fell overall, the percentage of CP enrollees with care plans was relatively stable, 61.3% in 2018, 64.2% in 2019 (Appendix G). In 2019, 69.0% of adult members reported having a complete choice of services and providers during the care planning process; a 9.5 percentage points increase from 2018 (59.5%), **Tables II.C.c.44**.

Table II.C.c.44. Did you have a choice of services and providers during the care planning process?

Survey Response	Adult, 2018 (n=833)	Adult, 2019 (n=1,024)	Difference*
No	9.7%	10.6%	0.9%
Yes, somewhat	30.8%	20.5%	-10.4%
Yes, completely	59.5%	69.0%	9.5%
*Chi-square<0.01			

In 2019, 63.7% of adult respondents enrolled with CPs reported having a complete choice of services and providers during the care planning process, a 7.1 percentage point improvement from 2018 (56.6%), **Table II.C.c.45**.

Table II.C.c.45. Choice of services and providers during the care planning process by enrollment with CP status

Survey Response	Adult non-CP, 2018 (n=467)	Adult non-CP, 2019 (n=642)	Difference*	Adult CP, 2018 (n=366)	Adult CP, 2019 (n=382)	Difference*
No	8.7%	10.3%	1.6%	9.3%	14.0%	4.7%
Yes, somewhat	32.8%	23.3%	-9.5%	34.1%	22.3%	-11.8%
Yes, completely	58.5%	66.5%	8.0%	56.6%	63.7%	7.1%
*Chi-square			<0.001			<0.05

Perceived Effects of LTSS on Members' Abilities to Manage Needs, Money, School/Work, and Housing

Long-term Services and Support (LTSS) Member Experience Survey

The LTSS member experience survey asked about the perceived effectiveness of LTSS on members' abilities to manage their needs, money, school/work, and housing. In 2018, most parents and guardians agreed or strongly agreed that LTSS improved their child's ability to develop coping skills, do better at school, work, or other activities, improved their ability to do what they want to do, improved their social skills, and the quality of their family life (**Tables II.C.c.46 and II.C.c.47)**. The percentage agreeing or strongly agreeing with these survey items declined in 2019, while the percentage neither agreeing nor disagreeing increased commensurately. The increase in the fraction of respondents neither agreeing nor disagreeing might be due to the timing of the data collection (February-May 2020), which overlapped with the COVID-19 pandemic and policy responses and may have disrupted access to LTSS or otherwise influenced member perceptions of LTSS. In preliminary stratified analyses, we observed little variation in the response distribution for those responding before versus on or after March 10th, when Massachusetts implemented emergency measures to address the spread of COVID-19.

Table II.C.c.46. As a result of LTSS, my child is better able to:

Survey Response	Child, 2018 (n=541)[#]	Child, 2019 (n=1,184)[#]	Difference*
Develop coping skills			
Strongly disagree	3.4%	5.2%	1.8%
Disagree	7.0%	6.9%	-0.1%
Neither disagree nor agree	21.3%	39.8%	18.5%
Agree	45.0%	33.8%	-11.2%
Strongly agree	23.3%	14.3%	-9.0%
*Chi-Square<0.001			
Do better in school, work and/or other activities			
Strongly disagree	3.2%	4.2%	1.0%
Disagree	8.2%	7.0%	-1.1%
Neither disagree nor agree	17.1%	35.0%	17.9%
Agree	44.3%	36.6%	-7.7%
Strongly agree	27.2%	17.2%	-10.0%
*Chi-Square<0.001			
Do the things he or she wants to do			
Strongly disagree	4.1%	4.1%	0.0%
Disagree	8.2%	7.6%	-0.6%
Neither disagree nor agree	16.1%	36.3%	20.3%
Agree	49.8%	36.7%	-13.1%
Strongly agree	21.9%	15.3%	-6.5%
*Chi-Square<0.001			
Handle social situations			
Strongly disagree	3.4%	4.6%	1.2%
Disagree	12.9%	7.3%	-5.5%
Neither disagree nor agree	20.5%	41.5%	21.0%
Agree	43.3%	34.1%	-9.1%
Strongly agree	20.0%	12.5%	-7.5%
*Chi-Square<0.001			

[#] Sample size varies by survey question

Table II.C.c.47. As a result of LTSS, the quality of our family life has improved:

Survey Response	Child, 2018 (n=550)	Child, 2019 (n=1,152)	Difference*
Strongly disagree	3.6%	3.6%	0.0%
Disagree	5.6%	6.0%	0.4%
Neither disagree nor agree	16.0%	37.8%	21.8%
Agree	51.8%	37.6%	-14.3%
Strongly agree	23.0%	15.1%	-7.9%
*Chi-Square<0.001			

Table II.C.c.48 presents ACO adult members' perceived effectiveness of LTSS. The percentage of adult respondents who agreed or strongly agreed that LTSS improved their ability to take care of their needs decreased by 6.0%, from 60.9% in 2018 to 54.9% in 2019. However, the percentage of those who neither disagreed nor agreed increased by 13.6%, from 17.6% in 2018 to 31.1% in 2019. The percentage of adult respondents who agreed or strongly agreed they were doing better in school because of LTSS increased by 2.9%, from 17.7% in 2018 to 20.6% in 2019. In addition, the percentage of those who neither disagreed nor agreed increased by 12.3%, from 10.8% in 2018 to 23.1% in 2019. The percentage of adult respondents who agreed or strongly agreed their housing situation improved because of LTSS decreased by 11.9%, from 48.5% in 2018 to 36.6% in 2019. However, the percentage of those who neither disagreed nor agreed increased by 15.3%, from 29.1% in 2018 to 44.3% in 2019. The percentage of adult respondents who agreed or strongly agreed they are doing better in social situations because of LTSS decreased by 8.9%, from 46.3% in 2018 to 37.5% in 2019. However, the percentage of those who neither disagreed nor agreed increased by 14.0%, from 31.6% in 2018 to 45.6% in 2019. The percentage of adult respondents who agreed or strongly agreed LTSS improved their social life decreased by 9.9%, from 57.20% in 2018 to 47.30% in 2019. However, the percentage of those who neither disagreed nor agreed increased by 15.1%, from 23.3% in 2018 to 38.4% in 2019. The breakdown of perceived effectiveness by enrollment with CPs is presented in **Table II.C.c.49** where the majority agreed or strongly agreed that LTSS improved the quality of their lives.

Table II.C.c.48.As a result of LTSS, I am better able to:

Survey Response	Adult, 2018 (n=1,182)#	Adult, 2019 (n=2,051)#	Difference*
Take care of my needs			
Strongly disagree	9.1%	6.6%	-2.5%
Disagree	12.4%	7.3%	-5.1%
Neither disagree nor agree	17.6%	31.1%	13.6%
Agree	36.8%	33.6%	-3.2%
Strongly agree	24.1%	21.3%	-2.8%
*Chi-Square<0.0001			
Work or go to school			
Strongly disagree	12.0%	11.3%	-0.7%
Disagree	10.9%	10.6%	-0.3%
Neither disagree nor agree	10.8%	23.1%	12.3%
Agree	11.5%	12.5%	1.0%
Strongly agree	6.2%	8.1%	1.9%
I don't work or go to school	48.5%	34.4%	-14.1%
*Chi-Square<0.0001			
Improve my housing situation			
Strongly disagree	10.2%	8.9%	-1.3%
Disagree	12.3%	10.2%	-2.1%
Neither disagree nor agree	29.1%	44.3%	15.3%
Agree	32.4%	26.4%	-6.0%
Strongly agree	16.1%	10.2%	-5.9%
*Chi-Square<0.0001			
Do better in social situations			
Strongly disagree	5.7%	6.8%	1.1%
Disagree	16.4%	10.1%	-6.3%
Neither disagree nor agree	31.6%	45.6%	14.0%
Agree	34.1%	27.9%	-6.2%
Strongly agree	12.2%	9.6%	-2.7%
*Chi-Square<0.0001			
Have people with whom I can do enjoyable things, such as talk on the phone or get together			
Strongly disagree	5.7%	5.5%	-0.2%
Disagree	13.8%	8.9%	-5.0%
Neither disagree nor agree	23.3%	38.4%	15.1%

Survey Response	Adult, 2018 (n=1,182)#	Adult, 2019 (n=2,051)#	Difference*
Agree	39.2%	34.2%	-5.0%
Strongly agree	18.0%	13.1%	-4.9%
*Chi-Square<0.0001			

Sample size varies by survey question

Table II.C.c.49. Adult members experience with LTSS when it comes to taking care of their needs by CP enrollment status

Survey Response	Adult non-CP, 2018 (n=670)#	Adult non-CP, 2019 (n=1,476)#	Difference*	Adult CP, 2018 (n=512)#	Adult CP, 2019 (n=575)#	Difference*
Take care of my needs						
Strongly disagree	7.0%	5.4%	-1.6%	12.0%	9.6%	-2.4%
Disagree	12.1%	6.0%	-6.1%	12.8%	12.0%	-0.8%
Neither disagree nor agree	20.0%	34.4%	14.4%	14.1%	23.0%	8.9%
Agree	37.2%	33.7%	-3.5%	36.4%	33.4%	-3.0%
Strongly agree	24.0%	21.0%	-3.0%	24.6%	22.5%	-2.1%
*Chi-Square			<0.001			<0.05
Work or go to school						
Strongly disagree	11.7%	9.2%	-2.5%	12.4%	16.7%	4.3%
Disagree	11.0%	10.3%	-0.7%	10.8%	11.5%	0.7%
Neither disagree nor agree	12.4%	26.3%	13.9%	8.6%	14.7%	6.1%
Agree	11.1%	14.0%	2.9%	12.2%	8.6%	-3.6%
Strongly agree	7.2%	8.7%	1.5%	5.0%	6.5%	1.5%
I don't work or go to school	46.6%	31.5%	-15.1%	51.2%	42.0%	-9.2%
*Chi-Square			<0.001			<0.0
Improve my housing situation						
Strongly disagree	10.8%	8.8%	-2.0%	9.2%	9.0%	0.2%
Disagree	12.7%	10.2%	-2.5%	11.8%	10.4%	-1.4%
Neither disagree nor agree	31.1%	47.8%	16.7%	26.3%	35.5%	9.2%
Agree	30.7%	24.4%	-6.3%	34.6%	31.4%	-3.2%
Strongly agree	14.6%	8.9%	-5.7%	18.2%	13.8%	-4.4%
*Chi-Square			<0.001			<0.05
Do better in social situations						

Survey Response	Adult non-CP, 2018 (n=670)[#]	Adult non-CP, 2019 (n=1,476)[#]	Difference*	Adult CP, 2018 (n=512)[#]	Adult CP, 2019 (n=575)[#]	Difference*
Strongly disagree	6.2%	6.0%	-0.2%	5.0%	9.0%	4.0%
Disagree	16.9%	9.6%	-7.3%	15.6%	11.3%	-4.3%
Neither disagree nor agree	32.8%	49.0%	16.2%	29.9%	36.9%	7.0%
Agree	32.1%	27.0%	-5.1%	36.9%	30.3%	-6.6%
Strongly agree	11.9%	8.4%	-3.5%	12.7%	12.6%	-0.1%
*Chi-Square			<0.001			<0.01
Have people with whom I can do enjoyable things, such as talk on the phone or get together						
Strongly disagree	5.8%	4.3%	-2.0%	5.7%	8.7%	3.0%
Disagree	15.6%	8.8%	-7.0%	11.4%	8.9%	-2.0%
Neither disagree nor agree	25.8%	41.6%	16.0%	19.7%	30.2%	10.0%
Agree	36.4%	33.5%	-3.0%	43.1%	36.0%	-7.0%
Strongly agree	16.5%	11.8%	-4.0%	20.1%	16.3%	-4.0%
*Chi-Square			<0.0001			<0.001

[#] Sample size varies by survey question

Perceptions of Member Engagement

ACO Provider and CP Staff Surveys

The perceived effectiveness of member engagement strategies was measured using ACO provider and CP staff surveys. Respondents were asked to what extent they agree or disagree that their patients, especially those with chronic conditions and those with BH and LTSS need, took responsibility for their health. About half or fewer of ACO providers and CP staff agreed or strongly agreed that most patients took responsibility for managing their health (**Tables II.C.c.50** and **II.C.c.51**).

Table II.C.c.50. ACO Provider Perceptions of Member Engagement

Survey Item	Total (n=1,050)[#]	Physicians (n=524)[#]	NPs/PAs (n=205)[#]	Nurses (n=248)[#]	Social Workers (n=73)[#]
Most of our patients with chronic conditions took responsibility for managing their health	44%	47%	37%	43%	48%
Most of our patients with behavioral health needs took responsibility for managing their health	32%	32%	19%	38%	60%
Most of our patients with long-term services and supports needs took responsibility for managing their health	44%	45%	36%	47%	43%

[#]Overall number of responses to the survey, the number of responses to specific items varies.

Table II.C.c.51. CP Staff Perceptions of Member Engagement

Survey Item	Total (n=482)[#]	BH only (n=320)[#]	LTSS only (n=64)[#]	BH/LTSS (n=98)[#]
Most of our members took responsibility for managing their health	49%	48%	62%	39%

[#]Overall number of responses to the survey, the number of responses to specific items varies.

RQ8 To what extent did care processes improve for physical, BH, and LTSS?

For the purposes of the evaluation, we have conceptualized care processes as the delivery of evidence-based services in a member-centered manner. We use several data sources to examine changes in care processes over time. This section presents the results of two rounds (2018, 2019) of surveys for six populations: 1) pediatric primary care, 2) adult primary care, 3) pediatric BH, 4) adult BH, 5) pediatric LTSS, and 6) adult LTSS; adults were ≥18 years and children were <18 years of age. RQ8 also includes results for several administrative measures, three hybrid quality measures, the Practice Site Administrator Survey, and results from ACO providers and CP staff surveys. The results for all RQ8 administrative measures are summarized for the managed care eligible populations in **Table II.C.c.52** and the ACO members in **Table II.C.c.53**, with additional information on characteristics and performance included in Appendix F.

Care Processes

Administrative Measures

The percentage of children and adolescents ages 1 to 17 who were eligible for managed care and were treated with two or more antipsychotic medications for at least 90 consecutive days was 2.8% in the baseline period, 2.5% in 2018, and 2.4% in 2019, **Tables II.C.c.52 and II.C.c.53**, and Appendix F.

Table II.C.c.52. Rates and Observed to Expected (O:E) Ratios for Administrative Measures of Care Processes Among Managed Care Eligible Members

Measure and Population	2015-17	2015-17	2018	2019
	Observed/1000 members PY	O:E Ratio	O:E Ratio	O:E Ratio
Multiple Antipsychotic Use in Children	2.79	0.99	0.86	0.85

Table II.C.c.53. Rates and Observed to Expected (O:E) Ratios for Administrative Measures of Care Processes Among ACO Members

Measure and Population	2015-17	2015-17	2018	2019
	Observed/1000 members PY	O:E Ratio	O:E Ratio	O:E Ratio
Multiple Antipsychotic Use in Children	2.43	0.94	0.86	0.78

Each year includes members who are managed care (Table *II.C.d.52) or ACO (Table II.C.d.53) eligible for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. In the managed care eligible population, the O:E ratio is 1.0 exactly by design for the baseline period (2015-2017). During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or PCC sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.*

Lower is better legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14

Practice Site Administrator Survey

Most practice site administrators reported either very little (21%), some (45%) or a lot of change (22%) had occurred in the year prior to administration (2019), while few (13%) reported no change and none (0%) reported massive change had occurred. Practice site administrators who reported some or a lot of change to their practice's processes and approaches to caring for members were greater than ten times more likely to report that caring for MassHealth members got easier over the prior year, compared to administrators who reported little or no change.

Flexible Services (FS) Utilization

From the launch of the FS program in 2020 through September 30, 2020 (Q3), 3,329 unique members received services, which represents 0.31% of the 1,075,575 ACO enrollees as of December 31, 2020. **Table II.C.c.54** presents the characteristics of the ACO members who received FS, and **Table II.C.c.55** shows the distribution of these services by quarter and type of service. Most FS recipients were women and non-White, while the large majority (91%) of FS delivered in the first year of the program were nutrition supports.

Table II.C.c.54. Characteristics of members receiving Flexible Services (FS) supports

Member characteristics	Nutrition (n=3,029)	Housing (n=300)	Total
Gender			
Woman	56.8%	52.2%	56.4%
Race/ethnicity			
Hispanic or Latino	38.6%	39.2%	38.3%
Black or African American	15.0%	13.2%	14.9%
White	28.6%	31.6%	29.3%
Other/missing/prefer not to say	17.7%	16.0%	17.4%
Language			
English	60.4%	63.7%	61.1%
Spanish	30.0%	30.4%	29.7%
Others	<11%	<11%	<11%
Employment			
Unemployed	41.7%	50.5%	42.6%
Not in Labor Force/Home-maker	21.8%	17.5%	21.1%
Student/Child	12.5%	12.0%	12.8%
Employed (full-time, part-time, and self-employed)	11.6%	9.5%	11.3%
Prefer not to say or didn't answer	12.5%	10.4%	12.2%

FS are not intended to replace, substitute, or duplicate existing benefits or state/federal social service programs but rather to supplement these programs where appropriate. The FS program offers ACOs the opportunity to test different approaches aimed at improving health outcomes. To qualify for the FS, a MassHealth ACO-enrolled member must meet at least one of the defined Health Need-Based Criteria (behavioral health need, complex physical health need, assistance with one or more ADLs or IADLs, repeated ED use, or pregnant individuals (high-risk/complications), and at least one of the defined risk factors (experiencing homelessness, at risk for homelessness, or at risk for nutritional deficiency/imbalance).

As presented in **Table II.C.c.55**, the distribution of FS varies by quarter. In Q1, the distribution of eligible MassHealth members who utilized FS was equally divided between nutrition and housing programs. However, quarters 2 and 3 of 2020 show a shift toward nutrition services whereby over 90% of eligible members received nutrition services, and 18% received housing services, including 11.2% who received tenancy sustaining services. Among the 3,329 members who received FS, 247 received both nutrition and housing support, and 94 members received multiple housing support categories.

Table II.C.c.55 Distribution of Flexible Services by quarter and type of service

Service Received*	Q1 (n=53)	Q2 (n=1225)	Q3 (n=3141)	Total (n=3329)
Nutrition	52.8%	95.0%	90.7%	**90.1%**
Home modifications	0.0%	0.2%	2.3%	**2.2%**
Pre-tenancy Individual	32.1%	3.9%	5.7%	**6.0%**
Pre-tenancy Transitional	0.0%	0.3%	1.0%	**0.9%**
Tenancy Sustaining	18.9%	5.5%	10.3%	**11.2%**

*A member might receive more than one service and/or receive services in multiple quarters.

Member Experience

Primary Care (PC) Member Experience Survey

Most respondents reported their child's PCP always listened carefully to them, showed respect for what they had to say, spent enough time with their child, communicated information about their child's health in a way that was easy to understand, and seemed informed about their child's medical history. A provider communication composite based on these items is used as an ACO performance measure for calculating ACO quality scores (described in the DSRIP protocol).[48] Most respondents rated their child's PCP's knowledge of their child as a person as excellent or very good in both 2018 (81.8%) and 2019 (82.7%). In 2019, 63.6% of respondents discussed specific goals for their child's health with someone at their child's primary care office compared to 61.5% in 2018.

[48] DSRIP Protocol: https://www.mass.gov/doc/dsrip-protocol-0/download

However, less than half of respondents were asked about challenges in caring for their child; 38.8% in 2018 and 42.2% in 2019, **Table II.C.c.56**.

Table II.C.c.56. In the last 12 months, how often did this provider:

Survey Prompt/Responses	Child, 2018 (n=10,822)#	Child, 2019 (n=10,050)#	Difference*
Communicate in a way that was easy to understand?			
Never	0.9%	0.8%	-0.1%
Sometimes	3.2%	2.8%	-0.5%
Usually	14.5%	14.3%	-0.2%
Always	81.4%	82.2%	0.8%
*Chi-square=0.19			
Listen carefully to you			
Never	0.6%	0.7%	0.1%
Sometimes	2.6%	2.3%	-0.4%
Usually	12.6%	11.9%	-0.7%
Always	84.2%	85.1%	0.9%
*Chi-square=0.13			
Know the important information about your child's medical history			
Never	0.9%	1.0%	0.1%
Sometimes	4.1%	3.9%	-0.1%
Usually	17.9%	17.4%	-0.5%
Always	77.1%	77.7%	0.6%
*Chi-square=0.60			
Talk about specific goals for your child's health?			
No	38.6%	36.4%	-2.2%
Yes	61.5%	63.6%	2.2%
*Chi-square<0.01			

Sample size varies by survey question

Most adult respondents reported their PCP always listened carefully to them, showed respect for what they had to say, spent enough time with them, communicated information about their health in a way that was easy for them to understand, and seemed informed about their medical history. Most adult respondents (75.4%) rated their PCP's knowledge of them as a person as excellent or very good in both 2018 and 2019. Most adult respondents discussed specific goals for their health with someone at their PCP's office (75.3% in 2018 and 75.0% in 2019). Nearly half of adult members

were asked about challenges in caring for their health, 54.6% in 2018 and 55.3% in 2019, **Table II.C.c.57**.

Table II.C.c.57. In the last 12 months, how often did this provider:

Survey Prompt/Responses	Adult, 2018 (n=11,437)#	Adult, 2019 (n=12,220)#	Difference*
Explain things in a way that was easy to understand?			
Never	1.2%	1.3%	0.1%
Sometimes	4.3%	4.7%	0.4%
Usually	17.1%	17.0%	-0.1%
Always	77.4%	77.0%	-0.4%
*Chi-square=0.46			
Listen carefully to you?			
Never	1.4%	1.6%	0.2%
Sometimes	4.6%	5.0%	0.5%
Usually	15.2%	14.5%	-0.7%
Always	78.8%	78.8%	0.0%
*Chi-square=0.11			
Know the important information about your medical history?			
Never	1.7%	2.1%	0.4%
Sometimes	5.8%	6.3%	0.5%
Usually	21.7%	21.8%	0.2%
Always	70.8%	69.9%	-1.0%
*Chi-square=0.12			

Sample size varies by survey question

Behavioral Health Member Experience Survey

Most respondents reported their child's BH provider always listened carefully to them, showed respect for what they had to say, spent enough time with their child, respected their child's cultural/ethnic background and gender expression and identity, and communicated information about their children health in a way that was easy to understand, **Table II.C.c.58** and Appendix G.

Table II.C.c.58. In the last 12 months, how often did your child's behavioral health provider:

Survey Prompt/Responses	Child, 2018 (n=557)#	Child, 2019 (n=485)#	Difference*
Explain things in a way that was easy to understand			
Never	3.0%	3.5%	0.6%

Survey Prompt/Responses	Child, 2018 (n=557)#	Child, 2019 (n=485)#	Difference*
Sometimes	14.8%	10.3%	-4.5%
Usually	26.9%	28.7%	1.8%
Always	55.3%	57.5%	2.2%
*Chi-square=0.10			
Listen carefully			
Never	1.5%	1.2%	-0.2%
Sometimes	9.9%	8.2%	-1.7%
Usually	23.1%	21.0%	-2.1%
Always	65.6%	69.5%	4.0%
*Chi-square=0.45			
Spend enough time with you and/or your child			
Never	2.1%	2.3%	0.2%
Sometimes	9.8%	9.5%	-0.3%
Usually	26.2%	25.7%	-0.5%
Always	62.0%	62.6%	0.6%
*Chi-square=0.99			

Sample size varies by survey question

Most adult respondents reported their BH provider always listened carefully to them, showed respect to what they had to say, spent enough time with them, respected their cultural/ ethnic background and gender expression, and identity, and communicated information about their health in a way that was easy for them to understand, **Table II.C.d.59** and Appendix G.

Table II.C.c.59. In the last 12 months, how often did your behavioral health provider:

Survey Prompt/Responses	Adult, 2018 (n=2,411)#	Adult, 2019 (n=1,790)#	Difference*
Explain things in a way that was easy to understand			
Never	2.3%	2.7%	0.4%
Sometimes	11.0%	11.1%	0.2%
Usually	27.6%	26.9%	-0.7%
Always	59.1%	59.3%	0.1%
*Chi-square=0.78			
Listen carefully to you?			
Never	2.1%	1.8%	-0.3%
Sometimes	7.7%	9.3%	1.6%

Survey Prompt/Responses	Adult, 2018 (n=2,411)#	Adult, 2019 (n=1,790)#	Difference*
Usually	18.9%	20.6%	1.7%
Always	71.3%	68.3%	-3.1%
*Chi-square<0.05			
Spend enough time with you			
Never	2.9%	3.5%	0.6%
Sometimes	9.1%	9.9%	0.8%
Usually	22.4%	24.6%	2.2%
Always	65.6%	62.0%	-3.6%
*Chi-square=0.69			

Sample size varies by survey question

Long-term Services and Supports (LTSS) Member Experience Survey

Most respondents reported their child's LTSS provider always listened carefully to them, showed respect to what they had to say, spent enough time with their child, respected their children cultural/ ethnic background and gender expression and identity, and communicated information about their child's health in a way that was easy to understand, **Table II.C.c.60** and Appendix G.

Table II.C.c.60. In the last 12 months, how often did your child's LTSS provider:

Survey Prompt/Responses	Child, 2018 (n=264)#	Child, 2019 (n=249)#	Difference*
Explain things in a way that was easy to understand			
Never	1.1%	2.9%	1.7%
Sometimes	18.0%	12.7%	-5.4%
Usually	21.0%	30.2%	9.2%
Always	59.9%	54.3%	-5.5%
*Chi-square<0.05			
Listen carefully to you			
Never	0.7%	2.5%	1.8%
Sometimes	14.3%	10.3%	-4.0%
Usually	18.6%	22.8%	4.3%
Always	66.4%	64.4%	-2.1%
*Chi-square=0.15			
Spend enough time with you and/or your child			
Never	2.3%	3.4%	1.0%
Sometimes	13.8%	10.0%	-3.8%

Survey Prompt/Responses	Child, 2018 (n=264)#	Child, 2019 (n=249)#	Difference*
Usually	19.1%	28.0%	8.9%
Always	64.8%	58.6%	-6.1%
*Chi-square=0.10			

Sample size varies by survey question

Most adult respondents reported their LTSS provider always listened carefully to them, showed respect to what they had to say, spent enough time with them, respected their cultural/ethnic background and gender expression and identity, and communicated information about their health in a way that was easy for them to understand, **Table II.C.c.61** and Appendix G.

Table II.C.c.61. In the last 12 months, how often did your LTSS provider

Survey Prompt/Responses	Adult, 2018 (n=641)#	Adult, 2019 (n=650)#	Difference*
Explain things in a way that was easy to understand			
Never	2.8%	3.9%	1.1%
Sometimes	12.1%	11.2%	-0.9%
Usually	23.8%	24.0%	0.2%
Always	61.2%	60.9%	-0.3%
*Chi-square=0.77			
Listen carefully to you			
Never	1.7%	2.3%	0.6%
Sometimes	9.4%	8.2%	-1.2%
Usually	20.3%	20.6%	0.4%
Always	68.7%	68.9%	0.2%
*Chi-square=0.81			
Spend enough time with you			
Never	2.1%	2.5%	0.4%
Sometimes	11.9%	8.8%	-3.1%
Usually	20.2%	25.2%	4.9%
Always	65.8%	63.6%	-2.3%
*Chi-square=0.10			

Sample size varies by survey question

Perceptions of Patient-Centered Care

ACO Provider and CP Staff Surveys

ACO providers and CP staff were asked to what extent they agree or disagree with statements related to providing patient-centered care for patients with chronic conditions and members BH and LTSS member populations, **Table II.C.c.62**.

Most ACO providers and CP staff agreed or strongly agreed their organization provided patient-centered care. They communicated with members in a way patients can understand, saw patients as equal partners in their care, and encouraged them to actively participate in setting goals and managing their health conditions by developing self-management skills. Most of the respondents agreed or strongly that care was designed to meet patients' preferences and their families, routinely used patient feedback to improve services. In addition, most respondents agreed or strongly agreed they regularly contacted patients to remind them of regular prevention or follow-up visits, how to manage their health condition, or to inform them of abnormal laboratory results, **Table II.C.c.62**.

Table II.C.c.62. Percentage of ACO providers and CP Staff that agreed or strongly agreed with statements regarding patient-centered care at their organization

Survey Item	ACO Providers (n=1,050)[#]	CP Staff (n=482)[#]
We communicated with patients in a way that they understood (e.g., appropriate language and literacy)	94%	97%
Providers and staff viewed patients as equal partners in their care	90%	94%
Care was designed to meet the preferences of patients and their families	88%	93%
When developing a treatment plan, providers and staff routinely encouraged patients to actively participate in setting goals	89%	97%
Providers and staff routinely worked with patients to develop self-management skills for managing their health conditions	85%	93%
We regularly used feedback from patients and families to improve services	70%	85%
We routinely contacted patients to remind them of regular preventive or follow-up visits (e.g., flu vaccine or routine lab tests, medical or behavioral health appointment, care coordination meeting, etc.)	83%	88%
We routinely contacted patients to inform them of abnormal laboratory results	97%	Not applicable
We routinely contacted patients with chronic conditions to help them manage their conditions	81%	90%

#Overall number of responses to the survey, the number of responses to specific items varies.

Care Processes

Hybrid Measures

Care processes for maternal and pediatric populations are measured using three hybrid HEDIS measures: (1) Childhood Immunization Status (CIS), (2) Immunizations for Adolescents (IMA), and (3) Timeliness of prenatal care, a sub-measure of Prenatal and Postpartum Care (PPC)

CIS measures the percentage of children two years of age who had four Diptheria, tetanus and acellular pertussis (DTaP); three polio (IPV); one measles, mumps, and rubella (MMR); three H influenza type B (HiB); three hepatitis B (HepB); one chickenpox (VZV); four pneumococcal conjugates (PCV); one hepatitis A (HepA); two or three rotaviruses (RV); and two influenzas (flu) vaccines by their second birthday. There was a 13.4 percentage point increase in childhood immunization from 42.6% (2,420 of 5,683) in 2018 to 56.0% (3,183 of 5,685) in 2019, **Table II.C.c.63**.

Immunizations for Adolescents measures the percentage of adolescents 13 years of age who had one dose of meningococcal conjugate vaccine, one tetanus, diphtheria toxoids, and acellular pertussis (Tdap) vaccine and have completed the human papillomavirus (HPV) vaccine series by their 13th birthday. There was a 4.5 percentage point increase in immunization for adolescents from 39.2% (2,424 of 6,190) in 2018 to 43.6% (2,568 of 5,888) in 2019, **Table II.C.c.63**.

Timeliness of prenatal care measures the percentage of deliveries preceded by a prenatal care visit within the first trimester, on the attribution start date, or within 42 days of ACO attribution. There was a 3.3 percentage point increase in the timeliness of prenatal care, from 77.6% (5,103 of 6,574) in 2018 to 80.9% (5,101 of 6,302) in 2019, **Table II.C.c.63**.

Table II.C.c.63. Distribution of ACO Results: Childhood Immunization Status, Immunization for Adolescents, and Timeliness of Prenatal Care (2018-2019)

Measure	2018 % (Denominator)	2019 % (Denominator)	Differences
Childhood Immunization Status	42.6% (5,683)	56.0% (5,685)	13.4% ***
Immunizations for Adolescents	39.2% (6,190)	43.6% (5,888)	4.5% ***
Timeliness of Prenatal Care	77.6% (6,574)	80.9% (6,302)	3.3% ***

*** denotes p-value <0.001

RQ9 To what extent did integration between physical, behavioral, and long-term services increase?

This section presents the results of two rounds (2018, 2019) of surveys for six populations: 1) pediatric primary care, 2) adult primary care, 3) pediatric BH, 4) adult BH, 5) pediatric LTSS, and 6) adult LTSS; adults were ≥ 18 years and children were <18 years of age. RQ9 also includes results for several administrative measures, and results from the Practice Site Administrator, ACO provider and CP staff surveys. The results for all RQ9 administrative measures are summarized for the managed care eligible (i.e., ACO, MCO, and PCC) populations in **Table II.C.c.64,** for the ACO members in **Table II.C.c.65,** and for CP members in **Table II.C.c.66**, with additional information on characteristics and performance included in Appendix F.

Care Integration

Administrative Measures

As described in the Independent Evaluation Design, *integrated patient care* is defined as "patient care that is coordinated across professionals, facilities, and support systems; continuous over time and between visits; tailored to the patients' needs and preferences; and based on shared responsibility between patient and caregivers for optimizing health"[49]. Transitions of care represent a high-risk period of time for members and a critical opportunity for coordination between inpatient and outpatient providers to translate into improved member outcomes and reduced healthcare expenditures. Therefore, we examine multiple measures of timeliness of outpatient follow-up after an ED or inpatient visit. At baseline, more than two-thirds (69.2%) of managed care eligible members received follow-up with a physician within 30 days after a hospital discharge, but fewer received a follow-up visit with a mental health practitioner within seven days after hospitalizations for mental illness specifically (52.1%); the 30-day follow-up rate remained stable during 2018 (70.5%) and 2019 (70.6%), while a modest decline occurred for the 7-day follow-up measure to 49.2% in 2018 and 47.3% in 2019. Within the subgroup of BH CP enrollees, follow-up rates with the member's CP after hospitalizations and ED visits were low for both measures in 2018 (<2%) and 2019 (<20%), but the year-over-year improvement was observed for both measures (**Table II.C.c.66**).

We report on select proxies for care coordination between professionals (i.e., primary care and BH providers). Among managed care eligible members with cardiovascular disease and schizophrenia, 73.0% had an annual LDL-C test at baseline. The percentage receiving a test remained stable in 2018 and 2019. A modest increase in LDL-C testing was observed in 2019 among ACO members with cardiovascular disease and schizophrenia, but sample sizes were small for this measure (Appendix F).

[49] Singer SJ, Burgers J, Friedberg M, Rosenthal MB, Leape L, Schneider E. Defining and measuring integrated patient care: promoting the next frontier in health care delivery. Med Care Res Rev. 2011 Feb;68(1):112-27. doi: 10.1177/1077558710371485. Epub 2010 Jun 16. PMID: 20555018.

Table II.C.c.554. Rates and Observed to Expected (O:E) Ratios for Administrative Measures of Care Integration Among Managed Care Eligible Members

Measure and Population	2015-17	2015-17	2018	2019
	Observed	O:E Ratio	O:E Ratio	O:E Ratio
CV Monitoring for People with CV disease and Schizophrenia	73.0	1.00	1.01	1.03
Physician visit within 30 days of hospital discharge (per 100 discharges)	69.2	1.00	1.00	1.00
Follow-up after ED visit for mental illness (7 days) (per 100 discharges)	78.4	1.00	0.99	0.98
Follow-up after hospitalization for mental illness (7 days) (per 100 discharges)	52.1	1.00	0.95	0.91

Table II.C.c.65. Rates and Observed to Expected (O:E) Ratios for Administrative Measures of Care Integration Among ACO Members

Measure and Population	2015-17	2015-17	2018	2019
	Observed	O:E Ratio	O:E Ratio	O:E Ratio
CV Monitoring for People with CV disease and Schizophrenia	72.3	0.99	0.98	1.06
Physician visit within 30 days of hospital discharge (per 100 discharges)	69.0	1.00	1.01	1.00
Follow-up after ED visit for mental illness (7 days) (per 100 discharges)	78.1	1.00	0.99	0.98
Follow-up after hospitalization for mental illness (7 days) (per 100 discharges)	52.43	1.01	0.96	0.92

Each year includes members who are managed care (Table II.C.d.64) or ACO (Table II.C.d.65) eligible for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. In the managed care eligible population, the O:E ratio is 1.0 exactly by design for the baseline period (2015-2017). During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or PCC sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14

Table II.C.c.66. Rates for Administrative Measures of Care Integration, BH CP Enrollees

Measure and Population	2018	2019
	%	%
Follow-up with BH CP after acute or post-acute stay within 3 days	1.6	6.0
Follow-up with BH CP or any provider within 7 days of ED discharge	1.4	15.3

Note: Each year includes members who are managed care eligible for at least 320 days that year and enrolled with a BH CP (Table II.C.d.66) for at least the period including the discharge date through the duration of follow-up on the measure.

Practice Site Administrator Survey

Most practice site administrators (68%) reported that discharge summaries were "often or always" sent to primary care clinicians within 72 hours for complex, high-need patients.

Outpatient Care Integration

Primary Care (PC) Member Experience Survey

In 2018, 65.0% of respondents reported their child's PCP was always informed and up to date about the care their child received from specialists, and 65.8% in 2019.Similarly, 63.8% of adult respondents reported their PCP was always informed and up to date about the care they received from specialists in 2018 and 62.8% in 2019, **Tables II.C.c.67** and **II.C.c.68**.

Table II.C.c.67. In the last 12 months, how often did your child's primary care provider seem informed and up to date about the care your child got from specialists?

Survey Response	Child, 2018 (n=3,648)	Child, 2019 (n=3,254)	Difference*
Never	2.9%	2.3%	-0.6%
Sometimes	8.1%	7.8%	-0.4%
Usually	24.0%	24.1%	0.1%
Always	65.0%	65.8%	0.8%
*Chi-square=0.48			

Table II.C.c.6856. In the last 12 months, how often did your primary care provider seem informed and up to date about the care you got from specialists?

Survey Response	Adult, 2018 (n=7,260)	Adult, 2019 (n=7,498)	Difference*
Never	3.0%	3.3%	0.3%
Sometimes	8.0%	8.7%	0.7%
Usually	25.3%	25.2%	0.0%
Always	63.8%	62.8%	-1.0%
*Chi-square=0.35			

Outpatient BH Care Integration

Practice Site Administrator Survey

About one-fifth (21%) of practice site administrators reported prescribing clinicians such as psychiatrists and psycho-pharmacologists were co-located within their practice site often or always, and 34% of administrators reported that counseling therapists were located within their practice site.

Half of all responding practice site administrators (49%) agreed that there is a clear established process for receiving care notes from behavioral health clinicians and care coordinators, and a similar proportion (48%) agree that there is a clear process for establishing when there is shared responsibility for co-managing a member's care.

Behavioral Health Member Experience Survey

About half (52.8%) of respondents felt their child's care coordinator seemed to always know important information about their child's medical history in 2018, and 60.9% did so in 2019. In 2019, 74.6% of respondents rated their child's care coordinator's knowledge of their child's values and beliefs as very good or excellent compared to 62.7% in 2018, **Table II.C.c.69**.

Table II.C.c.6957. Member experience with care coordination for pediatric members, ACO members, 2018-2019

Survey Question/Response	Child, 2018 (n=191)#	Child, 2019 (n=157)#	Difference*
In the last 12 months, how often did your child's care coordinator seem to know the important information about your child's medical history			
Never	2.4%	3.3%	1.0%
Sometime	20.8%	10.3%	-10.5%
Usually	24.0%	25.5%	1.5%
Always	52.8%	60.9%	8.1%
*Chi-square=0.12			

Survey Question/Response	Child, 2018 (n=191)#	Child, 2019 (n=157)#	Difference*
How would you rate your child's care coordinator's knowledge about your child as a person, including special abilities, concerns, and fears			
Very poor	0.0%	2.3%	2.3%
Poor	1.9%	0.5%	-1.4%
Fair	14.3%	3.1%	-11.2%
Good	21.0%	19.3%	-1.7%
Very good	27.3%	37.5%	10.2%
Excellent	35.4%	37.1%	1.7%
*Chi-square<0.01			

Sample size varies by survey question

Less than one-third of respondents reported their child's BH providers always worked together as a team to provide the BH services their child needed in 2018 and 2019. Less than one-third of parents and guardians reported their child's PCP and BH providers always worked together as a team to provide care for their children in 2018 and 2019, **Table II.C.c.70**.

Table II.C.c.70. In the last 12 months, how often did your child's:

Survey Question/Response	Child, 2018 (n=857)#	Child, 2019 (n=662)#	Difference*
BH provider(s) and PCP working together as a team to provide your child's care			
Never	31.3%	28.1%	-3.2%
Sometimes	16.9%	18.5%	1.6%
Usually	17.4%	15.9%	-1.6%
Always	28.7%	33.1%	4.4%
Not applicable. My child did not see a primary care provider in the last 12 months.	5.7%	4.5%	-1.2%
*Chi-square=0.28			
BH provider(s) working together as a team to provide the BH services your child needed			
Never	16.1%	15.7%	-0.4%
Sometimes	16.0%	16.0%	0.0%
Usually	17.8%	18.2%	0.4%
Always	29.3%	31.3%	2.0%

Survey Question/Response	Child, 2018 (n=857)#	Child, 2019 (n=662)#	Difference*
Not applicable, my child did not see multiple behavioral health providers in the last 12 months	20.8%	18.9%	-1.9%
*Chi-square=0.89			

Sample size varies by survey question; PCP denotes primary care provider

In 2018, 48.8% of adult respondents reported their care coordinators always knew important information about their medical history, and 50.4% in 2019. In 2018, 61.4% of adult members who had a care coordinator rated their coordinator's knowledge of their values and beliefs as very good or excellent, and 63.4% did so in 2019, **Table II.C.c.71**. The majority (81.9%) of respondents who enrolled with a CP reported their care coordinator's knowledge of their values and beliefs as good, very good, or excellent. This rating was consistent with what respondents reported in 2019 (Appendix G).

Table II.C.c.71. Member experience with care coordination for adult members, ACO members, 2018-2019

Survey Question/Response	Adult, 2018 (n=995)#	Adult 2019 (n=849)#	Difference*
In the last 12 months, how often did your care coordinator seems to know the important information about your medical history			
Never	4.7%	4.7%	0.1%
Sometime	18.0%	16.3%	-1.7%
Usually	28.5%	28.6%	0.1%
Always	48.8%	50.4%	1.6%
Never	4.7%	4.7%	0.1%
*Chi-square=0.83			
How would you rate your care coordinator's knowledge of you as a person, including values and beliefs that are important to you			
Very poor	2.2%	1.6%	-0.6%
Poor	2.0%	3.0%	1.1%
Fair	11.7%	12.1%	0.4%
Good	22.8%	20.0%	-2.8%
Very good	29.2%	27.4%	-1.8%
Excellent	32.2%	35.9%	3.8%
*Chi-square=0.31			

Sample size varies by survey question

In 2018, 33.5% of adult respondents reported their PCP and BH providers always worked as a team to provide them with the needed care, and 34.0% did so in 2019, **Table II.C.c.72**. This percentage was slightly higher among CP enrollees in 2018 (36.2%) and 2019 (37.7%), Appendix G. In 2018, 36.8% of adult respondents reported their BH providers always worked together as a team to provide the needed BH services, and 36.1% did so in 2019. For respondents enrolled with a CP, 39.4% reported their BH providers always worked together to provide the needed BH services in 2018, and 38.4% reported so in 2019, Appendix G.

Table II.C.c.72. In the last 12 months, how often did your:

Survey Question/Response	Adult, 2018 (n=3,441)[#]	Adult, 2019 (n=2,512)[#]	Difference*
BH provider(s) and PCP working together as a team to provide care			
Never	26.2%	24.4%	-1.8%
Sometimes	16.7%	17.2%	0.4%
Usually	17.7%	18.0%	0.3%
Always	33.5%	34.0%	0.5%
Not applicable. I did not see a primary care provider in the last 12 months.	5.9%	6.6%	0.7%
*Chi-square=0.59			
BH provider(s) work together as a team to provide your child with the BH services you needed			
Never	15.2%	16.1%	0.9%
Sometimes	13.2%	11.8%	-1.4%
Usually	16.2%	16.5%	0.4%
Always	36.8%	36.1%	-0.6%
Not applicable, I did not have multiple behavioral health providers in the last 12 months	18.7%	19.5%	0.8%
*Chi-square=0.53			

[#] Sample size varies by survey question; PCP denotes primary care provider

LTSS Care Integration

Practice Site Administrator Survey

Less than half of responding practice site administrators agree that providers follow a clear process for establishing relationships with LTSS providers (37%) or getting updates about a patient's condition from LTSS providers (35%).

LTSS Member Experience Survey

Half (51.3%) of respondents reported their child's care coordinators always know important information about their child's medical history in 2018, and 37.0% in 2019. In 2018, 62.3% of respondents rated their child's care coordinators' knowledge of their child as very good or excellent compared to 46.4% in 2019, **Table II.C.c.73**.

Table II.C.c.73. Member experience with care coordination for pediatric ACO members, 2018-2019

Survey Question/Response	Child, 2018 (n=171)#	Child, 2019 (n=191)#	Difference*
In the last 12 months, how often did your child's care coordinator seem to know the important information about your child's medical history			
Never	4.3%	7.7%	3.4%
Sometime	19.2%	21.8%	2.6%
Usually	25.2%	33.5%	8.3%
Always	51.3%	37.0%	-14.3%
*Chi-square=0.06			
How would you rate your child's care coordinator's knowledge of your child as a person, including special abilities, concerns, and fears			
Very poor	1.0%	3.0%	2.0%
Poor	1.8%	4.1%	2.3%
Fair	8.8%	13.7%	4.9%
Good	26.1%	32.8%	6.7%
Very good	24.0%	20.4%	-3.7%
Excellent	38.3%	26.0%	-12.3%
*Chi-square=0.06			

Sample size varies by survey question

There was a 19% reduction in the percentage of respondents who reported their child's PCP and LTSS providers always work together as a team to provide care for their child, 55.8% in 2018, and 36.9% in 2019. Similarly, there was an 8.0 percentage points reduction in the percentage of respondents who reported their child's LTSS providers always worked together as a team to provide the LTSS services their child needed, 43.9% in 2018 and 35.9% in 2019, **Table II.C.c.74**. However, among CP enrollees, this reduction might be due in part to a 13 percentage points increase in respondents who reported "not applicable" due to their child having one LTSS provider, from 7% in 2018 to 20% in 2019, Appendix G.

Table II.C.c.74. In the last 12 months, how often did all of your child's:

Survey Question/Response	Child, 2018 (n=257)#	Child, 2019 (n=252)#	Difference*
LTSS provider(s) and primary care provider work together as a team to provide your child's care			
Never	9.3%	22.0%	12.8%
Sometimes	18.3%	19.0%	0.7%
Usually	13.2%	18.5%	5.3%
Always	55.8%	36.9%	-19.0%
Not applicable. I did not see a primary care provider in the last 12 months.	3.5%	3.6%	0.2%
*Chi-square<0.001			
LTSS providers work together as a team to provide your child with the long-term services and support needed			
Never	7.7%	16.9%	9.2%
Sometimes	19.3%	12.4%	-6.9%
Usually	13.4%	19.4%	5.9%
Always	43.9%	35.9%	-8.0%
Not applicable, my child did not have multiple LTSS providers in the last 12 months	15.7%	15.3%	-0.3%
*Chi-square<0.01			

Sample size varies by survey question

Over half of adult respondents felt their care coordinators seem to always know important information about their medical history in 2018 and 2019. In 2018, 62.3% of adult members rated their care coordinators' knowledge of their values and beliefs as very good or excellent, and 67.7% did so in 2019, **Table II.C.c.75**. This year-over-year increase was only present among members who were not enrolled with CPs. We did not observe a year-over-year increase for those enrolled with CPs (Appendix G).

Table II.C.c.7558. Member experience with care coordination for adult ACO members, 2018-2019

Survey Question/Response	Adult, 2018 (n=582)#	Adult 2019 (n=548)#	Difference*
In the last 12 months, how often did your care coordinator seem to know the important information about your medical history			
Never	3.1%	4.2%	1.2%
Sometime	16.3%	13.8%	-2.6%
Usually	25.6%	27.3%	1.7%
Always	55.0%	54.7%	-0.3%
*Chi-square=0.53			
How would you rate your care coordinator's knowledge of you as a person, including values and beliefs that are important to you			
Very poor	0.9%	1.6%	0.7%
Poor	1.4%	2.5%	1.1%
Fair	10.5%	7.8%	-2.7%
Good	24.9%	20.4%	-4.5%
Very good	28.0%	26.7%	-1.3%
Excellent	34.3%	41.0%	6.7%
*Chi-square=0.08			

Sample size varies by survey question

There was a two percentage points increase in adult respondents who reported their PCP and LTSS providers always work together as a team to provide the care they needed, from 54.5% in 2018 to 56.5% in 2019. However, there was a 3.4 percentage points decrease in adult respondents who reported their LTSS providers always worked together as a team to provide the LTSS they needed, from 49.5% in 2018 to 46.1% in 2019, **Table II.C.c.76**.

Table II.C.c.76. In the last 12 months, how often did all of your:

Survey Question/Response	Adult, 2018 (n=636)#	Adult, 2019 (n=642)#	Difference*
LTSS provider(s) and primary care provider work together as a team to provide care			
Never	6.8%	10.7%	3.9%
Sometimes	15.7%	12.2%	-3.5%
Usually	20.9%	17.6%	-3.3%
Always	54.5%	56.5%	2.0%

Survey Question/Response	Adult, 2018 (n=636)#	Adult, 2019 (n=642)#	Difference*
Not applicable, I did not see a primary care provider in the last 12 months.	2.1%	3.0%	0.9%
*Chi-square<0.05			
LTSS providers work together as a team to provide the long-term services and supports			
Never	5.1%	8.4%	3.3%
Sometimes	12.4%	12.1%	-0.4%
Usually	18.4%	14.8%	-3.6%
Always	49.5%	46.1%	-3.4%
Not applicable, I did not have multiple LTSS providers in the last 12 months	14.60%	18.70%	4.10%
*Chi-square<0.05			

Sample size varies by survey question

ACOs Provider and CP Staff Surveys

The ACO provider and CP staff surveys asked about care coordination within teams, care coordination with other providers, and care coordination with other resources for patients with chronic conditions. Nearly half of ACO providers agreed or strongly agreed that their organizations had established relationships with CPs and other community agencies to facilitate referrals. About half of ACO providers and CP staff felt they were well informed about available community resources for patients, that patient care was well coordinated with community resources, and that these referrals were effective in addressing patients' HRSNs, **Tables II.C.a.8, II.C.c.77,** and Appendix H.

Most CP staff were well informed about available community resources for members, most agreed or strongly agreed their institutions had established relationships with other community agencies to facilitate their referral to these institutions, and the majority agreed or strongly agreed that their referrals to other community-based organizations were effective in addressing members' HRSNs. However, there is room for improvement in care coordination. Only 42% of BH and LTSS CP staff agreed or strongly agreed they were well informed at the time of the initial member encounter about members' medical history and current treatments, and 40% agreed or strongly agreed they routinely received discharge summaries after their members were hospitalized, **Table II.C.a.77, Table II.C.c.78,** and Appendix H.

Table II.C.c.77. Percentage of ACO primary care providers that agreed or strongly agreed with the level of care coordination within their practice site, with external providers, and with community resources

Survey Item	Total (n=1,050)[#]	Physicians (n=524)[#]	NPs/PAs (n=205)[#]	Nurses (n=248)[#]	Social Workers (n=73)[#]
Providers and staff met frequently (e.g., team huddles) to plan for patient visits	63%	63%	46%	74%	72%
Candid and open communication existed between providers and other staff	88%	89%	88%	86%	95%
Providers and staff were well informed at the time of each patient visit about patients' medical history and current treatments	81%	82%	76%	80%	90%
Patients saw the same care team or provider for routine clinic visits	80%	81%	77%	78%	85%
Patient care was well coordinated with external health care providers (e.g., specialists, hospitals)	69%	67%	62%	78%	68%
We had good systems in place to track referrals to external providers	65%	67%	58%	69%	62%
We routinely received discharge summaries after our patients were hospitalized	75%	79%	71%	73%	48%
We routinely received event notification system alerts about our patients' healthcare encounters (e.g., inpatient and emergency department admissions)	77%	79%	71%	77%	70%
Providers and staff were well informed about available community resources for patients	60%	59%	51%	68%	71%
Our referrals to community-based organizations were effective in addressing the patient's health-related social needs (e.g., housing, nutrition)	56%	52%	51%	65%	71%

[#]Overall number of responses to the survey, the number of responses to specific items varies

Table II.C.c.7859. Percentage of BH and LTSS CP staff that agreed or strongly agreed with the level of care coordination within their practice site, with external providers, and with community resources

Survey Item	Total (n=463)#	BH only (n=320)#	LTSS only (n=64)#	BH/LTSS (n=98)#
Member care was well coordinated among staff	90%	89%	91%	92%
Staff met frequently (e.g., team huddles) to plan for member encounters	88%	88%	86%	96%
Candid and open communication existed amongst staff	90%	90%	88%	92%
Staff were well informed at the time of the initial member encounter about members' medical history and current treatments	42%	41%	45%	51%
Staff were well informed at the time of each subsequent member encounter about members' medical history and current treatments	62%	62%	53%	84%
Members saw the same care team or case manager after intake	85%	86%	84%	75%
Member care was well coordinated with external health care providers (e.g., primary care providers, specialists, hospitals)	73%	73%	69%	90%
Member care was well coordinated with external care management programs (e.g., Independent Living Centers, Department of Mental Health)	69%	69%	63%	78%
We had good systems in place to track referrals to external providers	56%	57%	54%	55%
We routinely received discharge summaries after our members were hospitalized	40%	39%	46%	47%
We routinely received event notification system alerts about our members' healthcare encounters (e.g., inpatient and emergency department admissions)	88%	87%	92%	92%
Staff were well informed about available community resources for members	82%	82%	79%	85%
Our referrals to other community-based organizations were effective in addressing the member's health-related social needs (e.g., housing, nutrition)	79%	78%	86%	84%

*Overall number of responses to the survey, the number of responses to specific items varies.

RQ10 How did the volume and mix of services utilized by members change during the course of the Demonstration?

RQ10 includes results for several administrative measures of healthcare utilization by setting (i.e., primary care, post-acute care) and low-value care measures. Low-value care represents an evidence-based opportunity to reduce potentially unnecessary utilization and associated costs to an ACO or MCO, which should be attractive to organizations bearing the total cost of care accountability. Increases in primary care utilization and reductions in high-cost institutional post-acute care utilization also represent potential opportunities to maintain or increase quality while reducing care costs. Although we assume reduction in post-acute care may represent a desirable reduction of low-value services, post-acute care is warranted for many patients discharged from the hospital, and further research is needed to determine whether reductions in utilization are associated with worsening of post-discharge outcomes. The results for all RQ10 administrative measures are summarized for the managed care eligible population in **Tables II.C.c.79** and for ACO members in **Table II.C.c.80**, with additional information on characteristics and performance included in Appendix F.

On average, adult ACO members visited their primary care provider 7.2 times per year at baseline, 8.5 times per year in 2018, and 9.3 times per year in 2019. Primary care visit rates were lower among MCO members at baseline (6.0 visits per member per year), and PCP visit rates declined for MCO members during 2018 (4.6 visits per member per year) and 2019 (5.1 per member per year). Increases in primary care utilization were also observed and of similar relative magnitude in subgroups with diabetes and BH conditions. Rates of primary care utilization fluctuated modestly among pediatric ACO members from 4.7 times per person per year at baseline to 5.0 in 2018 and 4.8 in 2019, **Tables II.C.c.79, II.C.c.80**, and Appendix F.

Post-acute care utilization rates were below expected levels (based on pre-DSRIP experience) in 2018 and 2019. Among ACO members, institutional post-acute care utilization declined from baseline (2015-17 O:E ratio: 0.99, 2018 O:E ratio: 0.78, 2019 O:E ratio: 0.85), and rates of home-care utilization remained stable (2015-17 O:E ratio: 1.00, 2018 O:E ratio: 1.02, 2019 O:E ratio: 0.96), **Tables II.C.c.79** and **II.C.c.80**. Among MCO members, rates of institutional post-acute care remained stable while home care rates declined (Appendix F). Patterns were generally consistent among subgroups of members with BH conditions or diabetes mellitus (DM) (Appendix F).

The prevalence of low-value care remained stable, **Table II.C.c.79**. During the baseline and early DSRIP period, nearly all managed care eligible children receiving antibiotics for pharyngitis received a strep test, as is recommended (i.e., few had low-value care – antibiotics without a strep test). Approximately one in six managed care eligible adults with low back pain received imaging during the baseline period, and this fraction remained relatively stable in 2018 and 2019. Only a small minority of adults (4.9%) received combined (i.e., potentially duplicative) abdominal CT imaging studies at baseline, and the prevalence of combined CT studies appeared to decrease in 2018 (2.1%) and remained below baseline in 2019 (4.3%); however, the numerator size was

small in all years (Appendix F). A small percentage of managed care eligible members without cancer used opioids at high dosages at baseline (3.9%), in 2018 (3.9%), and 2019 (3.7%). While ACO performance was similar or slightly better than the overall managed care eligible population, MCO enrollees had higher rates of high dose opioid use at baseline (4.7%), in 2018 (5.9%) and 2019 (6.2%) that were not explained by member characteristics (Appendix F).

Table II.C.c.79. Rates and Observed to Expected (O:E) Ratios for Administrative Measures of Care Integration Among Managed Care Eligible Members

Measure and Population	2015-17	2015-17	2018	2019
	Observed	O:E Ratio	O:E Ratio	O:E Ratio
PCP visit rate, per 100 persons	614.1	1.00	1.05	1.09
PCP visit rate (members with SMI/SUD), per 100 persons	1,287.3	1.00	1.00	1.07
PCP visit rate (members with DM), per 100 persons	1,509.8	1.00	1.04	1.10
Post-acute care utilization, % of hospital discharges	17.7%	1.00	0.92	0.92
Institutional post-acute care utilization, % of hospital discharges	6.2%	1.00	0.78	0.87
Home-based post-acute care, % of hospital discharges	11.5%	1.00	0.99	0.95
Post-acute care utilization (members with SMI/SUD), % of hospital discharges	18.8%	1.00	0.88	0.90
Institutional post-acute care utilization (members with SMI/SUD), % of hospital discharges	8.0%	1.00	0.73	0.82
Home-based post-acute care, % of hospital discharges	10.8%	1.00	0.99	0.95
Post-acute care utilization (members with DM), % of hospital discharges	62.8%	1.00	0.97	0.97
Institutional post-acute care utilization (members with DM), % of hospital discharges	15.1%	1.00	0.89	0.96
Home-based post-acute care (members with DM), % of hospital discharges	47.7	1.00	1.00	0.98
Imaging for low back pain, %	16.7%	1.00	1.03	1.06
Abdomen CT combined studies, %	4.9%	0.98	0.50	0.79
Strep test with antibiotic dispensing for childhood pharyngitis, %	94.6%	1.00	1.00	1.00
Use of opioids at high dosage in patients without cancer	3.9%	1.00	0.97	0.93

Each year includes members who are managed care (Table II.C.d.80) or ACO (Table II.C.d.81) eligible for at least 320 days that year. “Observed” equals the calculated outcome for the quality measure. “Expected” is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. “Observed:Expected” is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. In the managed care eligible population, the O:E ratio is 1.0 exactly by design for the baseline period (2015-2017). During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or PCC sector based on their primary care provider’s affiliation at the time of the ACO program launch in 2018.

Higher is better legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14
Lower is better legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14

Table II.C.c.80. Rates and Observed to Expected (O:E) Ratios for Administrative Measures of Care Integration Among ACO Members

Measure and Population	2015-17	2015-17	2018	2019
	Observed	O:E Ratio	O:E Ratio	O:E Ratio
PCP visit rate, per 100 persons	614.9	1.00	1.08	1.12
PCP visit rate (members with SMI/SUD), per 100 persons	1,305.3	1.00	1.05	1.10
PCP visit rate (members with DM), per 100 persons	1,515.3	1.00	1.07	1.11
Post-acute care utilization, % of hospitalizations	17.7%	1.00	0.93	0.92
Institutional post-acute care utilization, % of discharges	6.1%	0.99	0.78	0.85
Home-based post-acute care, % of discharges	11.5%	1.00	1.02	0.96
Post-acute care utilization (members with SMI/SUD), % of hospital discharges	18.7%	0.99	0.89	0.90
Institutional post-acute care utilization (members with SMI/SUD), % of hospital discharges	8.0%	1.00	0.73	0.81
Home-based post-acute care, % of hospital discharges	10.8%	0.99	1.01	0.96
Post-acute care utilization (members with DM), % of hospital discharges	62.7%	1.00	0.97	0.97
Institutional post-acute care utilization (members with DM), % of hospital discharges	15.2%	1.00	0.88	0.95
Home-based post-acute care (members with DM), % of hospital discharges	47.6%	1.00	1.01	0.98
Imaging for low back pain, %	16.0	0.96	0.99	1.05
Abdomen CT combined studies, %	4.6	0.94	0.44	0.85
Strep test with antibiotic dispensing for childhood pharyngitis, %	94.8%	1.00	1.01	1.00
Use of opioids at high dosage in patients without cancer	3.4%	0.88	0.82	0.77

Each year includes members who are managed care (Table II.C.d.80) or ACO (Table II.C.d.81) eligible for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. In the managed care eligible population, the O:E ratio is 1.0 exactly by design for the baseline period (2015-2017). During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or PCC sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Higher is better legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14
Lower is better legend:	OE: <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14

II.C.d. Domain 3: Changes in member outcomes

Background

Domain 3 examines changes in member outcomes over the baseline (2015-2017) and DSRIP program (2018-2022) periods. Domain 3 interim findings establish MassHealth's delivery system's historical baseline performance before the DSRIP program while providing an initial indication of member experience and health outcomes during the early DSRIP implementation period (March 1, 2018- Dec 31, 2019). We hypothesize that changes in member outcomes are most likely to be observed in the latter years of the DSRIP program as knowledge accumulates, programs are refined, and participating entities improve their ability to operate under an accountable and integrated care model. Therefore, Domain 3 interim findings reflect the outcomes observed during the first 22 months of the ACO program and the first 18 months of the CP program but do not seek to conclusively address whether hypothesized effects of the DSRIP program were realized. The hypotheses that are associated with each RQ and which will be addressed directly in the Summative Report are presented in Appendix C.

Interim findings for RQ11 include results of descriptive analyses of clinical outcomes for ACOs and member self-reported ratings of general and mental health. Clinical outcome data were available during 2018 and 2019 for three hybrid quality measures included on the MassHealth ACO quality performance measure slate used to adjust payments to the ACOs. Self-reported health ratings for ACO members are based on two rounds (2018, 2019) of primary care, behavioral health (BH), and long-term services and supports (LTSS) surveys, each of which was conducted separately among adults and children. As noted in **Section II.C.b.,** there are several limitations associated with the member surveys, notably, revised definitions of BH services, revised definitions of LTSS and LTSS providers, expanded response categories for several questions to accommodate the change in response options, and the timing of the data collection for the 2019 data, which were collected between January and May 2020, the beginning of the COVID-19 epidemic. The timing might have impacted members memories of services and care received before the epidemic.

In RQ11, we also report on changes in utilization outcomes (i.e., hospitalizations, readmissions, ED visits) for the overall managed care eligible population (i.e., ACO, MCO, and PCC), MassHealth members enrolled in ACOs (i.e., ACO members), MassHealth members enrolled in MCOs (i.e., MCO members), and select subgroups of interest (e.g., members with BH conditions). As described in the methods section, in addition to describing changes in utilization outcomes over time, we used multivariable modeling to examine the extent to which observed changes can be explained by changes in member characteristics between the baseline and DSRIP periods. Although we do not implement comparative quasi-experimental designs for this interim report, we present results for the MCO population as an early indication of changes in outcomes for members who were not directly targeted by most elements of the DSRIP program.

Interim findings for RQ12 include results of descriptive analyses of member experience measures. As with RQ11, member reported data were collected in two rounds (2018, 2019) of primary care, BH, and LTSS surveys. As described in the methods section (**Section II.C.b)**, we present results of member surveys that were weighted to reflect the characteristics of the full sample of members, to adjust for potential bias related to differences between the types of members who did and did not respond.

The longitudinal nature of the MassHealth MMIS administrative claims and encounters data enabled the evaluation of changes in the emergency department (ED) and acute hospital utilization during the baseline (2015-2017) and early DSRIP period (2018, 2019). To facilitate interpretation of changes over time, we report results during the baseline period for the "virtual" managed care sector (i.e., ACO, MCO, PCC) that a member would have been assigned to using MassHealth's PCP attribution algorithm at the time the ACO program launched in March 2018.

We report observed (i.e., unadjusted) results, expected values, and adjusted results as observed to expected (O:E) ratios. With O:E ratios, the observed value for a measure is divided by the expected value predicted by a statistical model based on an individual's sociodemographic and clinical characteristics. The model was developed using 2015-2017 data and applied to each year of the study period. See the methods section (**Section II.C.b)** for further discussion of modeling. The ratio of observed to expected values varies around 1.0; ratios <1 indicate lower than expected outcomes, while ratios >1 indicate higher than expected outcomes for the measure. The results for all Domain 3 administrative measures are summarized for the overall managed care eligible and ACO populations in **Tables II.C.d.1** and **II.C.d.2**. We noted observed rates greater than or equal to 5% and color coded the summary tables to highlight these results. We also separately highlight O:E ratios greater than or equal to +/-15% to facilitate identification of larger changes in performance versus baseline. Complete results for each specific measure and population are included in Appendix F.

For clinical outcomes and member survey data, we summarize results within each year and note differences in the distribution of results between years. Although the results of Chi-square tests and t-tests are presented, differences in the distribution of responses that are statistically significant are not necessarily of clinical or policy significance. Changes from 2018 to 2019 should not be interpreted as causally related to DSRIP considering several limitations with these data sources and the absence of a comparison group, as summarized in the Methods section of this report.

Domain 3 Interim Findings

Summary of Interim Findings

The interim results for each of the two Domain 3 RQs are summarized in this section.

RQ11 To what extent did member outcomes improve?

From the first to the second year of the DSRIP program, changes in self-reported health ratings were small and mostly positive among ACO members responding to the primary

care, BH, and LTSS surveys. Improvement was observed for clinical outcomes measuring the quality of diabetes and blood pressure management, but not depression management, among ACO members.

Performance on healthcare utilization metrics varied by measure, but for each measure findings were generally consistent between two of the three studied groups: the overall managed care eligible (i.e., ACO, MCO, and PCC) and the ACO populations; the ACO population comprised >75% of the managed care eligible population in 2018 and 2019. Among the managed care eligible and ACO populations, emergency department (ED) utilization rates increased in 2018 compared to baseline, and this was partially explained by increasing medical complexity. Observed ED utilization rates exceeded model expected rates by up to 10% in 2018, but observed rates were closer to expected rates in 2019, suggestive of modest improvement from the first to second year of the program. All-cause unplanned hospitalization rates were slightly below model expected rates in 2018 and 2019. Larger reductions were observed in hospital admission rates for ambulatory care sensitive conditions (ACSCs) and in rates of all-cause admissions within certain subgroups of members (children, adults with diabetes, adults with serious mental illness (SMI) or substance use disorder (SUD)).

> **RQ12** To what extent did member experience improve during the demonstration?

Member ratings of their primary care and front office staff were highly positive in 2018 and 2019 among respondents to the adult and child surveys. More than half of respondents to the child primary care survey gave their child's provider the highest possible rating on a 0-10 scale in both 2018 (56.8%, mean (SE): 9.1 (0.01)) and 2019 (58.5%, mean (SE): 9.2 (0.01)). Adult respondents also rated their PCP highly in both 2018 (mean (SE) 8.9 (0.02)) and 2019 (mean (SE) 8.9 (0.02)). Ratings of the front-office staff were similarly positive as ratings of PCPs, and year-over-year changes were small.

Member ratings of their BH services were generally positive in 2018 and 2019 among respondents to the adult and child surveys. Respondents to the child BH survey gave their child's BH services ratings of 7.6 (SE 0.08) on average in 2018 and 7.7 (0.08) in 2019. Adult respondents also rated their BH services positively in 2018 (mean (SD) 7.7 (0.04)) and 2019 (mean (SD) 7.5 (0.05)). Mean ratings of BH providers among adult respondents enrolled with CPs were 7.3 (0.07) in 2018 and 7.2 (0.08) in 2019. Respondents to the child LTSS survey gave their child's LTSS provider an average rating of 7.8 (0.10) in 2018 and 7.4 (0.08) in 2019. Mean ratings of LTSS providers among adult respondents were 7.8 (0.07) in 2018 and 7.5 (0.07) in 2019.

Interim Findings by Research Question

In the following sections, we separately report in greater detail on the interim findings for RQ11 and RQ12.

RQ11 To what extent did member outcomes improve?

This section presents the results of two rounds (2018, 2019) of member experience surveys for six populations: 1) pediatric PC, 2) adult PC, 3) pediatric BH, 4) adult BH, 5) pediatric LTSS, and 6) adult LTSS; adults were age ≥18 years and children were <18 years of age. RQ11 also includes results for several administrative measures and three hybrid quality measures. The results for all RQ11 administrative measures are summarized for the managed care eligible, ACO, and MCO populations in Tables II.C.e.1 and II.C.e.2, with additional information on characteristics and performance included in Appendix F.

Adult Physical Health Outcomes

Administrative Measures

The mean age in the overall adult managed care eligible population was 38.8 in 2015-17, 39.5 in 2018, and 40.0 in 2019. About 57% of adults were women in each time period. The medical morbidity burden appeared to increase over time, from a mean DxCG relative risk score (RRS) of 1.4 in 2015-2017 to 1.6 in 2018 and 1.8 in 2019. Almost one-fifth of the overall adult managed care eligible population had a disability, and nearly one-eighth had unstable housing (≥3 addresses within a year) or a diagnosis code for homelessness.

Quality measure results are available in the administrative measures appendix for the overall managed care eligible population (i.e., ACO, MCO, and PCC), and within strata of ACO members and MCO members. In the overall adult managed care eligible population (**Table II.C.d.1**), the all-cause ED visit rate was 775 per 1000 persons per-year during the baseline period, 851 per 1000 persons per-year in 2018, and 848 per 1000 persons per-year in 2019. Among adults in the overall managed care eligible population, the rate of primary care sensitive ED visits was 280 per 1000 persons per-year during the baseline period, 303 per 1000 persons per-year in 2018, and 285 per 1000 persons per-year in 2019. All-cause and primary care sensitive ED visit rates for ACO members in each period were similar to those in the overall managed care eligible population (Appendix F). Observed to expected (O:E) ratios for 2018 and 2019 that were greater than one suggested that higher than expected rates of all-cause and primary care sensitive ED utilization were only partially explained by changes in member characteristics from the baseline to the Demonstration period.

Hospital admissions for ambulatory care sensitive conditions (ACSCs) are potentially avoidable with high-quality outpatient management. In the overall managed care eligible population, hospitalization rates for chronic ACSCs were 2.40 per 1000 persons per-year during the baseline period, 1.88 per 1000 persons per-year in 2018, and 1.49 per 1000 persons per-year in 2019 (Appendix F). Observed to expected ratios for the overall managed care eligible population (i.e., ACO, MCO, and PCC) of 1.0 at baseline, 0.71 in 2018, and 0.50 in 2019 suggests that the improvement observed during the first two years of DSRIP was not due exclusively to changes in member characteristics. Improved performance also occurred for ACO members from baseline (O:E: 0.97) to

2018 (O:E: 0.83) and 2019 (O:E: 0.54) (**Table II.C.d.2**). Hospitalization rates for acute ACSCs also improved in 2018 and 2019.

Among adult members ≥18 years of age, the all-cause unplanned hospital admission rates in the overall managed care eligible population increased year over year: 153, 158, and 169 admissions per 1000 persons per-year during the baseline, 2018, and 2019, respectively (Appendix F). After accounting for member characteristics, the overall managed care eligible, ACO, and MCO populations had rates of unplanned admissions that were within +/-4% of expected in each time period.

All-cause acute unplanned admission rates for adult ACO members with diabetes were 405, 382, and 394 admissions per 1000 persons per-year during the baseline, 2018, and 2019, respectively. After accounting for member characteristics, ACO enrollees with diabetes had rates of unplanned admissions that were lower than expected in 2018 (O:E: 0.90) and 2019 (0.87), while MCO enrollees had rates that were similar to expected in 2018 (O:E: 1.03) and lower than expected in 2019 (O:E: 0.92).

Pediatric Physical Health Outcomes

Administrative Measures

The mean age in the overall pediatric managed care eligible population was 9.3 in 2015-17, 9.9 in 2018, and 9.8 in 2019. About half of the children were girls in each time period. The mean DxCG RRS was 0.4 in 2015-2017, 0.5 in 2018, and 0.6 in 2019. During the study period (2015-2019), approximately 6-7% of children had a disability, and 10-12% had housing problems (either 3+ addresses in the year or homelessness by ICD-10 code).

Crude rates of ED utilization were lower for the pediatric population compared with adults, but O:E ratios by period were generally aligned with the adult population. In the overall pediatric managed care eligible population, 440 ED visits per 1000 children per-year occurred in the baseline period, 486 visits per 1000 children per-year occurred in 2018, and 439 visits per 1000 children per-year occurred in 2019 (Appendix F). Observed to expected ratios in the overall pediatric managed care eligible population were 1.00, 1.10, and 0.99 for baseline, 2018, and 2019, respectively. Crude ED visit rates and observed to expected ratios were similar for the ACO pediatric population.

In the overall pediatric managed care eligible population, all-cause unplanned hospital admission rates were 22.0 per 1000 children per-year during baseline, 21.3 per 1000 children per-year in 2018, and 20.8 visits per 1000 children per-year in 2019. Observed to expected ratios were 1.00, 0.80, and 0.88 at baseline, in 2018, and 2019, respectively. For ACO members, O:E ratios were 1.05 at baseline, 0.79 in 2018, and 0.92 in 2019; O:E ratios for MCO members were 0.86 at baseline, 0.55 in 2018, and 0.46 in 2019. Large reductions in asthma specific hospitalization rates occurred in 2018 and 2019 among the overall pediatric managed care eligible and the subpopulations of ACO and MCO members.

Outcomes for Adults with BH Conditions

Administrative Measures

Within the subgroup of the overall managed care eligible adults diagnosed with serious mental illness (SMI) and/or substance use disorder (SUD), the mean age was 40.6 in 2015-17, 41.5 in 2018, and 41.5 in 2019. Women comprised about 58% of this subgroup in each time period. The mean DxCG RRS was 2.5 in 2015-2017, 2.8 in 2018, and 3.1 in 2019. Approximately one-fifth of adults with SMI and/or SUD had housing problems (either 3+ addresses in the year or homelessness by ICD-10 code), and more than a third had a disability in each time period.

Although the crude rates of adult ED visits appeared to be higher during the first two years of the DSRIP program for the subset of the managed care eligible and ACO populations with SMI or SUD, after adjusting for increasing medical complexity (i.e., DxCG relative risk scores) in this population, observed rates of ED use were only 3-4% above expected rates in 2018; observed rates were just below expected rates for 2019 (Appendix F).

All-cause unplanned hospital admission rates among managed care eligible members with SMI/SUD were 323, 330, and 338 admissions per 1000 persons per-year during the baseline, 2018, and 2019, respectively (Appendix F). After accounting for member characteristics, ACO enrollees with SMI/SUD had rates of unplanned admissions that were lower than expected in 2018 (O:E: 0.95) and 2019 (0.92); O:E ratios among MCO enrollees were 0.98 in 2018 and 0.97 in 2019.

The rates of hospital readmissions among managed care eligible adult members were 21.0, 22.2, and 22.7 per 100 discharges during the baseline, 2018, and 2019, respectively. After accounting for member characteristics, the managed care eligible adult population had slightly lower than expected readmission rates in 2018 (O:E: 0.97) and 2019 (O:E: 0.92). O:E ratios among ACO members were 0.96 in 2018 and 0.91 in 2019.

The rates of hospital readmissions among managed care eligible pediatric members were 7.2, 8.2, and 9.5 per 100 discharges during the baseline, 2018, and 2019, respectively. After accounting for member characteristics, the managed care eligible pediatric population had lower than expected readmission rates in 2018 (O:E: 0.91) and 2019 (O:E: 0.92). O:E ratios among ACO members were 0.89 in 2018 and 0.94 in 2019.

Among members enrolled with a BH CP, the all cause hospital readmission rates were similar (32.2 per 100 discharges) in 2018 and 2019. The all cause hospital readmission rates among members enrolled with a LTSS CP were 18.3 per 100 discharges in 2018 and 18.0 in 2019, **Table II.C.d.3**.

Table II.C.d.1. Rates and Observed to Expected (O:E) Ratios for Healthcare Utilization Outcome Measures Among Managed Care Eligible Members

Measure and Population	2015-17	2015-17	2018	2019
	Observed /1000 members PY	O:E Ratio	O:E Ratio	O:E Ratio
ED visits (overall)	635.8	1.00	1.07	1.02
Adults	775.1	1.00	1.06	1.03
Adults with SMI/SUD	1,380.0	1.00	1.03	0.98
Children (age 2-17)	440.1	1.00	1.10	0.99
Primary care sensitive ED visits (adults+children)	279.9	1.00	1.07	1.00
Unplanned hospital admissions (overall)	98.2	1.00	0.95	0.95
Adults	152.5	1.00	0.97	0.96
Adults with SMI/SUD	323.4	1.00	0.96	0.92
Adults with diabetes	406.3	1.00	0.71	0.50
Children (age 2-17)	22.0	1.00	0.80	0.88
Hospital admissions: acute ACSCs (adults)	0.9	1.00	0.87	0.67
Hospital admissions: chronic ACSCs (adults)	2.4	1.00	0.71	0.50
Asthma hospital admissions (children age 2-17)	13.9	1.00	0.64	0.53
All cause hospital readmissions				
Adults	21.0	1.00	0.97	0.92
Children (2-17)	7.2	1.00	0.91	0.92

Table II.C.d.2. Rates and Observed to Expected (O:E) Ratios for Healthcare Utilization Outcome Measures Among ACO Members

Measure and Population	2015-17	2015-17	2018	2019
	Observed/1000 members PY	O:E Ratio	O:E Ratio	O:E Ratio
ED visits (overall)	638.7	1.01	1.08	1.03
Adults	777.3	1.00	1.07	1.04
Adults with SMI/SUD	1,386.1	1.00	1.04	0.99
Children (age 2-17)	446.6	1.01	1.11	1.00
Primary care sensitive ED visits (adults+children)	283.5	1.01	1.07	0.99
Unplanned hospital admissions (overall)	98.1	1.00	0.94	0.95
Adults	152.8	0.99	0.96	0.96

Measure and Population	2015-17	2015-17	2018	2019
	Observed/1000 members PY	O:E Ratio	O:E Ratio	O:E Ratio
Adults with SMI/SUD	324.5	0.99	0.95	0.92
Adults with diabetes	404.5	0.99	0.90	0.87
Children (age 2-17)	22.3	1.05	0.79	0.92
Hospital admissions: acute ACSCs (adults)	0.9	1.04	0.93	0.71
Hospital admissions: chronic ACSCs (adults)	2.3	0.97	0.83	0.54
Asthma hospital admissions (children age 2-17)	14.5	1.06	0.65	0.56
All cause hospital readmissions				
Adults	21.18	1.00	0.96	0.91
Children (2-17)	7.2	0.99	0.89	0.94

Each year includes members who are managed care (Table II.C.d.1) or ACO (Table II.C.d.2) eligible for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. In the managed care eligible population, the O:E ratio is 1.0 exactly by design for the baseline period (2015-2017). During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or PCC sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Legend:	O:E <0.86	O:E 0.86 to 0.95	O:E 0.96 to 1.04	O:E 1.05 to 1.14	O:E >1.14

Table II.C.d.3. Rates for All Cause Hospital Readmissions, BH/LTSS CP Enrollees

Measure and Population	2018	2019
Rate for hospital readmissions for members enrolled with BH CP, per 100 discharges	32.2	30.2
Rate for hospital readmissions for members enrolled with LTSS CP, per 100 discharges	18.3	18.0

Each year includes members who are managed care eligible for at least 320 days that year and enrolled from the date of discharge through 30 days post-discharge.

Self-Reported Overall Rating of General and Mental/Emotional Health

Primary Care Member Experience Survey

Most respondents rated their child's general health as excellent or very good in both 2018 (81.7%) and 2019 (83.7%), **Table II.C.d.4**. Similarly, 76.2% and 75.2% of respondents rated their child's mental and emotional health as excellent or very good in 2018 and 2019, respectively, **Table II.C.d.5**. In 2018, 36% and 47% of adult respondents rated their general health and mental health, respectively, as excellent or very good, compared to 37% and 45% in 2019, **Tables II.C.d.6 and II.C.d.7**.

Table II.C.d.4. In general, how would you rate your child's overall health?

Survey Response	Child, 2018 (n=10,710)	Child, 2019 (n=9,922)	Difference*
Excellent	45.2%	46.6%	1.5%
Very good	36.5%	37.1%	0.6%
Good	15.7%	14.0%	-1.8%
Fair	2.4%	2.2%	-0.3%
Poor	0.2%	0.1%	-0.1%
*Chi-square p<0.01			

Table II.C.d.5. In general, how would you rate your child's overall mental and emotional health?

Survey Response	Child, 2018 (n=10,669)	Child, 2019 (n=9,904)	Difference*
Excellent	44.2%	42.9%	-1.3%
Very good	32.0%	32.3%	0.3%
Good	17.7%	18.3%	0.6%
Fair	5.3%	5.6%	0.3%
Poor	0.8%	0.9%	0.1%
*Chi-square p=0.35			

Table II.C.d.6. In general, how would you rate your overall health?

Survey Response	Adult, 2018 (n=11,184)	Adult, 2019 (n=11,969)	Difference*
Excellent	10.9%	11.4%	0.4%
Very good	25.1%	25.9%	0.9%
Good	36.2%	37.1%	0.5%
Fair	22.3%	20.9%	-1.4%
Poor	5.1%	4.7%	-0.4%
*Chi-square p=0.09			

Table II.C.d.7. In general, how would you rate your overall mental and emotional health?

Survey Response	Adult, 2018 (n=11,189)	Adult, 2019 (n=11,974)	Difference*
Excellent	19.2%	18.8%	-0.4%
Very good	27.3%	26.2%	-1.1%
Good	30.9%	31.3%	0.3%
Fair	18.5%	19.3%	0.8%
Poor	4.1%	4.6%	0.4%
*Chi-square p=0.16			

Behavioral Health (BH) Member Experience Survey

In 2018, 45.0% of respondents rated their child's overall health as excellent or very good, and 50.2% in 2019, **Table II.C.d.8**. In 2019, 26% of respondents rated their child's mental and emotional health as excellent or very good, a 6% improvement from 2018, **Table II.C.d.9**.

Table II.C.d.8. In general, how would you rate your child's overall health now?

Survey Response	Child, 2018 (n=995)	Child, 2019 (n=874)	Difference*
Excellent	14.7%	18.8%	4.1%
Very good	30.3%	31.4%	1.1%
Good	39.1%	34.4%	-4.7%
Fair	13.4%	13.7%	0.3%
Poor	2.5%	1.7%	-0.8%
*Chi-square p=11			

Table II.C.d.9. In general, how would you rate your child's overall mental or emotional health now?

Survey Response	Child, 2018 (n=960)	Child, 2019 (n=877)	Difference*
Excellent	4.1%	7.0%	3.0%
Very good	16.3%	19.3%	3.0%
Good	37.0%	34.7%	-2.3%
Fair	32.81%	32.7%	-0.1%
Poor	9.8%	6.2%	-3.6%
*Chi-square p<0.01			

Among adult respondents, about one-fifth rated their general health as excellent or very good in 2019 (21%) and in 2018 (19%), **Table II.C.d.10.** Among subgroups of adult respondents enrolled with CPs, 15.3% rated their health as excellent or very good in 2018, and 15.8% did so in 2019, **Table II.C.d.11.**

The percentage of adult respondents who rated their mental and emotional health as excellent or very good was 19% in 2019 compared to 17% in 2018, **Table II.C.d.12**.

Among subgroups of adult respondents enrolled with CPs, 15.1% rated their overall mental and emotional health as excellent or very good in 2018, and 14.4% did so in 2019; 17.2% of adult respondents who were not enrolled in CP rated their overall mental and emotional health at excellent or very good in 2018, and 20.8% did so in 2019, **Table II.C.d.13.**

Table II.C.d.2. In general, how would you rate your overall health?

Survey Response	Adult, 2018 (n=4,051)	Adult, 2019 (n=3,291)	Difference*
Excellent	5.0%	5.6%	0.5%
Very good	14.0%	15.1%	1.1%
Good	32.1%	32.3%	0.2%
Fair	36.5%	35.8%	-0.8%
Poor	12.3%	11.2%	-1.1%
*Chi-square p=0.41			

Table II.C.d.3. Rating of overall health among adults enrolled in an ACO by CP enrollment status

Survey Response	Adult non-CP, 2018 (n=2,464)	Adult non-CP, 2019 (n=1,990)	Difference	Adult CP, 2018 (n=1,587)	Adult CP, 2019 (n=1,301)	Difference
Excellent	6.0%	7.1%	1.1%	3.6%	3.3%	-0.3%
Very good	15.5%	17.0%	1.5%	11.7%	12.5%	0.8%
Good	33.3%	34.5%	1.2%	30.3%	29.1%	-1.2%
Fair	34.4%	32.6%	-1.8%	39.8%	40.4%	0.6%
Poor	10.8%	8.9%	-1.9%	14.7%	14.7%	0.0%
Chi-square			0.12			0.95

Table II.C.d.4. In general, how would you rate your overall mental or emotional health now?

Survey Response	Adult, 2018 (n=4,044)	Adult, 2019 (n=3,289)	Difference*
Excellent	4.9%	5.5%	0.6%
Very good	11.4%	12.7%	1.3%
Good	30.5%	30.4%	-0.1%
Fair	39.0%	37.2%	-1.7%
Poor	14.2%	14.3%	0.0%
*Chi-square p=0.39			

Table II.C.d.5. Rating of overall mental or emotional health among adults enrolled in an ACO by CP enrollment status

Survey Response	Adult Non-CP, 2018 (n=2,468)	Adult Non-CP, 2019 (n=1,987)	Difference	Adult CP, 2018 (n=1,576)	Adult CP, 2019 (n=1,302)	Difference
Excellent	5.2%	6.4%	1.2%	4.5%	4.2%	-0.3%
Very good	12.0%	14.4%	2.4%	10.6%	10.2%	-0.4%
Good	32.6%	32.3%	-0.3%	27.2%	27.5%	0.3%
Fair	37.9%	34.8%	-3.2%	40.6%	40.8%	0.3%
Poor	12.3%	12.2%	-0.2%	17.2%	17.3%	0.1%
Chi-square			0.07			0.99

Long-term Services and Supports (LTSS) Member Experience Survey

There was a 10.1% increase in the percentage of respondents who rated their child's general health as excellent or very good in 2019 (56.6%) compared to 2018 (46.6%), **Table II.C.d.14**. In addition, respondents' ratings of their child's general health suggested improvement occurred for CP enrolled members (33.9% in 2018 and 37.2% in 2019) and for those who were not enrolled with CPs (50.7% in 2018 and 59.8% in 2019), **Table II.C.d.15.**

Table II.C.d.6. In general, how would you rate your child's overall health?

Survey Response	Child, 2018 (n=692)	Child, 2019 (n=1,296)	Difference*
Excellent	21.3%	22.5%	1.2%
Very good	25.3%	34.1%	8.9%
Good	36.7%	33.0%	-3.6%
Fair	13.6%	9.3%	-4.3%
Poor	3.2%	1.1%	-2.1%
*Chi-square p<0.001			

Table II.C.d.7. Rating of overall health among children by CP enrollment status

Survey Response	Child non-CP, 2018 (n=531)	Child non-CP, 2019 (n=1,134)	Difference	Child CP, 2018 (n=161)	Child CP, 2019 (n=162)	Difference
Excellent	23.7%	24.4%	0.7%	14.1%	10.7%	-3.4%
Very good	27.1%	35.4%	8.3%	19.8%	26.5%	6.7%
Good	35.2%	30.6%	-4.5%	41.2%	47.7%	6.5%
Fair	11.9%	8.7%	-3.2%	18.7%	13.2%	-5.5%
Poor	2.2%	1.0%	-1.3%	6.3%	1.9%	-4.4%
Chi-square			<0.01			0.10

There was an 8.0% increase in the percentage of respondents who rated their child's mental and emotional health as excellent or very good in 2019 (45.9%) compared to 2018 (37.8%), **Table II.C.d.16**. Respondent's ratings of their child's mental or emotional health among were relatively stable for children enrolled with CPs (28.3% in 2018 and 29.2% in 2019), while a 7.5% increase in ratings of excellent or very good was observed

among children who were not enrolled with CPs (41.1% in 2018 and 48.6% in 2019, **Table II.C.d.17.**

Table II.C.d.8. In general, how would you rate your child's overall mental or emotional health now?

Survey Response	Child, 2018 (n=683)	Child, 2019 (1,307)	Difference*
Excellent	20.4%	23.3%	2.9%
Very good	17.4%	22.6%	5.1%
Good	36.7%	30.0%	-6.8%
Fair	20.5%	19.9%	-0.5%
Poor	4.9%	4.2%	-0.7%
*Chi-square p < 0.05			

Table II.C.d.9. Rating of overall mental and emotional health among children by CP enrollment status

Survey Response	Child non-CP, 2018 (n=522)	Child non-CP, 2019 (n=1,145)	Difference*	Child CP, 2018 (n=161)	Child CP, 2019 (n=162)	Difference*
Excellent	22.6%	25.5%	2.9%	13.9%	9.7%	-4.3%
Very good	18.5%	23.1%	4.6%	14.4%	19.5%	5.1%
Good	36.8%	29.6%	-7.2%	36.6%	31.9%	-4.7%
Fair	18.6%	18.3%	-0.3%	26.0%	29.9%	4.0%
Poor	3.6%	3.5%	-0.1%	9.1%	9.0%	-0.2%
*Chi-square			<0.05			0.58

There was a 2.9% increase in the percentage of adult respondents who rated their general health as excellent or very good in 2019 (18.7%) compared to 2018 (15.7%), Table **II.C.d.18.** Improvement in self-ratings of very good or excellent general health was not observed among adult respondents enrolled with CPs (14.0% in 2018 and 12.6% in 2019) but was observed among those not enrolled with CPs (16.7% in 2018 and 20.7% in 2019) **Table II.C.d.19.**

Table II.C.d.10. In general, how would you rate your overall health?

Survey Response	Adult, 2018 (n=1,477)	Adult, 2019 (n=2,318)	Difference*
Excellent	4.9%	6.0%	1.1%
Very good	10.8%	12.7%	1.9%
Good	25.5%	31.9%	6.5%
Fair	38.8%	36.1%	-2.7%
Poor	20.1%	13.3%	-6.7%
*Chi-square p<0.001			

Table II.C.d.19. Rating of overall health among adult by CP enrollment status

Survey Response	Adult non-CP, 2018 (n=899)	Adult non-CP, 2019 (n=1,724)	Difference*	Adult CP, 2018 (n=578)	Adult CP, 2019 (n=594)	Difference*
Excellent	5.3%	6.7%	1.5%	4.2%	3.9%	-0.3%
Very good	11.4%	14.0%	2.6%	9.8%	8.7%	-1.1%
Good	25.8%	33.2%	7.4%	24.9%	28.3%	3.4%
Fair	37.3%	34.6%	-2.7%	41.4%	40.6%	-0.8%
Poor	20.3%	11.6%	-8.7%	19.7%	18.5%	-1.2%
*Chi-square			<0.0001			0.78

There was a 5.9% increase in the percentage of adult respondents who rated their mental and emotional health as excellent or very good in 2019 (27.4%) compared to 2018 (21.5%), **Table II.C.d.20**. Among subgroups of adult respondents enrolled with CPs, 19.0% rated their overall mental and emotional health as excellent or very good in 2018, and 18.4% did so in 2019. Among adult respondents who were not enrolled in a CP, 23.0% rated their overall mental and emotional health as excellent or very good in 2018, and 30.5% did so in 2019, **Table II.C.d.21.**

Table II.C.d.11. In general, how would you rate your overall mental or emotional health now?

Survey Response	Adult, 2018 (n=1,487)	Adult, 2019 (n=2,329)	Difference*
Excellent	9.3%	11.4%	2.1%
Very good	12.2%	16.0%	3.8%
Good	29.6%	30.8%	1.2%
Fair	35.4%	32.3%	-3.1%
Poor	13.5%	9.5%	-4.0%
*Chi-square<0.001			

Table II.C.d.12. Rating of overall mental and emotional health among adults by CP enrollment status

Survey Response	Adult non-CP, 2018 (n=904)	Adult non-CP, 2019 (n=1,729)	Difference*	Adult CP, 2018 (n=583)	Adult CP, 2019 (n=600)	Difference*
Excellent	10.4%	12.5%	2.1%	7.5%	8.2%	0.7%
Very good	12.6%	18.0%	5.4%	11.5%	10.2%	-1.3%
Good	28.3%	30.9%	2.6%	31.9%	30.6%	-1.3%
Fair	35.3%	30.7%	-4.6%	35.4%	36.9%	1.5%
Poor	13.4%	7.9%	-5.4%	13.7%	14.1%	0.4%
*Chi-square			<0.0001			0.93

In 2018, 74.8% of respondents agreed or strongly agreed that LTSS had improved their child's quality of life, which decreased to 52.7% in 2019**, Table II.C.d.22**. The fraction neither agreeing nor disagreeing increased by 21.8% from 2018 to 2019.

Table II.C.d.13. As a result of LTSS, the quality of our family life has improved.

Survey Response	Child, 2018 (n=550)	Child, 2019 (n=1,152)	Difference*
Strongly disagree	3.6%	3.6%	-0.0%
Disagree	5.6%	6.0%	0.4%
Neither disagree nor agree	16.0%	37.8%	21.8%
Agree	51.8%	37.6%	-14.3%
Strongly agree	23.0%	15.1%	-7.9%
*Chi-square p<0.001			

Clinical Outcomes among ACO Members

Hybrid Measures

We studied three clinical outcomes associated with improvement in the quality of care: (1) poor diabetes control, (2) control high blood pressure, and (3) depression remission or response.

We observed changes in the percentage of ACO attributed members 18 to 64 years of age with diabetes (type 1 and type 2) who had HbA1c poor control (>9.0%). We observed an improvement based on a 3.5% reduction in the proportion of patients with poor control of their diabetes from 33.4% in 2018 to 29.9% in 2019. The year-over-year change was statistically significant (Chi-square p<0.001), **Table II.C.d.23**.

We observed change in the percentage of ACO attributed members 18-64 years of age who had a diagnosis of hypertension (HTN) and whose BP was adequately controlled during the measurement year based on the following criteria:

- ACO attributed members 18 to 59 years of age whose BP was <140/90 mm Hg.
- ACO attributed members 60 to 64 years of age with a diagnosis of diabetes whose BP was <140/90 mm Hg.
- ACO attributed members 60 to 64 years of age without a diagnosis of diabetes whose BP was <150/90 mm Hg.

Improvement was observed in the proportion of patients with high blood pressure that was under control, from 67.2% in 2018 to 71.8% in 2019. The year-over-year change was statistically significant (Chi-square p<0.001), **Table II.C.d.23**.

The percentage of members 12 to 64 years of age with a diagnosis of depression and an elevated PHQ-9 score who received follow-up testing with PHQ-9 and had evidence of remission or response between 4 and 8 months of the elevated score was 7.5% in 2018 and 6.1% in 2019 (p>0.05), **Table II.C.d.23**.

Table II.C.d.14. Percentage of ACO members with poor control of their diabetes, high blood pressure, and those newly diagnosed with depression

Measure	2018 % (Denominator)	2019 % (Denominator)	Difference
HbA1c Poor Control (>9%)	33.4% (7,127)	29.9% (5,688)	-3.5%*
Controlling High Blood Pressure	67.2% (7,277)	71.8% (5,735)	4.6%*
Depression Remission or Response	7.5% (1,166)	6.1% (1,490)	-1.4%^{NS}

*p-value <0.001, NS: not statistically significant

RQ12 To what extent did member experience improve during the demonstration?

This section presents the results of two rounds (2018, 2019) of surveys for four populations: 1) pediatric primary care, 2) adult primary care, 3) pediatric BH, and 4) adult BH; adults were age ≥18 years and children were <18 years of age. The hypothesis associated with RQ12 and which will be addressed directly in the Summative Report are presented in **Appendix C**.

Overall Rating of Provider and Willingness to Recommend

Primary Care Member Experience Survey

Results of questions regarding the member's overall rating of their PCP and staff and their willingness to recommend their PCP are presented in **Tables II.C.d.24 and II.C.d.25** and Appendix G. Of note, the willingness to recommend items on the child and adult PC surveys are ACO performance measures that contribute to an ACO's quality score (described in the DSRIP protocol).[50] Respondents' ratings of their child's provider (scale from 0 to 10, where 0 stands for worst provider possible, and 10 best provider possible) showed modest improvement from 2018 (mean (SE) 9.1 (0.01)) to 2019 (mean (SE) 9.2 (0.01)), **Table II.C.d.24**. More than half of respondents gave their child's provider the highest possible rating on a 0-10 scale in both 2018 (56.8%) and 2019 (58.5%) (Appendix G). Adult respondents also rated their PCP highly in both 2018 (mean (SE) 8.9 (0.02)) and 2019 (mean (SE) 8.9 (0.02)), **Table II.C.d.25**. Respondents' willingness to recommend PCPs was consistent, in both 2018 and 2019, about three-quarters of respondents reported a definitive willingness to recommend their child's PCP to others, while just over two-thirds of adult respondents reported a definitive willingness to recommend their PCP. Ratings of the front-office staff were similarly positive as ratings of PCPs, and year-over-year changes were small (Appendix G).

[50] DSRIP Protocol: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/ma-masshealth-appvd-dsrip-protocol-11052020.pdf

Table II.C.d.15. Pediatric Member Experience: Primary Care

	Child, 2018 (n=10,791)#	Child, 2019 (n=10,022)#	Difference
Rating of PCP, Mean (SE)*	9.12 (0.01)	9.20 (0.01)	0.07 (0.02)
Willingness to recommend PCP**			
Definitely not	1.3%	1.3%	0.0%
Probably not	1.2%	1.2%	0.0%
Not sure	3.9%	3.7%	-0.2%
Probably yes	18.0%	17.3%	-0.7%
Definitely yes	75.7%	76.6%	0.9%
*T-test p<0.01			
**Chi-square p=0.74			

Sample size varies by survey question

Table II.C.d.16. Adult Member Experience: Primary Care

	Adult, 2018 (n=11,386)#	Adult, 2019 (n=12,186)#	Difference
Rating of PCP, Mean (SE)*	8.91 (0.02)	8.88 (0.02)	0.04 (0.2)
Willingness to recommend PCP**			
Definitely not	2.5%	2.6%	0.1%
Probably not	2.3%	2.4%	0.1%
Not sure	5.8%	5.8%	0.0%
Probably yes	19.9%	20.2%	0.3%
Definitely yes	69.4%	68.9%	-0.5%
*T-test p=0.14			
**Chi-square p=0.93			

Sample size varies by survey question

General Satisfaction and Overall Rating of Treatment

Behavioral Health (BH) Member Experience Survey

Results from questions regarding general satisfaction with BH services and the overall rating of BH treatment are presented in **Tables II.C.d.26 and II.C.d.27**. Respondents' ratings of their child's BH services were similar in 2018 and 2019. A majority gave their child's BH services positive ratings between 6-10 on a 0-10 scale in 2018 (79.5%) and 2019 (82.3%). Slightly less than half (47.8%) of respondents reported a definitive willingness to recommend their child's BH provider in 2018, while just over half (53.7%) were willing to definitively recommend their child's BH provider in 2019, **Table II.C.d.26**.

Table II.C.d.17. Would you recommend your child's behavioral health provider(s) to your family and friends if they needed similar behavioral health services?

Survey Response	Child, 2018 (n=863)#	Child, 2019 (n=670)#	Difference*
Definitely not	3.9%	3.2%	-0.7%
Probably not	4.5%	4.0%	-0.6%
Not sure	10.3%	12.2%	1.8%
Probably yes	33.5%	27.0%	-6.5%
Definitely yes	47.8%	53.7%	5.9%
Rating of behavioral health services, Mean (SE)**	7.6 (0.8)	7.7 (0.8)	0.2 (0.11)
*Chi-square p-value= 0.07			
**T-test p-value = 0.18			

Sample size varies by survey question

Adult respondents also rated their BH services positively in 2018 (mean (SE) 7.7 (0.04)) and 2019 (mean (SE) 7.5 (0.05)); the decline in adult respondents' experience was small (0.1) (**Table II.C.d.27)**. Among adult respondents, 54.9% and 53.8% reported a definitive willingness to recommend their BH provider in 2018 and 2019, respectively. Ratings of BH providers among subgroups of adult respondents enrolled with CPs are presented in **Table II.C.d.28**. Half (50%) of respondents enrolled with CPs reported a definitive willingness to recommend their BH provider in both 2018 and 2019.

Table II.C.d.18. Would you recommend your behavioral health provider(s) to your family and friends if they needed similar behavioral health services?

Survey Response	Adult, 2018 (n=3,490)#	Adult, 2019 (n=2,538)#	Difference*
Definitely not	3.4%	4.7%	1.4%
Probably not	3.9%	4.9%	1.0%
Not sure	10.2%	10.2%	0.0%
Probably yes	27.7%	26.4%	-1.3%
Definitely yes	54.9%	53.8%	-1.1%
Rating of behavioral health services, Mean (SE)**	7.7 (0.04)	7.5 (0.05)	-0.2 (0.06)
*Chi-square p-value<0.05			
**T-test p-value <0.01			

Sample size varies by survey question

Table II.C.d.19. Willingness to recommend member's behavioral health provider(s) among adult members by CP enrollment status

Survey Response	Adult ACO-non-CP, 2018 (n=2,137)#	Adult ACO-non-CP, 2019 (n=1,508)#	Difference*	Adult ACO-CP, 2018 (n=1,353)#	Adult ACO-CP, 2019 (n=1,030)#	Difference*
Definitely not	2.8%	3.7%	0.9%	4.2%	6.2%	2.0%
Probably not	3.7%	4.8%	1.0%	4.2%	5.1%	0.9%
Not sure	9.0%	9.7%	0.7%	11.9%	10.8%	-1.1%
Probably yes	26.5%	25.5%	-1.0%	29.6%	27.7%	-1.9%
Definitely yes	58.0%	56.3%	-1.6%	50.1%	50.2%	0.1%
Rating of BH services, Mean (SE)**	7.9 (0.05)	7.7 (0.06)	-0.23 (0.08)	7.3 (0.07)	7.2 (0.08)	-0.10 (0.11)
*Chi-square			0.32			0.21
**T-test			<0.01			0.36

Sample size varies by survey question

Long-term Services and Support (LTSS) Member Experience Survey

Results from questions regarding general satisfaction with LTSS services and the overall rating of LTSS treatment are presented in **Tables II.C.d.29 and II.C.d.30**. Respondents' ratings of their child's LTSS services were similar in 2018 and 2019. A majority gave their child's LTSS services positive ratings between 6-10 on a 0-10 scale in 2018 (84.3%) and 2019 (78.7%), with a mean (SE) of 7.8 (0.10) in 2018 and 7.4 (0.08) in 2019 (Appendix G). More than 60.3% of respondents reported a definitive willingness to recommend their child's LTSS provider in 2018, while just half (50.2%) were willing to definitively recommend their child's LTSS provider in 2019.

Adult respondents also rated their LTSS positively in 2018 (mean (SE) 7.8 (0.07)) and 2019 (mean (SE) 7.5 (0.07)); the decline in adult respondents' experience was small (0.3). Among adult respondents, 60.9% and 56.6% reported a definitive willingness to recommend their LTSS provider in 2018 and 2019, respectively. Ratings of LTSS providers among subgroups of adult respondents enrolled with CPs are presented in **Table II.C.d.31**. Most respondents enrolled with CPs reported a definitive willingness to recommend their LTSS provider in both 2018 (66.7%) and 2019 (58.9%).

Table II.C.d.20. Would you recommend your child's LTSS provider(s) to your family and friends if they needed similar long-term services and supports?

Survey Response	Child, 2018 (n=551)#	Child, 2019 (n=1,110)#	Difference*
Definitely not	1.1%	2.8%	1.7%
Probably not	1.5%	3.3%	1.8%
Not sure	10.3%	8.2%	-2.1%
Probably yes	26.9%	35.5%	8.6%
Definitely yes	60.3%	50.2%	-10.0%
Rating of LTSS services, Mean (SE)**	7.83 (0.10)	7.41 (0.08)	-0.42 (0.13)
*Chi-square p-value= 0.07			
**T-test p-value <0.01			

Sample size varies by survey question

Adult respondents also rated their LTSS services positively in 2018 (mean (SD) 7.8 (0.07)) and 2019 (mean (SD) 7.5 (0.07)); the decline in adult respondents' experience was small (0.32). Among adult respondents, 60.9% and 56.6% reported a definitive willingness to recommend their LTSS provider in 2018 and 2019, respectively. Ratings of LTSS providers among subgroups of adult respondents enrolled with CPs are presented in **Table II.C.d.31**. In 2018, 66.7% of respondents enrolled with CPs reported a definitive willingness to recommend their LTSS provider to family and friends and 58.9% in 2019.

Table II.C.d.21. Would you recommend your LTSS provider(s) to your family and friends if they needed similar long term services and supports?

Survey Response	Adult, 2018 (n=649)#	Adult, 2019 (n=680)#	Difference*
Definitely not	1.6%	1.2%	-0.4%
Probably not	2.0%	2.6%	0.6%
Not sure	9.3%	8.5%	-0.7%
Probably yes	26.2%	31.1%	4.9%
Definitely yes	60.9%	56.6%	-4.4%
Rating of behavioral health services, Mean (SE)**	7.82 (0.07)	7.50 (0.07)	-0.32 (0.10)
*Chi-square p-value=0.36			
**T-test p-value <0.01			

Sample size varies by survey question

Table II.C.d.22. Willingness to recommend member's LTSS provider(s) among adult members by CP enrollment status

Survey Response	Adult ACO-non-CP, 2018 (n=350)#	Adult ACO-non-CP, 2019 (n=360)#	Difference*	Adult ACO-CP, 2018 (n=299)#	Adult ACO-CP, 2019 (n=320)#	Difference*
Definitely not	1.4%	1.3%	-0.2%	1.8%	1.2%	0.6%
Probably not	2.5%	2.6%	0.1%	1.4%	2.5%	-1.1%
Not sure	9.2%	7.8%	-1.4%	9.4%	9.5%	-0.1%
Probably yes	30.7%	33.7%	3.0%	20.7%	27.9%	-7.2%
Definitely yes	56.2%	54.7%	-1.6%	66.7%	58.9%	7.8%
Rating of LTSS services, Mean (SE)**	7.73 (0.10)	7.46 (0.08)	-0.27 (0.12)	7.95 (0.11)	7.61(0.12)	-0.34 (0.17)
*Chi-square			0.91			0.25
**T-test			<0.05			<0.05

Sample size varies by survey question

II.C.e. Domain 4: Changes in healthcare cost trends

RQ13 To what extent were Medicaid total cost of care trends moderated for the ACO population?

> **H13.1** The rate of increase in the total cost of care for the ACO population will decrease

Introduction

Domain 4 includes a single research question and hypothesis concerned with changes in healthcare cost trends associated with the MassHealth ACO program. For this Interim Report, we provide a snapshot of baseline financial performance across the 17 MassHealth ACOs during the first year of the implementation (2018), as more recent financial data were not available. Financial performance and changes in healthcare costs associated with the ACO program will be studied over the full demonstration period in the Independent Evaluation Summative Report.

To briefly summarize ACO payment arrangements with MassHealth, Accountable Care Partnership Plans (also referred to as Model A ACOs) and MCOs receive prospective capitated payments and share risk for healthcare expenditures in excess or below the capitated rate. Primary Care ACOs (also referred to as Model B ACOs) and MCO-Administered ACOs (also referred to as Model C ACOs) are at risk against a total cost of care (TCOC) benchmark calculated for each year for a specified set of services. To better account for differences between populations, MassHealth sets capitation rates and TCOC benchmarks individually for 30 rating cells (five regions of the state X six rating category populations). For each rating cell, the ACOs' TCOC performance (i.e., actual healthcare expenditures) is compared against the benchmark to calculate shared savings or shared losses between the ACO and MassHealth.

<u>The six MassHealth rating category populations are:</u>

- RC I Child: enrollees who are non-disabled and under the age of 21
- RC I Adult: enrollees who are non-disabled and age 21 to 64
- RC II Child: enrollees who are disabled and under the age of 21
- RC II Adult: enrollees who are disabled and age 21 to 64
- RC IX: Adult-only enrollees who are age 21 to 64, and in the EOHHS CarePlus coverage type, as well as not receiving Emergency Aid to the Elderly, Disabled, and Children through the EOHHS Department of Transitional Assistance.
- RC X: Adult-only enrollees who are age 21 to 64, and in the EOHHS CarePlus coverage type, and are receiving Emergency Aid to the Elderly, Disabled, and Children through the EOHHS Department of Transitional Assistance.

The amount of risk borne by ACOs varies for different categories of services (**Table II.C.e.1**). Certain services are paid on a fee-for-service basis by MassHealth and are not included in shared risk arrangements. Among the services included in shared risk arrangements between ACOs and MassHealth, certain services and populations have different levels of shared risk because of targeted risk corridors. The largest risk corridor

for any ACO is the core medical component, which includes all MassHealth covered services except for several smaller categories of services that are managed with separate risk corridors outside of the core component. For the core and each of the smaller categories, the amount of shared risk differs between each of the three ACO models (**Table II.C.e.1**). The level of risk increases over the course of the Demonstration for Model B and C ACOs, and the risk levels described in Table II.C.e.1 are specific to the first year (2018). Model B and C ACOs have the option to select a minimum threshold of either 1% or 2% of the core medical component which triggers risk-sharing(i.e., risk-sharing occurs for all savings or losses if the threshold is exceeded, but no risk-sharing occurs if the threshold is not exceeded). Model B ACOs have the option to choose from two risk tracks, 1) shared accountability (less risk), and 2) full accountability (more risk) (Table II.C.e.1). Model C ACOs can choose from three risk tracks, 1) limited accountability (least risk), 2) moderate accountability, and 3) increased accountability (**Table II.C.e.1**).

In 2018, the core medical capitation rate for Model A ACOs and the core TCOC benchmark for Model B and C ACOs was based on a weighted average of historical cost experience of an ACO's members (90%) and a market standard applied to all ACOs (10%). Over the course of the Demonstration, the weight on an ACO's historical cost experience will decline and the weight will increase for the market standard. To account for price differences over time and between plans, MassHealth sets market standard rates and reconciles plan performance on a price normalized basis. Price normalization assigns a standard payment rate from the MassHealth fee schedule for each service, which has the effect of primarily holding the ACOs accountable for utilization (and avoids penalizing ACOs for higher present versus historical rates). Throughout the Demonstration, MassHealth applies risk adjustment to account for differences in member demographic, social, and clinical characteristics between ACOs. Ultimately, the goal is for all ACOs to be held to a single risk-adjusted market standard without any additional adjustments for an ACO's prior cost performance.

MassHealth calculates a quality score (described in the DSRIP protocol[51]) for each ACO based on performance and improvement across 22 quality measures[52]. In 2018, quality scores were based solely on reporting data for hybrid quality measures to MassHealth (i.e., pay-for-reporting). Subsets of measures transition into pay-for-performance during subsequent years of the DSRIP program, beginning in 2019. The quality score (range 0.0 to 1.0) is used to adjust the shared savings and shared losses amounts associated with cost performance. Specifically:

- **Model A ACOs[53]**:
    - If the ACO has an aggregate gain across all across rating category groups and regions from the risk sharing arrangement for the medical risk

[51] The DSRIP protocol, accessible at https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/82006
[52] https://www.mass.gov/info-details/massachusetts-delivery-system-reform-incentive-payment-program#dsrip-protocol-
[53] The Model A (ACPP) contract is accessible at: Mass.gov/doc/3rd-amended-and-restated-acpp-contract/download

corridor, MassHealth multiplies the amount of the ACO's share of the gain across rating category groups by the ACO's quality score. The resulting amount is applied proportionally by revenue to each rating category group.

- If the ACO has an aggregate loss gain across all across rating category groups and regions from the risk sharing arrangement for the medical risk corridor, 80% of the ACO's share of the loss is not impacted by the quality score. MassHealth multiplies the remaining 20% of the the loss by one minus the quality score. This product plus the unmodified 80% of the ACO's loss is applied proportionally by revenue to each rating category group.

- **Model B ACOs[54]:**
  - If the ACO has an aggregate gain across all regions and rating category groups for the ACO's chosen threshold of the TCOC benchmark, MassHealth multiplies the ACO's share of aggregate savings by the ACO's quality score to obtain the ultimate shared savings payment amount for the ACO.
  - If the ACO has an aggregate loss across all regions and rating category groups, 80% of the ACO's share of the loss is not impacted by the quality score. MassHealth multiplies the remaining 20% of the the loss by one minus the quality score. This product plus the unmodified 80% of the ACO's loss equals the ACO's share of the losses.
- **Model C ACOs:**
  - If the ACO has an aggregate gain across the medical components of its TCOC benchmark, ACO's share of aggregate savings is multiplied by the ACO's quality score to obtain the ultimate shared savings payment amount for the ACO.
  - If the ACO has an aggregate loss across all regions and rating category groups, 80% of the ACO's share of the loss is not impacted by the quality score. The remaining 20% of the the loss is multiplied by one minus the quality score. This product plus the unmodified 80% of the ACO's loss equals the ACO's share of the losses.

In this section, we describe ACO financial performance during the first year of the Demonstration (2018) in terms of total shared savings and shared losses by ACO type, and within categories of risk-sharing (e.g., core medical). We also describe the implications of quality score performance for shared savings and losses. We summarize the number of organizations achieving shared savings and losses, and present the distribution of payments and expenditures covered by shared risk arrangements across

[54] The Model B (PCACO) contract is accessible from: Mass.gov/doc/3rd-amended-and-restated-pcaco-contract/download

organizations. Data were obtained from MassHealth final financial reconciliation reports and may change slightly.

For this Interim Report, we are limited to providing a snapshot of baseline financial performance across the 17 MassHealth ACOs during the first year of the implementation (2018), as more recent financial data were not available. Limited conclusions can be drawn from these early financial data that only address the question of how well ACOs performed in the early years of the program against policy-driven benchmarks established by MassHealth. To address this, in addition to reporting financial performance for subsequent Demonstration years, we will compare changes in healthcare costs against comparison groups over the full demonstration period and present the findings in the Independent Evaluation Summative Report.

Table II.C.e.1. Risk-Sharing Arrangements for MassHealth ACOs by Model Type, Calendar Year 2018[a]

Component of TCOC	Model A ACOs	Model B	Model C ACOs
Core medical [b]	100% risk up to +/- 3% risk corridor; 50% risk outside of the risk corridor	**Risk Track 1[c]** 50% of gains up to + 3%; 25% of gains up to + 3-10%; 40% of losses up to - 3%; 20% of losses up to - 3-10%; Risk/gains capped at 10% of the benchmark **Risk Track 2[c]** 70% of gains up to + 3%; 35% of gains up to + 3-10%; 50% of losses up to - 3%; 25% of losses up to - 3-10%; Risk/gains capped at 10% of the benchmark	**Risk Track 1[c]** 20% of gains up to + 3%; 10% of gains above + 3%; 20% of losses up to - 3%; 10% of losses above - 3%; **Risk Track 2[c]** 30% of gains up to + 3%; 15% of gains above + 3%; 30% of losses up to - 3%; 15% of losses above - 3%; **Risk Track 3[c]** 50% of gains up to + 3%; 25% of gains above + 3%; 40% of losses up to - 3%; 20% of losses above - 3%;
HCV drugs	100% risk for +/- 5%; 5% risk for more than +/- 5%	100% risk for +/- 5%; 5% risk for +/- 5-10%	100% risk for +/- 5%; 5% risk for +/- 5-10%
Non-HCV high-cost drugs*	+/- 2% risk corridor; 0% risk outside of the risk corridor	Fee-for-service, not at risk	Fee-for-service, not at risk
CBHI, ABA, and a subset of newly covered SUD services[d]	$100,000 risk corridor for each with 1% risk inside corridor; 0% risk outside of the risk corridor	Fee-for-service, not at risk	Fee-for-service, not at risk
LTSS	Fee-for-service, not at risk	Fee-for-service, not at risk	
Maternity[d]	Per event payment	Per event adjustment to the core medical benchmark	Per event adjustment to the core medical benchmark

Component of TCOC	Model A ACOs	Model B	Model C ACOs
Specialized inpatient psychiatric services	Per event payment	Per event adjustment to the core medical benchmark	Per event adjustment to the core medical benchmark

Abbreviations: accountable care organization (ACO), total cost of care (TCOC), hepatitis C virus (HCV), Children's Behavioral Health Initiative (CBHI), applied behavior analysis (ABA), substance use disorder (SUD);

[a]Risk sharing increases over the course of the Demonstration for Model B and C ACOs

[b]The core component of TCOC is composed of two sub-categories based on age and MassHealth rating category for ACOs that opted into an optional second risk corridor. For those ACOs that opt-in, risk-sharing for one rating category cell (adults in rating category II) is managed in a separate risk corridor from the core medical risk-sharing for other rating categories. Model A ACOs have full risk up to +/- 2% for adults in rating category II and have no risk above +/- 2%. Model B ACOs have 50% or 70% risk up to +/-2% based on their risk track selection and bear no risk above +/- 2%. Model C ACOs in Risk Track 1, 2, and 3 have 20%, 30%, and 50% shared savings up to +2% and 20%, 30%, and 40% shared losses up to -2%, respectively, with no risk above +/- 2%.

[c]Risk sharing applies to all savings or losses (i.e., from the first dollar) if the minimum threshold selected by the ACO of 1% or 2% is exceeded

[d]The risk corridor for the new SUD services was not introduced until rating year 2019, the second year of the program.

Interim Findings[55]

Gross spending versus capitation payments and benchmarks: During the first year of the program, the total value of capitation payments (Model A ACOs) and TCOC benchmarks (Model B and C ACOs) was $4.039 billion and gross spending for services covered by risk-sharing arrangements was 0.68% larger ($4.067 billion). Nine (of 17) MassHealth ACOs had gross savings, i.e., expenditures that were lower than their capitated payments (Model A ACOs) or their TCOC benchmarks (Model B and C ACOs), while eight ACOs had gross losses (**Figure II.C.e.1**). The mean expenditures (among the 17 ACO data points) were 101.23% of total capitated payments/benchmarks. For each ACO, the value of capitation payments and TCOC benchmarks overall and by risk-sharing category are presented in **Table II.C.e.2**, while expenditures overall and by risk-sharing category are presented in **Table II.C.e.3.**

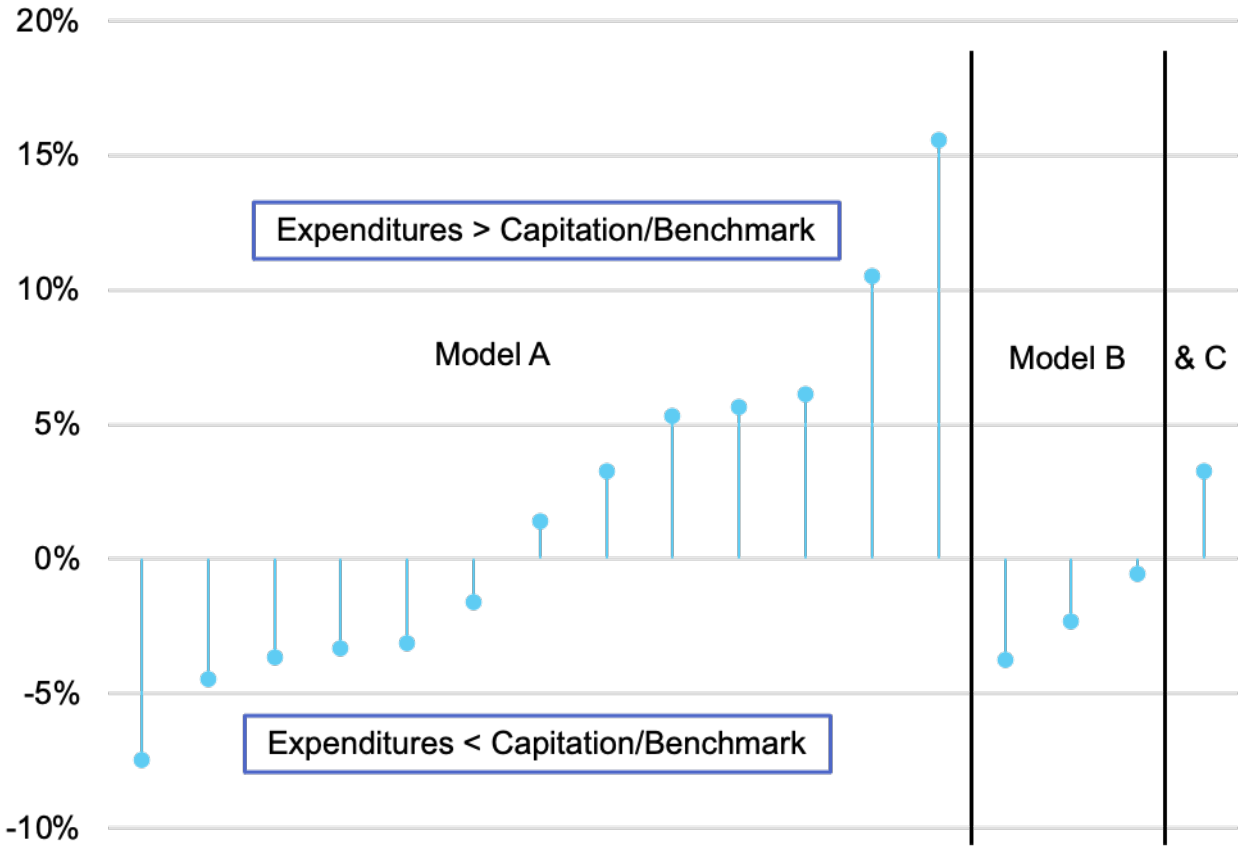
Risk-sharing: After accounting for shared risk arrangements and adjustments for quality scores, seven ACOs achieved shared savings of a total value of $41.68 million, which represents 1.03% of the $4.039 billion in capitation payments and TCOC benchmarks for services covered by risk-sharing arrangements across the 17 ACOs (**Table II.C.e.4**). The total value of shared losses accruing to the other ten ACOs was $41.83 million (1.04% of capitation and TCOC benchmarks), therefore, a net value of $0.15 million (0.00%) in shared losses was attributed to ACOs. MassHealth achieved shared savings of $30.46 million (0.75%) based on risk-sharing arrangements with 8 of the Model A and B ACOs. Losses totaling $63.23 million (1.57%) accrued to MassHealth (from 8 Model A ACOs) and to the two MCO partners of the Model C ACO, representing a net of $32.77 million (0.81%) in shared losses.

Quality Score Adjustments: All 17 ACOs reported hybrid quality measure data, fulfilled their pay-for-reporting requirements, and achieved a perfect quality score of 1.0 in 2018. Thus, the quality score did not modify the value of shared savings that accrued to the four ACOs achieving shared savings. For the 10 ACOs in shared losses, the quality score of 1 was applied to the 20% of losses subject to quality adjustment and resulted in a 20% reduction in shared losses borne by the ACOs; these losses were instead borne by MassHealth or the MCOs (for the Model C ACO) (**Table II.C.e.5**).

Program-wide, the ACOs, MCO partners of the Model C ACO, and MassHealth shared in savings of $72.15 million and losses of $105.06 million for services covered by risk-sharing arrangements with MassHealth and MCOs. The net value of $32.92 million in shared losses represents 0.81%[56] of the sum of $4.039 billion in capitated payments paid to Model A ACOs and TCOC benchmarks that were set for Model B and C ACOs.

[55] Expenditure values have been price normalized for plans receiving shared losses payments from MassHealth.
[56] MassHealth caps the amount of shared risk payments at $0 when ACOs would shift from shared losses to shared savings because of price normalization, this total would equal 0.68% (the overall ratio of spending to capitation + TCOC benchmarks) with the addition of the $5.421 million in savings that were capped for one ACO

Figure II.C.e.1. Percentage Differences between ACO Expenditures Covered by Shared Risk Arrangements and Capitated Payments[a] for Model A ACOs and TCOC Benchmarks[b] for Model B and C ACOs, 2018



[a] Includes core medical, HCV high-cost drugs, non-HCV high-cost drugs, CBHI, ABA, and SUD
[b]Includes core medical and HCV high-cost drugs

Table II.C.e.2. Total Capitation (Model A ACOs) or Total Cost of Care (TCOC) Benchmark (Model B+C ACOs) for Services with Risk-Sharing Arrangements among each of the 17 MassHealth ACOs, Overall and Percentages of Total by Category

ACO	Total Capitation / Benchmark in thousands	Core Medical: Capitation / Benchmark (%)	RC-II Adult Core Medical Capitation / Benchmark (%)	HCV: Gain Capitation / Benchmark (%)	ABA: Gain Capitation / Benchmark (%)	CBHI: Gain Capitation / Benchmark (%)	High Cost Drugs: Capitation / Benchmark (%)
Model A-1	$595,331	53.6%	40.1%	2.6%	0.4%	2.4%	0.9%
Model A-2	$118,217	92.9%	0.0%	2.1%	0.7%	3.5%	0.7%
Model A-3	$88,732	61.6%	32.3%	2.6%	0.4%	2.2%	0.9%
Model A-4	$94,257	58.0%	36.4%	2.8%	0.3%	1.6%	0.9%
Model A-5	$82,047	58.3%	36.6%	2.5%	0.3%	1.6%	0.6%
Model A-6	$118,127	92.1%	0.0%	1.6%	0.8%	4.4%	1.0%
Model A-7	$235,726	60.4%	32.4%	2.3%	0.6%	3.2%	1.1%
Model A-8	$192,230	47.4%	45.2%	2.1%	0.9%	3.7%	0.7%
Model A-9	$133,512	58.2%	34.2%	2.2%	0.7%	3.6%	1.1%
Model A-10	$125,616	92.1%	0.0%	2.0%	0.7%	4.0%	1.2%
Model A-11	$255,098	85.6%	0.0%	0.1%	2.0%	10.3%	2.0%
Model A-12	$167,325	94.5%	0.0%	2.7%	0.2%	1.7%	0.9%
Model A-13	$113,535	92.9%	0.0%	2.4%	0.5%	3.2%	1.0%
Model B-1	$533,654	65.2%	32.6%	2.2%	NA	NA	NA
Model B-2	$534,348	97.7%	0.0%	2.3%	NA	NA	NA
Model B-3	$572,956	94.6%	3.1%	2.3%	NA	NA	NA
Model C-1	$78,860	59.7%	37.2%	3.0%	NA	NA	NA
All ACOs	**$4,039,571**	**75.8%**	**18.9%**	**2.2%**	**0.4%**	**2.1%**	**0.6%**

Table II.C.e.3. Total Spending[a] for Services with Risk-Sharing Arrangements among each of the 17 MassHealth ACOs, Overall and by Category

ACO	Total Spending[a] in thousands	Core Medical: Spending (%)	RC-II Adult Core Medical Spending (%)	HCV: Gain Spending (%)	ABA: Gain Spending (%)	CBHI: Gain Spending (%)	High Cost Drugs: Spending (%)
Model A-1	$657,964	53.5%	38.1%	5.3%	0.5%	2.3%	0.3%
Model A-2	$122,054	93.8%	0.0%	1.9%	0.9%	3.1%	0.4%
Model A-3	$93,760	62.9%	30.2%	5.1%	0.3%	1.4%	0.1%
Model A-4	$99,276	58.3%	36.5%	2.3%	0.4%	1.6%	0.9%
Model A-5	$94,818	63.3%	32.9%	2.0%	0.0%	0.9%	0.9%
Model A-6	$113,820	92.0%	0.0%	1.3%	2.4%	3.5%	0.9%
Model A-7	$231,934	62.1%	31.9%	2.3%	0.5%	2.4%	0.7%
Model A-8	$194,952	47.5%	44.7%	2.1%	0.3%	4.7%	0.7%
Model A-9	$123,562	64.3%	32.0%	1.3%	0.2%	2.0%	0.2%
Model A-10	$119,995	91.9%	0.0%	1.6%	1.0%	3.9%	1.6%
Model A-11	$247,123	82.3%	0.0%	0.2%	4.0%	11.9%	1.6%
Model A-12	$161,731	95.5%	0.0%	2.2%	0.6%	0.9%	0.7%
Model A-13	$120,490	93.4%	0.0%	2.5%	0.5%	3.0%	0.6%
Model B-1	$521,267	65.0%	31.9%	3.0%	NA	NA	NA
Model B-2	$531,325	98.2%	0.0%	1.8%	NA	NA	NA
Model B-3	$551,552	93.3%	3.5%	3.2%	NA	NA	NA
Model C-1	$81,445	61.7%	35.0%	3.3%	NA	NA	NA
All ACOs	**$4,067,068**	**75.5%**	**18.7%**	**2.8%**	**0.6%**	**2.0%**	**0.4%**

[a] Expenditure values have been price normalized for plans receiving shared losses payments from MassHealth

Table II.C.e.4. Shared Savings/Losses and Differences between Total Capitation (Model A ACOs) or TCOC Benchmark (Model B+C ACOs) and Total Expenditures for Services with Risk-Sharing Arrangements among each of the 17 MassHealth ACOs, Overall and by Category

ACO	Total Capitation / Benchmark[a] in thousands	Total Spending[b] in thousands	Difference: Gain or Loss (%)	Total plan share post risk sharing and-quality adjustment: Gain or Loss[c] (%)	Total EOHHS share post risk sharing and-quality adjustment: Gain or Loss[c] (%)	Core Medical: Gain or Loss (%)	RC-II Adult Core Medical: Gain or Loss (%)	HCV: Gain or Loss (%)	ABA: Gain or Loss (%)	CBHI: Gain or Loss (%)	High Cost Drugs: Gain or Loss (%)
Model A-1	$595,331	$657,964	-10.52%	-3.63%	-6.89%	-5.57%	-1.95%	-3.28%	-0.10%	-0.21%	0.59%
Model A-2	$118,217	$122,054	-3.25%	-2.56%	-0.68%	-3.93%	0.00%	0.19%	-0.15%	0.31%	0.33%
Model A-3	$88,732	$93,760	-5.67%	-2.67%	-2.99%	-4.85%	0.31%	-2.79%	0.07%	0.72%	0.88%
Model A-4	$94,257	$99,276	-5.32%	-2.35%	-2.98%	-3.37%	-2.07%	0.39%	-0.17%	-0.12%	0.02%
Model A-5	$82,047	$94,818	-15.57%	-6.94%	-8.62%	-14.87%	-1.38%	0.24%	0.25%	0.57%	-0.38%
Model A-6	$118,127	$113,820	3.65%	3.24%	0.41%	3.48%	0.00%	0.38%	-1.49%	1.08%	0.20%
Model A-7	$235,726	$231,934	1.61%	-0.18%	1.79%	-0.70%	0.96%	0.01%	0.04%	0.86%	0.45%
Model A-8	$192,230	$194,952	-1.42%	-0.76%	-0.65%	-0.79%	-0.13%	-0.02%	0.57%	-1.04%	-0.01%
Model A-9	$133,512	$123,562	7.45%	-0.22%	7.67%	-1.31%	4.54%	1.04%	0.49%	1.80%	0.89%
Model A-10[d]	$125,616	$119,995	4.47%	0.10%	0.06%	4.32%	0.00%	0.50%	-0.26%	0.24%	-0.32%
Model A-11	$255,098	$247,123	3.13%	4.22%	-1.10%	5.82%	0.00%	-0.01%	-1.87%	-1.26%	0.45%
Model A-12	$167,325	$161,731	3.34%	2.32%	1.02%	2.15%	0.00%	0.54%	-0.34%	0.81%	0.19%
Model A-13	$113,535	$120,490	-6.13%	-3.68%	-2.44%	-6.15%	0.00%	-0.30%	-0.09%	0.01%	0.40%
Model B-1	$533,654	$521,267	2.32%	1.51%	0.81%	1.73%	1.37%	-0.78%	NA	NA	NA
Model B-2	$534,348	$531,325	0.57%	0.12%	0.45%	0.12%	0.00%	0.45%	NA	NA	NA
Model B-3	$572,956	$551,552	3.74%	2.51%	1.23%	4.81%	-0.29%	-0.78%	NA	NA	NA
Model C-1	$78,860	$81,445	-3.28%	-0.69%	-2.59%	-3.84%	1.07%	-0.40%	NA	NA	NA
All ACOs	**$4,039,571**	**$4,067,068**	**-0.68%**	**0.00%**	**-0.81%[e]**	**-0.18%**	**0.00%**	**-0.62%**	**-0.16%**	**0.06%**	**0.21%**

[a]This column is the denominator for all percentages presented in the other columns of the table
[b]Expenditure values have been price normalized for plans receiving shared losses payments from MassHealth
[c]Shared savings and losses amounts reflect risk sharing arrangements described in **Table II.C.e.1** and adjustments based on each ACO's quality score
[d]The sum of risk sharing amounts for the plan and MassHealth for this ACO are $5.421 million less than the difference between the total capitation minus total spending because MassHealth caps the amount of shared risk payments at $0 when ACOs would shift from shared losses to shared savings because of price normalization
[e]With the addition of the $5.421 million in savings that were capped as described in footnote (d) of this table, this total would equal -0.68%

Table II.C.e.5. Quality Scores by ACO and Changes in Shared Savings or Losses from based on Quality Score Adjustments

ACO	Total Capitation / Benchmark[a] in thousands	Total Spending[b] in thousands	Difference: Gain or Loss (%)	Total plan share post risk sharing and before-quality adjustment: Gain or Loss[c] (%)	Total state share post risk sharing and before-quality adjustment: Gain or Loss[c] (%)	Quality Score	Total plan share post risk sharing and-post quality adjustment: Gain or Loss[c] (%)	Total state share post risk sharing and-post quality adjustment: Gain or Loss[c] (%)	Plan share difference before and after quality adjustment Gain or Loss[c] (%)	State share difference before and after quality adjustment Gain or Loss[c] (%)
Model A-1	$595,331	$657,964	-10.52%	-4.47%	-6.05%	1.0	-3.63%	-6.89%	0.84%	-0.84%
Model A-2	$118,217	$122,054	-3.25%	-3.23%	-0.01%	1.0	-2.56%	-0.68%	0.67%	-0.67%
Model A-3	$88,732	$93,760	-5.67%	-3.28%	-2.39%	1.0	-2.67%	-2.99%	0.61%	-0.61%
Model A-4	$94,257	$99,276	-5.32%	-2.98%	-2.35%	1.0	-2.35%	-2.98%	0.63%	-0.63%
Model A-5	$82,047	$94,818	-15.57%	-8.71%	-6.86%	1.0	-6.94%	-8.62%	1.77%	-1.77%
Model A-6	$118,127	$113,820	3.65%	3.24%	0.41%	1.0	3.24%	0.41%	0.00%	0.00%
Model A-7	$235,726	$231,934	1.61%	-0.23%	1.84%	1.0	-0.18%	1.79%	0.05%	-0.05%
Model A-8	$192,230	$194,952	-1.42%	-0.95%	-0.47%	1.0	-0.76%	-0.65%	0.18%	-0.18%
Model A-9	$133,512	$123,562	7.45%	-0.32%	7.77%	1.0	-0.22%	7.67%	0.10%	-0.10%
Model A-10[d]	$125,616	$119,995	4.47%	0.10%	0.06%	1.0	0.10%	0.06%	0.00%	0.00%
Model A-11	$255,098	$247,123	3.13%	4.22%	-1.10%	1.0	4.22%	-1.10%	0.00%	0.00%
Model A-12	$167,325	$161,731	3.34%	2.32%	1.02%	1.0	2.32%	1.02%	0.00%	0.00%
Model A-13	$113,535	$120,490	-6.13%	-4.58%	-1.55%	1.0	-3.68%	-2.44%	0.89%	-0.89%
Model B-1	$533,654	$521,267	2.32%	1.51%	0.81%	1.0	1.51%	0.81%	0.00%	0.00%
Model B-2	$534,348	$531,325	0.57%	0.12%	0.45%	1.0	0.12%	0.45%	0.00%	0.00%
Model B-3	$572,956	$551,552	3.74%	2.51%	1.23%	1.0	2.51%	1.23%	0.00%	0.00%
Model C -1	$78,860	$81,445	-3.28%	-0.82%	-2.46%	1.0	-0.69%	-2.59%	0.13%	-0.13%
Total	**$4,039,571**	**$4,067,068**	**-0.68%**	**-0.25%**	**-0.56%**	**-**	**0.00%**	**-0.81%[e]**	**0.25%**	**-0.25%**

[a]This column is the denominator for all percentages presented in the other columns of the table
[b]Expenditure values have been price normalized for plans receiving shared losses payments from MassHealth
[c]Shared savings and losses amounts reflect risk sharing arrangements described in **Table II.C.e.1** and adjustments based on each ACO's quality score
[d]The sum of risk sharing amounts for the plan and MassHealth for this ACO are $5.421 million less than the difference between the total capitation minus total spending because MassHealth caps the amount of shared risk payments at $0 when ACOs would shift from shared losses to shared savings because of price normalization
[e]With the addition of the $5.421 million in savings that were capped as described in footnote (d) of this table, this total would equal -0.68%

D. Discussion

The Massachusetts 1115 Demonstration and its ambitious DSRIP program are designed to transform and improve the delivery of care and improve health outcomes for MassHealth members. Key components of the program implemented to date include two-sided risk contracts with Accountable Care Organizations (ACOs), the creation of the Community Partners (CP) program to coordinate care for members with BH and LTSS needs, funding of Flexible Services (FS) to address health-related social needs (HRSNs), and state-wide investments (SWIs) to enhance the workforce and provide other necessary supports for delivery system reform. The DSRIP program seeks to bring CPs, which are community-based organizations responsible for coordinating and managing care for certain MassHealth members with behavioral health and/or LTSS needs, and Social Service Organizations (SSOs), which are responsible for providing Flexible Services to certain members with health-related social needs (HRSNs) (i.e., social needs that affect member health and could benefit from community services), into a new ACO led system of integrated care for MassHealth members.

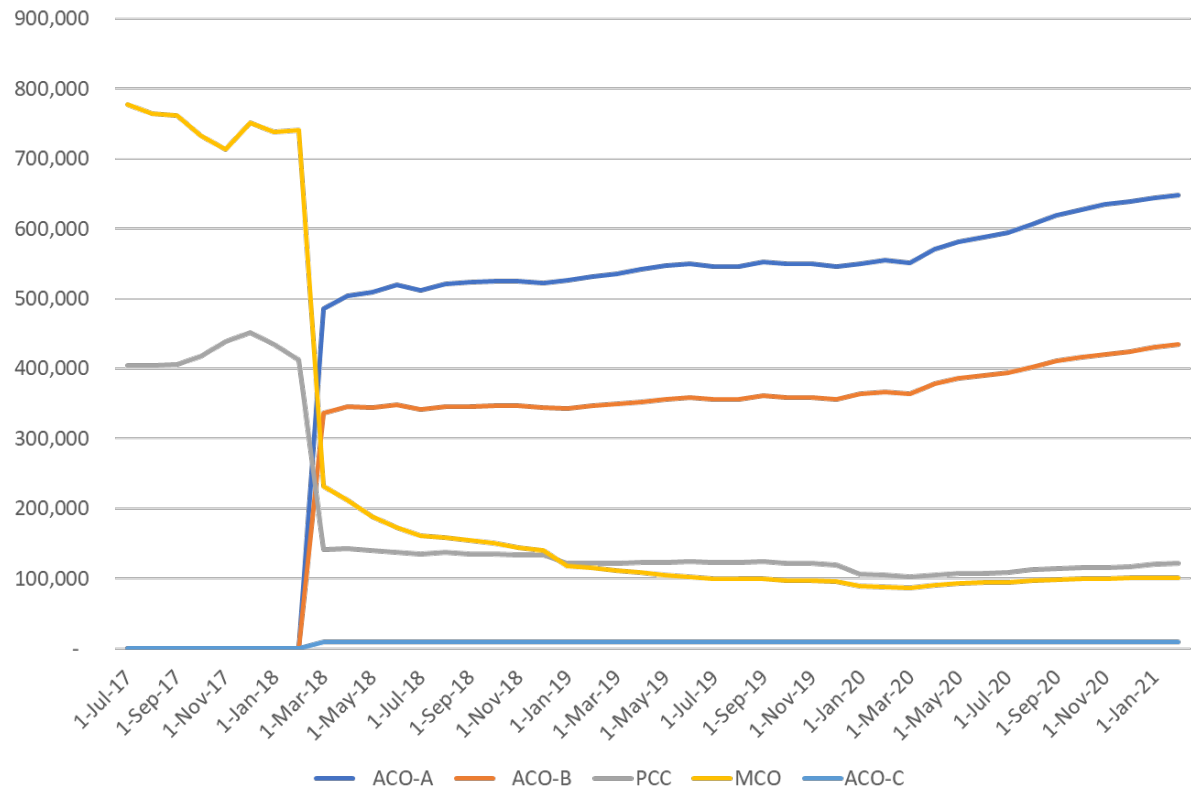
MassHealth's approach to transforming the Medicaid delivery system takes place in the context of national and state-wide efforts to improve the value and effectiveness of health care. At the state level, Chapter 224 of the Massachusetts Acts of 2012 ("Chapter 224") directed MassHealth to adopt alternative payment methodologies "to the maximum extent feasible" to further the goals of containing health care costs and improving quality (Seifert & Gershon, 2012). The adoption of alternative payment methodologies, in turn, builds on the work of the federal Centers for Medicare and Medicaid Services (CMS) to expand the use of alternative payment methodologies through Medicare ACOs and other initiatives.

The DSRIP programs and new entities – ACOs and CPs – were in their earliest stages of development during the period examined in this interim report (**Table II.B.2**), with less than two full years of cost, quality, and member experience data available post-implementation of ACOs in March 2018, CPs in July 2018, and FS in January 2020. However, the preliminary findings summarized here can inform program modifications and improve implementation during the next phase of the DSRIP program. These interim findings offer early signals of potential longer-term changes in health care delivery since the effects of large-scale delivery system reforms typically accumulate over time. Even the entire five-year DSRIP period is insufficient to observe the myriad hypothesized benefits for costs, quality, and member experience from investments that have begun to shift care towards accountable and integrated delivery models for Medicaid providers throughout the Commonwealth.

The primary finding from this Interim Evaluation of the Massachusetts DSRIP is that MassHealth and numerous DSRIP stakeholders have collaborated to an impressive extent and made great strides in the early years of implementation toward transforming health care and improving care processes at the organizational level. As depicted in

Figure II.D.1, more than three-quarters of the 1.279 million eligible members as of the end of 2020, including more than one million individuals at that time, have been shifted from traditional managed care into alternative payment models (i.e., ACOs). This level of alternative payment model adoption is well above accountability targets of 35% for 2020 and 45% adoption by 2022 set by CMS for the MassHealth Demonstration.[57] Hundreds of new partnerships have been formed within and between healthcare and community-based organizations to integrate care across the continuum. As of the close of 2020, 33,118 members were currently enrolled with BH CPs and 10,896 were enrolled with LTSS CPs to receive new forms of care coordination supports. In the first three quarters after the launch of the Flexible Services program in early 2020, 3,329 members with HRSNs received nutritional and housing supports through the program.

Figure II.D.1. MassHealth managed care enrollment in ACOs, MCOs, and the PCC Plan, monthly cross-sections July 2017 – December 2020



Data Source: MassHealth caseload snapshot and enrollment summary report - February 2021 (does not include ACO Model C enrollment numbers)
Note: "MCO" refers to MassHealth contracted Managed Care Organizations, excluding ACO Model C enrollment. Pending more detailed information from MassHealth, there is a constant assumption of 10,000 ACO Model C enrollees over time based on prior MassHealth reporting.

As described in detail in Section II C above, preliminary findings from the first 18 months showed substantial progress in implementing the program as designed and

[57] Source: MassHealth DSRIP Protocol effective July 1, 2017 – June 30, 2022

early evidence that progress is being made on several major outcomes of interest. Early signs of improvement in clinical outcomes and progress in shifting utilization from high-cost to lower-cost outpatient settings while maintaining high levels of member satisfaction are especially encouraging. With support from MassHealth, participating organizations have overcome many of the early challenges associated with developing new relationships and operating under an integrated and accountable care model.

Numerous challenges and opportunities for improvement remain in the final years of the DSRIP program and beyond. The sustainability of DSRIP funded programs represents a major challenge as DSRIP funds decline over time. Further revisions to ACO, CP, and primary care payment and delivery models may be needed to sustain partnerships and could represent an opportunity to accelerate further down the path towards an integrated and accountable delivery system.

Summary of Interim Findings by Evaluation Domain and Research question

This Interim Evaluation used a mixed-methods approach to evaluate the early implementation phase of the Demonstration, including delivery system actions taken by key stakeholders, initial changes in care delivery, and preliminary outcomes during the Demonstration period 07/01/2017 to 12/31/20 (**Table II.B.2**). Analyses of ACO financial performance based on MassHealth final financial reconciliation reports covered the first year of the ACO program from 3/1/2018 to 12/31/2018, while analyses that relied on analyses of MassHealth administrative data by UMass Chan covered the baseline period (01/01/2015 to 12/31/2017) through the first two DSRIP Performance Years (01/01/2018 to 12/31/2019). The evaluation design and methods are anchored in the DSRIP Logic Model (Figure 1), which links the Demonstration Goals and initiatives to the desired Activities (“secondary drivers”), Outputs (“primary drivers”), and Outcomes (“purpose”) of the Demonstration.

The interim findings reported here rely on primary data collected by UMass Chan, primary data collected by MassHealth and its partners, documents prepared by or submitted to MassHealth, and MassHealth administrative data (e.g., enrollment, claims, and encounter records). Primary data sources include:

1) key informant interviews of DSRIP program stakeholders including ACO leaders and staff, Community Partners (CP) leaders and staff, MassHealth members, and MassHealth staff; and
2) surveys of members, ACO primary care practice site administrators, ACO primary care providers, and CP staff.

For measures calculated using administrative data, we report results for the overall managed care eligible population (i.e., ACO, MCO, and PCC), MassHealth members enrolled in ACOs (i.e., ACO members), and MassHealth members enrolled in MCOs (i.e., MCO members). Although we do not implement comparative quasi-experimental designs for this interim report, we present results for the MCO population as an early

indication of changes in outcomes for members not directly exposed to most elements of the DSRIP program. **Table II.B.2** in the introduction to the DSRIP section (**Section II.B**) provides a visual representation of key DSRIP implementation milestones aligned with the timing of primary and secondary data acquisition that comprise the basis for this interim report.

In Sections E-F, we summarize the interim findings by research questions (RQs) within evaluation Domains as proposed in the Evaluation Design Document[58], discuss implications from our mixed-methods analyses, and make recommendations where appropriate to further the aims of the Demonstration.

Domain1: State, organizational, and provider-level actions promoting delivery system transformation

RQ1 To what extent did the state take actions to support delivery system transformation?

The state actively utilized DSRIP funding to support and engage health systems, practices, and providers in delivery system transformation. Key actions taken during early implementation by the state included:

- Hiring dedicated state-level staff to oversee the ACO, CP, and DSRIP programs.
- Changing internal operations to serve the needs of the ACO, CP, and DSRIP programs and enable greater collaboration across MassHealth divisions, including an overhaul of internal data, analytic, and operations work to support new governance structures and workflows.
- Investing in claims, enrollment, performance reporting, data-sharing, and analytics capacity at the state level to support ACO, CP, and quality measure reporting and population health management.
- Providing guidance and other support for transformation at participating Accountable Care Organizations (ACOs) and CPs.
- Promoting the recruitment, preparedness, and retention of a community-based and frontline workforce and enhancing the staff capacity available to ACOs and CPs for system reform by providing targeted Statewide Investments (SWIs), such as community health worker training programs and loan repayment programs.

After substantial pre-implementation efforts to procure and develop a policy framework for a new ACO and CP-based delivery system, MassHealth supported the ACO, CP, and DSRIP program implementation by proactively engaging participating entities and modifying program specifics in response to their concerns to help address organizational challenges and facilitate implementation. The state

[58] See https://www.mass.gov/doc/ma-independent-evaluation-design-1-31-19-0/download for Massachusetts Demonstration Extension Evaluation Design Document (EDD) approved by CMS January 2019.

conducted substantial stakeholder engagement efforts including working with quality measure stewards, hosting regular office hours for ACOs and CPs, and being generally available to these stakeholders for questions and support. In addition, the state procured, organized, and responded to input from two stakeholder-comprised groups developed to contribute to DSRIP. The Delivery System Reform Implementation Advisory Council (DSRIC) has provided advice and feedback on delivery system reform implementation and supported and launched health equity-focused initiatives. The Social Services Integration Workgroup (SSIWG) helped to design and launch the Flexible Services Program. It also provided input and support for the development of the flexible services screening tool and a Verification, Planning, and Referral Form and collection of race, ethnicity, and language data of ACO members.

RQ2 To what extent did ACOs take organizational-level actions to transform care delivery under an accountable and integrated care model?

The ACOs took significant actions to transform care and move toward an accountable and integrated care model. The most important measures taken by ACOs included:

- Establishing governance structures and infrastructure to support ACO needs, support partnering with CPs during CP program implementation, and DSRIP-related decision-making and leadership.
- Using DSRIP funding to hire dedicated staff for care coordination.
- Engaging clinical providers in delivery system change, including governance, quality and performance improvement initiatives, and participation in financial incentive programs.
- Proactively identifying and addressing barriers to transforming care and facilitating implementation by refining workflows to better address member needs, improve internal data analytics capacity, and address barriers to member engagement in care.
- Using DSRIP funding to improve existing technology and establish new infrastructure and protocols for Health Information Technology/Health Information Exchange (HIT/HIE) within their organizations and the organizations with which they collaborate.
- Making investments in and progress towards establishing systems for screening members for health and social needs, performing risk stratification, establishing patient registries, tracking quality, cost, and performance metrics, and facilitating information exchange between ACOs and CPs and SSOs.

ACOs undertook extensive actions to increase HIT/HIE capacity, noting that Technical Assistance (TA) support provided by DSRIP assisted them in building the capacity to address system-level barriers. ACOs also responded that the lack of standardization of technology platforms, data collected, and Electronic Health Records (EHRs) used within ACOs remained a system-level barrier to sharing

and accessing information. Ultimately, ACOs were able to invest in technology to improve healthcare delivery, though lack of standardization across practices within some ACOs continued to be a barrier in these initial years of implementation.

Despite a wide range of efforts, before and during initial implementation, within ACOs to educate and engage providers in system change, less than half of frontline ACO primary care providers (physicians, nurse practitioners, physicians assistants, nurses, and social workers) reported understanding the DSRIP goals in the initial survey administered in Q3-Q4 2020. At the time of data collection, only 29% agreed that value-based payments would be a sustained model of payment within their practice over the next five years, and only half reported currently receiving financial incentives linked to their quality performance. The second wave of the survey, administered in the final year (2022) of the DSRIP program, will measure changes in these metrics, which are hypothesized to increase with the increasing duration of time operating in an ACO.

RQ3 How and to what extent did CPs target resources and take actions to operate under an accountable and integrated care model?

CPs took specific actions and targeted resources to develop the capacity to operate under an accountable and integrated care model, including:

- Dedicating staff resources to improve member engagement and care coordination strategies.
- Utilizing SWIs to facilitate recruitment and retention of staff.
- Using DSRIP resources, such as funding and technical assistance, to develop and strengthen relationships among participating organizations.
- Utilizing DSRIP program resources to enhance internal IT systems to support data use and exchange.
- Engaging with MassHealth for guidance and providing feedback on programmatic elements.
- Relationship-building and collaboration with providers and members were vital components of success for CPs as they developed and staffed their programs, engaged with and assisted members, provided staff training, and built partnerships with ACOs.
- Relationships included those required by DSRIP contract obligations and those that formed organically - those between CPs and ACOs, among organizations in consortium CPs, between CPs, SSOs, and other community-based organizations, and between ACOs, CPs, SSOs, and members. These relationship-building activities helped facilitate access to information about shared patients and increased knowledge of the types of services available in the community. MassHealth staff were described as “very supportive” by CP leadership as they developed their programs and fulfilled DSRIP requirements. Specifically, MassHealth supported the

ACO-CP relationship with the use of documented processes (agreements between ACOs and CPs that were required by MassHealth) and joint meetings between entities.

Several SWIs helped many CPs partially overcome barriers to program staffing and training. CPs faced such barriers as recruitment competition with ACOs and other CPs, low compensation levels, burnout due to high caseloads and documentation requirements, and the need to develop and revise training programs for new staff members while also training existing staff in new competencies. To aid in recruitment and retention, SWIs related to workforce recruitment and retention, such as the student loan repayment SWI, were helpful in this regard. SWIs for specialized training were particularly helpful in providing another avenue for staff to develop professionally.

The new CP program faced additional challenges during early implementation. For example, one year into implementation, only half of surveyed ACO practice site administrators reported being aware of whether members were receiving CP supports or if member care was better because of the CP program. Administrative burdens, such as CMS and MassHealth-imposed timelines for outreach to members, sometimes impeded building rapport with members to facilitate their engagement in services. MassHealth took steps to address many of the challenges experienced in the early implementation period, including revising unrealistically demanding timelines for initiating member engagement and increasing the accuracy of member data.

RQ4 How and to what extent did ACOs, MCOs, and CPs align resources and take common actions to operate under an accountable and integrated care model?

Participating entities invested heavily within their organizations and across entities to test and develop strategies to improve coordination and collaboration during early implementation, with varied success. Successful strategies included:

1. Using DSRIP funding and support to establish structures and processes to promote coordination, including documented processes (mandated by MassHealth) to coordinate activities around member care.
2. Embedding BH providers and CP staff at ACO primary care practice sites to facilitate communication, build trust, and help organizations function effectively.
3. Improving data processes and systems, especially allowing CPs to access ACOs' EHRs to review member information, was a critical first step for many organizations in transforming care delivery.
4. Aligning resources and joint actions of ACOs with CPs and SSOs to implement the Flexible Services (FS) program, including negotiated service contracts, co-designed programs, and evaluation plans.
5. Establishing ACO referral workflows with CPs and SSOs to deliver FS supports, following MassHealth program guidance.

ACOs and CPs have worked both within their organizations and across entities to test various practices to improve collaboration and care coordination. Alignment of CP and ACO actions was most successful when there was a shared understanding between the ACO and CP with standardization in the care coordination process and data sharing systems. Successful ACO/CP partnerships established processes to improve clinical integration through meeting regularly to review shared members, designating and consistently working through key contact persons at each organization, and establishing standardized information-sharing systems and processes.
DSRIP funding and support from MassHealth have helped ACOs and CPs reduce the barriers presented by a lack of HIT interoperability and standardization in data and information sharing modalities. Continued availability of funding and support could facilitate ongoing HIT and data-sharing enhancements. However, federal patient privacy rules, such as HIPAA and 42 CFR Part 2, remain a perceived barrier to data sharing, especially regarding behavioral health data.

The patient-centered care plan was intended to be a tool for member engagement and care coordination, including between ACOs and CPs. This vision was difficult for ACOs and CPs to implement, which in some cases was a source of tension because of financial implications for CPs (after a certain period, CPs are not paid for members without completed care plans). Since care plans require the signature of ACO PCPs or their designee to be considered complete, lack of responsiveness from PCPs had the potential to negatively impact CP payment. Some ACOs and CPs have created successful processes to ensure prompt signatures, such as having a central point of contact and building CP-provider relationships (e.g., through regular meetings). Others had not yet formed successful processes to ensure prompt signature at the time of the interviews, leading to hindered care coordination and reduced payment for CPs. Co-location of ACO PCPs with CP staff and BH providers was consistently cited as a facilitator of effective relationships by organizations that had such arrangements. A sizable minority of primary care practice site administrators reported colocation of prescribing clinicians such as psychiatrists and psycho-pharmacologists (21%) and counseling therapists (31%) at their practice site. Nationally, 40% of primary care physicians practicing in urban areas (representing >80% of all PCPs) are co-located with a billing BH provider, and this fraction is lower in non-urban areas.[59]

Domain 2: Change in care processes

[59] See Miller et al.: https://www.jabfm.org/content/27/3/367

RQ5 To what extent did the identification of member needs, including physical, behavioral health (BH), long-term services and supports (LTSS), and social needs, improve?

Members reported that their BH and LTSS needs were well met during the early DSRIP implementation. Data on physical health needs were limited because the primary care member experience surveys are not designed to collect information on specific needs, but member perceptions of management of needs by PCPs were stable or improved from 2018 to 2019. Most children received evidence-based age-appropriate screenings (developmental, lead, and oral health) at baseline (2015-17), with modest fluctuations from 2018 to 2019. Substantial room for improvement remains for identifying health-related social needs (HRSNs), which ACOs are required to screen for annually. The launch of 67 new FS programs in 2020 and the enrollment of more than 3,000 members in the first three quarters of the program (Q1-Q3 2020) suggest that ACOs had improved their ability to screen for HRSNs and refer members to SSOs to address those needs.

- Most respondents to the adult (54.6% in 2018 and 55.3% in 2019) primary care survey and a minority of respondents to the child primary care survey (38.9% in 2018 and 42.2% in 2019) reported being asked by someone from their PCP's office if there are things that make it hard for them to take care of their health.
- In the first and second years of the DSRIP program, most members responding to the BH and LTSS member experience surveys reported that their BH and LTSS needs were very well met.
- From the first to the second year of the DSRIP program, members were more likely to self-report that child and adult members' need for mental health and prescription medications were very well met. There was no change in member self-reports that substance use treatment services were met.
- Performance on an annual HRSN screening measure was low in the first year of the ACO program (10.8% in 2018), and screening measure performance did not improve in 2019 (10.4%)."

Identifying and addressing member physical health, BH, LTSS, and social needs across the care continuum is central to the delivery of integrated and accountable care. The richest data available regarding needs identification and fulfillment were available from the child and adult BH and LTSS member surveys. However, response rates were low (8-14%), and there was limited data on non-respondent characteristics, meaning results should be interpreted cautiously as they may not reflect the experience of all MassHealth members with BH conditions or using LTSS. Between 74.3% to 91.5% of members reported their BH and LTSS needs were very well met across several types of BH and LTSS needs. This suggests that the transition from the legacy managed care system to ACOs worked well. Still, we lack

baseline data to observe pre-post changes. Although we have not conducted analyses of member engagement rates with BH and LTSS CPs for this report (these are planned for the Summative Report), MassHealth reported large increases in engagement of members with BH and LTSS needs who were enrolled with CPs (6% of those ever enrolled were engaged as of 12/31/2018 versus 20% of all members ever enrolled were engaged as of 12/31/2019).[60] In raw numbers, this reflects an increase from approximately 3,000 members engaged in 2018 to more than 18,000 through 2019. Since successful CP engagement requires completion of a comprehensive health needs assessment, improvement in CP engagement rates represents an improvement in identification of member needs for these important subgroups of MassHealth members.

Low levels of reported HRSN screenings in 2018 and 2019 are not entirely unexpected for a first-of-its-kind measure with which providers were unfamiliar. The HRSN quality measure was not in pay-for-performance in 2018 or 2019, which could have led ACOs to place a lower emphasis on documenting HRSN screening activities compared with other programs and measures that had cost implications during those years. As noted above, the launch of ACO FS programs which necessitated assessment of HRSNs and referral to SSOs is expected to contribute to improved performance on this measure in 2020 and beyond.

To understand how screening rates in the MassHealth delivery system compare to other Medicaid programs, we compare MassHealth performance to national averages among Medicaid plans. Developmental screening rates in MassHealth (>80%) were consistently well above national Medicaid rates (33-42% for the median state) throughout the study period, although heterogeneity in methods across states complicates cross-state comparisons.[61] Childhood lead screening rates were higher for MassHealth (75%-83%) versus Medicaid managed care plans nationally (67-70%) during the study period.[62] Among adults, rates of initiation (38%) and engagement (13-14%) in alcohol and other dependence treatment were stable and similar to the median national Medicaid rates of initiation (38-44%) and engagement (10-14%) during the study period, although national rates were improving over time.[63]

RQ6 To what extent did access to physical care, BH care, and LTSS improve?

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[60] See MassHealth 2019 DSRIP Annual Report: https://www.mass.gov/info-details/massachusetts-delivery-system-reform-incentive-payment-program#dsrip-annual-report-and-public-meeting-

[61] See CMS Children's Health Care Quality Measures (2016-2021): https://www.medicaid.gov/medicaid/quality-of-care/performance-measurement/adult-and-child-health-care-quality-measures/childrens-health-care-quality-measures/index.html

[62] See: https://www.ncqa.org/hedis/measures/lead-screening-in-children/

[63] See: https://www.ncqa.org/hedis/measures/initiation-and-engagement-of-alcohol-and-other-drug-abuse-or-dependence-treatment/

Members reported that access to physical care, BH care, and LTSS was timely without large year-over-year changes in 2018-2019.

- Most responding members reported timely access to primary, BH, and LTSS care in 2018 and 2019, with no large year-over-year changes in the distribution of responses.
- Most adults in ACOs had at least one outpatient or preventative care visit annually during the study period, and this rate remained stable at 83% from baseline (2015-2017)[64] to 2019. The percentage of ACO enrolled children with at least one primary care visit was high at baseline (95.0%) and remained high in 2018 (95.0%) and 2019 (94.3%).
- Large decreases in rates of ED boarding (defined as an ED stay of >24 hours, as measured in administrative data) for members with BH conditions occurred from baseline (2015-17) from 567.8 in baseline to 318.2 in the second year of the DSRIP program (2019); these findings suggest that access to diversionary and outpatient BH services improved.

Access has been defined as "the timely use of personal health services to achieve the best health outcomes."[65] Shifts to new ACO networks after the program launched in 2018 did not appear to affect members' perceived access to timely care. MassHealth policies, including preserving existing provider relationships, extending the plan selection period, a 90-day continuity of care period (i.e., continued coverage of members' existing providers)[66], and using multimodal communication strategies, appear to have promoted a smooth member experience of the transition to ACOs. Improvement in measures of care processes, clinical quality, and rates of PCP utilization described in other sections of this report (e.g., RQ8, RQ10, RQ11) suggests access was improving from 2018 to 2019.

MassHealth members responding to the adult and child primary care surveys reported higher rates of always obtaining timely access to urgent (72-73%) and routine care (68%) in 2018-19 compared with rates of 64% for urgent care and 56% for routine care among Medicaid plans nationally in 2019.[67] As noted above for the BH and LTSS surveys, results for the child and adult primary care surveys may not be representative as they also had low response rates and limited information available on non-respondent

[64] To facilitate interpretation of changes over time, we report results during the baseline period for the "virtual" managed care sector (i.e., ACO, MCO, PCC). During this 'virtual' period, members are assigned to an ACO, MCO, or PCC plan based on where a member would have been assigned using MassHealth's PCP attribution algorithm at the time the ACO program launched in March 2018.
[65] As defined by the Institute of Medicine (1993): https://www.ncbi.nlm.nih.gov/books/NBK235882/
[66] See: https://www.mass.gov/doc/continuity-of-care-april-6-2018-letter-0/download
[67] See AHRQ CAHPS Survey Aggregated Data: https://cahpsdatabase.ahrq.gov/CAHPSIDB/default.aspx

characteristics. Low rates of telehealth use among MassHealth primary care providers in 2019 were consistent with low rates nationally.[68]

Although analyses of administrative data were only possible through the end of 2019, our ACO provider and CP staff survey conducted in the second half of 2020 shed light on changes in how members accessed care from the pre-pandemic to the pandemic period. In 2019, few ACO primary care providers and CP staff used live audio and/or visual telehealth; however, a majority used email and text messaging to communicate with patients. During the COVID pandemic in 2020, a majority of ACO primary care providers and CP staff used live audio and/or visual telehealth. For the Summative Report, a second wave of these surveys combined with analyses of administrative data will further examine the shift in how members access care and the durability of such changes.

RQ7 To what extent did member engagement with physical care, BH care, and LTSS improve?

Most BH and LTSS member survey respondents reported a wide choice of services during care planning and that all needed services were included in their care plan. Most PC survey respondents reported that they discussed specific goals for their health with their PCP, with modest year-over-year improvement from 2018 to 2019. These findings suggest that members were effectively engaged in care planning. However, most ACO providers and CP staff did not perceive members to be engaged in managing their health.

Member engagement is defined broadly as "actions an individual must take to obtain the greatest benefit from the healthcare services available to them."[69] Member engagement is difficult to measure from sources other than patient self-report. It was not feasible for MassHealth's member surveys to include entire instruments designed to measure patient engagement (e.g., the patient activation measure.)[70] Therefore, we used measures of needs discussion, member interactions with their provider, care planning, and perceived effectiveness of services in the BH and LTSS member survey populations as proxies for engagement in those subpopulations. We also asked ACO providers and CP staff whether their patients take responsibility for managing their health (i.e., perceived engagement). We examined continuity of care (i.e., regular visit attendance) as a proxy for member engagement among the subgroup of MassHealth members with HIV, where regular lab monitoring and medication

[68] See Patel et al. (2021): https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2779940
[69] See Gruman et al. (2010): https://pubmed.ncbi.nlm.nih.gov/20202780/
[70] See Hibbard et al. (2004): https://pubmed.ncbi.nlm.nih.gov/15230939/

adherence are critical. We found that gaps in care were much less common than previously reported among patients of HIV clinics[71] and slightly more common than among commercially insured patients.[72]

As noted above in RQ5, MassHealth reported large increases in engagement of members with BH and LTSS needs who were enrolled with CPs (6% of those ever enrolled were engaged as of 12/31/2018 versus 20% of all members ever enrolled were engaged as of 12/31/2019). [73] To be classified as engaged, CP enrolled members had to have a comprehensive needs assessment completed, a care plan developed, and the member (and the member's PCP) had to sign the care plan, a process which increases the likelihood that a member was an active participant in their healthcare decision-making.

- Most members reported that they discussed specific goals for their health with their PCP, with modest year-over-year improvement from 2018 to 2019.
- In 2019, 74.3% of child BH survey respondents reported their child's behavioral health needs were completely identified and discussed with their care team, an 8.2% improvement from 2018. In 2019, 72.9% of adult BH survey respondents reported their behavioral health needs were completely identified and discussed with their care team, a 7% increase from 2018.
- The proportion of members who agreed or strongly agreed that BH and LTSS services were effective varied by measure (e.g., LTSS helped the member be better socially, better able to work/study, better with money). Perceived effectiveness remained relatively stable for most BH measures, while declines in perceived effectiveness occurred in 2019 for several LTSS measures. It is important to note survey data for care received during 2019 were collected during the first half of 2020, and member perceptions may have been affected by the COVID-19 pandemic. However, in preliminary stratified analyses, we observed little variation in the response distribution for those responding before versus on or after March 10th, when Massachusetts implemented emergency measures to address the spread of COVID-19.
- More than three-quarters of respondents to BH and LTSS surveys who contacted their provider received the help or advice needed (i.e., navigated the health system successfully), but this percentage declined from 2018 to 2019.

[71] See Gardner et al. (2018): https://journals.sagepub.com/doi/10.1177/2325957417729750
[72] See Gardner et al. (2017): https://pubmed.ncbi.nlm.nih.gov/28899258/
[73] See MassHealth 2019 DSRIP Annual Report: https://www.mass.gov/info-details/massachusetts-delivery-system-reform-incentive-payment-program#dsrip-annual-report-and-public-meeting-

- Half or fewer ACO primary care providers and CP staff agreed or strongly agreed that most patients with chronic conditions, BH needs, or LTSS needs took responsibility for managing their health.
- The gaps in care between human immunodeficiency virus (HIV) medical visits and antidepressant medication management measures were examined as proxies for members being better informed and engaged with the health care services recommended for managing their clinical conditions. Gaps in care for MassHealth members with HIV were rare at baseline and remained rare during 2018-2019 for ACO members but became more common among MCO members with HIV in the 2018-2019 period.

RQ8 To what extent did care processes improve for physical care, BH, and LTSS?

For the purposes of the evaluation, we have conceptualized care processes as the delivery of evidence-based services in a member-centered manner. **We found hybrid and administrative quality measures of care processes improved from 2018 to 2019, including timeliness of prenatal care and immunizations for children and adolescents. Medication management for children improved between the baseline period and 2019. Most ACO members responding to PC, BH, and LTSS surveys reported a positive care experience in 2018 and 2019.**

For measures of PCP communication, MassHealth ACO PCPs were rated highly and similarly to Medicaid PCPs nationally on both child and adult surveys.[74] Compliance with the childhood immunization hybrid quality measure in 2018-2019 (43-56%) was higher among MassHealth ACO members than among children enrolled in Medicaid managed care nationally in 2019 (38%). Compliance with the adolescent immunization hybrid quality measure in 2018-2019 among MassHealth ACO members (39-44%) was slightly above the rate among adolescents enrolled in Medicaid managed care nationally (35-38%) (NCQA, 2021). Rates of timely prenatal care among MassHealth members improved from 2018 (78%) to 2019 (81%) but were below the average among Medicaid managed care plans nationally in 2018-2019 (82%-87%).[75] Although we did not include metrics for care processes specific to diabetes and hypertension, the improvement in the outcome measures reported in RQ11 suggests that the quality of care improved for members with those highly prevalent chronic conditions.

- Most members reported that providers always listened carefully to them, showed respect for what they had to say, spent enough time with them, communicated information about their health in a way that

[74] See AHRQ CAHPS Survey Aggregated Data: https://cahpsdatabase.ahrq.gov/CAHPSIDB/default.aspx
[75] https://www.ncqa.org/hedis/measures/prenatal-and-postpartum-care-ppc/

was easy to understand, and seemed informed about their medical history.

- The majority of ACO providers and CP staff agreed or strongly agreed that their organizations delivered patient-centered care that included communicating with members in a way they can understand, seeing patients as equal partners in their care, and encouraging them to actively take part in setting goals, designing care plans to meet the preferences of patients and their families, and routinely using patient feedback to improve services.
- ACOs and SSOs successfully partnered to launch various Flexible Services (FS) programs to provide housing and nutritional supports to MassHealth members. FS were delivered with increasing frequency to a diverse subgroup of MassHealth members during the first three quarters after the program launched (Q1-Q3, 2020). Based on utilization reports submitted by ACOs to MassHealth, most members (90.1%) receiving FS received nutrition supports during that period.

RQ9 To what extent did integration between physical, behavioral, and long-term services increase?

Most MassHealth members responding to the PC, BH, and LTSS surveys perceived care to be well coordinated between their PCP and other providers in the early years of the DSRIP program. Most ACO provider survey and CP staff survey respondents reported high levels of coordination internally and with external providers, with a smaller majority reporting care was well coordinated with community resources. More than two-thirds of ACO enrollees had a follow-up with an outpatient provider within 30 days of a hospital discharge at baseline, and this rate was stable in the early DSRIP period (2018-2019).

- Year-over-year changes in member perceptions of coordination between their providers varied by survey population and measure. Notably, improvements were observed for select measures among children receiving BH services, while decrements occurred for select measures among children receiving LTSS.
- Among CP staff survey respondents, more than 80% reported being well informed about available community resources for members, agreed their institutions had established relationships with other community agencies to facilitate referrals to these institutions, and agreed that their referrals to other community-based organizations effectively addressed members' HRSNs.
- About half of ACO members hospitalized for a mental health disorder received follow-up visits with a mental health practitioner within seven days after discharge, and this rate declined from baseline (2015-2017) to the early DSRIP period (2018-2019).

- The rate of follow-up for BH CP members after ED visits and hospitalizations improved from 2018 to 2019, although follow-up rates with BH CPs were low in both years.

Marked progress towards integration across the care continuum was made by DSRIP participating entities during the first few years of the program, but substantial room for further improvement remains (see discussion of RQs1-4). At the organizational level, hundreds of new partnerships were formed or formalized between ACOs, BH CPs, LTSS CPs, and SSOs. Within these organizations, new relationships were also developed (e.g., new consortium CPs, between providers newly sharing population health management responsibility for members in ACOs).

Performance on measures of care integration among MassHealth ACO members was consistently better than performance nationally during our study period (2015-2019). However, there was little evidence of improvement among MassHealth ACO members over the period available for evaluation. Nearly two-thirds of adults and children enrolled with MassHealth ACOs reported their PCP was always up to date about specialist care in 2018 and 2019, which was slightly above reported rates for adults (58%) and children (60%) nationally (AHRQ, 2016-2021). The percentage of MassHealth ACO members receiving follow-up within seven days after a hospital visit for mental illness declined from 52% at baseline to 47% in 2019; however, declines over time were also observed nationally for this measure, and follow-up rates were consistently lower among Medicaid enrollees nationally (36-44%).[76] Follow-up rates within seven days of an ED visit for mental illness were almost twice as high among MassHealth ACO members than Medicaid enrollees nationally in 2018-2019 (77% versus 40-41%);[77] however, in Massachusetts, emergency service providers assess most members arriving for BH conditions on a daily basis within the ED and these visits falsely inflate the post-discharge follow-up rates for this measure. Internal data from the MassHealth's behavioral health vendor indicate that excluding visits in the ED with emergency service providers, the seven-day follow-up rate for this measure would be about 45%, which is still above national rates. Although denominator sizes were small, cardiovascular monitoring rates for ACO members with schizophrenia and cardiovascular disease (70-75%) were generally consistent with national rates (77-78%) during the study period (2015-2019).[78]

RQ10 How did the volume and mix of services utilized by members change during the course of the Demonstration?

[76] See https://www.ncqa.org/hedis/measures/follow-up-after-hospitalization-for-mental-illness/
[77] See https://www.ncqa.org/hedis/measures/follow-up-after-emergency-department-visit-for-mental-illness/
[78] See NCQA 2021 findings: https://www.ncqa.org/hedis/measures/diabetes-and-cardiovascular-disease-screening-and-monitoring-for-people-with-schizophrenia-or-bipolar-disorder/

During 2018 and 2019, there appear to be favorable shifts in service use among adult ACO members, with increasing rates of primary care visits and decreasing rates of inpatient, post-acute, and low-value care.

The preliminary findings for RQ10, interpreted alongside declines in ED boarding and inpatient utilization reported in RQ6 and RQ11, suggest that the volume and mix of services may be shifting towards lower-cost outpatient settings. Shifts in post-acute care away from high-cost institutional settings among ACO members, as appears to be occurring in the early DSRIP years, are consistent with previously described shifts towards home-based post-acute care among Medicare ACOs (McWilliams 2017[79], Colla 2019[80]).

- On average, adult ACO members visited a primary care provider 7.2 times per year at baseline, 8.5 times per year in 2018, and 9.3 times per year in 2019. Increases in primary care utilization were also observed and of similar relative magnitude in subgroups with diabetes and BH conditions.
- Rates of primary care utilization fluctuated modestly among pediatric ACO members from 4.7 times per person per year at baseline to 5.0 in 2018 and 4.8 in 2019.
- 40% of adult ACO members had an annual primary visit at baseline, 43% in 2018, and 41% in 2019.
- Post-acute care utilization rates were below expected levels (based on pre-DSRIP experience) in 2018 and 2019. Among ACO members, institutional post-acute care utilization declined from baseline, and rates of home-care utilization remained stable, while rates of institutional post-acute care remained stable, and home care rates declined among MCO members.
- Low-value care practices (imaging for low back pain, combined abdominal CT studies, use of opioids at high dosages in those without cancer, antibiotic use without strep testing) were uncommon at baseline and remained so (or slightly improved, i.e., became less common) during 2018 and 2019.

Early changes in primary care visit rates are difficult to interpret in isolation. The medical complexity of ACO members increased over the study period, partially explaining increasing rates of primary care use. Widespread use of non-traditional communication (e.g., texting, email, patient portals) and better management of clinical conditions such as diabetes, consistent with provider survey results in RQ6 and improvements in A1c control observed in RQ11, may have either reduced the frequency of billable check-ins needed by patients or

[79] See study by McWilliams et al. (2017) : https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2601418
[80] See study by Colla et al. (2019): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6522306/

stimulated greater member engagement and increased visit rates. Additionally, increased engagement of high-risk populations by care management and care coordination program providers and staff (e.g., nurses, social workers, pharmacists, CP staff) could have substituted or supplemented visits with billing providers, but the measures reported here only include billable encounters for a subset (i.e., physicians, nurse practitioners, physician's assistants) of all providers involved in delivering primary care within an integrated care model. Therefore, the observed increases in primary care utilization are likely to represent lower bounds on the extent to which member engagement with the broader primary care team increased from baseline to the early DSRIP period. However, it is useful to focus on the prescribing providers for whom utilization data are available. These providers are central to a primary care based integrated delivery model, and increases in primary care visits with these providers are encouraging and consistent with prior research. For example, previous studies of medical homes have found that increasing the coordination of care leads to increased utilization of primary care, better quality, and improved adherence to treatment plans among underserved populations.[81]

As of 2016, the percentage of hospital discharges to post-acute care settings was higher in Massachusetts than nationally.[82] Statewide (i.e., all-payers), the percentage of discharges to institutional post-acute care has declined 3.6% in Massachusetts between 2010 and 2018 (a 17% relative reduction from the 2010 level of 21.4%), while the percentage of discharges to home health has increased 4.1% over that time period (a relative increase of 19%).[83] Medicaid post-acute care utilization rates are lower than statewide averages, as the latter are pulled upward by higher utilization among Medicare enrollees. However, when comparing the observed rates of institutional post-acute care utilization to expected rates based on models built on 2015-2017 pre-ACO baseline data (as described in the methods section of this report), we note that observed rates in 2018 (5.1%) and 2019 (6.0%) are 15-22% below expected rates in those years. In contrast to these apparent declines in institutional post-acute care, utilization of post-acute home health care remained stable for ACO enrollees, and thus comprised a larger fraction of all post-acute care discharges.

As a lower cost community-based post-acute care setting, stable post-acute home health utilization and declining institutional utilization in the early years of the ACO program may reflect a mix of substitution of the lower for the higher cost setting and a reduction in total post-acute care use. Other factors are also likely

[81] See 2017 and 2009 reports by Domino et al.: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5583299/; https://pubmed.ncbi.nlm.nih.gov/19786921/
[82] See HPC 2019 Annual Cost Trends Report: https://www.mass.gov/service-details/annual-cost-trends-report
[83] See HPC 2019 Annual Cost Trends Report: https://www.mass.gov/service-details/annual-cost-trends-report

to affect post-acute care use. MassHealth conducted audits of home health agencies in 2016 and strengthened its oversight of home health agencies in 2017, and has worked closely with the Massachusetts Attorney General's Office to address concerns around program integrity and fraud.[84] Further work is needed to understand the extent to which ACOs implemented their own utilization management programs for post-acute care and LTSS more broadly, and the impact of these programs on both appropriate and inappropriate utilization of institutional and home health services. In the future, ACOs would have greater incentive to manage LTSS if MassHealth incorporates LTSS costs into managed care delivery models and TCOC benchmarks, as was considered for the current Demonstration.[85] However, recent efforts to develop payment models that accurately predict LTSS costs indicate that incorporating LTSS costs into TCOC benchmarks may be infeasible without first establishing new data collection mechanisms for measures of daily functioning that reflect the level of need for LTSS and are the strongest predictors of LTSS cost.[86]

MassHealth ACO providers have low rates of low-value care. The percentage of ACO members with new low back pain episodes that (appropriately) did not receive imaging (82-84%) was above national Medicaid managed care rates (72-75%) throughout the study period (2015-2019).[87] MassHealth ACOs had nearly perfect performance on the strep testing for childhood pharyngitis measure (95%), which remained stable and well above national rates of 67-80% during the study period.[88]

Domain 3: Changes in member outcomes

RQ11 To what extent did member outcomes improve?

Member outcomes improved (clinical outcomes, hospitalization rates) or remained largely stable (self-reported health ratings) during the early years of the DSRIP program.

- Between 2018 to 2019, improvement was observed for clinical outcomes measuring the quality of diabetes and blood pressure management for ACO members. Rates of depression remission and response, another clinical outcome measure, were low (6-7%) in both years.

[84] https://www.mass.gov/news/ag-healey-secures-10-million-from-home-health-care-company-that-falsely-billed-masshealth
[85] See approved MassHealth 1115 Demonstration: https://www.mass.gov/doc/1115-masshealth-demonstration-stc-6-27-18-0/download
[86] See Alcusky et al.: https://pubmed.ncbi.nlm.nih.gov/33315332/
[87] See https://www.ncqa.org/hedis/measures/use-of-imaging-studies-for-low-back-pain/
[88] See https://www.ncqa.org/hedis/measures/appropriate-testing-for-children-with-pharyngitis/#:~:text=Appropriate%20Testing%20for%20Children%20with%20Pharyngitis%20(CWP),streptococcus%20test%20for%20the%20episode

- From the first to the second year of the DSRIP program, changes in self-reported health ratings were small and mostly positive among ACO members responding to the primary care, BH, and LTSS surveys.
- Emergency department (ED) utilization rates increased among ACO members in 2018 compared to baseline rates among members who would have been attributed to ACOs had the program been implemented at that time. ED visit rates then decreased in 2019 when accounting for the greater medical complexity of members in 2019.
- All-cause unplanned hospitalization rates declined modestly from baseline to 2018 and 2019 among ACO and MCO members after adjusting for rising medical complexity over time.

As summarized in the DSRIP logic model, the effects of DSRIP investments on member outcomes are conceptually mediated through improvements in coordination, integration, and quality. If these relationships hold, the effects of DSRIP programs will be larger for subgroups of members with clinical and social conditions where these improvements can prevent adverse health consequences that manifest in acute service utilization. Early findings were consistent with this logic. Hospital admission rates among ACO members declined the most for ambulatory care sensitive conditions (ACSCs) and among children, adults with diabetes, and adults with SMI/SUD. The percentage of ACO members with poor diabetes control (33% in 2018, 30% in 2019) was below the national Medicaid rate (41% in 2018, 40% in 2019) and declined further between 2018 to 2019.[89] The percentage of ACO members with adequate blood pressure control (67-72%) was above the national Medicaid rate (59-61%) in 2018-2019.[90] Large decreases in ACSC admission rates occurred from the baseline (2015-2017) to the DSRIP period (2018-2019) among MassHealth ACO members. Specifically, hospitalization rates for acute (89 per 100,000 persons at baseline and 71 in per 100,000 in 2019) and chronic ACSCs (234 per 100,000 persons at baseline and 164 per 100,000 persons in 2019) were lower among adult members of MassHealth ACOs than national all-payer rates of acute (128 per 100,000 persons) and chronic (467 per 100,000 persons) ACSC hospitalizations during 2016. More recent data are not yet available nationally.

RQ12 To what extent did member experience improve during the Demonstration?

Member ratings of their primary care, BH, and LTSS providers were consistently positive in 2018 and 2019 among respondents to the adult and child surveys.

- A large majority of ACO adult and child survey respondents would recommend their primary care (89-93%) and BH providers (81-83%).

[89] See https://www.ncqa.org/hedis/measures/comprehensive-diabetes-care/
[90] https://www.ncqa.org/hedis/measures/controlling-high-blood-pressure/

- Among adult respondents, 60.9% and 56.6% reported a definitive willingness to recommend their LTSS provider in 2018 and 2019. More than 60.3% of respondents reported a definitive willingness to recommend their child's LTSS provider in 2018, while just half (50.2%) were willing to definitively recommend their child's LTSS provider in 2019.
- Respondents' ratings of their child's LTSS services were generally positive and similar in 2018 and 2019, with a mean (SE) of 7.8 (0.10) in 2018 and 7.4 (0.08) in 2019. Adult respondents also rated their LTSS positively in 2018 (mean (SE) 7.8 (0.07)) and 2019 (mean (SE) 7.5 (0.07)).

Most MassHealth members responding to the adult (72-73%) and child (76-78%) primary care surveys rated their PCP nine or ten on a ten-point scale, compared with 67-69% among Medicaid adults and 77-78% of child survey respondents nationally.[91]

Domain 4: Change in healthcare cost trends

RQ13 To what extent were Medicaid total cost of care trends moderated for the ACO population?

Program-wide, ACO expenditures[92] on healthcare services (which do not include DSRIP investments) were close to cost benchmarks set by MassHealth during the first year of the program (2018). The mean ratio of ACO expenditures to total capitated payments/benchmarks among the 17 ACOs was 101.2%.

- In 2018, nine (of 17) MassHealth ACOs had total expenditures that were lower than their total capitated payments (Model A ACOs) or their TCOC benchmarks (Model B and C ACOs) prior to risk sharing arrangements.
- After accounting for shared risk arrangements (see detailed descriptions in Domain 4), seven ACOs achieved savings of a total value of $41.68 million accruing to those ACOs.[93] The total value of losses accruing to ten ACOs was $41.83 million; therefore, ACOs achieved a net value of $0.15 million in losses.
- MassHealth achieved savings of $30.46 million based on risk-sharing arrangements with 8 of the Model A and B ACOs. Losses totaling $63.23 million accrued to MassHealth (from 8 Model A ACOs) and the

[91] See AHRQ CAHPS Survey Aggregated Data: https://cahpsdatabase.ahrq.gov/CAHPSIDB/default.aspx
[92] Expenditures reported on a price-normalized basis. To account for price differences over time and between plans, MassHealth sets market standard rates and reconciles plan performance on a price normalized basis. Price normalization assigns a standard payment rate from the MassHealth fee schedule for each service
[93] The structure of risk-sharing arrangements between MassHealth and the ACOs is such that circumstances can arise where an ACO is in net savings while MassHealth is in net losses, and vice versa.

two MCO partners of the Model C ACO, representing a net loss to MassHealth of $32.77 million.

- Together, the ACOs and MassHealth shared in savings of $72.15 million and losses of $105.06 million in 2018. The net value of $32.92 million in losses represents 0.81% of the sum of $4.04 billion in capitated payments paid to Model A ACOs and TCOC benchmarks set for Model B and C ACOs.

For this Interim Report, we are limited to providing a snapshot of baseline financial performance across the 17 MassHealth ACOs during the first year of the implementation (2018), as more recent financial data were not available. However, more recent data reported by MassHealth shed some added light on subsequent ACO financial performance. Consistent with our findings of increasing medical complexity of patients from 2018 to 2019, preliminary analyses of 2019 financial performance in MassHealth's 2019 DSRIP Annual Report suggest that ACO financial performance was affected by this rising acuity. Eleven of 13 Model A ACOs, which bear insurance risk for changes in member acuity during 2018 and 2019, had expenditures that exceeded their capitation payments by more than two percent in 2019 (MassHealth, 2021). In contrast, all three Model B ACOs (which do not bear insurance risk) were within plus or minus 2% of their cost benchmarks in 2019 (MassHealth, 2021). Although both Model A and Model B ACOs are in two-sided risk contracts with MassHealth (both are considered advanced APMs by CMS[94]), MassHealth can adjust cost benchmarks for Model B ACOs retrospectively, which can protect them from insurance risk. External shocks to the MassHealth delivery system associated with the COVID-19 pandemic, which increased MassHealth enrollment and likely suppressed utilization as observed in other health systems, are expected to bias financial performance data for 2020 in favor of shared savings.

Limited conclusions can be drawn from these early financial data that only address the question of how well ACOs performed in the early years of the program against policy-driven benchmarks established by MassHealth. When setting these capitation rates and cost benchmarks, MassHealth built-in expectations for reductions in costs for each ACO against its historical cost performance during the baseline period. Furthermore, these policy benchmarks do not address whether total costs of care trends are moderated compared with the counterfactual scenario where MassHealth would not have implemented the ACO program. To address this, we will compare changes in healthcare costs against comparison groups over the full demonstration period and present the findings in the Independent Evaluation Summative Report. Additionally. ACOs are not expected to generate meaningful savings in the first two years of the

[94] https://qpp-cm-prod-content.s3.amazonaws.com/uploads/1213/2020%20and%202021%20Comprehensive%20List%20of%20APMs.pdf

program and don't expect to see any impact on delivery reform on cost, which would take a few years.

Policy Implications and Recommendations

1. **The DSRIP program has enabled payment and delivery system reforms.** The interim evaluation confirms that Massachusetts stakeholders have taken significant action and made progress in transforming the delivery system for MassHealth members.
   - DSRIP funding has promoted substantial changes in the healthcare delivery system for MassHealth members and enabled new health care and community-based organizations to take part in system transformation**.** DSRIP funds increased care coordination and Flexible Services supports designed to help address the full continuum of needs among MassHealth members. The required partnerships within and between ACOs and CPs were unlikely to have formed in the absence of DSRIP funding, except where there were pre-existing relationships. Several ACOs and CPs expressed concerns about the continuation of programs and ongoing participation of practice sites in the absence of DSRIP funding.
     - **Recommendation:** While confirming the value of DSRIP funding in promoting organizational transformation, our findings also suggest a need for ongoing funding to sustain improvements in the delivery system.

   - Organizations entered Medicaid delivery system reform from different starting points in the life-cycle of population-based health care capacity development and served demographically, medically, socially, and geographically varied populations. Several ACOs had earlier experience with value-based contracts, population health management, and quality initiatives with other payers. These organizations often had the staffing and technology to collect, analyze, report, and act on data from the outset of the DSRIP program, while others had to build such capabilities. Size, prior experience with value-based and alternative payment models, and other characteristics influenced the ability of organizations to implement program requirements. Recognizing differences in populations served and in organizational capacity and mission, MassHealth allocated larger amounts of DSRIP funds to ACOs serving larger volumes of safety-net patients and implemented a first in the nation risk adjustment formula to adjust ACO capitation payments and total cost of care benchmarks based on the medical and social risk of their member populations.
     - **Recommendation:** MassHealth should continue to target resources, such as funding and technical assistance, to entities with the greatest need for support (or least experience) in order to successfully operate under an integrated and accountable care model and impact delivery system change.

2. **DSRIP funds have promoted coordination and integration of physical, behavioral, and LTSS.**
    - Coordination was enhanced by prior relationships among staff members and between organizations, suggesting that new partnerships will improve their abilities to coordinate over time. Narrowing and deepening ACO and CP relationships have evolved over the early years of the DSRIP program. This process was facilitated by MassHealth's decision to relax requirements for the number of partnerships ACOs and CPs had to maintain. This allowed ACOs and CPs to be selective with the partners with which they chose to work.
        - **Recommendation:** MassHealth should continue its less restrictive requirements (i.e., allowing ACOs and CPs to have fewer contractual relationships) regarding ACO and CP partnerships while monitoring the effects of this policy on access to CP care coordination supports for ACO members.

    - Integrated information sharing plans, regular meetings, shared access to electronic records, and co-location of providers and staff facilitated successful relationships. A minimum threshold of shared members may be necessary to ensure that the benefits of information sharing outweigh the fixed costs so that effective working relationships between ACOs and CPs are formed and sustained.
        - **Recommendation:** MassHealth should continue to identify and encourage the use of best practices for coordination and information sharing between providers within ACOs and between ACOs and CPs, including those highlighted in earlier sections of this report, such as:
            - Co-locating BH providers and CP staff in ACO primary care practice sites.
            - Scheduling joint CP-ACO case conferences to discuss shared members, including challenging cases and members who are hard to reach.
            - Look for ways to optimize the frequency of communications to support provider and staff relationships within and across ACOs and CPs.
            - Identifying a central point of contact within each ACO and CP organization.
        - **Recommendation**: MassHealth should consider implications of changes to the CP program that may disadvantage smaller CPs that may face challenges continuing to operate in the face of even small revenue reductions. For example, program design features that promote (or require) higher volume ACO-CP relationships or more expansive services and supports offerings by CPs may also encourage organizational consolidation or exit from the program of smaller CPs.

3. **Health information technology use and data sharing continue to pose a challenge for ACO efforts to coordinate care with Community Partners.**
    - Inadequate real-time member contact information, clinical information, and event notification posed challenges for organizations during early implementation. Limited access to member data was especially problematic for CPs, contributing to low rates of engagement and follow-up with CP-enrolled members, particularly during the first few months after program launch (i.e., Q2 and Q3 2018). Year-over-year improvements in CP performance on these CP quality measures from 2018 to 2019 suggest that early infrastructure investments and changes in processes were beginning to produce effects, most notably evidenced by the large increases in engagement with CPs reported by MassHealth (6% of those ever enrolled were engaged as of 12/31/2018 versus 20% of all members ever enrolled were engaged as of 12/31/2019).[95] In addition, data sharing between ACOs and CPs regarding individual members' care coordination was essential but often limited by incompatible data platforms and organizational capacity. Improved data sharing about members between organizations, including contact, clinical, and hospital admissions data, is needed to support population health management and care coordination.
        - **Recommendation:** Requirements for data sharing from participating organizations to MassHealth should balance the administrative burden of data submission by participating organizations with the imperatives of using such data for timely monitoring of programs and rigorous evaluations of program effects, including among diverse subgroups of interest. MassHealth should continue to share enrollment, claims, and encounter data with ACOs and CPs to support their care coordination and program evaluation activities.
        - **Recommendation:** MassHealth should identify and provide resources and expectations for technology infrastructure – e.g., common data-sharing platforms - to support improved care coordination and data sharing between organizations. Requirements and guidance regarding data-sharing between organizations should prioritize timely and effective care coordination and population health management. In the longer term, MassHealth should seek opportunities to standardize health and social information exchange and promote interoperability.

4. **Workforce development and enhancement resources have supported coordinated and integrated care.**
    - Significant resources and effort were invested in recruiting and training the workforce to provide integrated and coordinated care. ACOs and CPs used DSRIP funds to develop or expand their training programs and enhance staff

[95] See MassHealth 2019 DSRIP Annual Report: https://www.mass.gov/info-details/massachusetts-delivery-system-reform-incentive-payment-program#dsrip-annual-report-and-public-meeting-

capacity to engage with members and deliver services. SWI programs, such as student loan repayment and recruitment incentives, were important for recruitment and retention. Despite these investments, some ACOs faced challenges when filling positions in clinical areas due to shortages in applicants. Many ACO providers and CP staff perceived members were not adequately engaged in managing their own health, which may represent a target for future member-and-provider-focused programs.

- **Recommendation:** MassHealth should continue investments in SWI programs like student loan repayment, special projects funding, residency training programs, competency-based training programs for front line staff, and training opportunities for CHWs, CHW supervisors, and recovery coaches to support the expansion of the community-based workforce and recruitment and retention of staff by ACOs and CPs. MassHealth should also consider targeting programs and policies that facilitate building the supply of providers in workforce areas facing the greatest need.
- **Recommendation:** MassHealth should continue to engage staff and leadership at community-based organizations to thoroughly understand their implementation efforts and needs, especially for newer programs like Flexible Services.
- **Recommendation:** MassHealth should continue to support the training of providers and staff in best practices specifically for member engagement, especially regarding treatment decision-making and managing their health.

5. **State operations, specifically DSRIP program design features, stakeholder engagement efforts, and staffing, effectively supported delivery system transformation efforts.**
    - DSRIP funding was essential, and effectiveness was enhanced by well-designed programs and responsive Medicaid staff. The ACOs and CPs have found access to MassHealth staff and proactive responses to questions and issues to be useful and supportive. MassHealth staff responsiveness to barriers that ACOs and CPs faced during early implementation was seen as essential to their ability to resolve challenges and make progress. MassHealth used guidance, incentives, and requirements to foster organizational changes by participating entities.
        - **Recommendation:** MassHealth should maintain its technical capacity for engagement and responsiveness to issues and barriers confronted by DSRIP stakeholders.
        - **Recommendation:** MassHealth should balance the advantages and disadvantages of standardization versus flexibility for each program element. We encourage MassHealth to continue to remain open to modifying the program as challenges arise and to provide opportunities for organizations to share feedback and engage in problem resolution.

- MassHealth policies, including preserving existing patient-provider relationships, extending the plan selection period, temporarily suspending network restrictions, and using multimodal communication strategies, appear to have promoted a smooth member experience during the transition to ACOs.

6. **The incentives associated with value-based and alternative payment models have begun to shift the focus of health systems.**
   - MassHealth's risk-sharing arrangements and value-based payment incentives with ACOs and CPs have begun to shift the focus of health systems and their partners away from fee-for-service and towards integrated care, population health management, member experience, quality benchmarks, and cost moderation.
   - Many ACOs invested DSRIP funds in technology and staffing for care management and care coordination programs that seek to improve health outcomes for complex members while reducing costs from acute care utilization. Early signs of improvement in clinical quality measures, reductions in ED boarding of members with BH conditions, and declines in ACSC admissions rates suggest better outpatient management of conditions. Increases in primary care utilization and declines in institutional post-acute care utilization appear to be early signals of favorable utilization shifts to higher-value care settings.
     - **Recommendation:** MassHealth should continue to support ACOs and their partners in fulfilling the goals of the DSRIP program while monitoring their progress.
   - Healthcare is delivered and coordinated between providers, staff, and patients; therefore, it is important that organizational changes are accompanied by changes in behavior by frontline providers and staff. A sizable minority of ACO primary care providers were unfamiliar with the MassHealth ACO and CP programs, and fee-for-service remains the standard payment mechanism for primary care and specialist providers. Fee-for-service architecture continues to promote volume-based rather than value-based care by frontline providers. This suggests new payment arrangements and further engagement of providers is needed to align their actions and incentives with DSRIP program goals. Only about half of the ACO primary care providers reported receiving financial incentives when surveyed in 2020. Some ACO leaders reported successfully engaging providers using other non-financial levers, but quantitative data on such approaches were absent.
     - **Recommendation:** Expanded financial and non-financial incentives for providers and associated training and information-sharing could build broader awareness of, and shift behavior towards, alignment with delivery system reform goals. To increase the potency of incentives and avoid dilution effects of conflicting arrangements, MassHealth should coordinate with other payers to align payment, quality measurement, and delivery system reform efforts.

- **Recommendation:** MassHealth should consider new program elements that shift providers away from fee-for-service payment and towards alternative payment models that align provider incentives (financial and non-financial) and capacities for population health management with ACO incentives for quality improvement and total cost of care moderation.
- **Recommendation:** MassHealth should continue prioritizing primary care provider engagement and should consider payments to primary care providers that are not exclusively tied to specific services delivered under a fee-for-service model (e.g., primary care capitation or sub-capitation).
- **Recommendation:** Although primary care provider engagement should remain a priority, MassHealth should consider parallel approaches (e.g., value-based patient-centered specialty care models, bundled payments for episodes of care) to increasing engagement from other providers, including specialists. Promoting the transition to value-based care through programs like the APM Preparation Fund (SWI 6) might help.

7. **The Flexible Services (FS) program launched successfully in 2020 but health-related social needs screening remains an area where improvement is needed.**
   - MassHealth successfully implemented a new ACO quality measure (and new contractual requirements) for HRSN screening in 2018 and launched the FS program, which relies on the assessment of HRSNs, in 2020. The ACOs formed partnerships with more than 30 SSOs, and the FS program enrolled more than 3,000 patients in the first three quarters after it launched. Despite these successes, preliminary data from 2018 and 2019 suggests substantial room for improvement in HRSN screening. Inadequate HRSN screening may impede access to FS and other social services programs for members whose HRSNs remain unidentified. A lack of member-specific social risk factor data available to MassHealth is a barrier to understanding the extent of unmet needs for social supports and to evaluating the effects of Flexible Services on health and social outcomes. Nutritional FS supports were in higher demand than may have otherwise been the case in 2020 due to the pandemic, and MassHealth facilitated the adaptation of FS program rules to promote the availability of nutritional supports to members. MassHealth's experience suggests that states with existing Medicaid programs addressing member HRSNs may be better able to respond quickly to meet increases in HRSNs during emergencies.
     - **Recommendation:** MassHealth should establish best practices for collecting HRSN data informed by member, provider, and organizational perspectives and should consider issuing guidance and funding to support ACO efforts to better collect and monitor HRSNs among their members.
     - **Recommendation:** MassHealth should augment the collection of key FS program-related data elements (e.g., specific types of FS received by individual members, social risk factors, clinical and social outcomes, and dates of services) to support program improvement efforts and more

informative evaluations. Expanded FS data collection over multiple years and an adequate number of recipients will be necessary to evaluate which programs are working well for which members.

- **Recommendation**: MassHealth should monitor the types of HRSNs identified by ACOs and consider supporting or developing new or expanded programs to address widespread unmet HRSNs, while also monitoring whether new and existing programs are at or exceeding capacity.
- **Recommendation:** MassHealth should monitor and support efforts by ACOs and CPs to build and maintain robust and up-to-date directories of programs in their geographic areas, to ensure better access to existing programs that address unmet HRSNs.

8. **COVID-19 pandemic led to new care adaptations by DSRIP stakeholders.**
   - Practices and providers adapted to expand access to telehealth, the state instituted payment parity and made billing for telehealth easier, and its use increased dramatically during the pandemic. Members reported more frequent and satisfying telehealth experiences after access expanded during the public health emergency, especially in the area of behavioral health. The majority of ACO providers and CP staff used these care delivery modalities routinely during the pandemic, and most expressed willingness to continue doing so after it ends. Continued use of telehealth could be undermined when the pandemic regulatory and payment environment ends.
     - **Recommendation:** The state should consider extending telehealth-related policy changes that were made during the pandemic and continue to study the effects of such policies, including on disparities in access to care. Early evidence suggests members and providers generally had positive views of expanded telehealth use and would support its continued use post-pandemic.

   - Changes to care delivery and daily activities more broadly caused by COVID-19 shifted organizational priorities and likely delayed progress towards DSRIP program goals.
     - **Recommendation:** MassHealth should account for potential COVID-related delays or temporary reversals of progress towards Demonstration goals when evaluating DSRIP programs and making policy decisions regarding the future of such programs. A longer post-pandemic observation period will support more conclusive inferences regarding DSRIP program effects but may require postponing policy decisions.
     - **Recommendation:** MassHealth should continue to monitor the effects of COVID-19 and public health policy responses to COVID-19 (e.g., expanded access to telehealth) on quality measure and financial

performance and should consider revising specifications and benchmarks as appropriate to reflect changes to care delivery.

- The COVID-19 pandemic laid bare health inequities nationwide, with populations from minority racial and ethnic groups experiencing higher age-adjusted morbidity and mortality rates.
  - **Recommendation:** MassHealth should continue to improve its efforts to collect race, ethnicity, language, and disability data from MassHealth members, to better understand and monitor how payment and delivery system reform affects these populations.

Next steps for the Independent Evaluation

This report describes early progress towards the goals of the MassHealth DSRIP program. Our understanding of implementation progress, stakeholder perspectives, successes, and challenges are based on data collected during 2019-2020 as the first of two waves of mixed methods interview and survey data collection activities. Preliminary quality, utilization, and member experience data were only available for one partial (2018) and one full (2019) year of the ACO and CP programs, while only the most basic utilization data were available for the first few quarters of FS programs launched in 2020.

The following Evaluation next steps will be essential for drawing robust conclusions regarding the MassHealth delivery system's progress towards 1115 Demonstration and DSRIP program goals of integrated, coordinated, and accountable care.

- A second wave of primary data collection by the Independent Evaluator, MassHealth, and its partners will be essential to measure progress, identify trends, and quantify outcomes from the Demonstration, including:
  - Annual primary care, BH, and LTSS adult and child member experience surveys administered by MassHealth's survey vendors, which should include concentrated efforts by MassHealth and its survey partners to achieve higher response rates (e.g., more frequent and multimodal outreach including by email, mail, and telephone; gift card incentives for survey completion; provider and CP communication to members to encourage participation).
  - Key informant interviews (round two) with ACOs, CPs, MassHealth staff, and MassHealth members to measure implementation progress, facilitators, and barriers through the end of the DSRIP program.
  - Surveys of ACO primary care providers and CP staff (round 2) to quantify changes in perspectives of care coordination and delivery system reform of frontline personnel.
  - Case studies (round two) with site visits for select ACOs and CPs to acknowledge innovative practices and understand operational characteristics of high and low-performing organizations.

- Ongoing analyses of MassHealth administrative data (including claims and encounters) to quantify changes in quality, utilization, and cost from the baseline period (2015-2017) through the end of the DSRIP program (2022).
    - Beyond descriptive and multivariable modeling analyses included in this interim report, more rigorous quasi-experimental designs and longitudinal analyses will be conducted for the Summative Report to estimate the effects of DSRIP programs as described in the Evaluation Design Document.
    - Additional subgroup analyses will be performed where feasible to better understand heterogeneity in quality, cost, and utilization results for subgroups of organizations (e.g., physician anchored and hospital anchored ACOs) and members with varying characteristics (e.g., race/ethnicity, language, disability).

- Enhanced data collection and analyses will be performed when feasible to increase the rigor of the evaluation and strengthen the conclusions that can be drawn for the Summative Report.
    - The MassHealth FS program protocol was not finalized at the time of the original evaluation design. The evaluation team suggests that additional approaches to studying the effects of FS programs be developed, including interviews and other forms of primary data collection and analyses to understand SSO and member perspectives and experiences. To the extent feasible, enhanced quantitative analyses will be performed to better understand which types of FS are working well and for whom.
    - We also suggest that, pending resource availability and member acceptance, MassHealth and its partners seek to improve the validity and information content of member survey results such as by adopting approaches to increase response rates, collecting additional member experience survey data, and conducting additional analyses (including through linkages to MassHealth administrative data) that address limitations associated with low response rates.
    - To observe longitudinal changes at ACO primary care practice sites, MassHealth and its partners should perform a second survey of practice site administrators, pending resource availability. A survey of practice sites should also inventory the current and examine the potential future landscape of provider-plan payment arrangements and the capacity for practices to function as advanced primary care sites with expanded services (e.g., for BH) and population health management activities.
    - New exploratory analyses will be performed to understand the effects of COVID-19 on evaluation metrics, and modifications to planned

analyses to account for COVID-19 related confounding will be implemented as needed.

The Summative Evaluation report will cover the entire 1115 Demonstration period through 06/30/2022 and the entire DSRIP program period through 12/31/22 and is scheduled to be submitted to CMS in June 2024. The Independent Evaluation Summative Report will have access to longitudinal data and employ more sophisticated methods to address questions of causal inference, including whether changes observed over the entire DSRIP period were likely to have occurred in the absence of the program.

III. Demonstration Goal 3: Maintain Near-Universal Health Insurance Coverage

A. Background

Massachusetts has a long history of efforts related to improving health insurance coverage. The state's landmark healthcare reform legislation providing near-universal health coverage (Chapter 58 of the Massachusetts Acts of 2006) dramatically increased health insurance coverage and became the model for the national Affordable Care Act (ACA). Before and following the implementation of the ACA. Massachusetts incorporated several waves of state-level reform, facilitating near-universal health insurance coverage in the state. The part of this reform that touches on MassHealth policy, including early Medicaid expansion to low-income populations and continued implementation of the 1115 Demonstration in place since 1997, has achieved and maintained a high percentage of health insurance coverage for all residents in the Commonwealth.

The current Demonstration invests in several programs to facilitate and sustain enrollment in health insurance. Some have been ongoing before the current Demonstration period, such as 1) expanded Medicaid eligibility; 2) streamlined redetermination procedures for select MassHealth members; 3) comprehensive enrollment materials and training to support consumer choice; 4) premium subsidies to low-income individuals to purchase commercial health insurance through the Health Connector; 5) premium assistance, coverage of out-of-pocket expenses, and a coverage wrap for members with Employer-Sponsored Insurance (ESI) through the Premium Assistance program; and 6) improved eligibility system and website/consumer functionality. :

Other programs are new or newly funded by waiver authority in the current Demonstration period, including:

1) Premium Assistance for the Student Health Insurance Program (SHIP PA);
2) Health Connector cost-sharing subsidies for members in ConnectorCare and services provided to low-income individuals during the gap in insurance coverage prior to their enrollment in ConnectorCare;
3) The CommonHealth 65+ program; and
4) Disregard of state veteran annuity payments for Medicaid eligibility determination and post-eligibility treatment of income (PETI).

SHIP PA requires MassHealth students attending participating post-secondary schools in the state to enroll in school-sponsored insurance. The state provides premium and cost-sharing assistance, as well as benefit wrap-around coverage to ensure that the SHIP benefits are equivalent to MassHealth, including keeping out-of-pocket costs at the same level as if services were being received directly from MassHealth.

The MassHealth ConnectorCare subsidy program provides premium assistance, cost-sharing, and gap coverage (until enrollment in ConnectorCare begins) to low-income adults. Before the current Demonstration, only premium assistance spending was eligible for federal matching funds. However, following the current Demonstration approval, the cost-sharing subsidies and the gap coverage are now also eligible for federal matching funds under this program.

Massachusetts residents aged 65 and over are eligible to enroll in CommonHealth 65+, a program newly authorized for federal expenditure authority under the Demonstration. Individuals are eligible if they have qualifying disabilities and have current or recent paid employment for 40 hours or more per month.

The Commonwealth of Massachusetts, in conjunction with the Department of Veterans' Services, provides the Gold Star veteran annuity in the amount of $2,000 annually to eligible recipients in increments of $1,000 paid out on February 1 and August 1 of each year. The Gold Star veteran annuity amendment disregards state veteran annuity payments for disabled veterans and surviving parents (Gold Star parents), as well as surviving, unmarried spouses (Gold Star wives and husbands) of deceased members of the armed forces of the United States. Under the Demonstration, the annuity is not countable income for determining Medicaid eligibility and PETI.

The evaluation will describe trends in insurance coverage in Massachusetts before and during the Demonstration period. In addition, it will compare trends in the state to those in comparison group states. In supporting analyses, membership in programs that support high rates of insurance will be tracked.

B. Research Question and Study Design

Demonstration Goal 3 examines one research question with four hypotheses, as described below.

Research Question**: Has near-universal coverage in Massachusetts been maintained after the implementation of Demonstration investments?**

Hypotheses:

H1. Massachusetts will maintain near-universal coverage over the Demonstration period.

H2. The percentage of MassHealth residents with a gap in coverage of 45 days or more will not increase over the study period (i.e., reduced churn).

H3. Massachusetts will maintain higher coverage, overall and among populations eligible for exchange subsidies, than states without premium and cost-sharing subsidies.

H4. Enrollment in new and select ongoing programs funded with Demonstration investments supports near-universal coverage in Massachusetts.

Study Design: The evaluation design used a repeated cross-sectional approach to examine health insurance coverage trends prior to and during the current Demonstration period. We compared the trend in coverage in Massachusetts to 23 states that are similar to Massachusetts but do not offer premium and cost-sharing subsidies comparable to those offered by the Health Connector, overall, and among populations eligible for exchange subsidies through the state (<300% FPL).

We conducted secondary analyses tracking program enrollment in new Demonstration investment activities that support near-universal coverage, including SHIP PA, CommonHealth 65+, ConnectorCare cost-sharing subsidies, and state Gold Star veteran annuity payment disregard. We also tracked the enrollment in select ongoing Demonstration investment activities, including ESI Premium Assistance, the Health Safety Net Trust Fund, and Connector Care premium subsidies.

Finally, we examined participation details in new programs, including describing the length of enrollment and Long-Term Services and Supports (LTSS) services used by CommonHealth 65+ participants. Without the CommonHealth 65+ authority, disabled seniors would potentially lose their MassHealth coverage for LTSS, which are not covered by Medicare or private health insurance. All programs are described in more detail in the presentation of our findings.

Study Period: The overall evaluation period for this goal begins two and a half years before the implementation of the current Demonstration period (i.e., Calendar Year (or CY) 2014 or 2015, depending on the data) and extends through the end of CY2022. Data through December 2020 is included in the interim evaluation, as available; data through December 2022 will be included in the final summative report.

To analyze uninsurance rates, we used ACS data from three years before the current Demonstration period (2014-2016) through the most recent available 2019. For supporting analyses tracking enrollment in specific programs, the study populations consist of enrollees in SHIP PA, Premium Assistance for ESI, CommonHealth 65+, Health Connector premium subsidy and cost-sharing subsidy recipients, members with state Gold Star veteran annuity payment disregard, and individuals who receive health care services paid for through the Health Safety Net Trust Fund.

For ongoing programs, we tracked estimates from two years prior to the current Demonstration period, CY2015, through the most recently available data in CY2020, except for CommonHealth 65+, which was available through CY2019. For programs begun during the Demonstration (i.e., SHIP PA, State Gold Star Veteran Annuity Payment Disregard), we tracked enrollment over the Demonstration period or program start and end dates, as appropriate. Study periods for each program, shown in the table below, vary due to such factors as data availability, program start/end dates, and whether data is reported by the calendar or fiscal year.

Table III-1: Evaluation Period for Each Demonstration Program under Goal 3

Program	Authorized Under Prior Demonstration(s)	Authorized Under This Demonstration	Evaluation Period for the Interim Report
ESI Premium Assistance	Yes	Yes	CY2015 - CY2020
Health Safety Net Trust Fund Access	Yes	Yes	CY2015 - CY2020
Health Connector Premium Subsidies	Yes	Yes	CY2015 - CY2020
Health Connector Cost-Sharing Subsidies	No	Yes	CY2015 - CY2020
CommonHealth 65+	No	Yes	Enrollment: CY2015 – June CY2019; LTSS Health Service Utilization: CY2015 - June CY2020
SHIP PA	No	Yes	SFY2017 - SFY2020
State Gold Star Veteran Annuity Payment Disregard	No	Yes	Data Not Available At This Time

It is important to note that the evaluation period in this interim report includes the onset of the coronavirus-2019 pandemic. In March of 2020, the President declared a national emergency in the U.S., and Governor Baker declared a Public Health Emergency (PHE) in Massachusetts. With these declarations, the Secretary of Health and Human Services invoked the authority relative to section 1135(b) of the Social Security Act to waive or modify certain requirements of the Act at the national level to ensure that health care services are available to meet the needs of individuals. The impact of the pandemic on individuals, the local environment, and the response of Medicaid to the pandemic and PHE will likely be seen in the results of some programs. Both MassHealth and the Connector have responded to the COVID-19 pandemic by making temporary changes that are likely to boost enrollment.[96]

Data Sources:

The evaluation under Goal 3 used three primary data sources to respond to the research question and hypotheses, as described below. ***Table III-2*** describes the

[96] Blue Cross Blue Shield Foundation of Massachusetts. Updated MassHealth and ConnectorCare Enrollment Tracker (March 2, 2021). Accessed at MassHealth and ConnectorCare Enrollment Tracker | Welcome to Blue Cross Blue Shield of Massachusetts (bluecrossmafoundation.org)

measures, populations of interest, data sources, and analytic approach for H1 through H4. The data sources include:

1) *American Community Survey (ACS):* The ACS is an annual national survey conducted by the U.S. Census Bureau. The ACS collects information about health insurance coverage nationwide and by state, which is disseminated for public use and released annually in a report form. As noted in the Evaluation Design Document[97] (EDD), ACS is considered an appropriate data source for comparing rates of health insurance coverage by state, as it provides more robust state-level estimates and less complicated questions than other national surveys[98]. For Massachusetts, ACS estimates have been demonstrated to be similar to Massachusetts-specific health insurance coverage surveys[99].

2) ***Program enrollment data:*** We used program reports and other summary data to track enrollment in MassHealth programs. We obtained these data sets and operational statistics from MassHealth and the Health Connector. The data sets include:

- *The Health Connector subsidy program data:* These data come from summary reports from board meetings and summary reports of Qualified Health Plan (QHP) coverage.
- *ESI Premium Assistance program data:* These program data provide annual figures for the number of enrolled members.
- *SHIP PA program data:* These data provide annual figures for the number of members enrolled in the program.
- *Health Safety Net Trust Fund program data:* The program data provide annual figures for the number of individuals who receive health care services paid for through the Trust Fund.
- *CommonHealth 65+ program data:* These data provide annual figures for the number of members enrolled in the program.
- *State Gold Star veteran annuity payment disregard data:* These data will provide annual figures for the number of members eligible for MassHealth due to the disregard of state Gold Star veteran annuity payments for Medicaid eligibility and PETI determinations.

[97] The Evaluation Design Document is available at https://www.mass.gov/service-details/1115-masshealth-demonstration-waiver.
[98] Reschovsky, J., Heeringa, J., & Colby, M. (2018, June). Selecting the Best Comparison Group and Evaluation Design: A Guidance Document for State Section 1115 Demonstration Evaluations (White Paper). Available at: https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/comparison-grp-eval-dsgn.pdf
[99] Skopec, Urban Institute, L., Long, Urban Institute, S., Sherr, SRSS, S., Dutwin, SRSS, D., & Langdale, SRSS, K. (2017, December). Findings From The 2017 Massachusetts Health Insurance Survey (Rep.). Available at: http://www.chiamass.gov/assets/docs/r/survey/mhis-2017/2017-MHIS-Report.pdf

3) ***Medicaid administrative data****:* We used MassHealth Medicaid Management Information Systems (MMIS) data to evaluate study population enrollment and service utilization.

Study Population: The study population to examine hypotheses H1 and H2 consists of all Massachusetts residents. Annual estimates of the percentage insured were obtained from approximately 46,000 annual Massachusetts respondents in the ACS. For supporting analyses tracking enrollment in specific programs, the study populations consisted of enrollees in SHIP PA, ESI Premium Assistance, CommonHealth 65+, Health Connector premium subsidy and cost-sharing subsidy recipients, members with state Gold Star veteran annuity payment disregard, and individuals who receive health care services paid for through the Health Safety Net Trust Fund.

Comparison Group: A comparison group of 23 states (listed below), similar to Massachusetts in their Medicaid eligibility criteria at baseline, were included to estimate what the state's insurance rate would have been in the absence of Health Connector subsidies to respond to H3.

Alabama	Kentucky	North Dakota
Arizona	Maryland	Ohio
Arkansas	Michigan	Oregon
California	Montana	Pennsylvania
Delaware	Nevada	Rhode Island
Illinois	New Hampshire	Washington
Indiana	New Jersey	West Virginia
Iowa	New Mexico	

These states were chosen based on the following criteria (as of 2017 when the evaluation design was written)[100]:

1) States that have Medicaid Eligibility criteria similar to Massachusetts (~138% FPL for childless adults);
2) States that do not provide income-based state subsidies on top of federal subsidies; and
3) States that have not had changes to Medicaid eligibility in the previous 12 months.

We recognize that there may be other differences between Massachusetts and the comparison group states that may account for variances in health insurance coverage. The comparison group makeup was maintained during the evaluation period to facilitate analysis over time; however, state-level changes to criteria were tracked. In addition, we controlled for sociodemographic variables in the analysis.

[100] Details of the rationale for selecting these states are available in Appendix E of the Evaluation Design Document, available at https://www.mass.gov/service-details/1115-masshealth-demonstration-waiver.

In addition to the 23 comparison group states described above, we compared health insurance coverage in Massachusetts to national estimates. This comparison provided insight into the effects of any relevant federal policy changes on insurance rates in Massachusetts relative to the nation as a whole.

Given the varied and multiple Medicaid programs that are being implemented in other states, it was not feasible to identify comparison group states to isolate the effect of the specific Massachusetts programs (e.g., Premium Assistance for ESI, SHIP PA, CommonHealth 65+, and state Gold Star veteran annuity payment disregard) by identifying states that are similar to the state in all aspects except for the presence of these programs.

As the measures for H4 are tracked to provide supporting evidence for the continued high insurance coverage in the state and these programs are accessible by all residents, there is no comparison group for these analyses.

Measures: We identified population-level measures using ACS, program enrollment data, or Medicaid administrative data. Each measure is reported on an annual basis.

- Percent of Massachusetts residents less than 65 years old that are uninsured, and number and percent of residents of 23 comparison states less than 65 years old who are uninsured – ACS data
- Percent of MassHealth members with a 45-day or longer gap in coverage – ACS data
- Number of individuals who take up QHP coverage with assistance from the Massachusetts Health Connector state subsidy program, ConnectorCare – Program enrollment data
- Percent of individuals in the Premium Assistance for ESI program – Program enrollment data
- Number of individuals who received health care services paid through the Health Safety Net Trust Fund – Program enrollment data
- Number of individuals who are enrolled in SHIP PA annually – Program enrollment data
- Average length of enrollment in SHIP PA – Program enrollment data
- Number of individuals who are enrolled in CommonHealth 65+ annually – Program enrollment data
- Average length of enrollment and LTSS received by CommonHealth 65+ enrollees – Program enrollment data and Medicaid administrative data
- Number of individuals who have state Gold Star veteran annuity disregarded for MassHealth eligibility – Program data
- Number of individuals who have state Gold Star veteran annuity disregarded for PETI - Program data
- Number of individuals who have state Gold Star veteran annuity disregarded for both MassHealth eligibility and PETI - Program data
- Average length of enrollment of individuals who have state Gold Star veteran annuity disregarded for MassHealth eligibility - Program data
- Average length of enrollment of individuals who have state Gold Star veteran annuity disregarded for PETI - Program data

- Average length of enrollment of individuals who have state Gold Star veteran annuity disregarded for both MH eligibility and PETI - Program data

Data Analysis: We present descriptive statistics of the percentage of Massachusetts residents uninsured during each calendar year. We compared the percentage uninsured in Massachusetts to comparison group states and the U.S. overall uninsurance rate in each calendar year. We used linear regression models to estimate predicted probabilities of being uninsured in Massachusetts and the comparison states adjusting for relevant control variables determined by responses to six ACS survey questions (e.g., age, education, race, income, marital status, citizenship, disability status number of people in the household, whether living in a mobile home, year, state).

To assess current trends in continuous MassHealth enrollment, we examined the percentage of MassHealth members with a coverage gap of 45 days or more in a one-year period by calendar quarter (i.e., churn rate). We examined the rate for three groups for each quarter: all MassHealth members, "new members," and "existing members." "All members" are those who ever have an enrollment in an index quarter. The "new members" group is defined as individuals enrolled in MassHealth who do not have a MassHealth enrollment record in the 24 months prior to an index (or reference) quarter. The "existing members" are those who are not "new members" or "all members"; in other words, they consist of individuals enrolled in MassHealth at some point within 24 months prior to the index quarter. We present descriptive statistics of the churn rate annually over the Demonstration period.

For those programs which existed before the current Demonstration period, we presented the data starting in 2015, whenever possible. While the data is reported on an annual basis, some data sources contain monthly or quarterly capture of various activities, while other data are only available on an annual basis. Data are presented in tables and graphs in order to display trends over time for each population-level measure.

Evaluation questions, measures, data sources, and analytic approach are summarized in ***Table III-2***. Limitations for the data analysis are detailed in the Discussion section.

Table III-2: Methodology Overview

Hypothesis	Measure(s) and Population of Interest	Data Source and Analytic Approach
H1. Massachusetts residents will continue to have near-universal health care coverage	Percentage of Massachusetts residents less than 65 years old without insurance	American Community Survey Descriptive statistics (frequency and percentages)
H2. The percentage of MassHealth members with a 45-day or longer gap in coverage during one year will not increase over the study	Percentage of MassHealth members with a gap in coverage of 45 days or longer in one year	Medicaid administrative data Descriptive statistics (frequency and percentages)
H3. Massachusetts will maintain higher coverage, overall and among populations eligible for exchange subsidies, than states without premium and cost-sharing subsidies	Percentage of residents without insurance in Massachusetts, 23 comparison states, and the U.S.	American Community Survey Descriptive statistics (frequency and percentage)
H4. Enrollment in new and select ongoing programs funded with Demonstration investments supports near-universal coverage in Massachusetts	Number of individuals who take up QHP coverage with assistance from the Massachusetts Health Connector state subsidy program	ConnectorCare program enrollment data Descriptive statistics (frequencies)
H4. Enrollment in new and select ongoing programs funded with Demonstration investments supports near-universal coverage in Massachusetts	Percentage of individuals enrolled in ESI Premium Assistance	ESI program data Descriptive statistics (frequencies)
H4. Enrollment in new and select ongoing programs funded with Demonstration investments supports near-universal coverage in Massachusetts	Number of individuals receiving health care services paid for through the Health Safety Net Trust Fund, and exchange premium assistance and cost-sharing subsidies in MA	EOHHS and Health Connector subsidy program data Descriptive statistics (frequencies)

Hypothesis	Measure(s) and Population of Interest	Data Source and Analytic Approach
H4. Enrollment in new and select ongoing programs funded with Demonstration investments supports near-universal coverage in Massachusetts	Number of MassHealth members enrolled and average length of enrollment in MassHealth SHIP Premium Assistance	SHIP program data; Medicaid administrative data Descriptive statistics (frequencies)
H4. Enrollment in new and select ongoing programs funded with Demonstration investments supports near-universal coverage in Massachusetts	Number of MassHealth members enrolled and average length of enrollment in CommonHealth 65+ Long-Term Services and Supports (LTSS) received by CommonHealth 65+ members	CommonHealth 65+ program data; Medicaid administrative data Descriptive statistics (frequencies, mean (SD), median, range)
H4. Enrollment in new and select ongoing programs funded with Demonstration investments supports near-universal coverage in Massachusetts	Number and length of enrollment of MassHealth members with state Gold Star veteran annuity payment disregarded for MassHealth eligibility and PETI	Veteran annuity program data; Medicaid administrative data Descriptive statistics (mean (SD), median, range)

C. Interim Findings

This section presents analysis results that respond to the four hypotheses. Under each section is a short background summary, followed by the results of analyses for the respective hypothesis. We describe trends in insurance coverage in Massachusetts during the Demonstration period (H1); the rate of churn on and off of Medicaid coverage (H2); uninsurance rates in Massachusetts and the comparison states (H3); and membership in programs that support higher rates of insurance coverage (H4).

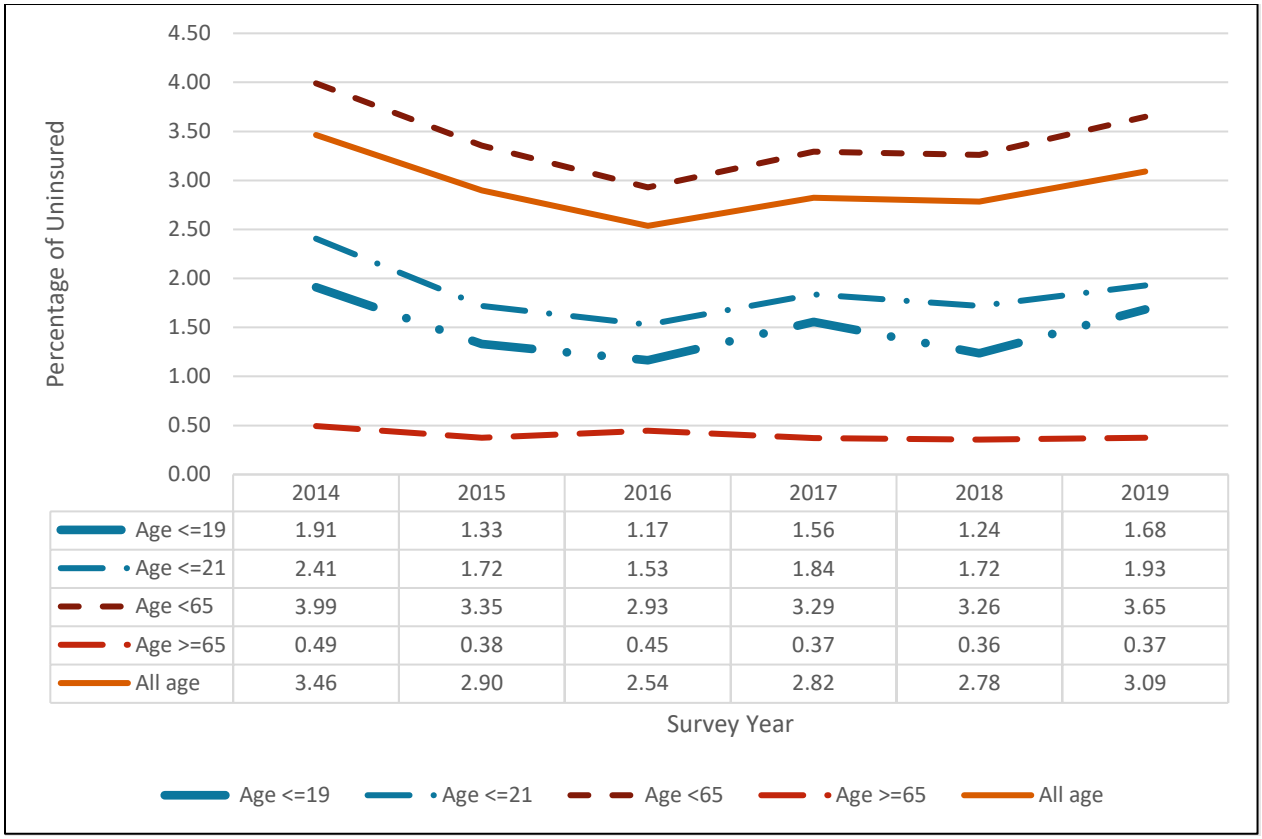
H1. Massachusetts will maintain near-universal coverage over the Demonstration period

The overall evaluation period (2014 to 2019) for this measure was associated with an overall downward trend in the percentage of uninsured residents in Massachusetts (**Figure III-1:**). Prior to the Demonstration start, the uninsurance rate for all residents was trending down between 2014 and 2016, dropping almost one percentage point. The percentage of uninsured residents increased slightly from 2016 to 2017, dropped slightly in 2018, and rose again in 2019. The trend was similar for the group of

individuals aged 64 and under. The uninsurance rate for the ≥65 years old population was the lowest (around .5%) and most stable of all groups, likely due to most individuals aging into Medicare coverage. The rates of uninsurance among those aged ≤21 and those aged ≤19 were approximately 1.5% lower than the group of all individuals and those ≥65 years old between 2014 and 2019. By 2019, the uninsurance rate was below two percent for both groups. The rate of uninsurance between 2016 and 2017 showed a similar fluctuation, dropping and then rising by about half a percentage point. The fluctuation from 2016 to 2017 was small and occurred in both the full population and three of the four age groupings we analyzed: <65 years old, <19 years old, and <21 years old.

Overall, in Massachusetts, the uninsurance rate remained substantially below the U.S. rate and was the lowest among all states during the evaluation period. The uninsurance rate in Massachusetts averaged around 3% across all age groups between 2014-2019 (see **Figure III-1:**). Of note, the uninsurance rate in the state among the elderly remained steadily low and did not increase alongside other age groups.

Figure III-1: Percentage of Uninsured Residents in Massachusetts by Age, Survey Years 2014-2019



	2014	2015	2016	2017	2018	2019
Age <=19	1.91	1.33	1.17	1.56	1.24	1.68
Age <=21	2.41	1.72	1.53	1.84	1.72	1.93
Age <65	3.99	3.35	2.93	3.29	3.26	3.65
Age >=65	0.49	0.38	0.45	0.37	0.36	0.37
All age	3.46	2.90	2.54	2.82	2.78	3.09

Data Source: American Community Survey, 1-Year Estimates

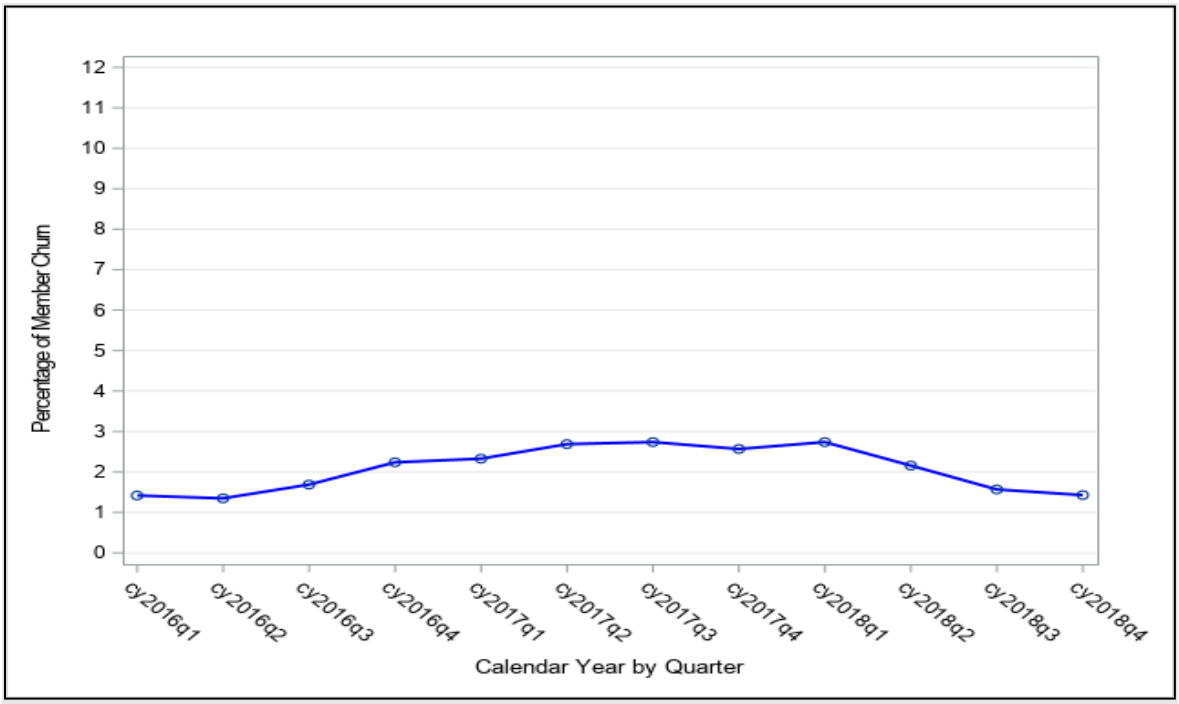
H2. The percentage of MassHealth members with a gap in coverage of 45 days or more will not increase over the study period (i.e., reduced churn)

As part of maintaining near-universal health insurance coverage, MassHealth has employed several strategies to reduce the incidence of individuals cycling through losing and regaining Medicaid coverage due to eligibility changes, referred to as churn. These include programs and efforts both within and outside of the Demonstration's authority, such as express lane renewal (i.e., the findings of a program designated as an express lane agency can be used to conduct simplified eligibility and renewal determinations that enable members to automatically remain enrolled in Medicaid or CHIP as long as there are no changes in status; evaluated under the previous Demonstration[101]), use of electronic rather than paper forms, and electronic income verification. These programs and efforts were aimed at making the application and renewal processes simpler for individuals and MassHealth. However, some level of churn will likely still exist, as factors such as job loss or gain, changing incomes, and insurance affordability all influence individual eligibility for and access to MassHealth and other types of insurance.

We found that the rates of "all members" and "existing members" churning on and off of MassHealth were similar and remained relatively stable during the evaluation period (See **Figure III-2** and **Figure *III-3***). The rates for both groups rose less than two percentage points between the first quarter of CY2016 and the first quarter of CY2018 before falling slightly during the remainder of CY2018. However, the rate of churn among "new members" for that period was much larger than that of the groups of "all members" and "existing members" (***Figure III-4***). The churn rate among "new members" rose from just below 6% to almost 12% during the first two quarters in 2017 and then tailed off steadily, down to approximately 3.5% in quarter 2 of CY2018. The rate for "new members" was at about 5% for the remainder of CY2018. As the churn rates of the "all members" and "existing members" groups were similar throughout the CY2016-CY2018, the churn rate of the "new members" group, which was roughly 3-4% in each index quarter, did not have a great influence on the overall rate of churn of MassHealth members because they were a small proportion of all members in analyses.

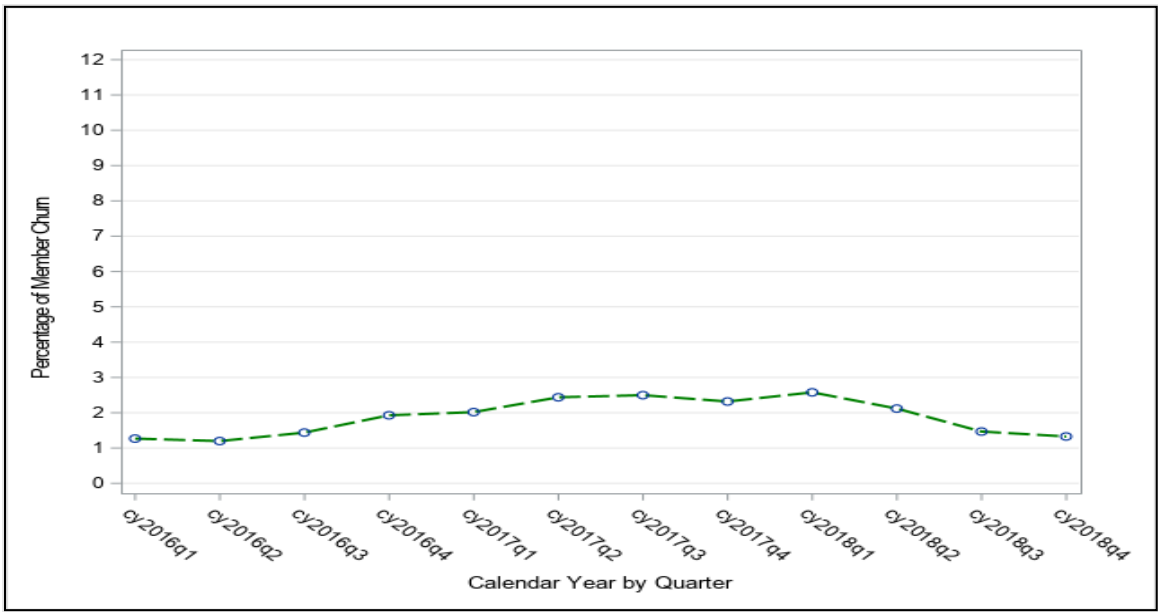
[101] See MassHealth Section 1115(a) Demonstration 2014-2017 Evaluation Final Report, August 2019. Available at: https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ma/MassHealth/ma-masshealth-cms-apprvd-demo-period-final-2014-2017-09252019.pdf

Figure III-2: Churn Rate of Massachusetts' "All Medicaid Members" Over Time, Calendar Quarters 2016Q1-2018Q4



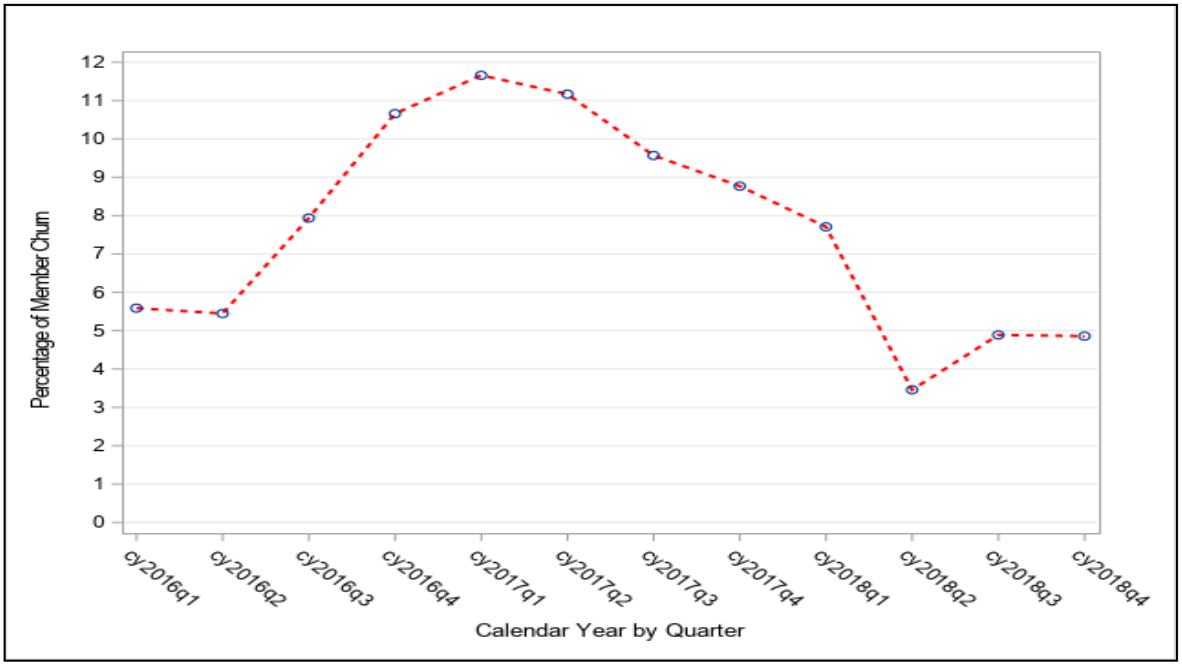
Data Source: Medicaid Administrative Data
Note: 'Churn' is defined as a coverage gap of 45 days or more in a one-year period

Figure III-3: Churn Rate of Massachusetts' "Existing Medicaid Members" Over Time, Calendar Quarters 2016Q1-2018Q4



Data Source: Medicaid Administrative Data
Note: 'Churn' is defined as a coverage gap of 45 days or more in a one-year period

Figure III-4: Churn Rate of Massachusetts' "New Medicaid Members" Over Time, Calendar Quarters 2016Q1-2018Q4



Data Source: Medicaid Administrative Data
Note: 'Churn' is defined as a coverage gap of 45 days or more in a one-year period

H3. Massachusetts will maintain higher coverage, overall and among populations eligible for exchange subsidies, than states without premium and cost-sharing subsidies.

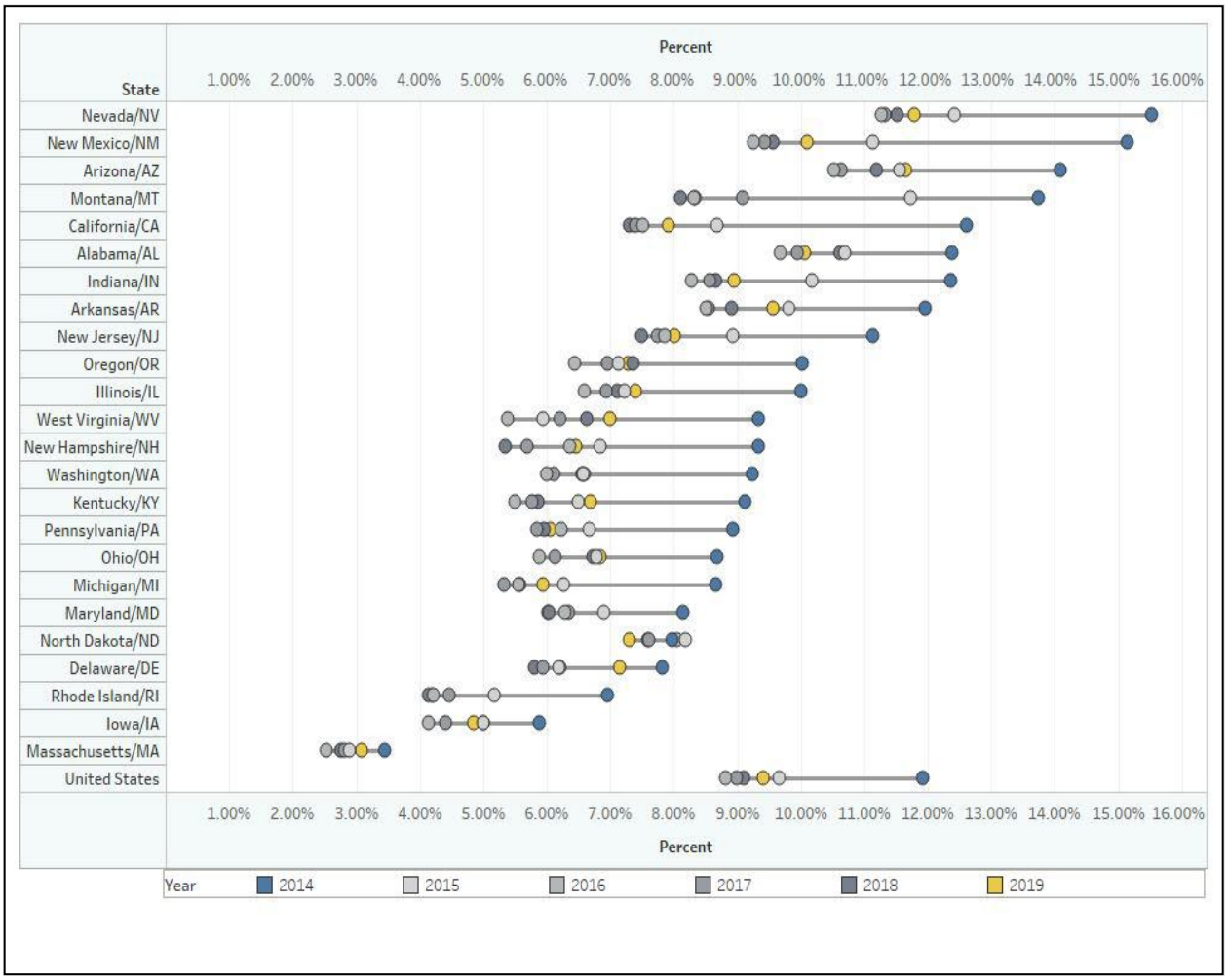
Massachusetts' provision of premium and cost-sharing subsidies aim to support insurance affordability among those who otherwise would be uninsured. To examine this hypothesis, we compared the trend in coverage of residents aged 64 and under in Massachusetts to 23 states similar to Massachusetts. The comparison did not offer premium and cost-sharing state subsidies comparable to those offered by the Health Connector in Massachusetts (overall and among populations eligible for exchange subsidies (< 300% FPL). This comparison tells us what the Commonwealth's insurance rates would have been in the absence of the Health Connector subsidies program.

We first describe the uninsurance rates from CY2014 to 2019 for Massachusetts and each of the 23 comparison states using the ACS data. The baseline period starts in 2014 to measure changes after ACA coverage expansions were put in place.

As shown in **Figure III-5**, all 23 states began with high uninsurance percentages that decreased in 2015, with many experiencing substantial drops. Subsequent to that, improvements in the percentage of uninsured individuals were mixed, though the national percentage stayed at below 10% during that period. By comparison, Massachusetts' uninsurance percentage has stayed stable at close to three percent during the evaluation period. Only Rhode Island and Iowa were able to decrease their

rates to below 6% for at least one year of the analysis period. Two states, Nevada and Arizona, had uninsurance rates above 10% over the entire evaluation period.

Figure III-5: Percentage of Residents Aged 64 and Under of U.S., MA, and 23 Comparison States That are Uninsured, Survey Years 2014-2019



Data Source: American Community Survey, 1-Year Estimates

We used linear probability modeling[102] to estimate the predicted probabilities of being uninsured in Massachusetts and the comparison states, adjusting for relevant control variables (e.g., age, education, race, income, marital status, citizenship, disability status, number of people in the household, whether living in a mobile home, year, state). We used a difference-in-difference approach by comparing uninsurance rates before and after 2017 and by comparing Massachusetts with other 23 states. While we controlled for sociodemographic variables in the analysis, we acknowledge that

[102] The generalized estimation equation does not work well when there are many survey weights to apply. Therefore, we used linear regression models with robust standard error. Linear probability models also generate coefficients for marginal effects and are easier to interpret than a logistic regression model.

additional differences, including changes to programs after the beginning of the Demonstration, may exist between Massachusetts and the comparison group states that may account for additional differences in health insurance coverage; these additional differences have not been accounted for.

Further analysis of the data shows, in ***Table III-3***, that Massachusetts residents' chance of being insured after 2017 slightly reduced as compared to the comparison states after controlling for individual characteristics. This finding is consistent with what is observed for Massachusetts in ***Figure III-1***. However, relative to other states, Massachusetts' uninsurance rate has increased by 0.9 percentage point ($p<0.001$), relative to the drop of uninsurance rates in other states. Massachusetts' uninsurance rate has been rather low (near zero), and thus it is harder for the state to further reduce the uninsurance rate as dramatically as other states. And Massachusetts still has the lowest uninsurance rate of any state (***Figure III-5***). Analysis over several more years will illuminate more information and will be included in the final summative report.

Table III-3: Linear Probability Regression of Massachusetts vs. non-Massachusetts Residents' Uninsurance Rate, Survey Years 2014-2019

Variable Definition	Estimate	Standard Error	t Value	P-Value
Intercept	0.127	0.003	36.8	<.0001
Massachusetts (1 = Massachusetts; 0 = Otherwise)	-0.051	0.001	-66.4	<.0001
Year 2017 (1 = 2017 or after; 0 = before 2017)	-0.009	0.0004	-25.7	<.0001
Interaction of Massachusetts and Year	0.009	0.001	8.6	<.0001

Data Source: American Community Survey, 1-Year Estimates

Note: Covariates used include state, year (before 2017 or otherwise), age, gender, race, marital status, education, citizen status, income group, disability status, number of persons in the household, and whether living in a mobile home. For the outcome, 1 means insured, and 0 means uninsured.

H4. Enrollment in new and select ongoing programs funded with Demonstration investments supports near-universal coverage in Massachusetts, including:

- Health Connector premium subsidies
- Health Connector cost-sharing subsidies
- ESI Premium Assistance enrollment
- SHIP Premium Assistance enrollment

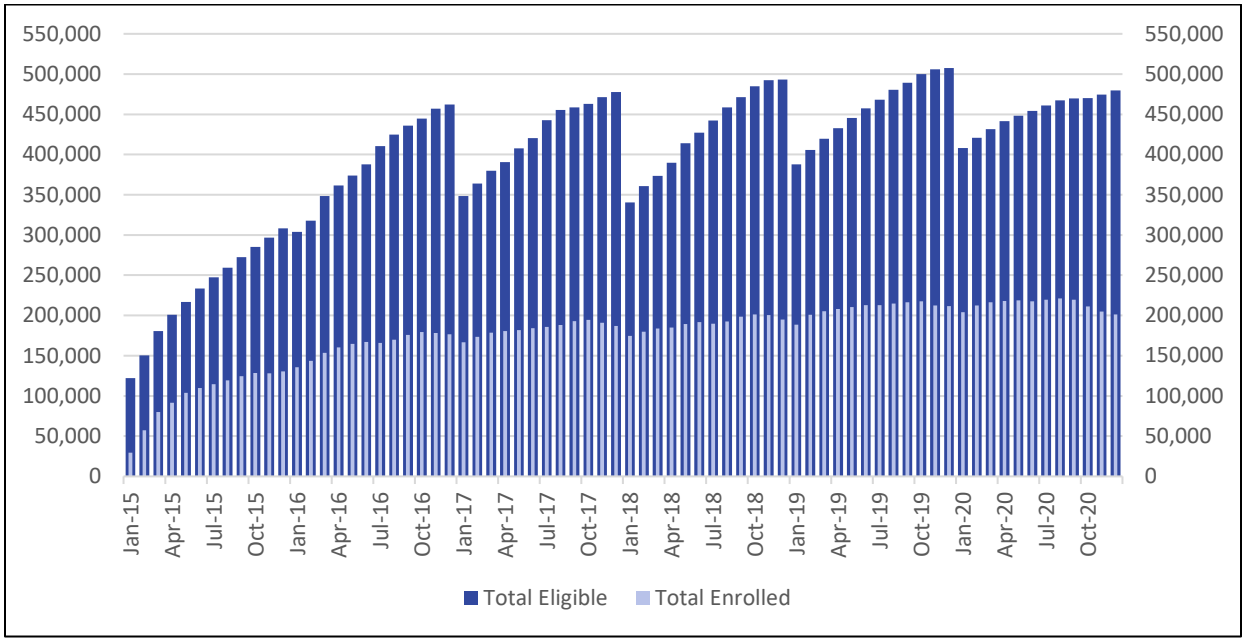
Several MassHealth programs funded under the waiver authority facilitate near-universal health insurance enrollment for residents. In addition, some programs aim to make insurance more affordable by covering subsidies for insurance premiums and cost-sharing. In contrast, others provide comparatively more comprehensive benefits than what is typically available or offer coverage for groups that might otherwise not have access. The respective results follow each program description.

Health Connector Premium Assistance and Cost-Sharing Subsidies

The Health Connector subsidy program provides premium assistance and cost-sharing subsidies, while the Health Safety Net pays for health care services provided to low-income adults during gaps in their insurance coverage, such as prior to enrollment in a Health Connector plan. Cost-sharing subsidies and services provided during a gap in coverage became eligible for federal matching funds under this Demonstration.

The number of individuals enrolled in Qualified Health Plans (QHPs) with the Health Connector Subsidy program's assistance (***Figure III-6***) shows an increasing trend between 2015 and 2019. The number of individuals grew by nearly 200,000 over the four-year analysis period. In late 2020, the number of individuals taking up QHP coverage decreased, reflecting fewer enrollments and eligibility as people moved to Medicaid coverage during the COVID-19 pandemic and utilized the protections offered during the Public Health Emergency period (source: Marissa Woltmann, Health Connector, email 3/5/21). The rise in uptake from the start of each calendar year may correspond to insurance open enrollment periods at the beginning of each calendar where more people become covered.

Figure III-6: Number of Individuals Eligible for and Enrolled in QHP Coverage with Assistance of Health Connector Subsidy Program, Calendar Years 2015-2020



Data Source: Health Connector

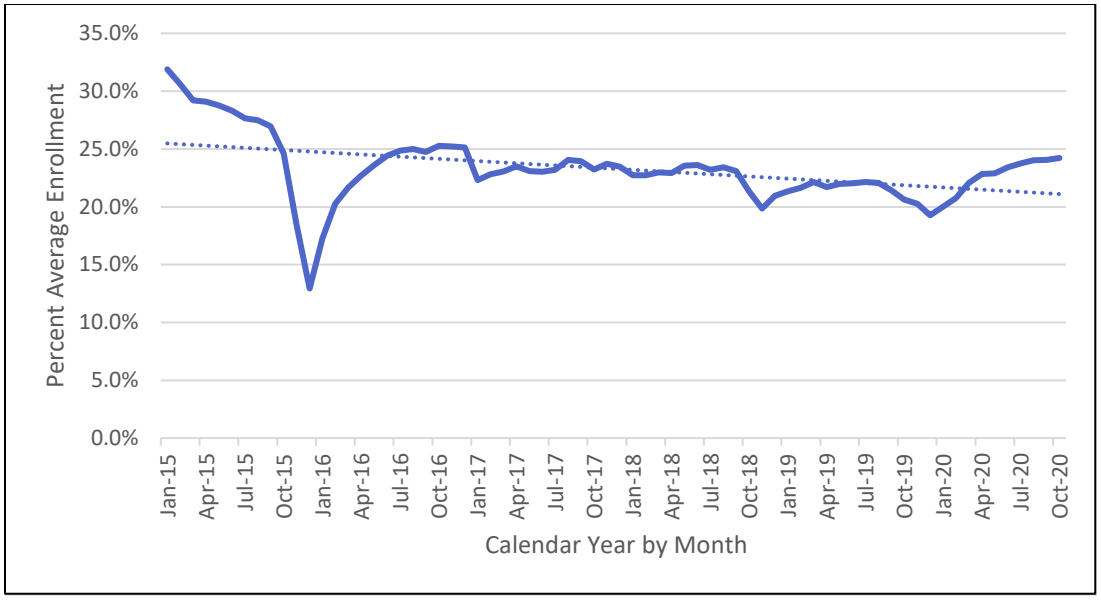
Employer-Sponsored Insurance (ESI) Premium Assistance

MassHealth's Premium Assistance (PA) Program assists eligible members who have access to qualifying employer-sponsored insurance (ESI) by paying for some of the employee shares of monthly premiums. The ESI healthcare coverage and employer

premium contributions must meet minimal requirements. MassHealth determines the cost-effectiveness of the program by examining each member's ESI PA enrollment and their eligibility before enrollment. Members who are determined by MassHealth to be eligible for ESI but fail to take up the insurance will lose MassHealth coverage, with a few exceptions. Through this program, MassHealth members have access to both MassHealth and a private insurance plan, increasing member's access to providers and the coverage of a broader range of services.

The percent of MassHealth eligible members receiving ESI premium assistance trended slightly downward in the pre-Demonstration period (2015-2016) and during the initial Demonstration years, beginning the period at 32% and ending at just under 25%, due to the phase out of the Small Business Employee premium assistance and the removal of protections that were in place during the transition to the HIX system (***Figure III-7***). Although the percent of eligible members who received ESI premium assistance decreased, the absolute number of members who received ESI premium assistance (percentage numerator) increased slightly. The rate of members eligible for and enrolled in the premium assistance program dropped by approximately 15 percentage points between September 2015 and December 2015 before rising again. Since early 2016, the rate has hovered around 20-25%. By the end of 2020, the percentage of individuals receiving premium assistance was 25%, the highest rate in three years.

Figure III-7: Monthly Percentage of Eligible MassHealth Members Enrolled in the ESI Premium Assistance Program, CY2015-CY2020



Data Source: MassHealth Program Data
Note: Eligible MassHealth members are defined as MassHealth members who are eligible for ESI.

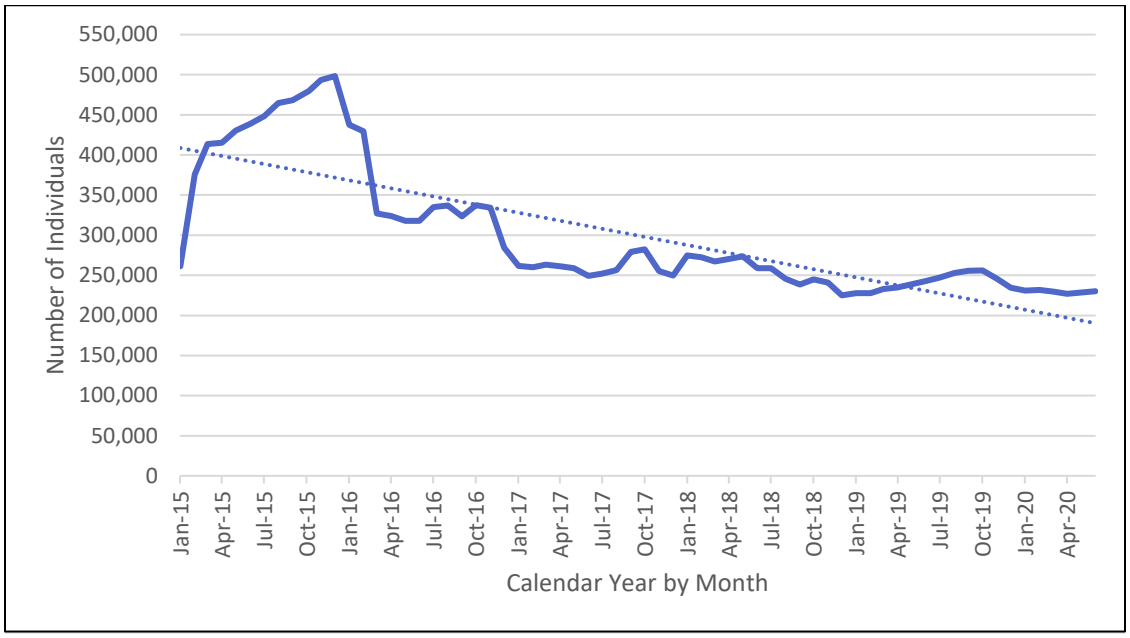
Services Paid for through the Health Safety Net Trust Fund

The Health Safety Net (HSN) Trust Fund was established in October 2007 by Chapter 58 of the Acts of 2006 as part of the state's health care reform legislation. The HSN Trust Fund pays for medically necessary services (at a level similar to MassHealth Standard coverage) provided by HSN-participating acute care hospitals and community health centers for eligible individuals who are uninsured or underinsured. In general, the HSN Trust Fund reimburses hospitals and community health centers for certain health care services, medical hardship expenses (when qualifying medical expenses exceed a specified percentage of a family's income), and some types of bad debt. The HSN Trust Fund also pays for other services or expenses in specific situations. To facilitate reimbursement, the HSN Trust Fund redistributes revenue from hospitals and health insurers based on a formula designed to spread the cost of providing care to uninsured and underinsured patients more equitably among the acute hospitals and community health centers.

Eligible state residents who are underinsured or uninsured with incomes under certain percentages of the FPL are eligible to apply for HSN Trust Fund access. Massachusetts residents whose incomes are at or under 150% of the FPL may be eligible for health care services paid for through the HSN Trust Fund without a deductible. Massachusetts residents with income between 151% to 300% FPL may be eligible for health care services paid for through the HSN Trust Fund with a deductible. Residents can also qualify for the Trust Fund through a Presumptive Determination (HSN-PD) (established in 2016) to enable them to temporarily obtain health care services paid for by the HSN Trust Fund if they are not able to complete the application on the date of service, with the expectation that they would complete the process at a later point. The HSN Trust Fund can act as a primary payer for those who are uninsured, or it can act as a secondary payer for those enrolled in other types of insurance, including commercial insurance, Medicare, student health insurance, or certain MassHealth programs.

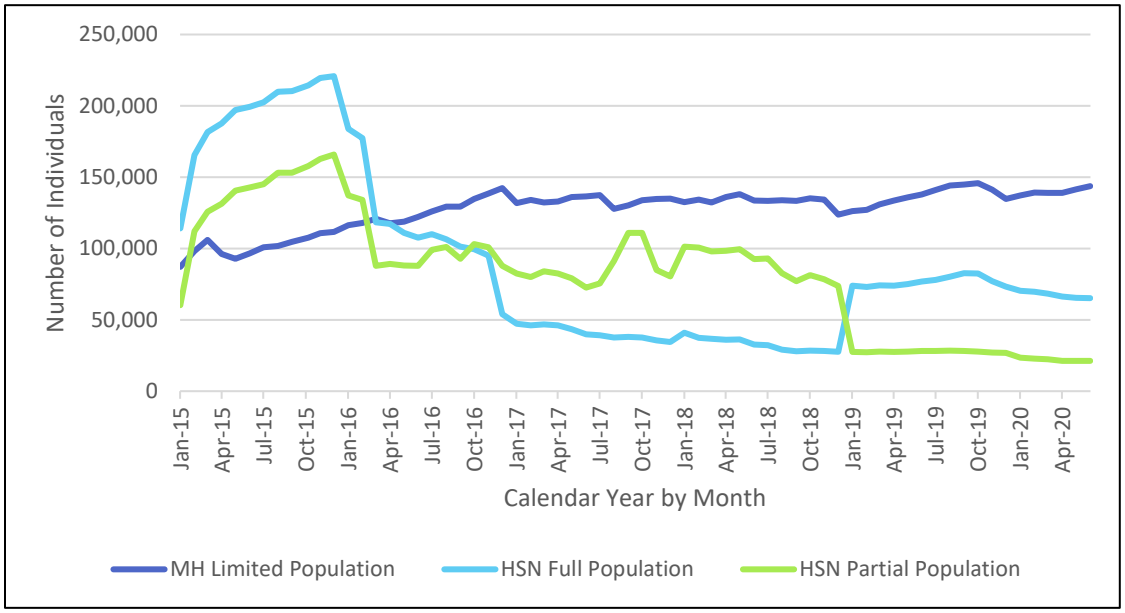
Overall, the total number of individuals receiving services paid for through the HSN Trust Fund declined from 2016 to 2020 after peaking at about 500,000 in Fall 2015 (***Figure III-8***). Subgroup analysis found that the group of individuals who use the HSN Trust Fund as the primary payer (HSN Full population; ***Figure III-9***) has seen the most volatility, as the number of users initially rose in late 2015, fell below other groups in 2017 to 2018, then began to rise again. After an initial rise, the MassHealth Limited subgroup's use of services paid for through the HSN Trust Fund has remained fairly stable. It is currently the group with the largest number of individuals using services paid for through the HSN Trust Fund. The number of individuals with partial access (those who use the HSN Trust Fund as a secondary payer) has maintained a downward trend from 2015 to 2019 and has been stable in 2020.

Figure III-8: Number of Individuals Who Received Health Care Services Paid for Through the Health Safety Net Trust Fund, CY2015-2020*



Data Source: MassHealth Program Data
*Data through June 2020

Figure III-9: Number of Individuals Who Received Health Care Services Paid For Through the Health Safety Net Trust Fund, by Group*, CY2015-CY2020**



Data Source: MassHealth Program Data
*MH Limited Population is a subgroup of HSN Partial Population
**Data through June 2020

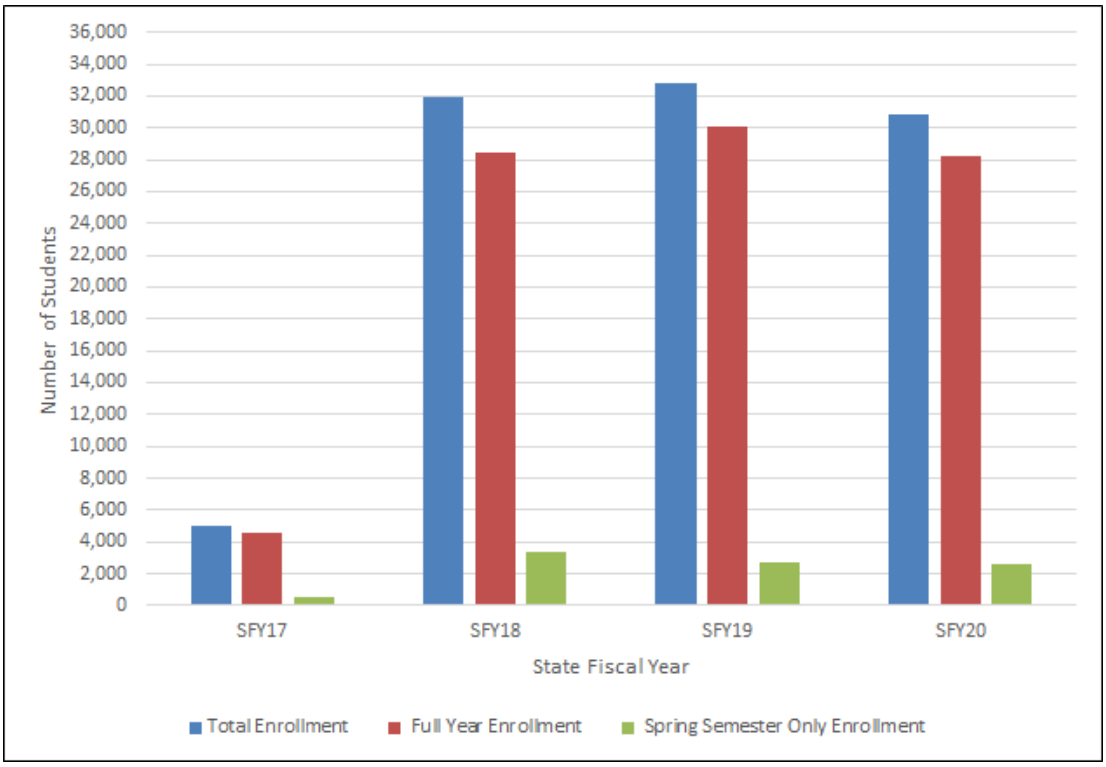
Student Health Insurance (SHIP) Premium Assistance

Since the late 1980s, Massachusetts has required that students in higher education maintain health insurance and that schools provide SHIPs. After the ACA was implemented in 2014, fewer students were enrolled in SHIPs, most likely due to Medicaid eligibility expansions allowing more students to become MassHealth eligible. MassHealth partnered with the Health Connector in SFY2017 to launch the MassHealth SHIP PA program with the state's public colleges and universities. Massachusetts students maintain their Medicaid benefits while enrolling in their school's SHIP, with the SHIP as the primary payer and MassHealth as the secondary payer. MassHealth requires members who are students attending participating post-secondary schools in the state to enroll in school-sponsored insurance. Under the MassHealth SHIP PA, the state provides premium and cost-sharing assistance and benefits wrap-around coverage to ensure that the SHIP benefits are equivalent to MassHealth coverage, including keeping out-of-pocket costs at the same level as if services were being received directly from MassHealth. As students are generally enrolled for an academic year or partial year (spring semester only), students maintain twelve-month continuous eligibility for MassHealth benefits during periods when they are no longer Medicaid-eligible or during breaks in SHIP insurance coverage. For Goal 3, we report on the SHIP PA enrollment measure. Additional analysis of SHIP PA on cost-saving to MassHealth is described under Goal 7.

In July 2020, MassHealth decided to end SHIP PA after the 2019-2020 academic year and transition participants back to other MassHealth managed care plans for which they were otherwise eligible. This decision came after an analysis by MassHealth, which showed that the program was no longer cost-effective for the commercial plans due to increased premiums for members, as MassHealth members that tend to have more care needs than non-MassHealth members enter into the risk pool of commercial plans. Most members were transitioned back to MassHealth managed care plans following the end of SHIP Premium Assistance. Some members who would have otherwise lost eligibility were protected with MassHealth coverage until the coronavirus pandemic PHE has ended as MassHealth attempts to maintain insurance coverage during the emergency regardless of eligibility for these benefits. Our analysis focuses on enrollment in SHIP PA while the program was active.

Enrollment data show the participation of over 30,000 members per year in the full academic years of 2018 through 2020 (***Figure III-10***). The increase between 2018 and 2019 largely reflects the change to make participation in the SHIP PA program mandatory for MassHealth eligible students at participating schools. We do not, however, have detailed information on the average length of enrollment in the SHIP PA program.

Figure III-10: Number of Eligible MassHealth Members Enrolled in SHIP PA, State Fiscal Years 2017-2020



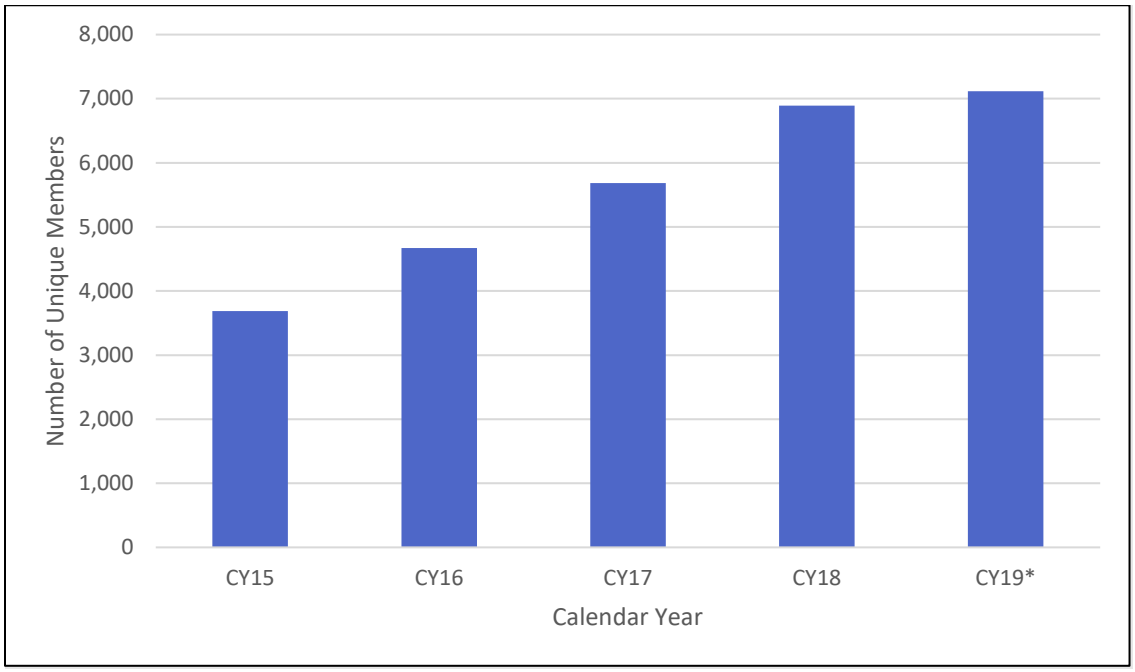
Data Source: MassHealth Program Data

CommonHealth 65+

Massachusetts residents aged 65 and above are eligible to enroll in CommonHealth 65+, a program that has been in place for a number of years but was newly authorized for expenditure authority under the Demonstration. This program benefits a population of disabled employed individuals who would have lost coverage once they turned 65. Individuals are eligible if they are over income limits for MassHealth Standard coverage, have disabilities, and have paid employment for 40 hours or more per month. When such a member turns 65, continued coverage from Medicaid for LTSS services not covered by Medicare is a gap that MassHealth has closed by offering the CommonHealth 65+ program.

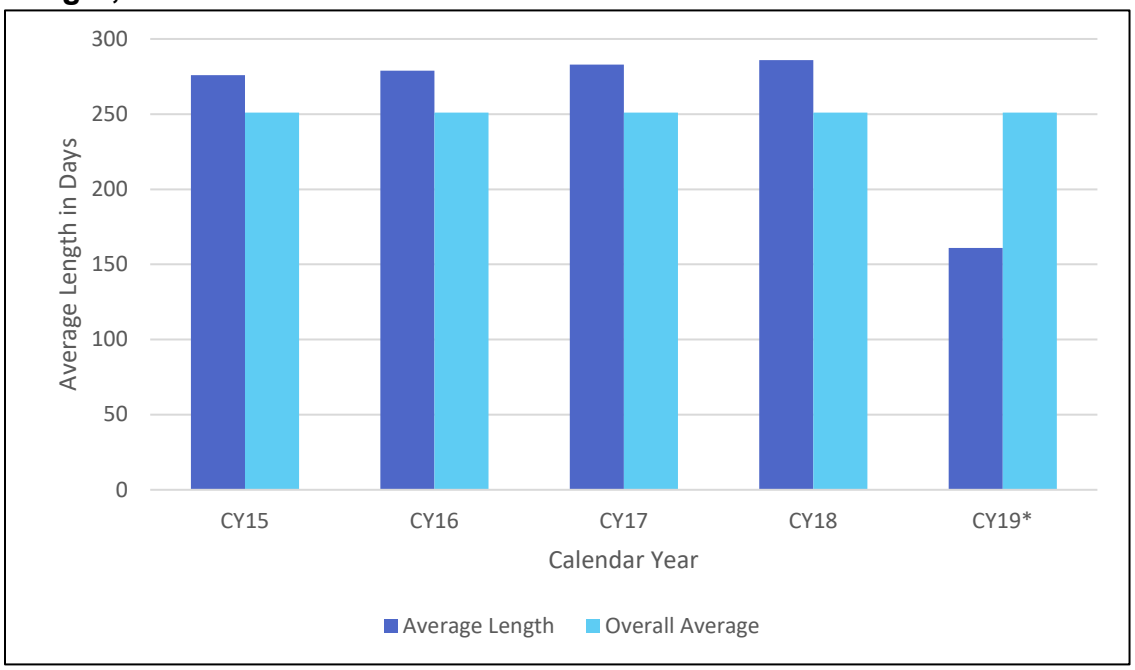
The number of eligible individuals enrolled in CommonHealth 65+ has increased year over year from 2015 to June 2019, with no change to that trend since the start of the Demonstration study period (***Figure III-11***). Similarly, the average annual enrollment length remained stable at approximately 280 days across this time (***Figure III-12***). While the rate of increase for enrollment in 2019 appears to dip, data for that year is reported for only January to June.

Figure III-11: Number of Individuals Enrolled in CommonHealth 65+, CY2015-June CY2019



Data Source: MassHealth Program Data
*Data through June 2019 only

Figure III-12: CommonHealth 65+ Member Average Annual and Overall Enrollment Length, CY2015-June CY2019*



Data Source: MassHealth Program Data
*Data through June 2019 only

As part of our evaluation of the CommonHealth 65+ program, we analyzed the utilization of LTSS services to understand these member's service needs. ***Table III-4*** summarizes CommonHealth 65+ members' LTSS utilization. During CY15 through CY20, between 6-7% of members used community-based personal care assistant (PCA) services, about 3% used community-based home health agency (HHA) services, and almost 3% used other community-based services (e.g., adult day health, adult foster care, group adult foster care, day habitation, and continuous skilled nursing). The use of facility-based LTSS, either during the first 100 or over 100 days, was very low (almost zero). Members were prone to use other LTSS-covered services (about 12%); these services include durable medical equipment, non-emergency transportation, oxygen and repository therapy equipment, orthotics, hospice, and therapy.

Table III-4: Select LTSS Healthcare Service Utilization Measures Among CommonHealth 65+ Members, CY2015-CY2020*

		CY2015	CY2016	CY2017	CY2018	CY2019	CY2020*
		N(%)	N(%)	N(%)	N(%)	N(%)	N(%)
All Members	**All**	3,628 (100.0)	4,573 (100.0)	5,569 (100.0)	6,686 (100.0)	8,288 (100.0)	8,198 (100.0)
Community-based Personal Care Assistant (PCA)	**No**	3,407 (93.9)	4,281 (93.6)	5,185 (93.1)	6,236 (93.3)	7,735 (93.3)	7,685 (93.7)
	Yes	221 (6.1)	292 (6.4)	384 (6.9)	450 (6.7)	553 (6.7)	513 (6.3)
Community-based Home Health Agency (HHA) Services	**No**	3,511 (96.8)	4,392 (96.0)	5,367 (96.4)	6,447 (96.4)	7,996 (96.5)	8,002 (97.6)
	Yes	117 (3.2)	181 (4.0)	202 (3.6)	239 (3.6)	292 (3.5)	196 (2.4)
Other community-based Services	**No**	3,530 (97.3)	4,449 (97.3)	5,403 (97.0)	6,498 (97.2)	8,057 (97.2)	7,990 (97.5)
	Yes	98 (2.7)	124 (2.7)	166 (3.0)	188 (2.8)	231 (2.8)	208 (2.5)
Facility-based LTSS	**All**	3,617 (99.7)	4,558 (99.7)	5,550 (99.7)	6,663 (99.7)	8,262 (99.7)	8,194 (100.0)
	>100 Days	<10 (0.0)	<10 (0.0)	<10 (0.0)	<10 (0.0)	<10 (0.0)	<10 (0.0)
	≤100 Days	10 (0.3)	14 (0.3)	18 (0.3)	21 (0.3)	23 (0.3)	<10 (0.0)
Other LTSS-covered Services	**No**	3,182 (87.7)	3,993 (87.3)	4,863 (87.3)	5,840 (87.3)	7,270 (87.7)	7,449 (90.9)
	Yes	446 (12.3)	580 (12.7)	706 (12.7)	846 (12.7)	1,018 (12.3)	749 (9.1)

Data Source: Medicaid enrollment, claims, and encounter data.
Note: The sample comprises only fee-for-service CommonHealth 65+ members and with *any* CommonHealth 65+ enrollment during a calendar year; it is possible that a member has other Medicaid coverage (e.g., managed care) during the entire calendar year. Service utilization is determined for the entire calendar year as long as the member was ever in the program. Thus, the utilization measure is based on encounter, UB92, and physician data.
*The 2020 data are only partial, so the results in CY20 are not finalized.

State Gold Star Veteran Annuity Payment Disregard

The Commonwealth of Massachusetts, in conjunction with the Department of Veterans' Services, provides a veteran annuity (VA) of $2,000 annually to eligible recipients in increments of $1,000 paid out on February 1 and August 1 of each year. Eligible recipients are Gold Star disabled veterans as well as surviving parents and unmarried spouses of deceased Gold Start disabled members of the U.S. armed forces. As of June 2018, under this Demonstration authority, these payments are no longer counted as income for the purposes of determining Medicaid eligibility and, as of May 2019, are no longer counted as income for post-eligibility treatment of income (PETI). This change is aimed at providing broader eligibility for these individuals, particularly those for whom this annuity would increase their income above MassHealth limits.

At the time of this interim report, the data-sharing agreement between MassHealth and the Department of Veterans Affairs was still being finalized and data pending transfer for analysis. Therefore, this report does not include results for this Demonstration program; however, this analysis will be included in the final summative report.

D. Discussion

1. Interpretation

Analysis of health insurance coverage provides trend data on the potential effect of the Demonstration initiative on near-universal health care coverage over time. Our review of these programs indicates that, overall, Massachusetts and the state's Medicaid program have maintained near-universal health insurance coverage for its residents after implementing Demonstration programs and investments. As shown in the analysis of H1, during the period of 2017 to 2019 examined for this report, the percentage of residents in Massachusetts who are uninsured remained below 4%. At the same time, enrollment in Medicaid has trended downward.[103]

With regard to the rate of churn among MassHealth members (H2), the rate of MassHealth members churning on and off insurance (i.e., a coverage gap of 45 days or more in a one-year period) is below 3%. After an initial rise in churn during early 2017, the rate has shown a downward trend during the Demonstration period, in line with the hypothesis. However, as expected, the rate of churn among new members is much higher than existing members, reaching a peak of 12% in 2017 before declining to 5% in the latter half of 2018.

Examination of the Commonwealth's uninsurance rates versus select comparison states, the focus of H3, shows that the state continues to lead the nation in maintaining health insurance coverage. The programs that offer increased access to health

[103] MassHealth the Basics: Facts and Trends. October 2020, (slide 10). Available at: MassHealth: The Basics – Facts and Trends (October 2020) | Welcome to Blue Cross Blue Shield of Massachusetts (bluecrossmafoundation.org)

insurance through premium and cost-sharing subsidies served to make coverage accessible for MassHealth members and other individuals. In contrast, among the comparison states, which do not offer such subsidies, only two (Rhode Island and Iowa) were able to decrease the percentage of uninsured residents to below six percent at any time during the initial Demonstration period, and uninsurance rates for Arizona and Nevada were higher than 10% over the entire period.

Several programs under the Demonstration supported near-universal healthcare coverage rates, as examined for H4. MassHealth expanded access to health insurance by offering premium assistance and/or cost-sharing subsidies through ESI and the Health Connector. Uptake of QHPs with Health Connector premium assistance and cost-sharing subsidies similarly increased access; however, the pandemic may have pushed individuals away from this coverage towards MassHealth coverage. ESI subsidy use trended downwards over the evaluation period, which may reflect the availability of more affordable plans or a decrease in the opportunity to enroll in ESI. Access to services paid for through the HSN Trust Fund also showed a downward trend, possibly due to increased access through other Medicaid coverage types. However, access to services paid for through the HSN Trust Fund by some subgroups increased, reflecting the continued need for this support. Finally, MassHealth offered coverage to college students and certain eligible members aged 65 and over to ensure continued health insurance access. Enrollment in both programs grew over time, highlighting the utility of and need for such options. We observed decreasing enrollment in several of these Demonstration programs, which may reflect a transfer of these members to other programs. Examining the dynamics of member coverage across these programs will shed some light on how these programs jointly protect coverage.

CommonHealth 65+ members primarily used community-based PCA and other LTSS-covered services (e.g., durable medical equipment, non-emergency transport, oxygen and repository therapy equipment, orthotics, hospice, and therapy). The use of facility-based LTSS has been rather limited. Since the CommonHealth 65+ members tend to be working, these members may be healthier compared to other elderly and not need this service as much.

Table III-5 summarizes the policy lever that each program uses (e.g., premium assistance, cost-sharing, public-private partnership). It appears that premium assistance has become the most frequently used policy lever under the current Demonstration. Although not always consistent, this policy seems to be associated with increased use of programs. Using premium assistance could be a cost-effective tool for MassHealth to protect coverage and reduce cost, which needs further research.

Table III-5: Summary of Programs, Policy Levers, and Results

Program	Premium Assistance Policy Lever	Cost Sharing Policy Lever	Public-Private Partnership Policy Lever	Other Policy Lever	Trend of Use
Health Connector Premium and Cost-Sharing Subsidies	Yes	Yes	Yes		Upward
ESI Premium Assistance	Yes		Yes		Slight Downward
HSN Trust Fund Access				Yes	Downward
SHIP Premium Assistance	Yes		Yes		Upward
CommonHealth 65+				Yes	Upward

2. Study Limitations

This analysis is subject to limitations. First, given the varied and multiple Medicaid programs that are implemented in other states, it was not feasible to identify perfect comparison group states to fully isolate the effect of the other specific Massachusetts programs (e.g., Premium Assistance for ESI, SHIP PA, CommonHealth 65+, and state Gold Star veteran Annuity Payment Disregard) by identifying states that are similar to the state in all aspects except for the presence of these programs. Also, as each of the coverage programs was implemented state-wide, it is not feasible to identify within-state comparison groups for whom the programs were not available to understand what would have happened to these populations in Massachusetts in the absence of Demonstration activities.

Second, each coverage program did not start all on the same date. Some started even before July 1, 2017, the start of this Demonstration. In addition, the SHIP PA program ended before the end of the Demonstration. As new programs come online, there is an initial period of engagement, enrollment, and initiation of coverage and services that would delay the evidence of program impact. Therefore, it is hard to fully attribute the impact of the Demonstration to these coverage programs, and the effect of the Demonstration on the coverage may also be biased due to the program started before the Demonstration.

Third, not all models proposed in the Evaluation Design Document (EDD) have been fully used. For example, regarding the churning analysis, in the EDD, we suggested a segmented regression analysis to evaluate trends in the percentage with a gap before and after the Demonstration period. However, what we include in this report is the direct churning status, instead of regression-adjusted prediction, as it appears to be the most

straightforward approach to providing helpful information on the actual occurrences. We will explore these additional options for the final summative report.

3. Policy Implications and Interactions with Other State Initiatives

The state maintained near-universal health care coverage during this initial Demonstration period of 2017 through 2020 and, during that period, led the nation in the percentage of residents with healthcare coverage. Massachusetts continues to exercise various policy options under its Demonstrations to allow for easier healthcare access and continuity for various populations of residents (e.g., low income, disabled, seniors, students) to obtain insurance coverage. With its uninsurance rate being the lowest in the U.S., Massachusetts' Demonstration has focused on using premium assistance to promote a public-private partnership and using cost-sharing subsidies through the Exchange to increase members' post-eligibility access to health care services. Our findings suggest generally positive outcomes of the premium assistance policies to improve coverage and access, as well as emerging evidence of effective cost-sharing assistance mechanisms. At the national level, the American Rescue Plan Act's COVID-19 federal legislation, passed this spring, significantly increases subsidies in insurance marketplaces, but is only good for one year. Our findings relative to the effectiveness of subsidies could lend support for extending the federal subsidies beyond one year. In addition, although ESI Premium Assistance utilization has not increased as expected, it remains a policy lever to review further. And, a decrease in utilization in one program may reflect the appropriate movement to other MassHealth programs – or to private insurance or Medicare.

It is important to note that the findings in this interim evaluation include the data from CY2020 when the coronavirus pandemic began and the U.S. and Massachusetts declared public health emergencies. With a much higher unemployment rate during CY2020 due to COVID-19 – about 7.4% in Massachusetts at the end of December 2020 compared to 2.5% prior to the pandemic, according to the Federal Reserve Bank of St. Louis - demand for Medicaid coverage was subsequently higher. MassHealth's requirement to maintain coverage access is critical to a healthy population during this time. Early data for programs that are more likely to be impacted by the PHE, such as ESI subsidies and the HSN Trust Fund, show only minor impacts to date. Other programs are less likely to be influenced due to specific participation requirements (e.g., SHIP PA) or intrinsic programmatic aspects (e.g., Gold Star Veteran Annuity Payment Disregard).

In response to the PHE declared by Governor Baker in March 2020, the state's Executive Office of Health and Human Services submitted to CMS several requests, comprising Section 1135 waivers, Disaster SPAs, Appendix Ks for Home and Community Based Services waivers, and a COVID-19 PHE Medicaid Section 1115 Demonstration, all of which are aimed at assisting with the state's response to the COVID-19 pandemic. The importance of this Demonstration to continue to effectively

promote healthcare insurance coverage and access has been amplified by the PHE, ensuring that, due to flexibilities provided by CMS, coverage disruption is minimized during the pandemic. As noted earlier, MassHealth has made temporary changes in response to the pandemic that may contribute to increased enrollment in Medicaid. The impact of the pandemic on health insurance access and coverage, at the both individual and organizational level, and the ability of this Demonstration to maintain near-universal coverage will be further evaluated and discussed in the summative report.

4. Lessons Learned and Recommendations

Our evaluation of the initial period of this Demonstration shows that the programs that MassHealth has put in place to allow for greater access to and uptake of health insurance are supportive of continued low uninsurance in Massachusetts. Of note, several programs, such as ESI Premium Assistance, the HSN Trust Fund, and Heath Connector subsidies to support QHP take-up, have been in place and under Demonstration authority for many years prior to this Demonstration and will remain unchanged in the future. Over the course of several previous Demonstration evaluations, these programs have been shown to be of continued value in supporting near-universal coverage for the state's residents. Thus, we have no recommendations to make for these programs.

With Massachusetts' uninsurance rate already so low as to be nearly universal, it is tough for the state to further reduce the uninsurance rate. The continued value of current programs towards this is readily apparent. However, there are opportunities and benefits to explore policies that increase post-eligibility review coverage and access to basic services. Future evaluation of the Gold Star veteran annuity disregard for Medicaid eligibility and post-eligibility treatment of income will be essential to understand the value of such programs. In addition, evaluation of utilization of ESI Premium Assistance, which was trending downward prior to 2020, and the use of services paid for through the Health Safety Net Trust Fund during the COVID-19 pandemic period will help demonstrate how these programs support health care access when the demand for coverage is particularly high. Although not part of the current evaluation plan, it will be useful to examine the transfer of members from one program to the other; information about the members' experiences between programs will be valuable about not only whether insurance is obtained but also whether and how their actual use of services has been impacted.

With MassHealth's decision to end the SHIP PA program in summer 2020, it seems that some public-private partnerships may not always work. The SHIP program was stopped primarily due to rising premium costs for of the commercial payers for schools participating in the SHIP PA program. The sustainability of the policy implementation to promote public and private partnership, such as through premium assistance, requires MassHealth to investigate the advantages of the policy not only to MassHealth and its members but also to the private sector. It will be useful to collect richer information (e.g.,

through focus groups, interviews) to understand how public and private partnerships can be better designed to foster better coverage and access to services.

IV. Demonstration Goal 4: Sustainably support safety net providers to ensure continued access to care for Medicaid and low-income uninsured individuals

A. Background

Sustainably supporting safety net providers has been a vital part of Demonstration efforts in Massachusetts since the state's Safety Net Care Pool (SNCP) was created in July 2005. Massachusetts uses SNCP authorities to provide financial support to MassHealth safety net providers; to fund specific state health programs; to pay hospitals, community health centers (CHCs), and institutions for mental diseases (IMDs) for services provided to uninsured and low-income individuals; and to support delivery system transformation and infrastructure and capacity building for safety net providers. The full SNCP expenditure authority is $7.9 billion over the 5-year Demonstration, with $1.87 billion authorized in the first year of the current Demonstration period (representing a $0.6 billion increase compared to the prior year) and is decreasing over the five-year Demonstration period[104]. The SNCP consists of eight payment streams:

- The Delivery System Reform Incentive Payment (DSRIP) program, for participating Accountable Care Organizations (ACOs), Community Partners (CPs), and for Statewide Investments and other payment and delivery system reform uses ($1,800 million over five years);
- The Health Safety Net Trust Fund Safety Net Care Payments, for all acute hospitals and community health centers ($1,440 million over five years);
- Public Hospital Supports for hospitals operated by the Department of Public Health or the Department of Mental Health ($702 million over five years);
- ConnectorCare Subsidies for low-income individuals insured throughout the Massachusetts State Health Connector ($1,250 million over five years);
- Safety Net Provider Payments (SNPP) for certain hospitals ($973 million over five years);
- Public Hospital Transformation and Incentive Initiatives (PHTII), for Cambridge Health Alliance (CHA) ($872 million over five years);
- Institutions for Mental Disease Payments for psychiatric inpatient hospitals and community-based detoxification centers ($160 million over five years); and
- The Public Service Hospital Safety Net Care Payments for Boston Medical Center ($100 million over five years).

Compared to past Demonstrations, a more significant portion of the state's SNCP is tied to incentive-based payments to promote delivery system transformation. Along with DSRIP, the PHTII program and Safety Net Provider Payments (SNPP) program, which both fall under SNCP, are impacted by this shift and are the focus of evaluation for this

[104] Attachment E of the MassHealth Demonstration Terms and Conditions (March 30, 2021), accessed at MA revised eval design (vet annuity disregard) approval letter_Signed.pdf (medicaid.gov)

goal. Payments for PHTII activities are intended to support improvements to delivery systems and payment models to promote enhancements to care while reducing health care costs. In Massachusetts, CHA is the sole eligible recipient of PHTII payments. In addition, CHA is Massachusetts' only non-state, non-federal public acute hospital and a participant in delivery system transformation. Before the current Demonstration period, up to 30% of PHTII payments were tied to performance on quality improvement measures. In this Demonstration period, an increasing portion of PHTII funding is at-risk based on two activities:

1) Participation in the MassHealth ACO model and demonstrated success on corresponding ACO performance, outcome, and improvement measures established under DSRIP; and
2) Continuation and strengthening of initiatives approved for the prior Demonstration period, including initiatives focused on behavioral health integration and demonstrated achievement on corresponding performance measures.

The SNPP program is a new component of SNCP that falls under the SNCP's Disproportionate Share Hospital-like (DSH-like) pool. The DSH-like pool authorizes payments for uncompensated care provided to Medicaid and low-income uninsured individuals. SNPP is intended to provide ongoing financial support to fourteen safety net hospitals (with the exception of CHA) in the state that serve a disproportionately high number of Medicaid and uninsured patients and have budget shortfalls related to providing large volumes of care that is uncompensated. The SNPP aims to serve two purposes:

1) to provide payments to safety net hospitals for costs incurred while providing care to low-income and uninsured individuals and
2) to fund delivery system transformation and capacity-building. Under the SNPP program, Massachusetts makes payments to eligible hospitals with safety net providers that serve a large proportion of Medicaid and uninsured individuals and have a demonstrated need for financial assistance to address uncompensated care costs and to sustain ongoing and necessary operational supports.

An increasing portion of these payments, from 5 percent in Year 1 of the Demonstration to 20 percent in Year 5, are at risk, and hospitals are required to meet the same performance goals established for DSRIP in order to receive these payments.

Though the total SNCP funding will reduce over time, efficiencies in care gained through ACO transformation, coupled with improvements in performance measures resulting from increasing the portion of funding at risk, are expected to promote the sustainability of safety net providers. The current Demonstration evaluation examines the impact of changes to the SNCP on healthcare quality measures, financial sustainability, and uncompensated care costs at safety net hospitals.

B. Research Question and Study Design

Research Question

The research question for Goal 4 is: **What is the impact of safety net funding investments on safety net hospitals' quality performance and financial sustainability?** The hypotheses for Goal 4 are below.

H1. Increasing the portion of at-risk funding for safety net hospitals under the PHTII and SNPP will be associated with improved care quality at these sites.

H2. Despite a reduction in total supplemental payments provided through the SNCP over time, the amount of uncompensated care costs will not increase relative to trends prior to the current Demonstration.

Study Design: To evaluate H1 for PHTII, we conducted descriptive analyses to assess whether CHA met and exceeded annual hospital performance targets measured during the current Demonstration period and whether the performance improved over time. To evaluate H1 for the 14 safety net hospitals receiving SNPP, we employed an observed to expected ratio method. The method first uses multivariable modeling to quantify relationships between member characteristics and performance on each measure during a baseline period (CY2015-2017). The models developed using baseline data were then used to estimate performance on each quality measure expected to occur in the Demonstration period in the absence of the Demonstration activities. The observed performance was then compared to the expected (i.e., predicted) performance in each year. More details of the method are referenced in Section II.

To evaluate H2, we conducted descriptive analyses for the 15 safety net hospitals that receive SNPP or PHTII to examine trends in uncompensated care costs and supplemental payments before and during the current Demonstration period.

Study Period: The evaluation period for the analysis of the PHTII-related quality measures for H1 was fiscal years (FYs) 2015-2020, chosen due to how the measures were reported. Data from FY2015 to FY2019 were used to evaluate H2 in this interim report because of data availability. For both hypotheses, data through December 2022 will be included in the final summative report.

Data Sources[105]:

[105] The EDD mentioned the use of Safety Net Hospital reports to measure hospital performance and sustainability. We have used the combination of the PHTII report and administrative data to identify the quality of these hospitals as described on page 95 of the EDD. For instance, the claims data were used to create select HEDIS measures such as Initiation and Engagement of Alcohol and Other Drug Dependence Treatment and Adults' Access to Preventive/ Ambulatory Health Services. We also used hospital-reported UCCR reports to determine the cost. The safety net hospital annual reports only include aggregate-level information about utilization related to the health safety net. We think PHTII and claims-based measures provide us with complete information about hospital quality related to the Medicaid population.

1) *PHTII Quality Measure Reports*: CHA provides to MassHealth tri-annual Reports for Payment, detailing key accomplishments in the reporting period towards associated metrics. PHTII quality measure performance is reported annually in July for each fiscal year and is measured on four slates totaling 50 outcome and improvement measures. About 40% of the measure specifications were drawn from the National Quality Forum (NQF). Other sources of measures included CMS' Inpatient Psychiatric Facility Quality Reporting (IPFQR), NCQA Medical Home, and Meaningful Use measures (federal incentives to promote certified Electronic Health Record technology use). CHA utilized benchmarks as available with these measures to set achievement targets. The remaining measures, about one-third, were customized by CHA. For measures without existing available benchmarks, CHA developed its achievement targets based on internal data. This annual metric reporting is available from 2018 through 2020 for this interim report. Additional information about these measures and CHA's performance can be found in Appendix I.
2) *Medicaid administrative data:* MassHealth MMIS enrollment, medical claims/ encounter files, and pharmacy claims files were used to calculate quality measures for the 15 safety net hospitals during the calendar years 2015-2019, except where noted.
3) *Uniform Medicaid & Uncompensated Care Cost & Charge Report (UCCR*): The Massachusetts Executive Office of Health and Human Services (EOHHS) Office of Medicaid requires hospitals to submit cost, charge, and patient day data via the Uniform Medicaid and Uninsured Uncompensated Care Cost & Charge Report (UCCR), reported by fiscal year. This data is used to ensure compliance with the Uncompensated Care Cost Limit Protocol approved by CMS on December 11, 2013. In addition, EOHHS uses the data to calculate the preliminary payment amounts for certain supplemental payments. These reports[106] contain cost data from Medicare cost reports, in addition to data provided by MassHealth, on supplemental payments to safety net hospitals. The reports are generated annually and are available from 2015 through 2020 for this interim report.

Study Population: The study population for these analyses is MassHealth managed care eligible individuals (i.e., those enrolled with an ACO, MCO, or Primary Care Clinician (PCC) plan, referenced as MCE) members served by 15 Massachusetts safety net hospitals eligible for PHTII or SNPP, as listed below. We limited the analyses to the managed care eligible population for the interim report, because MassHealth is the primary payer (and has complete data) for these members enrolled with ACOs, MCOs,

[106] Details about the content of these reports can be found at: https://www.mass.gov/lists/cost-limit-protocol

or the PCC plan, consistent with what was done for the DSRIP evaluation. Results that include the Fee-for-Service population will be included in the final summative report.

Hospitals Eligible for PHTII:

1. CHA

Hospitals Eligible for SNPP:

2. Baystate Medical Center
3. Berkshire Medical Center
4. Boston Medical Center
5. Franklin Medical Center
6. Good Samaritan Hospital
7. Holyoke Medical Center
8. Lawrence General Hospital
9. Mercy Medical Center
10. Morton Hospital
11. North Shore Medical Center
12. Signature Healthcare Brockton Hospital
13. Southcoast Hospital Group
14. Steward Carney Hospital
15. Tufts Medical Center

Comparison Group: A clear comparison group, that is, one that will estimate metric outcomes in the absence of Demonstration activities, does not exist because the risk-based payments are applicable for all safety net hospitals in Massachusetts. In lieu of a traditional comparison group approach, we use several quantitative analyses to compare expected outcomes to observed outcomes, as described in the "Data Analysis" section below.

Measures: Measures are defined as follows:

- ACO quality performance measures are defined for DSRIP and applicable to the 15 safety net hospitals. These measures are described in Appendix I. Estimates for the select measures listed below are reported in the results section of this interim report.

Selected HEDIS Measures:

1. Adults' Access to Preventive/Ambulatory Health Services
2. Initiation of Alcohol and Other Drug Dependence Treatment
3. Engagement of Alcohol and Other Drug Dependence Treatment

Emergency Department (ED) Visit and Hospital Admission Measures:

4. ED Visits (Overall)
5. ED Visits: Primary Care Sensitive (Adults)
6. ED Visits for Adults with Serious Mental Illness (SMI)/Substance Use Disorder (SUD)

7. Hospital Admissions: Acute Unplanned (Overall)
8. Hospital Admissions: Acute Ambulatory Care Sensitive Conditions (ACSCS) (Adults)
9. Hospital Admissions: Chronic ACSCS (Adults)
10. Hospital Admissions: Asthma (Children)

- Participation in the MassHealth ACO program and the measure slates outlined in the PHTII protocol (CHA only, as detailed above) (See Appendix I for the Measure Slates).
- Uncompensated care costs and supplemental payments.

Data Analysis: For the first part of H1, descriptive statistics are reported for the PHTII measure slates. We have presented CHA's performance using a summary measure, that is, percent of measures meeting target over time for each of the four PHTII measure sets.[107]

To examine whether SNPP and PHTII payments are associated with improvements in care quality, the second part of H1, we adopted an Observed to Expected Ratio (O:E ratio) approach to examine performance metrics for the 15 safety net hospitals. Because one safety net hospital (CHA) receives PHTII payments while the other 14 safety net hospitals receive SNPP payments, analysis was performed for three groupings of the hospitals: all 15 safety net hospitals (referenced as Group 1), 14 safety net hospitals not including CHA (referenced as Group 2), and CHA only (referenced as Group 3).

We present characteristics of the study population: sex, age, homeless/unstable housing status (either 3+ addresses in the year or homelessness by ICD-10 code), disability status (either a client of the Massachusetts Department of Mental Health, a client of the Department of Developmental Services, or eligible for Medicaid due to disability), DxCG Relative Risk Score (RSS), and Neighborhood Stress Score (NSS). The RSS is a summary measure of medical morbidity with the mean set to 1 in the MassHealth MCE baseline (2015-2017) population. The NSS is a composite measure of economic stress using variables identified in the Massachusetts Medicaid data. It is standardized to have mean = 0 and standard deviation = 1 in the same population.

We used multivariable regression models (e.g., logistic regression, negative binomial regression, as described in Section II.C of this report) to quantify relationships between MCE member characteristics and performance on each measure during the CY 2015-2017 baseline period. The models developed using baseline data were then used to predict expected outcomes in the absence of Demonstration activities during each year of the Demonstration for members who received care at the 15 safety net hospitals. The

[107] The original EDD indicated the use of interrupted time series (ITS) analysis for PHTII measure analysis. However, we learned that the measures are only reported on an annual rather than tri-annual basis, which does not provide enough data points to allow for the ITS analysis.

observed performance is then compared to the expected (i.e., predicted) performance in each year.

To address H2, we present, on an annual basis, uncompensated care costs for the 15 safety net hospitals. Given the limited number of data points available, we could not statistically test the hypothesis that uncompensated care costs do not increase over the evaluation period.

C. Interim Findings

CHA PHTII Measure Results

Overall, CHA has shown mixed performance on the four PHTII measure slates completed to date (***Table IV-1***). Over time, the reported measures generally showed a decrease in performance across the four measure slates. From the performance perspective, achievement of targets for Measure Slate 2 (i.e., Comprehensive Systems for Treating Mental Health and Substance Use Conditions) improved annually between FY19 and FY20, the only measure slate to do so. CHA's performance on this measure slate increased from 54% to 69% of the targeted quality goals achieved from FY19 to FY20. The other three measure slates trended slightly downwards from FY19 to FY20, based on the percent of measures within a slate that met or achieved the performance targets. Of note, the percent of measures meeting or exceeding performance target for Measure Slate 3 (i.e., Referral Management and Integrated Care Management achievement) decreased from 69% to 54% from FY19 to FY20. Similarly, the percentages for Measure Slate 2 and 3 dropped from 64% to 56% and 62% to 54%, respectively, between FY19 and FY20.

Table IV-1: CHA PHTII Measure Slate Achievement (FY19 - FY20)

Measure Slate	Measure Achievement Status	FY19	FY20
1. Behavioral Health and Primary Care Integration (N=11 Measures)	Achieved	7/11 (64%)	5/9* (56%)
2. Comprehensive Systems for Treating Mental Health and Substance Use Conditions (N=13 Measures)	Achieved	7/13 (54%)	9/13 (69%)
3. Referral Management and Integrated Care Management (N=13 Measures)	Achieved	9/13 (69%)	7/13 (54%)
4. Evidence-Based Practices for Medical Management of Chronic Conditions (N=13 Measures)	Achieved	8/13 (62%)	7/13 (54%)

Data Source: PHTII annual reporting

*Two measures in FY19 were not reported in FY20 due to the COVID-19 Pandemic.

Safety Net Hospital Quality Measure Results

Table *IV-2* describes the population characteristics of the MCE population for the 15 safety net hospitals in three groups. The three groups, across the baseline (2015-2017) and post-demonstration periods (2018, 2019), comprised: 50-60% women, with a mean age of 29 (35-38% below 18 years of age), 15-16% unstably housed or homeless, and 19-20% flagged as having a disability. The population had a DxCG Relative Risk Score (RRS), a summary measure of medical morbidity, ranging from 1.51 to 1.92 and a Neighborhood Stress Score (NSS) ranging from 0.33 to 0.56.

Table IV-2: Characteristics of Safety Net Hospital Study Managed Care Eligible (MCE) Population (CY2015-2017, 2018, and 2019)

All 15 Hospitals (Group 1)	**2015-17 N (%)**	**2018 N (%)**	**2019 N (%)**
Women	493,458 (58.2)	173,400 (57.4)	167,888 (57.6)
Age <18y	293,149 (34.6)	113,398 (37.5)	106,408 (36.5)
Homeless/Unstable Housing	124,685 (14.7)	48,095 (15.9)	43,363 (14.9)
Any Disability	166,036 (19.6)	57,436 (19.0)	57,205 (19.7)
	Mean (SD)	**Mean**	**Mean**
Age in years	28.91 (18.3)	28.81 (18.7)	29.47 (18.7)
DxCG RRS	1.51 (2.5)	1.71 (2.8)	1.92 (3.0)
NSS	0.56 (1.9)	0.33 (1.0)	0.33 (1.0)
14 Hospitals (Not including CHA) (Group 2)	**2015-17 N (%)**	**2018 N (%)**	**2019 N (%)**
Women	453,331 (58.5)	160,368 (57.7)	155,878 (57.8)
Age <18y	262,296 (33.8)	102,358 (36.8)	96,392 (35.8)
Homeless /Unstable Housing	115,640 (14.9)	45,116 (16.2)	40,725 (15.2)
Any Disability	156,057 (20.1)	54,383 (19.6)	54,319 (20.2)
	Mean (SD)	**Mean (SD)**	**Mean (SD)**
Age in years	29.12 (18.2)	29.00 (18.7)	29.67 (18.6)
DxCG RRS	1.53 (2.6)	1.74 (2.8)	1.95 (3.1)
NSS	0.62 (1.9)	0.36 (1.0)	0.35 (1.1)
CHA Only (Group 3)	**2015-17 N (%)**	**2018 N (%)**	**2019 N (%)**
Women	40,127 (55.3)	13,032 (54.2)	12,010 (54.4)
Age <18y	30,853 (42.5)	11,040 (45.9)	10,016 (45.3)
Homeless /Unstable Housing	9,045 (12.5)	2,979 (12.4)	2,638 (12.0)
Any Disability	9,979 (13.8)	3,053 (12.7)	2,886 (13.1)
	Mean (SD)	**Mean (SD)**	**Mean (SD)**
Age in years	26.62 (18.5)	26.56 (18.8)	27.08 (18.8)
DxCG RRS	1.27 (2.3)	1.37 (2.4)	1.52 (2.6)
NSS	-0.10 (1.2)	0.06 (0.6)	0.05 (0.7)

Source: Massachusetts Medicaid.
*Standard Deviation
Note: Each year includes members who are MCE for at least 320 days that year. The DxCG relative risk score is a summary measure of medical morbidity with the mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Below, we describe preliminary results of the Demonstration on safety net hospital performance in select areas. To assess H1, ***Table IV-3*** details the "Observed" and "Expected" performance of the MassHealth MCE population for three HEDIS measures from 2015 to 2019. The "Observed" category equals the calculated quality measure. The "Expected" category was computed from a regression model that accounts for member characteristics (i.e., age and sex; disability; unstably housed or homeless; and medical morbidity) during baseline (2015-2017), 2018, and 2019. An "Observed:Expected" (O:E) value is the ratio of "observed" to "expected" outcomes and varies around 1.00. When higher values of a measure are desired (e.g., a higher proportion of the population screened), a ratio of observed to predicted greater than one will suggest improved quality. When lower values of a measure are desired (e.g., readmission rates), a ratio of observed to predicted less than one will suggest improved quality.

For the Adult Access to Preventive/Ambulatory Health Services measure, with a higher measure value suggesting better performance, the O:E ratios for all three groups of hospitals were lower than 1.00 in 2018 and *further decreased in* 2019, suggesting a trend of declines in performance from baseline. The ratios were all 0.98 for the three groups of hospitals in 2018. In 2019, Groups 1 and 2 hospitals' ratios were 0.92, and Group 3 (CHA) 's ratio was 0.98.

For the Initiation of Alcohol, Opioid or Other Drug Abuse or Dependence Treatment measure, with a higher measure value suggesting better performance, the performance is trending downwards over time. Groups 1 and 2 had lower than expected initiation rates for 2018 (0.95 and 0.94, respectively). But for Group 3 (CHA only), the ratio showed slightly higher than expected initiation rates (O:E: 1.02) in 2018, though its initiation rate was below expected in 2019 (O:E: 0.91).

For the Engagement of Alcohol, Opioid or Other Drug Abuse or Dependence Treatment, with a higher measure value suggesting better performance, the rates of the three groups moved in a direction similar to the initiation of treatment measure. Groups 1 and 2 had lower than expected engagement rates in 2018 and 2019 (Group 1 O:E: 0.98 and 0.86 in 2018 and 2019, respectively; O:E: 0.97 and 0.85 for Group 2 in 2018 and 2019, respectively). CHA had a modest increase in engagement rate in 2018 (O:E: 1.01); however, its O:E ratio decreased to 0.91 in 2019.

Table IV-3: Observed vs. Expected Ratio of Select HEDIS Measure Performance Among Managed Care Eligible Members in Safety Net Hospitals (CY2015-2017, 2018, and 2019)

Adult Access to Preventive/Ambulatory Health Services	(Higher Measure Values More Desirable)		
Observed:Expected (O:E) Ratio	**CY2015-17 Baseline**	**CY2018**	**CY2019**
Group 1: 15 Safety Net Hospitals	1.00	0.98	0.92
Group 2: 14 Safety Net Hospitals	1.00	0.98	0.92
Group 3: CHA Only	1.00	0.98	0.98
Initiation of Alcohol, Opioid or Other Drug Abuse or Dependence Treatment	(Higher Measure Values More Desirable)		
Observed:Expected (O:E) Ratio	**C2016-17***	**CY2018**	**CY2019**
Group 1: 15 Safety Net Hospitals	1.00	0.95	0.93
Group 2: 14 Safety Net Hospitals	1.00	0.94	0.93
Group 3: CHA Only	1.00	1.02	0.91
Engagement of Alcohol, Opioid or Other Drug Abuse or Dependence Treatment	(Higher Measure Values More Desirable)		
Observed:Expected (O:E) Ratio	**CY2016-17***	**CY2018**	**CY2019**
Group 1: 15 Safety Net Hospitals	1.00	0.98	0.86
Group 2: 14 Safety Net Hospitals	1.00	0.97	0.85
Group 3: CHA Only	1.00	1.01	0.91

*Excluded 2015 data for this measure because of a data issue

Note: Each year includes members who are managed care eligible for at least 320 days that year.

Legend:	More Desirable Performance Compared to Baseline	Less Desirable Performance Compared to Baseline

Table IV-4 below presents the results of other select quality measures related to emergency department visits and hospital admissions; see Appendix I for detailed measure descriptions. For all of these measures, the lower the measure values, the more desirable the performance is. Therefore, an O:E ratio lower than 1.00 indicates improved quality.

Overall, results from the three groups are mixed, though performance improved in a few areas over time. Group 1 (all 15 hospitals) has better than expected performance on three of the four hospitalization measures (O:E ratios <1.0), and the reduction in hospital admission rate was remarkable and substantial, with six out of eight O:E ratios in 2018 and 2019 lower than 0.8 (range of 0.60-0.95 in 2018 and 0.46-0.94 in 2019). In particular, Group 1 has lower than expected rates of hospitalizations for acute and chronic ambulatory care sensitive conditions (ACSCs) and admissions for pediatric asthma. The acute unplanned hospital admissions rate among the overall population is

also lower than, but close to, 1.00. On the other hand, for Group 1, the ED visits (overall, for primary care sensitive conditions and adults with SMI/SUD) have higher than expected rates and thus lower than desired performance, though each decreased slightly between 2018 and 2019. The overall patterns of findings are consistent between Groups 1 and 2 hospitals.

Group 3's (CHA) performance in ED visits and hospital admissions is very mixed. For the measure of ED visit among adults with SMI/SUD, different from other safety net hospitals, CHA showed improvement in reducing the rate of ED visits (O:E: 0.96 in 2018; O:E: 0.93 in 2019) and modest improvement in ED visits among the overall population in 2019 (O:E: 0.99 in 2019). For the hospital admission measures, CHA did not have a consistent reduction in both ED visits and hospital admission measures. Although the rates of acute unplanned hospital admission for the overall population also reduced in 2018 and 2019 (O:E: 0.83 in 2018; O:E: 0.94 in 2019), the other hospital admission measures either cannot be calculated due to small numerators – particularly in 2018 - or have a large span (e.g., O:E ratios from 0.40 to 1.44).

When looking at the 14 safety net hospitals in Group 2 versus CHA alone, in Group 3, there are differences in the results. The Group 2 hospitals collectively show slight increases in ED visits for primary care sensitive conditions but have achieved remarkable and sustained reductions in admissions for acute and chronic ambulatory-care sensitive conditions measures (acute admissions decreased from 0.85 to 0.67, chronic admissions decreased from 0.68 to 0.43). Conversely, CHA shows significant improvements in admission for chronic ACS conditions but comparatively much worse performance with indicators of both child and adult acute ambulatory-care sensitive conditions. Despite the performance differences between Groups 2 and 3, it appears that CHA's performance doesn't have a significant influence on the overall performance of Group 1, the combined 15 safety net hospitals.

Table IV-4: Observed to Expected Ratios for ED Visit and Hospital Admission Measures Among Managed Care Eligible Members in Safety Net Hospitals (CY2015-2017, 2018, and 2019)

Measure and Population	2015-17 Baseline	2018	2019
(Lower Measure Values More Desirable)	O:E Ratio	O:E Ratio	O:E Ratio
Group 1 (15 Safety Net Hospitals)			
ED Visits (Overall)	1.00	1.08	1.05
ED Visits: Primary Care Sensitive (Overall)	1.00	1.10	1.03
ED Visits for Adults with SMI/SUD	1.00	1.03	0.98
Hospital Admissions: Acute Unplanned (Overall)	1.00	0.95	0.94
Hospital Admissions: Acute Ambulatory Care Sensitive Conditions (ACSCS) (Adults)	1.00	0.80	0.71
Hospital Admissions: Chronic Ambulatory Care Sensitive Conditions (ACSCS) (Adults)	1.00	0.66	0.46
Hospital Admissions: Asthma (Children)	1.00	0.60	0.51
Group 2 (14 Safety Net Hospitals)			
ED Visits (Overall)	1.00	1.09	1.05
ED Visits: Primary Care Sensitive (Overall)	1.00	1.10	1.03
ED Visits for Adults with SMI/SUD	1.00	1.03	0.99
Hospital Admissions: Acute Unplanned (Overall)	1.00	0.95	0.93
Hospital Admissions: Acute Ambulatory Care Sensitive Conditions (ACSCS) (Adults)	1.00	0.85	0.67
Hospital Admissions: Chronic Ambulatory Care Sensitive Conditions (ACSCS) (Adults)	1.00	0.68	0.43
Hospital Admissions: Asthma (Children)	1.00	0.57	0.48
Group 3 (CHA Only)			
ED Visits (Overall)	1.00	1.01	0.99
ED Visits: Primary Care Sensitive (Overall)	1.00	1.06	1.03
ED Visits for Adults with SMI/SUD	1.00	0.96	0.93
Hospital Admissions: Acute Unplanned (Overall)	1.00	0.83	0.94
Hospital Admissions: Acute Ambulatory Care Sensitive Conditions (ACSCS) (Adults)	1.00	N/A*	1.44
Hospital Admissions: Chronic Ambulatory Care Sensitive Conditions (ACSCS) (Adults)	1.00	N/A*	0.40
Hospital Admissions: Asthma (Children)	1.00	1.97	1.34

Legend:	More Desirable Performance Compared to Baseline	Less Desirable Performance Compared to Baseline

*N's were too low to run analyses.
Note: Each year includes members who are managed care eligible for at least 320 days that year.

Safety Net Hospital Supplemental Payments and Uncompensated Care Spending

Table IV-5 describes the "available room under cost limit" data from the UCCR report. The numbers in the table represent the difference between total claimed costs and total claimed revenue, available from Schedule H of the UCCR report. The last three

columns of the table indicate the direction of the uncompensated care cost limit, with the "+" indicating an increase between years and "-"indicating a decrease between years.

The table shows mixed results of whether uncompensated care costs have reduced during the Demonstration. Five safety net hospitals had consistent increases in uncompensated costs from FY17 to FY19: Baystate Medical Center, Berkshire Medical Center, Signature Healthcare-Brockton Hospital, Steward Carney Hospital, and Steward Good Samaritan Medical Center. Two hospitals show a consistent reduction in costs in that period: Boston Medical Center and North Shore Medical Center. The remaining seven hospitals have mixed directions of changes in uncompensated care costs from year to year.

Based on the UCCR report, the total uncompensated care costs across all safety net hospitals have reduced from FY17 to FY18 and had a small rebound in FY19. Compared to FY17, eight hospitals had increased costs in FY18, and nine had increase costs in FY19. These suggest more individual hospital systems are struggling, and, certainly, there was no evidence of a positive trend of cost reduction consistently over time across systems. In addition, some of these increases were significant: costs for Lawrence General Hospital more than doubled between FY18 and FY19; costs rose by $19.4 million at Mercy Medical Center from FY17 to FY18; and costs at Signature Healthcare-Brockton Hospital increased by $12.2 million from FY17 to FY19. The large swings in costs may suggest something else is operating in the background (e.g., change in contract, patient volume) that limits our capability to attribute the change to the SNPP payment. So, the results need to be considered with great caution. Conversely, from FY17 to FY19, Boston Medical Center decreased its costs by $81.2 million, and Tufts Medical Center decreased costs by $35.4 million.

Table IV-5: Total Uncompensated Care Available Room Under Cost Limit*

Hospital	FY16	FY17	FY18	FY19	FY17 vs. FY18	FY18 vs. FY19	FY17 vs. FY19
Baystate Franklin Medical Center	$8,524,286	$8,684,799	$8,504,025	$9,208,534	-	+	+
Baystate Medical Center	$90,388,967	$82,971,835	$90,204,778	$95,317,716	+	+	+
Berkshire Medical Center	$20,513,962	$21,676,649	$25,443,782	$34,409,041	+	+	+
Boston Medical Center	$184,156,216	$187,165,508	$107,930,474	$105,960,317	-	-	-
Holyoke Medical Center	$9,190,486	$9,614,180	$12,754,852	$12,399,116	+	-	+
Lawrence General Hospital	$24,245,171	$27,176,303	$16,492,015	$33,853,425	-	+	+
Mercy Medical Center	$49,298,458	$24,020,379	$43,422,892	$21,810,200	+	-	-
North Shore Medical Center	$41,935,792	$57,023,887	$40,263,673	$26,169,287	-	-	-
Signature Healthcare-Brockton Hospital	$33,327,727	$22,644,963	$30,305,666	$34,877,439	+	+	+
Southcoast Hospital Group	$17,481,688	$6,717,277	$9,673,875	$8,160,446	+	-	+
Steward Carney Hospital	$19,116,505	$20,616,897	$22,293,025	$23,279,295	+	+	+
Steward Good Samaritan Medical Ctr	$6,442,437	$7,630,944	$7,631,188	$11,819,124	+	+	+
Steward Morton Hospital	$6,410,575	$4,886,150	$4,703,411	$7,105,942	-	+	+
Tufts Medical Center	$94,501,941	$86,849,855	$46,431,810	$51,387,003	-	+	-
Total among 14 hospitals	**$605,534,211**	**$567,679,626**	**$466,055,466**	**$475,756,885**	**-**	**+**	**-**

Source: UCCR Reports (Schedule H), MassHealth
*Difference Between Total Costs and Total Revenue

D. Discussion

1. Interpretation

The preliminary results presented above appear to show that, so far, the impact of safety net funding investments on Massachusetts safety net hospitals' quality performance and financial sustainability has been mixed. With an increasing proportion of SNCP payment at risk for safety net hospitals, providers were making efforts to improve their performance; but it might be too early to see broad impacts over time. Also, uncompensated care costs have not consistently reduced as anticipated.

Goal 4 H1 Result Interpretation

CHA showed some quality improvement in PHTII measurement areas, as indicated by the percentage of measures in which CHA met or exceeded performance. First, CHA reached or exceeded performance benchmarks for more than half of the 50 metrics in all four measurement slate areas in FY18 and FY19. Second, CHA consistently improved treatment of mental health and substance use conditions from FY19 to FY20. However, the trend of improvement from FY19 to FY20 did not hold in the other three measure slate areas.

In addition to PHTII measure performance, CHA initially showed rising initiation and engagement rates of – or improved performance in - the *Alcohol, Opioids, or Other Drug Abuse or Dependence Treatment* DSRIP measure in 2018; however, this trend did not hold in 2019. The reversed trend may correlate with reduced PHTII funding and warrants further examination. More positively, CHA has reduced *ED Visits for Adults with SMI/SUD* and *Acute Unplanned Hospital Admissions* for the overall population in 2018 and 2019. Although we cannot attribute performance changes entirely to the Demonstration because of the lack of a comparison group, these results are early indicators of how substantial PHTII payments to CHA and a risk-based payment format may be associated with overall quality improvement efforts and positive outcomes in these areas. In addition, CHA had very large increases in risk-adjusted rates of hospital admissions for acute ambulatory care sensitive conditions in both children and adults.

Even with some success in a limited number of performance areas, CHA appears to have yet to develop adequate pathways for early intervention to prevent hospital admissions, perhaps because it has focused quality improvement efforts in these limited areas.

With the potential for reductions in payments over time, if risk-based performance benchmarks are not met, CHA may have prioritized its quality improvement efforts and devoted more attention to SUD areas. Or, its performance in SUD areas may echo a national priority among payers and providers to combat opioids overdose and other substance use problems during our evaluation period. Spillover efforts of other SUD-related initiatives also may have contributed to CHA's performance in the SUD area. Financially, not being able to reduce hospital admission rates for children and adults may not lead CHA to achieve a good return on investment in these quality improvement initiatives. Qualitative research (e.g., interviews) that probes this area with CHA and other safety net hospitals would confirm and help better understand the extent to which this occurred.

The other 14 safety net hospitals had more positive performance improvement results, as compared to CHA. While they had slightly deteriorating performance in the rates of initiation and engagement in treatment for alcohol, opioids, and other drug abuse or dependence treatment, they had slight increases in rates of ED visits. More importantly, the non-CHA hospitals, collectively, showed substantial and sustained observed performance improvement in hospital admission measures compared to their expected

performance. These measures include acute unplanned hospital admissions, acute ACSCS hospital admission for adults, chronic ACSCS hospital admission for adults, and asthma-related hospital admissions for children. This may suggest that these hospitals, as a whole, have focused their energies on the health events that are most costly. It will be useful to explore the quality improvement outcomes at the individual hospital level to better understand what is driving performance improvement. In addition, engaging with individual hospitals which perform like CHA to understand how specific quality improvement strategies have impacted their performance in various areas would broaden the knowledge base of this area. It is important to note that CHA receives funding from different sources and is held accountable for a larger number of performance measures than the other 14 safety net hospitals. While that means CHA is not directly comparable to the other 14 hospitals, important lessons could be learned from additional analyses.

Sustained success in metric achievement may require more time and resources if measures require complex organizational changes. It is possible that some emerging successes in quality improvement can be maintained only when a consistent level of investment relative to the initial success is continued for an extended period until business processes or clinical practices have been improved or innovated sufficiently to generate sustainable positive outcomes. Also, when there are many measures to demonstrate improvement, safety net hospitals may not have sufficient resources to devote to addressing all measures and may prioritize some measures over others. Lastly, changing patient population needs may have a yet unknown or addressed impact on metric success.

Goal 4 H2 Result Interpretation

For H2, a reduction in total supplemental payments provided through the SNCP over time may have led to initiatives that ultimately reduced the total aggregate uncompensated care cost among all safety net hospitals since FY17. However, this observed reduction has not appeared to bring forth a stable or reduced amount of uncompensated care costs for most safety net hospitals. In fact, more hospitals appear to have had increases in uncompensated care costs over the brief observation period. Changes in uncompensated care cost may be related more to changes in patient volume, contracts, populations served, and associated health care risks, which needs to be further investigated. This reduction of cost is also reflective of safety net hospitals' ability to reduce the costs of caring for the under- and uninsured in their population. Whether the changes were due to changes in organizational systems, patient demographics, care processes, population, health insurance access, or other factors is unknown and will require further investigation.

Overall, more detailed analyses, including more years of data, and a better understanding of co-occurring changes mentioned above, will be needed to understand the Demonstration's impact on safety net hospital performance in quality and financial sustainability.

2. Study Limitations

The current analyses have a couple of significant limitations. First, the analyses do not have a comparison group. The observed to expected ratio can indicate the quality improvement among safety net hospitals. However, without a comparison group, we cannot rule out the potential bias of these findings due to other confounders not measured here, such as time and secular trends of the results due to unmeasured changes in patient populations, patterns of health care utilization, competing or reinforcing initiatives on performance, and other factors. We also cannot fully control for other competing or reinforcing initiatives that may impact safety net hospital performance.

Second, the quality measure analyses of SNPP included only MCE members, and the results do not fully represent the complete performance of these safety net hospitals for other MassHealth members (e.g., those in the Fee-For-Service population, including those fee-for-service members enrolled in both Medicaid and Medicare). However, we do not anticipate the results of FFS to be much different. We will explore data completeness for other potential MassHealth members to consider for inclusion in the final summative report.

Third, as indicated in the EDD, we had planned to use an interrupted time series (ITS) design to estimate what PHTII measure achievement would have been in the absence of the Demonstration based on trends during the period before the Demonstration period. The design is widely used and considered one of the strongest quasi-experimental designs as it compares trends over time rather than data from single time points. However, CHA formally reports on their metric achievement only once annually to fulfill programmatic requirements; tri-annual data points are not available as we described in the EDD. Thus, we do not have multiple data points per year necessary to conduct ITS for CHA, which impacts whether we can draw stronger conclusions regarding the impact of the PHTII's investment on quality improvement. We do not have individual-level data to determine whether the characteristics of each measure's denominator population, which vary due to the different data sources, have changed over time.

Fourth, we noticed that the change in uncompensated care for safety net hospitals recorded in UCCR reports from FY16 to FY19 showed different trends than a preliminary analysis of the difference in uncompensated care costs recorded in Medicare S-10 reports between FY14 and FY19. In addition, we would note that uncompensated care costs recorded in the UCCR increased from FY18 to FY19. We will review all available data sources, including time periods after FY19, to inform a comprehensive view of cost trends in hospitals to be included in the Summative Evaluation Report.

3. Policy Implications and Interactions with Other State Initiatives

The risk-based payment method for safety net hospitals shows emerging evidence that it is a viable method for incentivizing providers to advance the quality of care. However, the anticipated improvements in quality have not been consistent across all types of providers and have not been steady over time. More initial investment funding may allow for greater opportunities for quality improvement in the subsequent years of the Demonstration period. We have observed increased performance on more measures at the non-CHA hospitals as compared to CHA. It is possible that desired quality improvement requires additional time and resources for new quality improvement initiatives to be developed, implemented, and subsequently change care processes, utilization patterns, and member outcomes.

The decline in performance in a few areas (e.g., Adult Access to Preventive/Ambulatory Health Services, Initiation and Engagement Rates of Alcohol and Other Drug Treatment), although not substantial, may imply that the reduced payments could have negative implications for quality performance. Safety net hospitals, like other providers, are facing increasing demand in behavioral health, care for mental health and substance use disorder conditions, and care coordination associated with Medicaid populations, where reimbursement is lower than for Medicare and commercial insurers. Even with more payment and resources available under the Demonstration, safety net providers may be addressing many competing priorities. If quality measure performance consistently declines in the years following a decrease in supplemental funds, there may be advantages to testing an approach of stabilized risk-based payment. That is, instead of a consistent reduction in risk-based payments every year, the proportion of funds at risk-based remains stable for a number of years until a provider shows steady achievements in targets. If there is evidence of sustained success, the reduction of payment can be restarted.

Aligning policy directions appears to give added value to quality improvement initiatives. For example, emerging evidence of quality improvement in substance use disorder treatment could be related to the additional impact from the SUD waiver policy as discussed in Goal 5.

Over the first three years of the Demonstration period, there are simultaneous impacts of multiple initiatives that have had significant positive quality impacts in other environments. These initiatives would confound the impact of the SNCP payment on safety net hospital quality performance. For example, before the current Massachusetts Demonstration period began in July 2017, prior Medicaid expansion has been shown to have a significant favorable financial impact on safety net hospitals in states that did

expand, compared to states that did not, including improved operating margins.[108] Integrating primary care and addressing patients' nonmedical needs have been shown to be important for the success of delivery system transformation, as has technological innovation to improve organizational interoperability and clinical integration.[109] Some of these initiatives were already ongoing before the start of the current Demonstration period.

4. Lessons Learned and Recommendations

The analytical methods utilized with this data are not enough for definitively predicting outcomes, particularly since equitable comparison groups are not available. Continued analysis of these data over a longer timeframe will give a better indication of the sustainability of quality improvement trends.

As Massachusetts and other states continue to move towards incentive- or risk-based payments, and supplemental payments are decreasing over the Demonstration period, it will be important to assure that safety net hospitals are able to maintain their ability to improve care and provide for their patients. Safety net hospitals are facing added complexity in quality improvement efforts amid constant delivery system and payment reforms from multiple payers with competing priorities. Additional research is needed to determine whether sustained resources are needed to maintain performance improvements over time and to better understand why some hospital systems perform differently. Although not proposed in the EDD, it will be desirable for the evaluator to collect additional qualitative data from safety net hospitals to better understand why the observed associations of the Demonstration with quality improvement have been mixed to date and to verify our interpretation of the findings.

[108] The Commonwealth Fund, Allen Dobson et al. Comparing the Affordable Care Act's Financial Impact on Safety Net Hospitals in States that Expanded Medicaid and Those That Did Not. 2017.
[109] Felland, L, Cunningham, P, Doubleay,A, Warren, C. Mathematica for US Dept of HHS. Effects of the ACA on Safety Net Hospitals. 2016. Available at: https://aspe.hhs.gov/system/files/pdf/255491/SafetyNetHospital.pdf

V. Demonstration Goal 5: Address the opioid addiction crisis by expanding access to a broad spectrum of recovery-oriented substance use disorder service

A. Background

The toll of opioid use disorder (OUD) on people and communities in the U.S. reached epidemic proportions by 2015, the beginning of the baseline period of the current Demonstration period. In 2015 alone, there were over 33,000 opioid overdose deaths in the country.[110] In addition to the loss of life, the toll of OUD on quality of life and the economy is enormous. The Council of Economic Advisors estimates the opioid crisis cost over $500 billion in 2015.[111] The Medicaid population is disproportionately affected by the opioid epidemic, with studies citing over 4-fold increased risk of OUD in the Medicaid-insured relative to the commercially-insured population.[112] Massachusetts has been deeply affected by the crisis, with 1,500 opioid overdose deaths in the state in 2015, rising to nearly 2,000 in more recent years.[113] The Massachusetts Department of Public Health reports that 2,104 deaths were reported for 2020, slightly above the previous peak of 2,102 in 2016.[114] Treatment for OUD, particularly medications and also behavioral counseling, case management, and peer support, has been demonstrated to effectively reduce overdoses.[115] Studies have shown that state-based initiatives show promising results for addressing the opioid epidemic. For example, Hinde et al. (2019) illustrated that states with Medicaid expansion, Section 1115 Demonstration waivers, and a state-targeted response to the opioid crisis had significant leverage in expanding access to and financing of medication-assisted treatment.[116] The current Demonstration implements activities that aim to address the opioid crisis by expanding access to recovery-oriented substance use disorder (SUD) services in the Massachusetts Medicaid population.

With the implementation of the Demonstration, MassHealth covered a wider array of SUD services. The Demonstration now gives MassHealth expenditure authority for

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[113] National Institute for Drug Abuse. Massachusetts: Opioid-Involved Deaths and Related Harms. Available at: https://www.drugabuse.gov/drug-topics/opioids/opioid-summaries-by-state/massachusetts-opioid-involved-deaths-related-harms

[114] See DPH Press Release: Opiod-related Overdose Deaths Rose by 5 Percent in 2020. Available at: https://www.mass.gov/news/opioid-related-overdose-deaths-rose-by-5-percent-in-2020

[115] Patel K, Bunachita S, Agarwal AA, Lyon A, Patel UK. Opioid Use Disorder: Treatments and Barriers. Cureus. 2021 Feb 6;13(2):e13173. doi: 10.7759/cureus.13173. PMID: 33717718; PMCID: PMC7938868.

[116] Hinde, J. M., Mark, T. L., Fuller, L., Dey, J., & Hayes, J. (2019). Increasing access to opioid use disorder treatment: assessing state policies and the evidence behind them. *Journal of studies on alcohol and drugs*, *80*(6), 693-697.

residential rehabilitation services (RRS) ASAM Level 3.1, clinically managed low-intensity residential rehabilitation services, and ASAM 3.3 services, specialized 24-hour treatment services to meet more complex needs for SUD, which were previously reimbursed at state cost by the MA Department of Public Health's Bureau of Addiction Services. Additionally, recovery support navigation services and peer recovery coaching were implemented as new MassHealth benefits.. RRS provide a therapeutic milieu with clinical programming and opportunities to reintegrate into the community in a 24-hour treatment setting. Recover support navigator services provide an individual with a SUD with a navigator to develop and monitor a recovery plan in conjunction with the member. Recovery coach services provide an individual with SUD with a person with SUD lived experience to serve as a recovery guide and role model, providing nonjudgmental problem solving and advocacy to help members meet their recovery goals. These activities mirror those occurring in other states, where numerous changes have been enacted to improve access to and availability of services for SUD through the CMS SUD demonstration program.
These activities mirror those occurring in other states, where numerous changes have been enacted to improve access to and availability of services for SUD through the CMS SUD demonstration program.

Coverage residential rehabilitation services (RRS) ASAM Level 3.1 services, recovery support navigators, and recovery coaches were implemented by MassHealth in a phased approach, starting in March 2018. At all times, members continued to have access to the services, as provided through BSAS. Details of the implementation phases are presented below:

RRS ASAM 3.1 Phase 1 implemented Coverage for FFS, members enrolled in 'MassHealth's Behavioral Health vendor and SCO plans.
Recovery Support Navigator/Recovery Coach Phase 1 was implemented for members enrolled in MassHealth's Behavioral Health vendor (including PCC Plan and Primary Care ACO enrollees) and managed care organizations (including Accountable Care Partnership Plan enrollees).
RRS ASAM 3.1 Phase 2 was implemented for members enrolled in all other MCOs, Accountable Care Partnership Plans, and One Care. New 3.1 Co-occurring enhanced beds start coming online.
Recovery Support Navigator/Recovery Coach Phase 2 was implemented for One Care and MassHealth Fee-For-Service members.

ASAM 3.3 services were not yet implemented at the time of the interim evaluation.

B. Research Question and Study Design

Under Goal 5, we examine one research question and seven hypotheses:

Research Question: **What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?**

H1. The Demonstration will increase rates of identification, initiation, and engagement in treatment among individuals with SUD relative to trends prior to the current Demonstration period.

H2. The Demonstration will improve adherence to treatment among individuals with any SUD diagnosis (including, in particular, opioid use disorder (OUD) diagnosis) relative to trends prior to the current Demonstration period.

H3. The Demonstration will reduce nonfatal overdoses and overdose deaths, particularly those due to opioids, relative to trends prior to the current Demonstration period.

H4. The Demonstration will reduce utilization of emergency department and inpatient hospital settings and overall healthcare costs among individuals with any SUD-related diagnosis and with OUD diagnosis.

H5. The Demonstration will result in fewer readmissions to the same or higher level of care relative to trends prior to the current Demonstration period.

H6. The Demonstration will result in improved access to care for comorbid physical and mental health conditions among individuals with any SUD diagnosis, including OUD diagnoses, relative to trends prior to the current Demonstration period.

H7. The Return on Investment (ROI) will support the continuation of SUD Demonstration activities

Study Design: We employ a quasi-experimental interrupted time series (ITS) approach to compare trends in care quality measures, healthcare utilization, and outcomes pre- to post-implementation of expanded SUD services. In analyses for the final summative report, we will also examine healthcare costs and use a repeated cross-sectional design to compare trends in opioid overdoses and opioid deaths in Massachusetts to the rest of the nation.

Study Period: For the Goal 5 interim analysis, the baseline period is Jan 1, 2015, through Jun 30, 2018, and the implementation period Jul 1, 2018, the date by which ASAM 3.1 services, recovery coach, and recovery support navigator services were covered for the majority of MassHealth members, through the end of C2019. Data through 2022 will be included in the final summative report.

Data Sources:

1) *MassHealth administrative data*: The primary data source used to address hypotheses is the MassHealth Medicaid Management Information Systems (MMIS) enrollment, medical claims/encounter files, and pharmacy claims files.

2) *Massachusetts death records:* To evaluate hypothesis H3 (the Demonstration will reduce overdose deaths), MMIS enrollment data were linked to Massachusetts Death records, held by the Massachusetts Registry of Vital Records and Statistics, 2015-2019.

3) *Supplemental data sources*: BSAS Program data and Public Health Data Warehouse were not available for inclusion in the interim report and will be included in the final summative report if available. *The CDC Wide-ranging Online Data for Epidemiologic Research (WONDER) database* will be used to compare trends in fatal overdoses in Massachusetts to the rest of the nation. Details about these data sets are available in the Evaluation Design document, available at: https://www.mass.gov/service-details/1115-masshealth-demonstration-waiver.

Study Population: The study population consists of MassHealth members (excluding MassHealth Limited members) with a SUD diagnosis, including alcohol or other drugs, but excluding tobacco, as services evaluated are not necessarily clinically appropriate for tobacco use disorder. Members are identified as having a SUD if they have an ICD-9/ICD-10 SUD diagnosis code on two or more medical claims/encounters, in any position, excluding lab services, from one year prior to and one year post- the evaluation quarter or year (see Appendix J for codes). Given that SUD is often underdiagnosed, sensitivity analyses will be performed in the final summative report to identify members with SUD using one or more ICD-9/10 codes for SUD in any position throughout the entire evaluation period. For selected measures, members with an OUD diagnosis and all MassHealth members are evaluated.

Comparison Group: Because the expansion of services is implemented statewide for all MassHealth members, a clear comparison group, that is, one that will estimate evaluation measures in the absence of the Demonstration activities, does not exist. Instead, we use an ITS approach to compare trends in outcomes during the calendar quarters prior to the implementation period to trends in outcomes observed during the implementation period. The design is widely used and is considered one of the strongest quasi-experimental designs. Estimates of what the evaluation measures would have been in the absence of the Demonstration can be estimated based on trends during the period prior to the Demonstration period. We acknowledge limitations to this approach--specifically, that we will not be able to adequately account for external factors at the local, state, and national level, as discussed in more detail in the Discussion section. To partially address this concern, in the final summative report, we

will compare Massachusetts trends in the number of fatal overdoses per resident to trends in the other 49 states. These analyses were not included in the interim report as we currently have national data only through 2018, which does not allow sufficient post-implementation observation. We will also attempt to identify a comparison group state or states similar to Massachusetts in baseline availability of substance use treatment facilities, but who do not expand treatment services over the Demonstration period, to compare outcomes (e.g., opioid overdoses and overdose deaths) to Massachusetts using a difference-in-differences approach. Potential states are New York and Oregon. We understand, however, that this exercise may not be feasible, given the ever-evolving initiatives to address the opioid crisis. These analyses will help our understanding of the effect of Massachusetts-specific initiatives over the Demonstration period in reducing overdoses. We discuss these limitations in more detail in the limitations section.

Measures: Outcome measures were identified in the MassHealth claims/encounter data along with Massachusetts death records, using ICD9/10, CPT, revenue, and NDC codes, as appropriate. Measures align with those listed in the November 2017 State Medicaid Director's letter SMD#17-003. Details are provided in Appendix J. Where possible, measures were calculated for each calendar quarter during the evaluation period. Some NQF measures were calculated on an annual basis to align with the measure specifications. Several measures were not calculated for the interim analysis:

- Inpatient Withdrawal Management: not calculated due to delays in identifying plan-specific codes for this service.
- ASAM level 3.3: not calculated as a separate measure, as MassHealth had not yet implemented these services during the evaluation period
- Healthcare costs: not calculated for interim analysis because the economic impact of expanding services is better examined over a longer horizon.
- Return on Investment: not calculated for interim analysis because the economic impact of expanding services is better examined over a longer horizon.
- 30-day and 90-day readmission rates to the same level of care or higher following admission to inpatient hospitalization or 24-hour diversionary services for any SUD diagnosis and OUD diagnosis/members with SUD admitted inpatient hospitalization or 24-hour diversionary services: not calculated due to delays in identifying plan-specific HCPCS/revenue codes for inpatient withdrawal management.

Details of measures are provided in Table 5.2 and Appendix K.

Data Analysis: Member characteristics, including substance use diagnoses and other clinical and demographic characteristics during the baseline period, are described. To evaluate hypotheses, we calculate measures among members each calendar quarter or year, as available, from 2015 to 2019.

Descriptive statistics for each quarter, including counts, percentages, means, or medians, as appropriate, are presented. For measures for which quarterly estimates are available through 2019, an ITS approach was used to evaluate changes in evaluation

measures over time. In the interim analysis, unadjusted segmented regression analysis, using generalized estimating equations assuming a Poisson or binomial distribution, as appropriate, were used to evaluate the change in trend prior to and after the implementation period of Goal 5 activities (July 2018). For the interim analysis we chose July 2018 as the start date to evaluate as the implementation time rather than March 2018, when the phased implementation began, because services were implemented for only a portion of members in March, and took some time to ramp up. By July, services were covered for most members, although we recognize that this demarcation may not allow for the ramp-up to implement service expansion fully or identify possible seasonal effects, and will attribute any changes during March – June 2018 period to the baseline period. We will evaluate lag times and seasonality in the analyses, as well as evaluate more closely different phases of implementation, along with initiation of other activities (ACO implementation, community partners) that may have affected SUD services and outcomes prior to implementation of Goal 5 activities, in the final summative report.

Results of the ITS are presented in tabular format in Appendix K. The estimate for the parameter *time (quarter)* represents the trend during the baseline period. The estimate for the parameter *Jul-Sep 2018* represents the change in the estimate during this calendar quarter relative to the previous period. The estimate *time (quarter) post-Jul-Sep 2018* represents the change in trend in the post-implementation period relative to the pre-implementation period. A p-value < 0.05 associated with this estimate indicates that the post-implementation trend is statistically different from the trend in the pre-implementation period.

More detailed models may evaluate trends between the various phases of implementation and after implementation (including lag periods if warranted to allow for the full effect of the implementation to occur) in the summative report. Analyses will be conducted adjusting for differences in the risk profile of MassHealth members with SUD over time and may adjust for seasonality and outliers. Subgroup analyses will also be performed by geographic region and member risk profiles. Cost analyses, which will be included in the summative report, are specified in more detail in the Evaluation Design Document. Where feasible, outcomes for established quality measures will also be compared to national benchmarks.

Measures, data sources, and analytic approaches used to address each evaluation hypothesis are presented in ***Table V-1***. Details of measure construction are presented in Appendix J.

Table V-1: Goal 5 summary of research questions, hypotheses, measures, data source, and analytic approach.

Research Question	Evaluation Hypothesis	Measure [Reported for each Demonstration quarter or year]	Data Source	Analytic Approach- interim report
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H1. The Demonstration increases rates of identification, initiation, and engagement in treatment among individuals with SUD.	NQF # 0004 Initiation and engagement of alcohol and other drug dependence treatment/members with SUD *Note: yearly estimates calculated*	MMIS claims/ encounter data	Descriptive statistics
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H2. The Demonstration improves adherence to treatment among individuals with any SUD diagnosis and with OUD diagnosis.	NQF 3175: Continuity of Pharmacotherapy for OUD/ members receiving MAT *Note: yearly estimates calculated*	MMIS claims/ encounter data	Descriptive statistics
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H2. The Demonstration improves adherence to treatment among individuals with any SUD diagnosis and with OUD diagnosis	NQF #2605: Follow-Up after Discharge from the ED for Mental Health or Alcohol or Other Drug Use Dependence/members with SUD	MMIS claims/ encounter data	Descriptive statistics; Interrupted time series approach - segmented regression
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H2. The Demonstration improves adherence to treatment among individuals with any SUD diagnosis and with OUD diagnosis	Percentage of members with any SUD /OUD diagnosis who used the following per quarter: • Outpatient SUD services • Structured Outpatient Addiction Program ASAM level 2.1) • Medication for OUD • RSS (ASAM Level 3.1) • *ASAM level 3.3 Note: not evaluated separately, as this level of care had not yet been implemented* • Clinical stabilization services (ASAM Level 3.5) • Acute Treatment Services (ASAM Level 3.7)	MMIS claims/ encounter data	Descriptive statistics; Interrupted time series approach - segmented regression

Research Question	Evaluation Hypothesis	Measure [Reported for each Demonstration quarter or year]	Data Source	Analytic Approach-interim report
		• *Inpatient Withdrawal Management Note: not calculated for the interim report* • Outpatient withdrawal management • Recovery Coach • Recovery Support Navigator		
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H3. The Demonstration reduces nonfatal overdoses and overdose deaths, particularly those due to opioids, relative to trends prior to the current Demonstration period.	NQF#2940: Use of opioids at high dosage in persons without cancer / MassHealth members *Note: yearly estimates calculated*	MMIS claims/ encounter data	Descriptive statistics
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H3. The Demonstration reduces nonfatal overdoses and overdose deaths, particularly those due to opioids, relative to trends prior to the current Demonstration period.	Non-fatal ODs, overall and opioid related / MassHealth members	MMIS claims/ encounter data; (Chapter 55 data)	Descriptive statistics; Interrupted time series approach - segmented regression
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H3. The Demonstration reduces nonfatal overdoses and overdose deaths, particularly those due to opioids, relative to trends prior to the current Demonstration period.	OD deaths, overall and opioid-related /MassHealth members	MMIS claims/ encounter data; Massachusetts death records	Descriptive statistics; Interrupted time series approach - segmented regression
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H4. The Demonstration reduces utilization of emergency department and inpatient hospital settings and overall healthcare costs among individuals with any SUD-related	Emergency department use /1,000 member-quarter for members diagnosed with SUD/OUD	MMIS claims/ encounter data;	Descriptive statistics; Interrupted time series approach - segmented regression

Research Question	Evaluation Hypothesis	Measure [Reported for each Demonstration quarter or year]	Data Source	Analytic Approach- interim report
	diagnosis and with OUD diagnosis.			
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H4. The Demonstration reduces utilization of emergency department and inpatient hospital settings and overall healthcare costs among individuals with any SUD-related diagnosis and with OUD diagnosis.	Inpatient admissions /1,000 member-quarter for members diagnosed with SUD/OUD	MMIS claims/ encounter data;	Descriptive statistics; Interrupted time series approach - segmented regression
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H4. The Demonstration reduces utilization of emergency department and inpatient hospital settings and overall healthcare costs among individuals with any SUD-related diagnosis and with OUD diagnosis.	Healthcare costs/member month, for members diagnosed with SUD/OUD overall and by component • Inpatient • ED • Ambulatory care • Pharmacy • Long-term care • SUD – other costs • Non-SUD costs *Note: not calculated for interim analysis*	MMIS claims/ encounter data	Not Included in Interim Report
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H5. The Demonstration results in fewer readmissions to the same or higher level of care. The Demonstration results in fewer readmissions to the same or higher level of care.	30-day and 90-day readmission rates to the same level of care or higher following admission to inpatient hospitalization or 24-hour diversionary services for any SUD diagnosis and OUD diagnosis/members with SUD admitted inpatient hospitalization or 24-hour diversionary services *Note: not calculated for interim analysis*	MMIS claims/ encounter data	Not included in Interim report
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H6. The Demonstration results in improved access to care, including for comorbid physical health conditions among individuals with any SUD diagnosis and	MOUD Prescribers / MH members diagnosed with SUD and/ MH members diagnosed with OUD Healthcare Utilization	MMIS claims/ encounter/p rovider data	Descriptive statistics; Interrupted time series approach - segmented regression

Research Question	Evaluation Hypothesis	Measure [Reported for each Demonstration quarter or year]	Data Source	Analytic Approach-interim report
	with OUD diagnoses, relative to trends prior to the current Demonstration period.	• Outpatient SUD Professional visits / 1,000-member-quarters • Inpatient admissions /1,000-member-quarters • Ambulatory care visits/1,000-member-quarters • Other utilization/1,000-member months *Note: not calculated for interim analysis*		
What is the impact of expanding MassHealth coverage to include residential services and recovery support services on care quality, costs, and outcomes for members with substance use disorders (SUD)?	H7. The Return on Investment (ROI) will support the continuation of SUD Demonstration activities	*Program costs; healthcare costs* *Note: not calculated for the interim analysis*	MMIS claims/ encounter data	Not included in an interim report

C. Interim Findings

This section presents characteristics of MassHealth members with any SUD diagnosis and with an OUD diagnosis and interim results of trends for measures that respond to five of the seven study hypotheses.

MassHealth Members with SUD and OUD

In the first quarter of 2015, there were 166,358 MassHealth members with any SUD diagnosis and 109,430 with an OUD diagnosis. The number with any SUD diagnosis rose to 171,409 in the first quarter of 2019, while the number with an OUD diagnosis dropped to 83,589. The mean age among members with any SUD diagnosis rose slightly from 39.4 years to 40.5 years over this period and dropped slightly from 39.7 years to 39.0 years among members with an OUD diagnosis. Table 5.2 presents the sex and race distribution of MassHealth members with any SUD diagnosis and an OUD diagnosis in the first calendar quarter of years 2015-2019. The percentage of males was near 60%, both among members with any SUD and OUD in all years of the evaluation period. Approximately 15-16% of members with any SUD diagnosis and 11-13% of members with an OUD diagnosis had non-white race documented across the evaluation period. However, caution should be exercised when interpreting race distribution, given that race of ~30% of the population is missing.

Table V-2: Demographic characteristics of MassHealth population with SUD and OUD, 2015- 2019

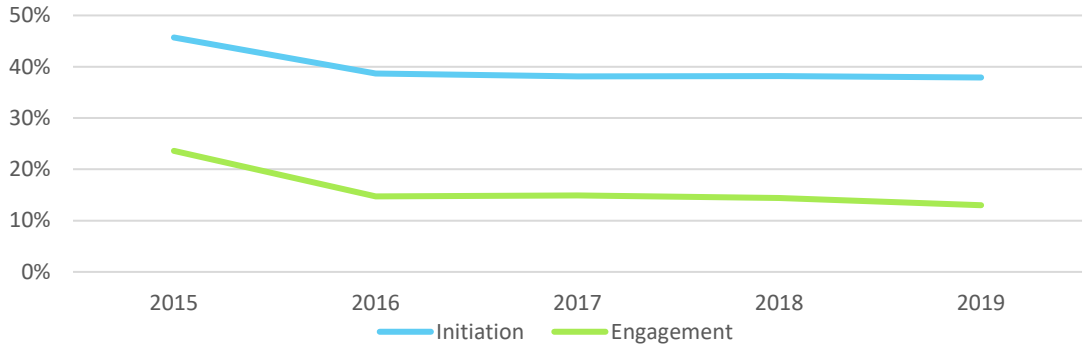
OUD Population	Q1 2015	Q1 2016	Q1 2017	Q1 2018	Q1 2019
Female	41.3%	41.1%	41.4%	41.6%	41.7%
Male	58.7%	58.9%	58.6%	58.4%	58.3%
White	53.3%	52.7%	52.3%	51.7%	50.9%
Black	6.9%	6.8%	7.1%	7.4%	7.6%
Other	8.2%	8.2%	8.6%	8.6%	8.6%
Unknown	31.5%	32.3%	32.1%	32.3%	32.8%
SUD Population	Q1 2015	Q1 2016	Q1 2017	Q1 2018	Q1 2019
Female	40.6%	42.5%	42.8%	42.7%	42.7%
Male	59.4%	57.5%	57.2%	57.3%	57.3%
White	57.1%	60.1%	59.9%	59.6%	58.8%
Black	5.4%	3.8%	4.0%	4.1%	4.3%
Other	7.4%	7.4%	7.7%	7.9%	8.0%
Unknown	30.1%	28.7%	28.4%	28.5%	28.9%

Study Hypotheses

H1. The Demonstration will increase rates of identification, initiation, and engagement in treatment among individuals with SUD relative to trends prior to the current Demonstration period.

Figure V-1: Initiation and engagement in alcohol and other drug dependence treatment, MassHealth members with a new SUD diagnosis, 2015-2019 presents the annual percentage of individuals with a new SUD diagnosis who initiate and engage in alcohol and other drug dependence treatment (NQF # 0004) by calendar year, 2015 – 2019. Both initiation and engagement decreased from 2015 to 2016 among MassHealth members with a new SUD diagnosis. Initiation decreased from 46% to 38%, and engagement decreased from 24% to 15% and remained steady through 2019. Data Note: This measure was calculated using the Place of Service field in the claims, which was missing in some years in a significant proportion of claims. We will investigate the effect the missing field may have on this measure.

Figure V-1: Initiation and engagement in alcohol and other drug dependence treatment, MassHealth members with a new SUD diagnosis, 2015-2019

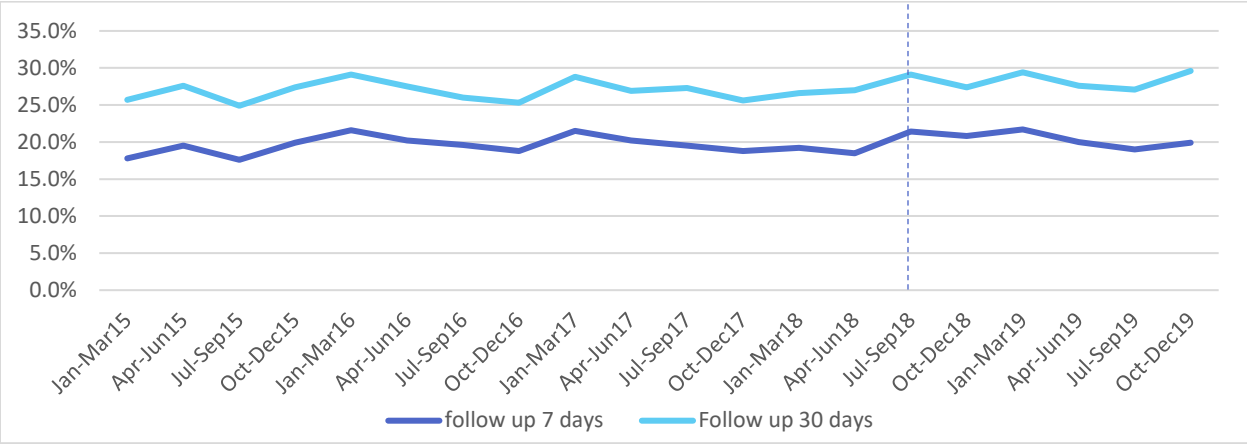


Source: MassHealth administrative data

H2. The Demonstration will improve adherence to treatment among individuals with any SUD diagnosis (including, in particular, Opioid Use Disorder (OUD) diagnosis) relative to trends prior to the current Demonstration period.

Figure V-2 presents the percentage of MassHealth members who have follow-up within seven days and within 30 days after discharge from the ED for alcohol or other drug use dependence (AOD). The percentage of members discharged from the ED for AOD who received follow-up within seven days increased from 18% in Jan-Mar 2015 to 19% in Apr-Jun 2018 and decreased slightly from 21% in July-Sept 2018 to 20% in the last quarter of 2019. The percentage who received follow-up within 30 days increased from 26% in Jan-Mar 2015 to 27% in Apr-Jun 2018 and increased from 29% in Jul-Sep 2018 to 30% at the end of 2019. There was a statistically significant decrease in the trend in the percentage of members receiving follow-up within seven days during the post-implementation period relative to the pre-implementation period but no difference in the trend in the percentage receiving follow-up within 30 days (see Table 1 in Appendix K).

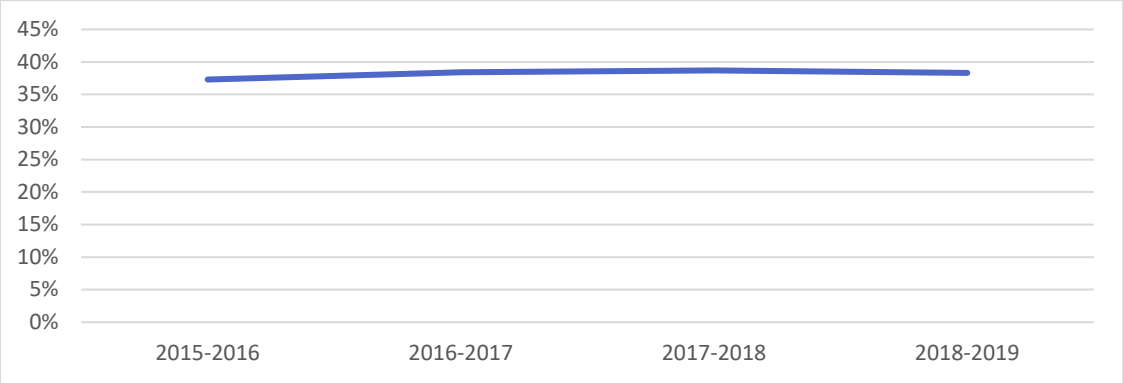
Figure V-2: Follow-up within seven days and within 30 days after discharge from the ED for AOD, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Figure V-*3* presents the percentage of adults 18-64 years of age who received pharmacotherapy for OUD with at least 180 days of continuous treatment (NQF 3175) by calendar year, 2015-2019. The percentage maintained on pharmacotherapy for 180 days increased slightly from 37.3% in 2015-16 to 38.3% in 2018-2019.

Figure V-3: 180+ days of continuous treatment among MassHealth members receiving pharmacotherapy for OUD, 2015-2019

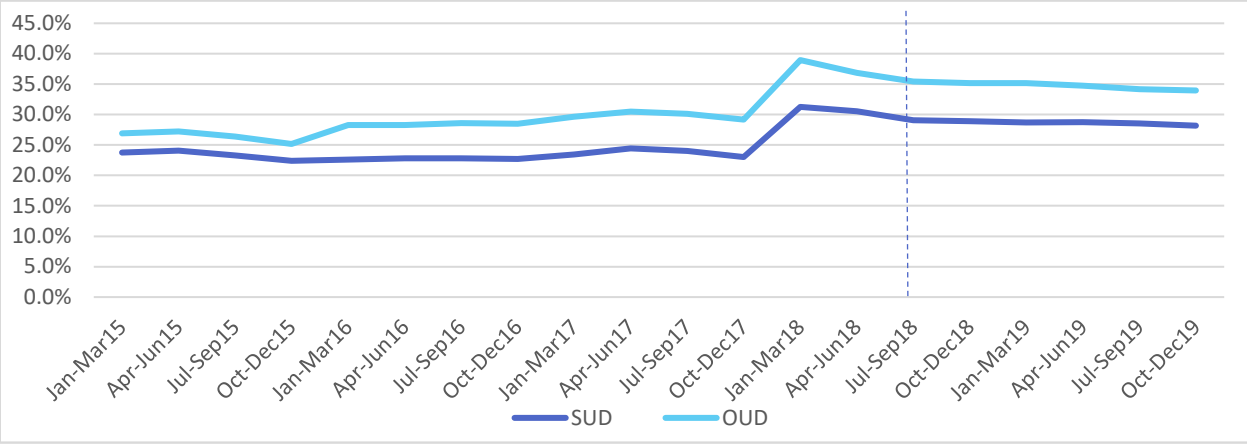


Source: MassHealth administrative data

Figure V-4 presents the percentages of members with any SUD diagnosis and with an OUD diagnosis who received an outpatient visit for SUD by calendar quarter, 2015-2019. The percentage of members with any SUD diagnosis who received a SUD outpatient visit increased from 24% in Jan-Mar 2015 to 31% in Apr-Jun 2018 and decreased slightly from 29% in July-Sept 2018 to 28% in the last quarter of 2019. The percentage of members with an OUD diagnosis who received a SUD outpatient visit increased from 27% in Jan-Mar 2015 to 35% in Apr-Jun 2018 and decreased from 35% in Jul-Sep 2018 to 34% at the end of 2019. The trend in the percentage receiving a

SUD outpatient visit during the post-implementation period was statistically lower relative to the pre-implementation period in both groups. (see Table 2 in Appendix K). Of note, however, the increase in utilization from Oct-Dec 2017 to Jan-Mar 2018 could have been attributable to other Demonstration activities or other external factors and will be explored in more depth in the final summative report.

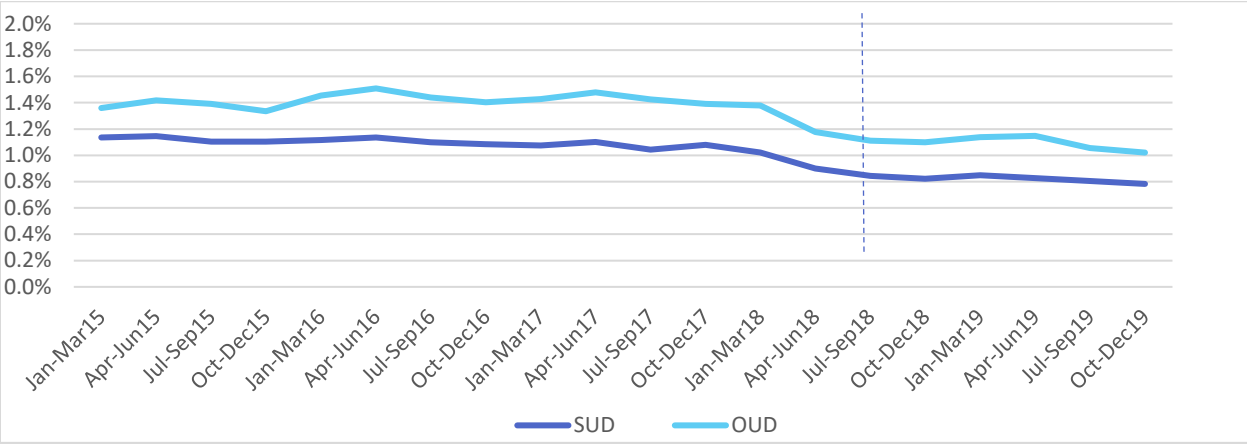
Figure V-4: SUD outpatient visits among MassHealth members with any SUD and OUD diagnoses by calendar quarter, 2015-2019



Source: MassHealth administrative data

Structured Outpatient Addiction Programs (SOAP) are clinically intensive, structured day and/or evening substance use disorder services. ***Figure V-5*** presents the percentages of members with any SUD diagnosis and with an OUD diagnosis who utilized a SOAP by calendar quarter, 2015 – 2019. The percentage of members with any SUD diagnosis who utilized SOAP decreased slightly from 1.1% in Jan–Mar 2015 to 0.9% Apr-Jun 2018 and remained steady at 0.8% from July-Sept 2018 through the end of 2019. A similar trend was observed for members with an OUD diagnosis, decreasing from 1.4% in Jan-Mar 2015 to 1.2% in Apr-Jun 2018 and decreasing slightly from 1.1% in Jul-Sep 2018 to 1.0% by the end of 2019. There was no statistically significant change in the post-implementation trend relative to the pre-implementation trend in either group. (see Table 3 in Appendix K) Of note, the decrease in utilization from Oct-Dec 2017-Apr-Jun 2018 could have resulted from increased utilization of other SUD services or other external factors. This finding will be explored in more depth in the final summative report.

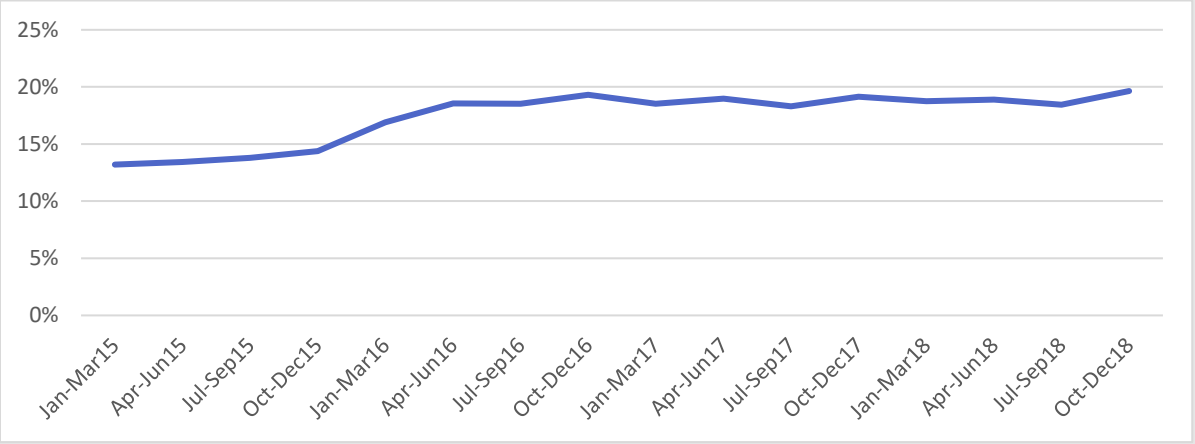
Figure V-5: SOAP utilization among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Figure V-6 presents the percentages of MassHealth members with an OUD diagnosis who received medication for OUD (MOUD) by calendar quarter, 2015 -2018. The percentage of members with an OUD diagnosis who received MOUD increased from 13% in Jan-Mar 2015 to 19% in Apr-June 2018 and from 18% to nearly 20% by the end of 2018. Data note: this measure was calculated through the year 2018; time series analysis was not conducted.

Figure V-6: MOUD utilization among MassHealth members with an OUD diagnosis, by calendar quarter, 2015-2018

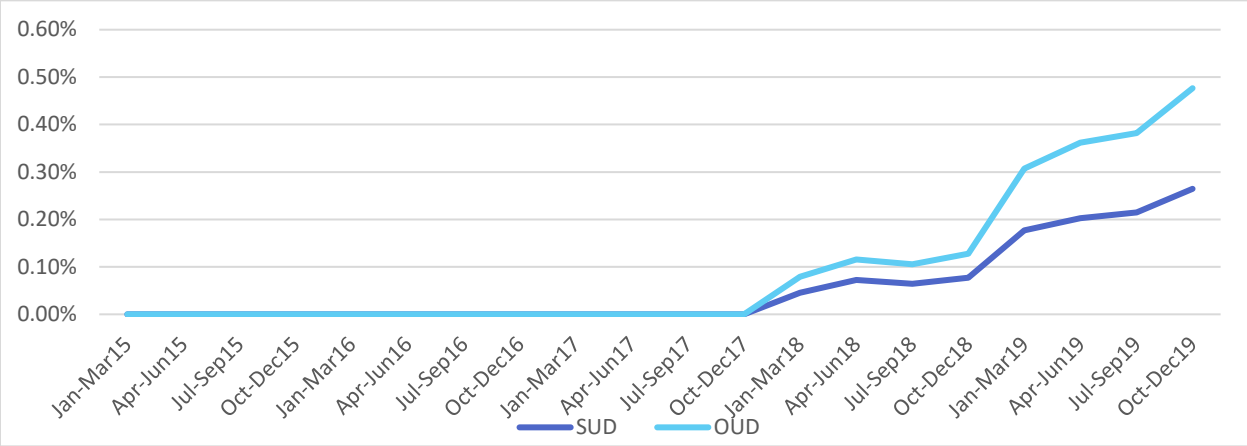


Source: MassHealth administrative data

Residential Rehabilitation Services (RRS) ASAM level 3.1 services are clinically managed low-intensity residential support and transitional support services provided to an individual with a substance use disorder in a 24-hour setting. ***Figure V-7*** presents

the percentages of MassHealth members with any SUD diagnosis and with an OUD diagnosis who utilized ASAM level 3.1 residential treatment by calendar quarter, from March 2018, when MassHealth began covering these services, through the end of 2019. The percentage of members with any SUD diagnosis who utilized RRS increased from 0.05% in Jan-March 2018 to 0.26% by the last quarter of 2019. Similarly, the percentage with OUD increased from 0.08%-0.48% over this period. It is not possible to evaluate change in trends from pre- to post-implementation of services, as records from BSAS, the payer during the pre-implementation period, were not available. ASAM 3.3 services were not evaluated as a separate measure, as ASAM 3.3 services had not yet been implemented.

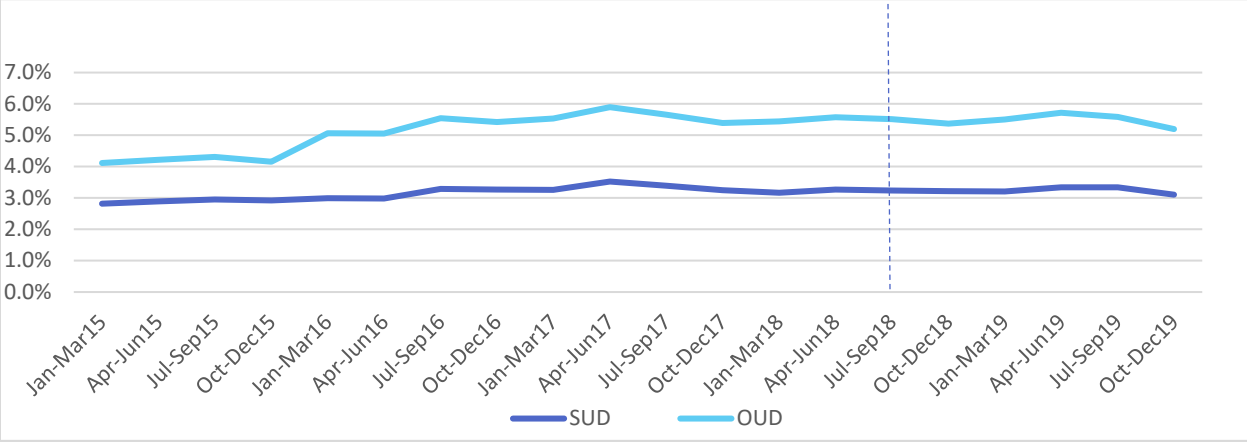
Figure V-7: Residential rehabilitation services (ASAM 3.1) among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Clinical Stabilization Services (CSS), ASAM level 3.5, are an alternative to hospitalization, including short-term psychiatric treatment in structured, community-based therapeutic environments, with continuous 24-hour observation. **Figure V-8** presents the percentages of MassHealth members with any SUD diagnosis and with an OUD diagnosis who utilized ASAM 3.5 (CSS) by calendar quarter, 2015 – 2019. The percentage of members with any SUD diagnosis utilizing CSS increased from 2.8% in Jan-Mar 2015 to 3.3% in April–Jun 2018 and decreased from 3.2% in July-Sep 2018 to 3.1% in the last quarter of 2019. A similar trend was seen among members with an OUD diagnosis, increasing from 4.1% in Jan-Mar 2015 to 5.6% in Apr-Jun 2018 and decreasing from 5.5% in Jul-Sep 2018 to 5.2% at the end of 2019. The trend in utilization post-implementation decreased relative to the pre-implementation in both groups (see Table 4 in Appenidx K).

Figure V-8: CSS utilization among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019

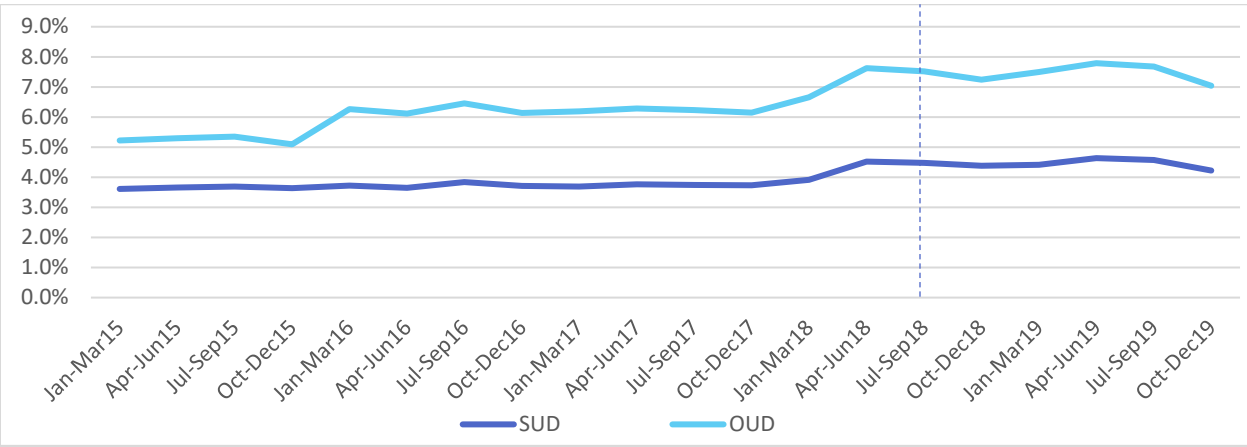


Source: MassHealth administrative data

Acute Treatment Services (ATS), ASAM level 3.7, are 24-hour, seven days week, medically monitored addiction treatment services that provide evaluation and withdrawal management. This includes enhanced ATS for individuals requiring substance use disorder services, up to and including withdrawal management, who are also experiencing acute mental health needs that do not require a locked setting. **Figure V-9** presents the percentages of MassHealth members with any SUD diagnosis and with an OUD diagnosis who utilized ATS ASAM level 3.7 by calendar quarter, 2015 – 2019.

The percentage of members with any SUD diagnosis who utilized ATS increased from 3.6% in Jan-Mar 2015 to 4.5% in April–Jun 2018 and decreased from 4.5% July-Sep 2018 to 4.2% in the last quarter of 2019. A similar trend was seen among members with OUD diagnosis, increasing from 5.2% in Jan-Mar 2015 to 7.6% in Apr-Jun 2018 and from 7.5% in Jul-Sep 2018 to 7.0% at the end of 2019. The trend post-implementation decreased relative to the pre-implementation trend in both groups (see Table 5 in Appendix K). Of note, however, the increase in utilization from Oct-Dec 2017 through Apr-Jun 2018 may have been the result of other 1115 activities or other external factors and will be explored in more depth in the final summative report.

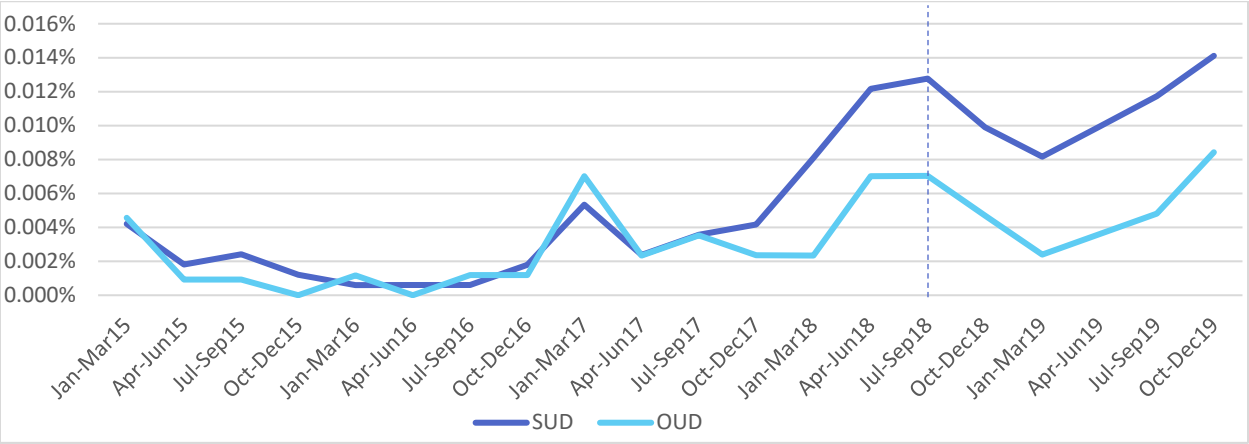
Figure V-9: ATS utilization among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Outpatient Withdrawal Management is detoxification services provided under the direction of a physician and is designed to stabilize the Member's medical condition under circumstances where neither life nor significant bodily functions are threatened. ***Figure V-10*** presents the percentages of MassHealth members with any SUD diagnosis and with an OUD diagnosis who utilized outpatient withdrawal management by calendar quarter, 2015 – 2019. The percentage of members with any SUD diagnosis who utilized outpatient withdrawal management services was very low throughout the evaluation period, nearly 0% in Jan–Mar 2015 rising to almost 0.012% in April-Jun 2018 and rose from 0.013% in Jul-Sep 2018 to 0.014% in the last quarter of 2019. A similar trend was seen for members with OUD diagnosis, rising to 0.007% in April-Jun 2018 and increasing from 0.007% in July-Sep. 2018 to 0.008% in the last quarter of 2019. While utilization continued to rise post-implementation, the trend was similar to that during the pre-implementation period. (see Table 6 in Appendix K). Of note, the percentage receiving outpatient withdrawal management increased in late 2017, which may have been the result of other 1115 activities or other external factors and will be explored in more depth in the final summative report.

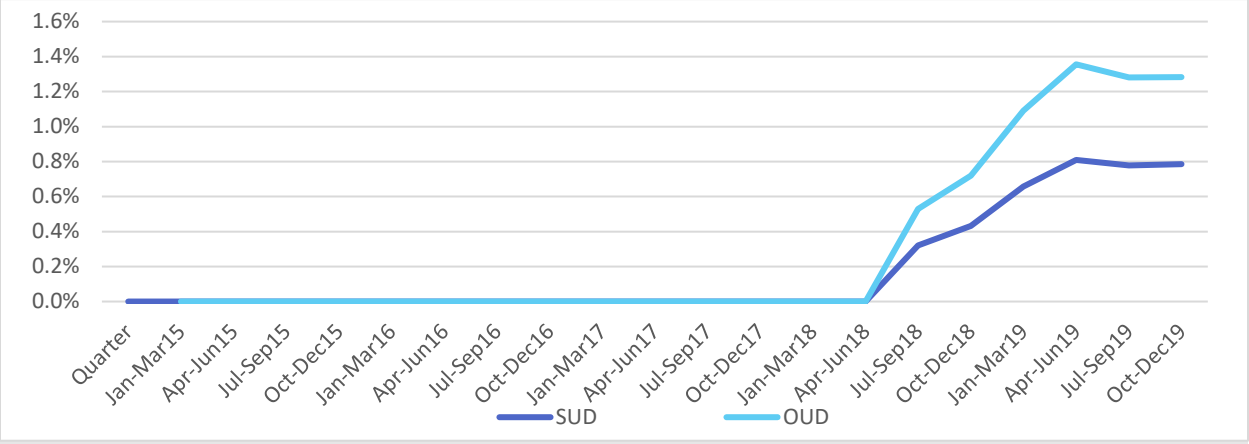
Figure V-10: Outpatient withdrawal management utilization among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Recovery coach services provide an individual with a person with SUD lived experience to serve as a recovery guide and role model, providing nonjudgmental problem solving and advocacy to help members meet their recovery goals. Recovery coach services were implemented for the majority of MassHealth members in July 2018. ***Figure V-11*** presents the percentages of members with any SUD diagnosis and with an OUD diagnosis who utilized recovery coach services by calendar quarter, 2015 – 2019. The percentage of members with any SUD diagnosis who utilized these services increased to 0.8% by the end of 2019. A higher percentage of members with OUD, 1.3%, utilized recovery coach services by the last quarter of 2019.

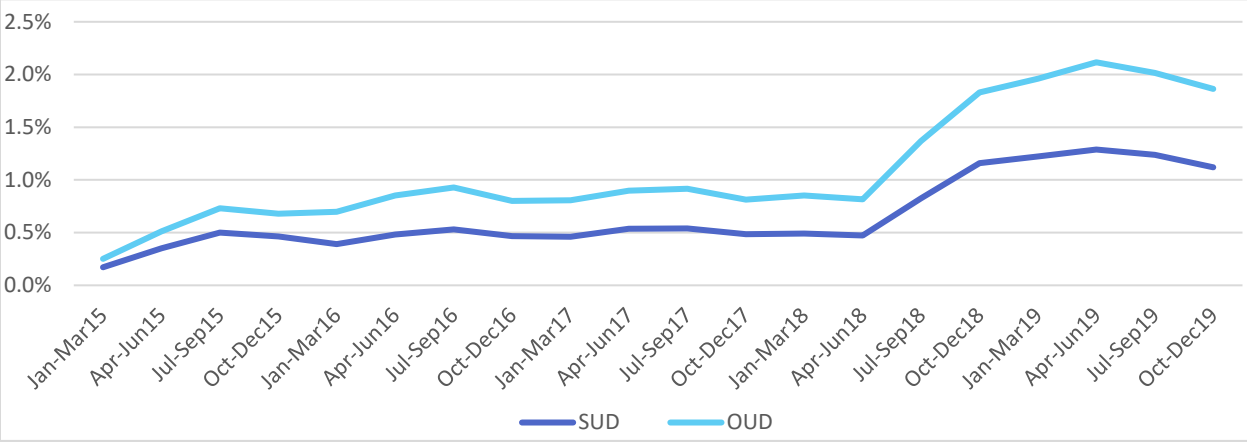
Figure V-11: Recovery coach utilization among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Recovery support navigator services provide an individual with a SUD with a navigator to develop and monitor a recovery plan in conjunction with the member. Prior to July 2018, a pilot program was in place in select MassHealth plans, with full implementation beginning in July 2018. ***Figure V-12*** presents the percentage of members with any SUD and an OUD diagnoses who utilized recovery support navigator services by calendar quarter, 2015 – 2019. Prior to July 2018, less than 1% of members with SUD and OUD received recovery support navigator services. After full implementation in July 2018, the percentage utilizing services increased to 1.1% and 1.9%, respectively, among members with any SUD diagnosis and an OUD diagnosis.

Figure V-12: Recovery support navigator utilization among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019

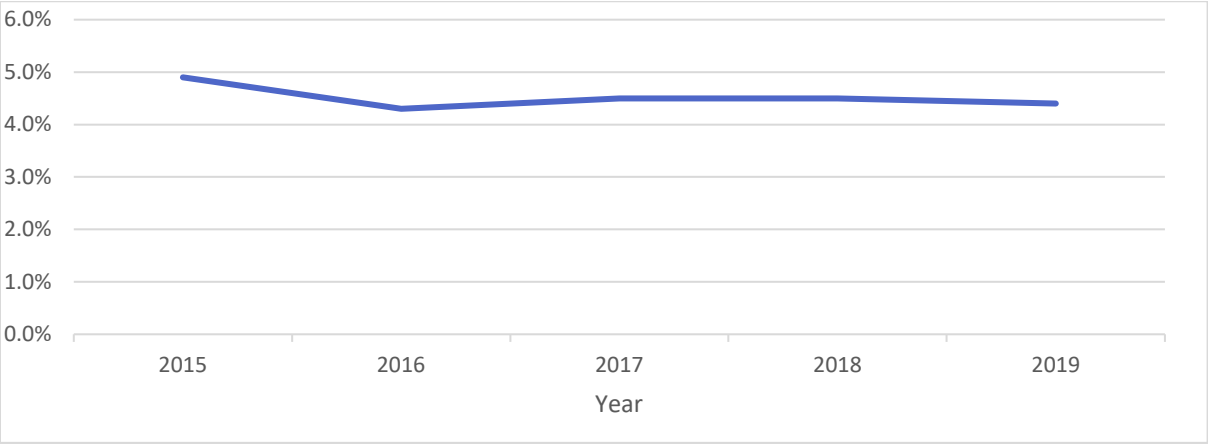


Source: MassHealth administrative data

H3. The Demonstration will reduce nonfatal overdoses and overdose deaths, particularly those due to opioids, relative to trends prior to the current Demonstration period.

Figure V-13 presents the percentage of MassHealth members without cancer who were prescribed opioids, NQF 2940, who received a high dose, 2015-2019. The percentage of MassHealth members without cancer and receiving opioids who received a high dose decreased from 4.9% in 2015 to 4.3% in 2016 and remained relatively steady through 2019.

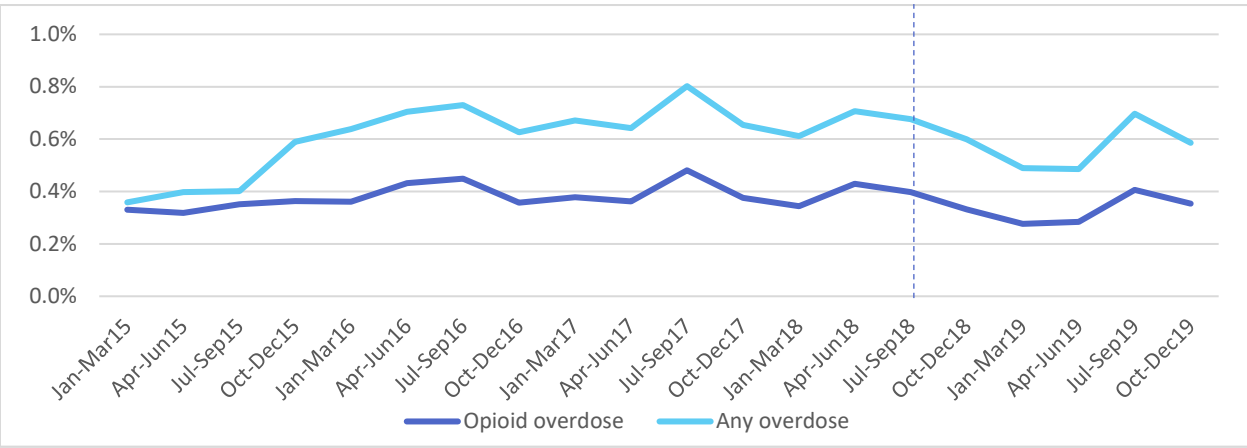
Figure V-13: High dose opioid use among MassHealth members without cancer, who were prescribed opioids, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Figure V-14 presents the percentages of MassHealth members who had any overdose and an opioid overdose recorded in the claims. The percentage of MassHealth members who had any overdose recorded in the claims/encounter data increased from 0.36% in Jan–Mar 2015 to 0.71% in Apr-Jun 2018 and decreased from 0.68% in Jun-Sept 2018 to 0.59% by the last quarter of 2019. Opioid overdoses increased from 0.33% in Jan–Mar 2015 to 0.43% in Apr-Jun 2018, and from 0.40% in Jul-Sept 2018, and to 0.35% at the end of 2019. There was a statistically significant decrease in the trend in both any overdose and opioid overdose during the post-implementation period relative to the pre-implementation trend (see Table 7 in Appendix K).

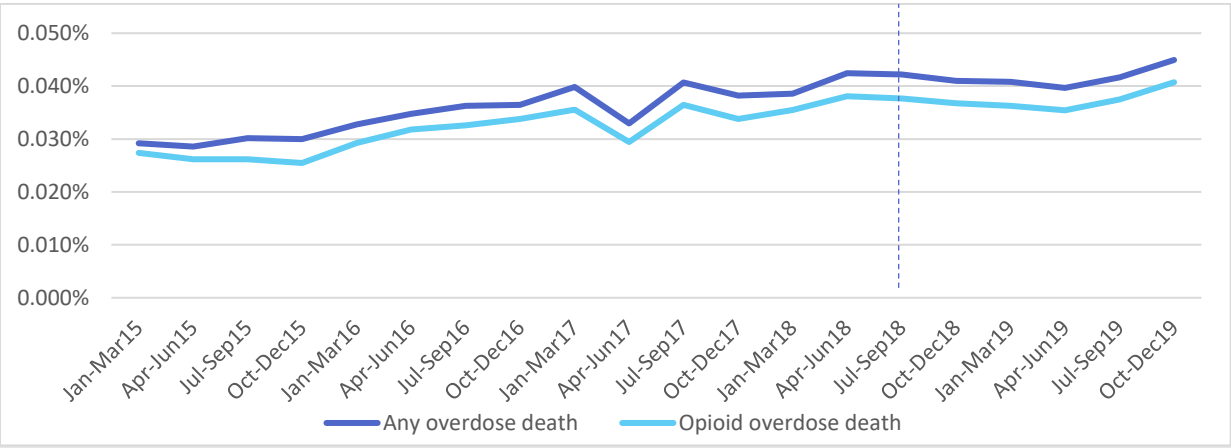
Figure V-14: Any overdose and opioid overdose among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data and Massachusetts death records

Figure V-15 presents the percentages of MassHealth members who had any fatal overdose and a fatal opioid overdose, identified by linkage between the MassHealth claims and death records, by calendar quarter, 2015-2019. The percentage of MassHealth members who had any fatal overdose identified by linkage increased from 0.029% in Jan–Mar 2015 to 0.042% in Apr-Jun 2018 and increased from 0.042% in Jul-Sept 2018 to 0.045% by the last quarter of 2019. Fatal opioid overdoses increased from 0.027% in Jan–Mar 2015 to 0.038% in Apr-Jun 2018, and from 0.038% in Jul-Sept 2018, and to 0.041% at the end of 2019. There was no statistically significant difference in the trend in either fatal overdoses or fatal opioid overdoses pre-post implementation (see Table 8 in Appendix K).

Figure V-15: Fatal overdose and fatal opioid overdose among MassHealth members, by calendar quarter, 2015-2019



Source: MassHealth administrative data and Massachusetts death records

H4. The Demonstration reduces utilization of emergency department and inpatient hospital settings and overall healthcare costs among individuals with any SUD-related diagnosis and with OUD diagnosis.

Emergency department and inpatient hospital utilization are presented below in H6. Because the economic impact of the expansion of services is better examined over a longer horizon, the change in healthcare costs will be evaluated in the final summative report.

H5. The Demonstration results in fewer readmissions to the same or higher level of care.

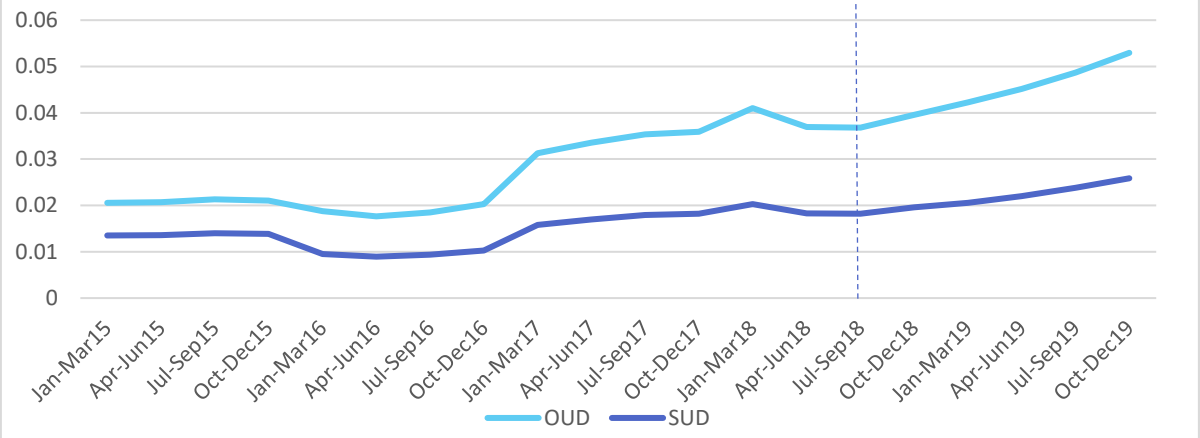
The measure '*30-day and 90-day readmission rates to the same level of care or higher following admission to inpatient hospitalization or 24-hour diversionary services for any*

SUD diagnosis and OUD diagnosis/members with SUD admitted inpatient hospitalization or 24-hour diversionary services' will be calculated. Because of the complexity in identifying and coding these services in claims data, this measure has not yet been coded and will not be included in the interim report. We will examine this measure in the final summative report.

H6. The Demonstration will result in improved access to care for comorbid physical and mental health conditions among individuals with any SUD diagnosis, including OUD diagnoses, relative to trends prior to the current Demonstration period.

Figure V-16 presents the number of MOUD prescribers/members diagnosed with any SUD diagnosis and with an OUD diagnosis by calendar quarter, 2015-2019. The number of MOUD prescribers rose from 0.014/member with any SUD diagnosis and 0.021/member with an OUD diagnosis in Jan – Mar 2015 to 0.018 and 0.037/member in Apr-Jun 2018, respectively, and from 0.018 and 0.037/member in Jul – Sep 2018 to 0.026 and 0.053/member, respectively by the end of 2019. The post-implementation trend in prescribers/member with SUD and prescribers/member with OUD was statistically significantly higher than the pre-implementation trend (see Table 9 in Appendix K)

Figure V-16: MOUD prescribers/MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019

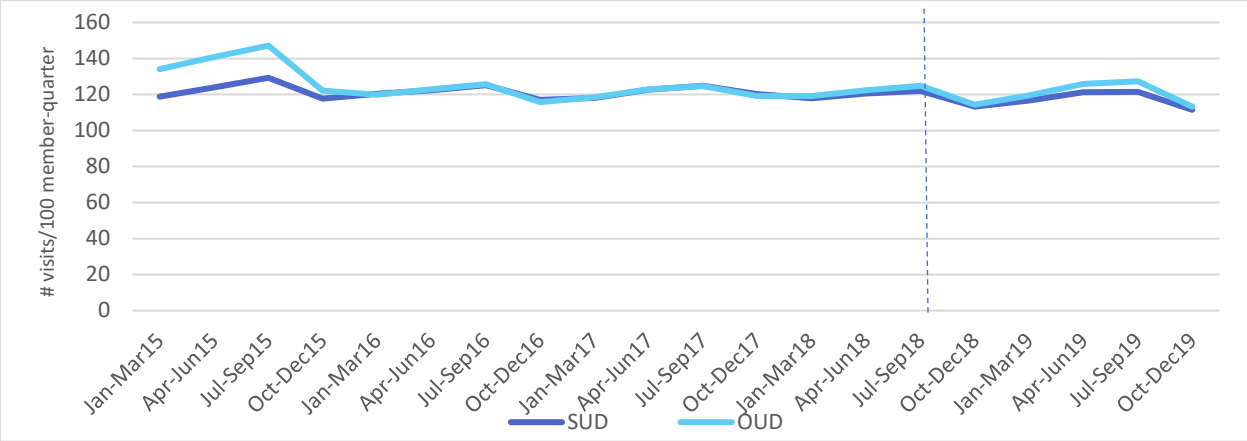


Source: MassHealth administrative data

Figure V-17 presents the numbers of inpatient visits per member with any SUD diagnosis and with an OUD diagnoses/1,000 member-quarter (m-q) by calendar quarter, 2015-2019. Among members with any SUD diagnoses, the number of inpatient visits remained steady at approximately 120/1,000 member-quarter (m-q) in Jan-Mar

2015 Apr-Jun 2018, then decreased from 122/1,000 m-q in Jul-Sept 2018 to 112/1,000 m-q by the last quarter 2019. Among members with OUD, inpatient visits decreased from 134/1,000 m-q in Jan-Mar 2015 to 122/1,000 m-q in Apr-Jun 2018 and from 125/1,000 m-q in Jul-Sep 2018 to 113/1,000 m-q in Oct-Dec 2019. Among members with SUD, the number of inpatient visits decreased relative to the pre-implementation. Changes in trends pre-post implementation of services were not statistically significant among members with OUD (see Table 10 in Appendix K).

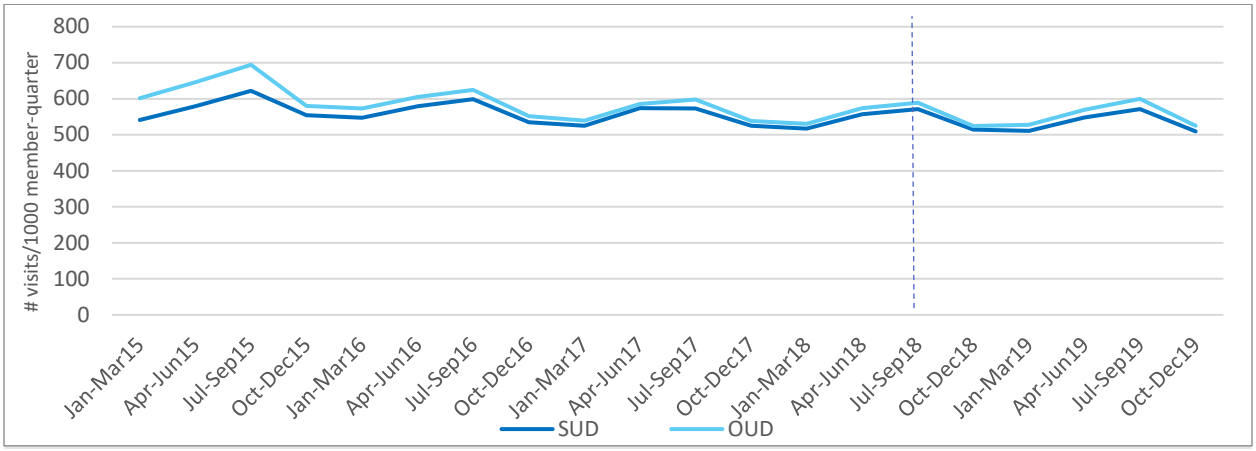
Figure V-17: Inpatient visits per 1000 m-q among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Figure V-18 presents the numbers of emergency department visits per member with any SUD diagnosis and with an OUD diagnoses/1,000 m-q by calendar quarter, 2015-2019. Among members with any SUD diagnoses, the number of ED visits increased from approximately 541/1,000 m-q in Jan-Mar 2015 to 557/1,000 m-q in Apr-Jun2018 and decreased from 571/1,000 m-q in Jul-Sept 2019 to 509/1,000 m-q by the end of 2019. Among members with OUD, ED visits decreased from 601/1,000 m-q in Jan-Mar 2015 to 574/1,000 m-q in Apr-Jun 2018 and 589/100 m-q Jul-Sep 2018 to 525/1,000 m-q in the last quarter of 2019. Changes in trends in ED visits/1,000 m-q pre- to post-implementation of services were not statistically significant in either group (see Table 11 in Appendix K).

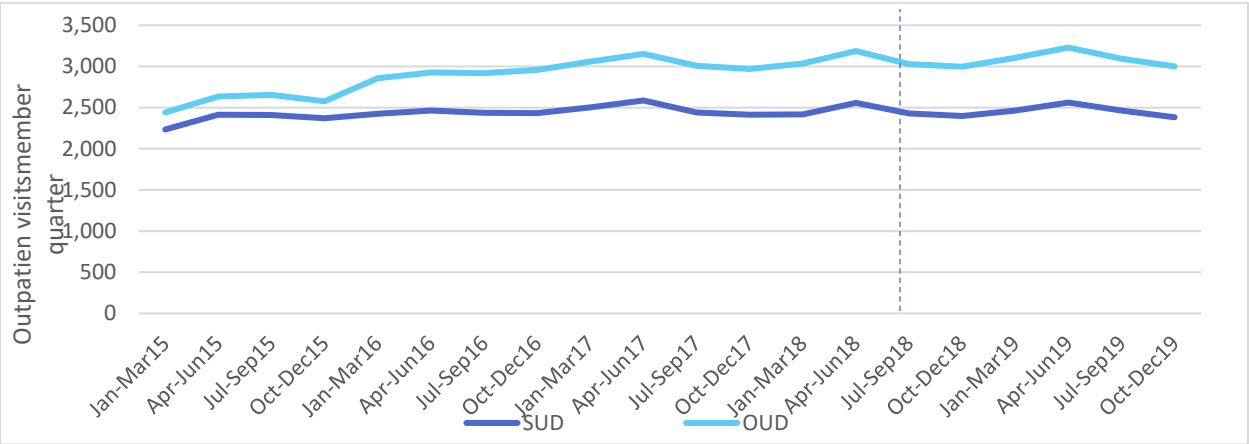
Figure V-18:: Emergency department visits/1000 m-q among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data

Figure V-19 presents the numbers of outpatient visits/1,000 m-q with any SUD diagnosis and with an OUD diagnosis by calendar quarter, 2015-2019. Among members with any SUD diagnoses, the number of outpatient visits increased from approximately 2,234/1,000 m-q in Jan-Mar 2015 to 2,558/1,000 m-q in Apr-Jun2018 and decreased from 2,428/1,000 m-q in Jul-Sept 2019 to 2,383/1,000 m-q by the end of 2019. Among members with an OUD diagnosis, outpatient visits increased from 2,441/1,000 per m-q in Jan-Mar 2015 to 3,118/1,000 m-q in Apr-Jun 2018 and decreased from 3,030/1,000 m-q in Jul-Sep 2018 to 3,003/1,000 m-q in Oct-Dec 2019. The trend in outpatient visits was lower post-implementation of services relative to the pre-implementation period. (see Table 12 in Appendix K).

Figure V-19: Outpatient visits/1000 m-q among MassHealth members with any SUD and OUD diagnoses, by calendar quarter, 2015-2019



Source: MassHealth administrative data

H7. The Return on Investment (ROI) will support the continuation of SUD Demonstration activities

Because the economic impact of the expansion of services is better examined over a longer horizon, the return on Investment will be evaluated in the final summative report.

D. Discussion

1. Interpretation

Expansion of SUD recovery services were implemented for most MassHealth members by July 2018, allowing six calendar quarters post-implementation observation for this interim report. We found that utilization of the new services covered by MassHealth as part of the Demonstration, ASAM 3.1 RRS, recovery support navigators, and recovery coaches increased through the six calendar quarters after implementation.

We used an ITS analysis to examine trends in claims-based measures for those measures with quarterly data 2015-2019. For the interim report, we identified July 2018 as the implementation date. We note that implementation was phased in for some members in the previous calendar quarter, March-June 2018. In interpreting the results, caution should be taken in attributing changes in trends pre- and post July 2018 solely to the expansion of SUD services. The time series approach does not adequately account for external factors, including exacerbations of the opioid epidemic or multiple concurrent initiatives conducted at the state, local, and national level during the Demonstration period to address the opioid crisis, nor do our analyses account for other Demonstration activities, namely the ACO launch. Conversely, external factors are most likely contributing to the absence of positive changes in trends for other measures. The post-implementation period for the interim analysis was six calendar quarters; the full impact of the expansion of SUD services will be better assessed over a longer horizon. Moreover, increases in utilization of several SUD service categories, including SUD outpatient visits, outpatient withdrawal management, and ATS services occurred during the baseline period, indicating external factors that may be accounting for these changes. Although trends in these services decreased or remained flat in the post-implementation period relative to baseline trends, utilization of these services appeared to increase in early 2018 and were, overall, higher during the post-implementation period relative to the baseline period. The launch of the ACO program during Q1 2018 may have contributed to these findings.

Table V-3 presents the interim findings of the changes in trends of these measures pre- to post-implementation, by hypothesis:

Table V-3: Summary of Interim Results

Measure	Change in trend (Relative to the baseline period)	
	Any SUD	OUD
H2: The Demonstration will improve adherence to treatment among individuals with any SUD diagnosis (including, in particular, Opioid Use Disorder (OUD) diagnosis) relative to trends prior to the current Demonstration period		
NQF #2605: Follow-Up after Discharge from the ED for Mental Health or Alcohol or Other Drug Use Dependence/members with SUD	No change	No change
Percentage of members with any SUD /OUD diagnosis who used service per quarter:		
Outpatient SUD services	Decrease	Decrease
Structured Intensive outpatient services	No change	No change
Medication for opioid use disorder (MUD)		
Clinical stabilization services (ASAM Level 3.5)	Decrease	Decrease
Acute Treatment Services (ASAM Level 3.7)	Decrease	Decrease
Outpatient withdrawal management	No change	No change
H3. The Demonstration will reduce nonfatal overdoses and overdose deaths, particularly those due to opioids, relative to trends prior to the current Demonstration period		
ODs, overall and opioid-related / MassHealth members	Decrease	Decrease
OD deaths, overall and opioid-related /MassHealth members	No change	No change
H6. The Demonstration will result in improved access to care for comorbid physical and mental health conditions among individuals with any SUD diagnosis, including OUD diagnoses, relative to trends prior to the current Demonstration period		
MOUD Prescribers / MH members diagnosed with SUD and / MH members diagnosed with OUD	Increase	Increase
Inpatient admissions /1,000-member months	Decrease	No change
ED visits 1,000-member months	No change	No change
Ambulatory care visits/1,000-member months	Decrease	Decrease

2. Study Limitations

As discussed, we recognize that our time series approach did not adequately account for external factors, including exacerbations of the opioid epidemic or multiple concurrent initiatives conducted at the state, local, and national level during the Demonstration period to address the opioid crisis. In the final summative report, we will compare Massachusetts trends in overdoses per resident to trends in the other 49 states to partially address this concern. In the summative report, we will also attempt to identify a comparison group state similar to Massachusetts in baseline availability of substance use treatment facilities, but who do not expand treatment services over the demonstration period, to compare to opioid overdoses to Massachusetts. We understand, however, that this exercise may not be feasible, given the ever-evolving initiatives to address the opioid crisis. Nevertheless, these analyses will help our

understanding of the effect of Massachusetts-specific initiatives over the Demonstration period in reducing overdoses.

We also recognize that not all of the measures listed in the letter to State Medicaid Director's letter SMD#17-003 may be expected to be affected by Demonstration activities. For example, any changes to the measure, "Use of opioids at high dosage in persons without cancer," may likely be attributable to external factors such as a change in dose limits implemented by MassHealth. Below we describe external policy initiatives and other activities occurring during the Demonstration period that may impact evaluation measures.

The measures in this analysis were calculated from medical claims and encounter data and are subject to limitations of claims analysis. Coding for SUD utilization measures may not have been consistent and complete throughout the evaluation period.

In this interim analysis, we examined the crude trends prior to and post-implementation. Results did not adjust for changes in the demographic or clinical characteristics of the MassHealth population over the evaluation period. Nor did we examine lag times to allow for the ramp-up of Demonstration activities before and after Jul 1, 2018. These analyses will be completed for the final summative report.

3. Policy Implications and Interactions with Other State Initiatives

It is challenging to examine the impact of expanding recovery-oriented SUD services in isolation. Other significant activities implemented in this Demonstration, such as the transition to Accountable Care Organizations and implementation of the Community Partners program, are expected to affect outcomes in the SUD/OUD population. In addition to Demonstration activities, countless initiatives have been implemented in the state. ***Table V-4*** below presents a sample of significant initiatives implemented statewide during the evaluation period.

Table V-4: Selected Massachusetts statewide initiatives to address the opioid epidemic, 2015-2019

Initiative	Agency	Initiation date
Prevention and Management of Prescription Drug Misuse - establishes core competencies for providers and prescribers	Mass DPH	May 2017
Core Principles for the Prevention and Management of Substance Misuse - for all Schools of Social Work in Massachusetts	"Governor's workgroup	Fall 2017
Increasing Naloxone Access -Supporting the Overdose Education and Naloxone Distribution program -Supporting the First Responder Grant Program -Supporting Naloxone for Community Health Centers -Supporting state naloxone purchases through the bulk purchasing program	Mass DPH	FY 2017
SUSTAIN - Substance Use Support and Technical Assistance in Communities	SAMHSA award	2018
Massachusetts Prescription Monitoring Program (PMP) - National tool (Massachusetts Awareness Tool) across 29 states and DC	MA state	Oct 15, 2017
Post-Overdose Follow-Up Program - program partners addiction specialists with first responders to provide outreach, support, and education to individuals following overdose treatment	DPH	November 2017
HOC/DOC Medication-Assisted Treatment Re-Entry Initiative (MATRI) -Access to MAT -Case management services -Linkages to community-based treatment and recovery support services	HOC/DOC	August 2017
SAMHSA Policy Academy - 6 months of technical assistance and the opportunity to work with other states and national expert	SAMHSA award	2017
Massachusetts State Government Funding -FY 2015: Prevention and treatment initiatives -FY 2016-18: SUD treatment, prevention, intervention, and recovery efforts FY 2018: - -Criminalizing Fentanyl Trafficking -STEP Act: Limits first time opioid prescription to seven days; practitioners to check PMP before prescribing; additional training required for patients	MA state	2015 to present
Limits on High Dose Opioids	MassHealth	Mach, 2017

In addition to statewide initiatives, numerous programs have been implemented at the local and county level. All of these programs may be expected to impact one or more of the outcomes measured. In the final summative report, we will examine the impact of external policy initiatives on findings in more detail.

4. Lessons Learned and Recommendations

With the caveat that this data is early and preliminary, we observed utilization for various SUD services does not necessarily move in tandem. Examination of national trends and interviews with behavioral health providers may provide insight into these findings.

The national and state context continues to change throughout this Demonstration period. The evaluation team is monitoring several developments which will be addressed in the final summative report, including the effect of the COVID-19 pandemic on the overdose crisis, the continued expansion in access to MOUD nationwide, new and evolving programs to address the opioid crisis, and the redesign of behavioral health services in Massachusetts.

VI. Demonstration Goal 6: Continuing to provide coverage to former foster care youth

A. Background

In order to improve healthcare access to former foster care youth and young adults under age 26 who "aged out" of the foster care system in other states (referenced as FFC youth in this report), the Demonstration seeks to provide full Medicaid State Plan benefits to FFC youth (regardless of income or assets) who are:

(1) under age 26;
(2) were in foster care under the responsibility of a state other than Massachusetts or a Tribe in such a state when they turned 18 or a higher age at which the state's or Tribe's foster care assistance ends;
(3) were enrolled in Medicaid under that state's Medicaid State Plan or 1115 Waiver Demonstration at any time during the foster care period; and
(4) are currently living in Massachusetts.

As MassHealth already provides coverage for youth and young adults in and aging out of foster care in Massachusetts, this brings equity to the coverage of foster care youth as a population, irrespective of where the foster care took place. In addition, it provides an additional pathway for FFC youth to access Medicaid health care benefits.

Per CMS request, Massachusetts shifted authority from the State Plan to the 1115 Demonstration, as of December 14, 2017 (in state fiscal year 2018), to continue existing coverage of FFC youth who aged out of the foster care system in another state, as described above. MassHealth is proactively working to maintain healthcare coverage and improve health outcomes within this population. The Demonstration offers continued access to ensure that FFC youth will continue to be enrolled in health insurance coverage and have access to health services, encouraging positive health outcomes in this population.

B. Research Questions and Study Design

Research Questions

There are three research questions for this goal, each with one hypothesis. These hypotheses are standardized across states so that CMS can more easily analyze national efforts. Essentially, we examined the coverage continuity, service utilization, and health outcomes to determine the value of increasing access to health services, strengthening overall health insurance coverage, and improving health outcomes for FFC youth. The research questions are:

Does the Demonstration provide continuous health insurance coverage for FFC youth meeting specified eligibility criteria?

H1. Eligible FFC youth will be enrolled continuously for 12 months

How did FFC youth utilize health services?

H2**.** FFC youth will access health services at rates comparable to other Medicaid members with similar characteristics

How do health outcomes for former foster care individuals compare to similar Medicaid members?

H3**.** FFC youth will have positive health outcomes as defined by National Quality Forum (NQF) measures, comparable to other Medicaid members with similar characteristics

Study Design: The evaluation used a post-only assessment to track enrollment, healthcare utilization, and outcomes of the study population on an annual basis. Findings were benchmarked relative to a comparison group of MassHealth members (described below) with similar demographic and clinical characteristics.

Study Period: The timeframe for the post-only evaluation period began when the authority for this coverage moved under this Demonstration, December 14, 2017, and will continue through December 2022. Enrollment data is analyzed by state fiscal year (i.e., July-June); enrollment data through June 2020 and utilization and outcome data through June 2019 are included in this interim report. Data for all measures through December 2022 will be included in the final summative report.

Data Source:

MassHealth administrative data**:** The primary data sources were the MassHealth MMIS enrollment, medical claims/encounter files, and pharmacy claims files.

Program Enrollment data**:** We received key parameters to determine FFC youth members covered by Medicaid annually from MassHealth. We linked this data with MMIS administrative data to finalize the population of FFC youth.

Study Population: The study population is youth and young adults who:

(1) are under age 26;
(2) were in foster care under the responsibility of a state other than Massachusetts or a Tribe in such a state when they turned 18 or a higher age at which the state's or Tribe's foster care assistance ends;
(3) were enrolled in Medicaid under that state's Medicaid state plan or 1115 Demonstration at any time during the foster care period; and
(4) are currently living in Massachusetts.

For this interim report, the enrollment timeframe was FY2018 to FY2020. While the sample size was estimated at 75 members per year in the EDD[117], we identified over 200 FFC members per year (MassHealth validated this newer figure), in consultation with MassHealth. Thus, the size of our study population exceeds the estimate in EDD.

Comparison Group: A clear comparison group, which allows us to estimate the outcomes of the study population in the absence of the Demonstration activities, does not exist because the program is state-wide. However, we identified a group of Medicaid members matched with FFC youth by age, gender, Medicaid coverage type, and clinical comorbidity as a comparison group (referred to as non-FFC youth in this report). A two-step matching process was used. First, the FFC and non-FFC youth were sorted by Medicaid coverage type (i.e., managed care organization (MCO), Primary Care Clinician (PCC), or Accountable Care Organization (ACO)). Second, within each coverage type, a propensity score was calculated based on members' demographic and clinical characteristics likely related to outcomes[118] (e.g., age, gender, asthma, obesity, and behavioral health and substance use disorder conditions).[119] The propensity score was subsequently used to identify a comparison group using a 1:1 matching method.

***Table* VI-1** below summarizes the resulting demographic and clinical characteristics of both FFC and non-FFC group members, confirming the comparability of FFC and non-FFC youth in our analysis.

The total study population of FFC youth was 239 individuals in FY2018, 294 in FY2019, and 293 in FY2020. The 1:1 matching procedure yielded the same number of comparison group members in each fiscal year. While most were enrolled in an MCO or the PCC plan in 2018, those enrollments fell in subsequent years. This switch elucidates a switch of enrollment toward ACOs, consistent with the overall enrollment change among all MassHealth members. In FY2019 and FY2020, more than 30% of FFC members were enrolled in MassHealth ACOs (ACO Partnership Plans or Primary Care ACOs). Age-wise, the majority of both groups (above 85%) were between 22 and 26 years old. Slightly over 10% of both FFC and non-FFC members were between 18 to 21 years old, though the proportion in these younger ages increased slightly over time. Over half of each group were females (53-59% across the 3-year evaluation period). Regarding physical health, asthma and obesity were not rare, ranging from about 7% to 12%, in FFC and non-FFC youth populations. Anxiety disorders, major depression, and

[117] The Evaluation Design Document is available at https://www.mass.gov/service-details/1115-masshealth-demonstration-waiver.
[118] Disability status was not included as a matching factor because there were two few FFCs found to have disability in our population.
[119] See Littnerova, S., Jarkovsky, J., Parenica, J., Pavlik, T., Spinar, J., & Dusek, L. (2013). Why to use propensity score in observational studies? Case study based on data from the Czech clinical database AHEAD 2006–09. *Cor et Vasa*, *55*(4), e383-e390.

post-traumatic stress disorder (PTSD) were present at similar rates between the groups and over time.

Table VI-1: Population Characteristics of Matched FFC and Non-FFC Youths

	FFC FY2018 N (%)	Non-FFC FY2018 N (%)	FFC FY 2019 N (%)	Non-FFC FY 2019 N (%)	FFC FY2020 N (%)	N (%)
Total Population	239 (100.0)	239 (100.0)	294 (100.0)	294 (100.0)	293 (100.0)	
Managed Care Plan Enrollment						
Accountable Care Partnership Plan ACO (Model A)	17 (7.1)	17 (7.1)	91 (31.0)	91 (31.0)	108 (36.9)	108 (36.9)
Primary Care ACO (Model B)	28 (11.7)	28 (11.7)	75 (25.5)	75 (25.5)	84 (28.7)	84 (28.7)
Fee-For-Service (FFS)	42 (17.6)	42 (17.6)	59 (20.1)	59 (20.1)	48 (16.4)	48 (16.4)
MCO	90 (37.7)	90 (37.7)	38 (12.9)	38 (12.9)	32 (10.9)	32 (10.9)
PCC	62 (25.9)	62 (25.9)	31 (10.5)	31 (10.5)	21 (7.2)	21 (7.2)
Age						
18-21 Years	30 (12.6)	33 (13.8)	35 (11.9)	32 (10.9)	42 (14.3)	58 (19.8)
22 Years	45 (18.8)	55 (23.0)	43 (14.6)	51 (17.4)	37 (12.6)	37 (12.6)
23 Years	38 (15.9)	47 (19.7)	66 (22.5)	71 (24.2)	47 (16.0)	49 (16.7)
24 Years	43 (18.0)	17 (7.1)	48 (16.3)	34 (11.6)	69 (23.6)	60 (20.5)
25 Years	45 (18.8)	38 (15.9)	54 (18.4)	54 (18.4)	53 (18.1)	47 (16.0)
26 Years	38 (15.9)	49 (20.5)	48 (16.3)	52 (17.7)	45 (15.4)	42 (14.3)
Gender						
Female	130 (54.4)	131 (54.8)	156 (53.1)	165 (56.1)	172 (58.7)	173 (59.0)
Male	109 (45.6)	108 (45.2)	138 (46.9)	129 (43.9)	121 (41.3)	120 (41.0)
Physical Health Diagnoses						
Asthma	17 (7.1)	23 (9.6)	23 (7.8)	20 (6.8)	24 (8.2)	36 (12.3)
Obesity	16 (6.7)	16 (6.7)	21 (7.1)	30 (10.2)	20 (6.8)	29 (9.9)
Behavioral Health Diagnoses						
Anxiety Disorder	52 (21.8)	39 (16.3)	58 (19.7)	47 (16.0)	51 (17.4)	56 (19.1)
Major Depression	22 (9.2)	24 (10.0)	36 (12.2)	25 (8.5)	36 (12.3)	40 (13.7)
PTSD	21 (8.8)	23 (9.6)	34 (11.6)	24 (8.2)	34 (11.6)	29 (9.9)
Bipolar Disorder	<11 (<5.0)	18 (7.5)	17 (5.8)	18 (6.1)	23 (7.9)	13 (4.4)
Substance Use Disorder Diagnoses						
Nicotine	45 (18.8)	55 (23.0)	43 (14.6)	36 (12.2)	47 (16.0)	37 (12.6)
Any Drug	36 (15.1)	43 (18.0)	44 (15.0)	45 (15.3)	35 (12.0)	48 (16.4)
Cannabis	18 (7.5)	18 (7.5)	20 (6.8)	17 (5.8)	19 (6.5)	25 (8.5)
Opioid	16 (6.7)	17 (7.1)	16 (5.4)	14 (4.8)	15 (5.1)	15 (5.1)
Alcohol	11 (4.6)	15 (6.3)	13 (4.4)	12 (4.1)	13 (4.4)	15 (5.1)
Cocaine	<11 (<4.0)	<11 (<4.0)	<11 (<4.0)	<11 (<4.0)	<11 (<3.0)	<11 (<3.0)

Data source: MassHealth enrollment, eligibility, claims, and encounter data.

Note: N's less than 11 are not reported per HIPAA guidelines regarding cell size suppression. Chi-square tests were performed to compare the differences between FFC and non-FFC youth. No statistically significant differences were identified except the 18-21 Years of Age category in 2018
**P<0.05*

Measures: Enrollment, utilization, and outcome measures were identified from claims/encounter data and measured annually by fiscal year:

- Number and percentage of the study population who were continuously enrolled in MassHealth for one year
- Number and percentage of the study population who had at least one ambulatory care visit
- Number and percentage of the study population who had at least one emergency department visit
- Number and percentage of the study population who had at least one inpatient stay
- Number and percentage of the study population who had at least one behavioral health encounter
- Number and percentage of the study population with at least one annual preventive visit

Data Analysis: We used descriptive statistics for the analysis, specifying and presenting all measures annually by state fiscal year. For all evaluation questions, we employed descriptive statistics, including frequency and percentages for dichotomous outcomes during each year of the Demonstration.

For claims-based health service utilization measures, the analyses were conducted for only FY2018 and FY2019 because the FY2020 data were not fully adjudicated when we received the data files. Office visits, inpatient stays, and emergency department (ED) visits were examined, along with well-care visits for FFC members under age 22, adults' access to preventive/ambulatory health services for FFC members aged 22-26, and pharmacy use. In addition, chi-square tests were performed to test for statistically significant relationships between variables. Trends in measure values by time could not be evaluated now because of limited data points; however, they will be included in the final summative report when we have more years of data available for analysis. ***Table VI-2*** summarizes the evaluation measures and analytical methodologies for the interim evaluation report.

Table VI-2: Former Foster Care Youth Analysis Data and Methodology Overview

Evaluation Question	Evaluation Hypothesis	Measure [Reported for each Demonstration Year]	Recommended Data Source	Analytic Approach
Does the Demonstration provide continuous health insurance coverage?	H1. Members will be continuously enrolled for 12 months	Number of members continuously enrolled/ Total number of enrollees	MMIS claims/ encounter enrollment data	Descriptive statistics (frequencies and percentages)
How did members utilize health services?	H2. Members will access health services	Number of members who had an ambulatory care visit/Total number of members	MMIS claims/ encounter data	Descriptive statistics (frequencies and percentages)
How did members utilize health services?	H2. Members will access health services	Number of members who had an emergency department visit/Total number of members	MMIS claims/ encounter data	Descriptive statistics (frequencies and percentages)
How did members utilize health services?	H2. Members will access health services	Number of members who had an inpatient stay/Total number of members	MMIS claims/ encounter data	Descriptive statistics (frequencies and percentages)
How did members utilize health services?	H2. Members will access health services	Number of members who had a behavioral health encounter/Total number of members	MMIS claims/ encounter data	Descriptive statistics (frequencies and percentages)
What do health outcomes look like for members?	H3. Members will have positive health outcomes [as defined by NQF measures]	Total number of members with an annual preventive visit/Total number of beneficiaries	MMIS claims/ encounter data	Descriptive statistics (frequencies and percentages)

C. Interim Findings

Continuous Health Care Coverage (Hypothesis 1)

The average length of enrollment among FFC and non-FFC youth were both around 300 days in each of the three fiscal years (***Table VI-3***). In FY2018, 69.9% of FFC youth were continuously enrolled (defined as total days on Medicaid greater than or equal to 320 days in a year or 321 days in a leap year) for a year, as opposed to 61.9% for non-FFC youth. Yet, in FY2019, non-FFC youth were more likely to be continuously enrolled

for 12 months (68.4% for FFC vs. 77.6% for non-FFC in 2019, *p<0.05*); this finding was consistent with the number of days individuals were enrolled per year (312 for non-FFC vs. 300 FFC youth in FY2019 *p<0.05*). The differences in the proportion of continuously enrolled members in FY2020 and the number of enrollment days for that year were not significantly different between the two groups.

Table VI-3: Number and Percentage of FFC and Non-FFC Youth's Continuous Enrollment in MassHealth

	FFC FY2018	Non-FFC FY2018	FFC FY2019	Non-FFC FY2019	FFC FY2020	Non-FFC FY2020
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Total Number	239 (100.0)	239 (100.0)	294 (100.0)	294 (100.0)	293 (100.0)	293 (100.0)
Continuously enrolled for one year	167 (69.9)	148 (61.9)	201 (68.4*)	228 (77.6*)	219 (74.5)	227 (77.5)
Total # of enrollment days during the year	310 (N/A)	289 (N/A)	300 (N/A)	312 (N/A)	312 (N/A)	318 (N/A)

Data source: MassHealth enrollment, eligibility, claims, and encounter data.
Note: The measure "Continuously enrolled for one year" is defined as total days on Medicaid greater than or equal to 320 days in a fiscal year (or 321 days in a leap year).
**P<0.05*

Health Services Access and Outcomes (Hypotheses 2 and 3)

From the results detailed (***Table VI-4***), FFC youth between 18 and 26 years old overall had slightly fewer office, well care and adult preventive/ambulatory visits, inpatient stays, and lower pharmacy use than non-FFC counterparts in both FY2018 and FY2019. However, the differences were not statistically significant, except for the inpatient stays, though the number of individuals utilizing inpatient services was too low (<11) to make the results reliable. The only exception is that the percent of FFC youth with at least one ED visit was higher than that for their non-FFC counterparts in FY2019 (37.8% vs. 32.8%), but again the difference was not statistically different. For well-care visits, when we took a closer look at those 18 to 21 years old, the percent of FFC youth receiving at least one well-care visit is larger than non-FFC youth in FY2018, but the number (11) is too small to be reliable. Finally, regarding the adult preventive/ambulatory health visits for those 22 to 26 years old, the percent of non-FFC youth with a visit is larger than that for FFC youth, with the difference larger in FY2019 than FY2018 (a gap of 3.3 percentage points in FY2018 and 6.6 percentage points in FY2019).

Table VI-4: Number and Percentage of FFC and Non-FFC Youth' Health Service Utilization

	FFC FY2018	Non-FFC FY2018	FFC FY2019	Non-FFC FY2019
	N (%)	N (%)	N (%)	N (%)
Total population (18-26 years old)	**239 (100.0)**	**239 (100.0)**	**294 (100.0)**	**294 (100.0)**
At least one office visit[120] during the year	134 (56.1)	146 (61.1)	148 (50.3)	170 (57.8)
At least one emergency department visit during the year	80 (33.5)	96 (40.2)	111 (37.8)	96 (32.8)
At least one well care visit during the year	66 (27.6)	65 (27.2)	64 (21.8)	75 (25.5)
At least one adult preventive/ambulatory health service during the year	139 (58.2)	152 (63.6)	160 (54.4)	177 (60.2)
At least one pharmacy use	131 (54.8)	143 (59.8)	163 (55.4)	173 (58.8)
Total population (18-21 years old only)	**30 (100.0)**	**33 (100.0)**	**35 (100.0)**	**32 (100.0)**
At least one well care visit during the year	11 (36.7)	11 (33.3)	<11 (<30)	12 (37.5)
Total population (22-26 years old only)	**209 (100.0)**	**206 (100.0)**	**259 (100.0)**	**262 (100.0)**
At least one adult preventive/ambulatory health visit during the year	120 (57.4)	125 (60.7)	138 (53.3)	157 (59.9)

Data source: MassHealth enrollment, eligibility, claims, and encounter data.
Note: N's less than 11 are not reported per HIPAA guidelines regarding cell size suppression. The number of inpatient encounters is rather small (both less than 11), so we did not report these numbers. The results for FY2020 were not included because the 2020 data were received in June 2020 and not fully adjudicated. Chi-square tests were performed to compare the differences between FFC and non-FFC youth. The 2019 HEDIS value set was used for calculating the well-care and annual adult preventive care visits.

In reviewing the behavioral health (BH) encounters comparing FFC and non-FFC youth (***Table VI-5***), we found that FFC youths' annual number of office visits for BH conditions was slightly higher than non-FFC youths: 0.9 percentage point higher in FY2018 and 2.4 percentage points higher in FY2019. Similarly, the level of pharmacy use was also slightly higher for FFC youth than non-FFC youth (27.6% vs. 25.1% in FY2018; 22.8% vs. 18.4% in FY2019). However, the utilization for other encounter types (e.g., office visit for evaluation and management, office visit to BH specialist, use of emergency transportation) had mixed differences. The number of BH encounters for inpatient stays,

[120] We included any office visit using the following codes: 99201-99205, 99211-99215, 99241-99245, 99341-99345, 99347-99350, 99304-99310, 99315, 99316, 99318, 99324-99328, 99334-99337, 99381-99387, 99391-99397, 99401-99404, 99411, 99412, 99420, 99429, 92002, 92004, 92012, 92014, 510-519, 520-523, 526-529, 982, 983, T1015, T1023, G0344, G0402, V202, V700, V703, V705, V706, V708, V709, Z000, Z005, Z008, Z021, Z023, and Z0289.

non-emergency transportation, and 24HR or non-24HR diversionary service use due to a BH condition was very small (<11), so we did not report the results.

Table VI-5: Number and Percentage of FFC and Non-FFC Youth' Behavioral Health Service Utilization

	FFC - FY2018	Non-FFC - FY2018	FFC - FY2019	Non-FFC - FY2019
	N (%)	N (%)	N (%)	N (%)
Total Population	239 (100.0)	239 (100.0)	294 (100.0)	294 (100.0)
At least one office visit for BH condition during the year	14 (5.9)	12 (5.0)	19 (6.5)	12 (4.1)
At least one office visit for evaluation and management visit for BH condition during the year	34 (14.2)	35 (14.6)	36 (12.2)	47 (16.0)
At least one office visit to BH specialist during the year	48 (20.1)	45 (18.8)	47 (16.0)	57 (19.4)
At least one use of emergency transportation during the year	23 (9.6)	26 (10.9)	40 (13.6)	32 (10.9)
At least one pharmacy use for BH condition during the year	66 (27.6)	60 (25.1)	67 (22.8)	54 (18.4)

Data source: MassHealth enrollment, eligibility, claims, and encounter data.
Note: 2020 results were not included because the data for 2020 was received in June 2020. Some of the claims have not been adjudicated, which may bias the findings. N's less than 11 are not reported per HIPAA guidelines.
Regarding cell size suppression. The number of inpatient stays, non-emergency transports, and 24HR or non-24HR diversionary service use is rather small (both less than 11), so we did not report these numbers.

D. Discussion

1. Interpretation

In examining H1, we found that approximately 70% of FFC youth were continuously enrolled on an annual basis during the evaluation period. FFC youth exhibited a higher level of continuous enrollment compared to non-FFC youth in FY2018. In contrast, the opposite occurred in FY2019, and the rates of continuous enrollment between the two groups were not significantly different in FY2020. It is unlikely that the change in the federal authority of how to pay for FFC youth services played a role in this, as the change would not be noticeable to FFC youth. However, analysis of more years' data, which will be included in the final summative report, may elucidate the long-term trends of continuous enrollment.

The findings of healthcare utilization were, overall, consistent for H2 and H3 that FFC youth had comparable utilization and outcomes to those of non-FFC youth with similar characteristics. After matched non-FFC youths were identified, we found generally

comparable levels of use of general healthcare services (i.e., office visit, ED visit, preventive/ambulatory service, well-care visit, and pharmacy use). If a difference was noticed, the result was not statistically significant. Any slight differences in utilization could be due to FFC youth or their foster parents not proactively seeking care or non-FFC youth's medical conditions being more severe, on average, and requiring more care. Our matching method controlled for diagnostic conditions but not the severity of the conditions, which is not directly available from MassHealth claims data.

The level of different types of behavioral health utilization among FFC youth varied in comparison to that of the non-FFC youth without a consistent pattern. It is possible that FFC youth experience more instability in the family/house environment. They may, at times, experience more behavioral health challenges and need a bit more care than non-FFC youth. However, again, the differences were not statistically significant.

With this iteration of the Demonstration, MassHealth has shifted the authority by which healthcare coverage for these FFC youth is reimbursed, moving it from the State Plan to the Demonstration. Although the payment authority changed, the coverage type has not changed and presumably has gone unnoticed by members. The payment authority in and of itself would not necessarily introduce outcome changes for FFC youth. Notably, because FY2018 includes both State Plan and Demonstration payment authorities, we will need to analyze more years of data to capture the changes in utilization under the waiver after FY2018.

Our interim results suggest that FFC youths' continuous healthcare coverage has been effectively maintained under the Demonstration authority. In addition, early evidence shows that FFC youths' healthcare utilization is similar to their non-FFC counterparts. Thus, maintenance of the FFC waiver policy ensures FFC youth have access to healthcare services offered by MassHealth comparable to non-FFC youth.

2. Study Limitations

This current evaluation analyses have several limitations. First, to determine the FFC youth, the following information would, ideally, be verified during the application process: whether they were in foster care in another state and whether they had coverage through Medicaid while in foster care in another state. This information is self-reported by the individual during the application process and is not verified; thus, there may be some bias in the identification of FFC youth. Second, the severity of members' medical conditions could not easily be determined using claims/encounter data. This is an important factor to control for when health care utilization and outcomes between FFC and non-FFC youth are compared. In future analyses, we could use the level of historic service utilization as a proxy for condition severity. Third, our healthcare and outcome analyses are based on individuals having at least one encounter. The actual level of utilization is not analyzed. Also, the total population size is still relatively small, which makes the measure estimate less reliable. With more enrollment over time, the larger population size will alleviate this issue. Fourth, our current analyses are based on

the state fiscal year. We will consider testing the analysis period to calendar year so that the post-only analysis begins in January 2018, following the actual date of federal authority change on December 14, 2017, or we will present a post-only analysis starting in FY19.

3. Policy Implications and Interactions with Other State Initiatives

Health care coverage for FFC youth has been an important part of Medicaid throughout the country since the passage of the federal Foster Care Independence Act of 1999 (also known as the Chafee Option).[121] With its passage, the Chafee Option allowed for FFC youth to receive Medicaid coverage until their 21st birthday. The Affordable Care Act (ACA) requires states to offer health insurance to FFC until age 26, with the intention of creating alignment with the access available to similar-aged youth who are covered under their parents' insurance until age 26.[122] However, a federal ruling meant that FFC from other states could not be covered under a state plan.[123] CMS required that the authority be moved under the Demonstration. By allowing FFC youth to be eligible for health insurance in the state to which they have relocated, this population can maintain access to health care services. This is beneficial to these individuals, as FFC youth have been found to have higher rates of health problems than others their age who were not in foster care.[124]

In Massachusetts, youth and young adults may be eligible for a range of services and supports provided by MassHealth and other state agencies. For example, there are two programs directed at youth and young adults aged 21 and younger. MassHealth's Children's Behavioral Health Initiative (CBHI) offers community-based behavioral health services for youth up to 20 years of age who are diagnosed with serious emotional disturbance. We found that the number of FFC youth receiving CBHI services is very low (less than 10), so the exposure to CBHI will have very little impact on the FFC youth population as a whole. Also available to those under age 21 is the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program, which provides preventive and treatment services that may address and ameliorate medical conditions at an early stage. In addition to these programs, transition-age youth (both below and above age 21) have access to services offered by the Department of Mental Health and covered by MassHealth. FFC youth may interact with other state agencies to facilitate their

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[121] USDHHS Office of the Assistant Secretary for Planning and Evaluation. Providing Medicaid to Youth Formerly in Foster Care Under the Chafee Option: Informing Implementation of the ACA. Available at: https://aspe.hhs.gov/basic-report/providing-medicaid-youth-formerly-foster-care-under-chafee-option

[122] National Center for Children in Poverty. Fostering Health: The Affordable Care Act, Medicaid, and Youth Transitioning from Foster Care. Available at: https://www.nccp.org/wp-content/uploads/2016/10/text_1165.pdf

[123] Congressional Research Service. Medicaid Coverage for Former Foster Care Youth Up to Age 26. Available at: https://crsreports.congress.gov/product/pdf/IF/IF11010

[124] Youth.gov. Young Adults Formerly in Foster Care: Challenges and Solutions. Available at: https://youth.gov/youth-briefs/foster-care-youth-brief/challenges

relocation to Massachusetts or access additional health services. We do not have access to data that allows us to examine the uptake of other state programs for FFC youth or their interactions with other state agencies; thus, we do not know what, if any, impact these might have on the healthcare utilization and outcomes for utilization for this population.

4. Lessons Learned and Recommendations

Our analysis shows that many FFC youth from other states who are enrolled in MassHealth have continuous enrollment and have utilized services through MassHealth as intended. Further evaluation to understand their health care utilization and health outcomes may inform Medicaid policy for this population. The final summative report evaluation analysis will include additional years of data, a more in-depth examination of the level of utilization and health outcomes, and comparisons over time and across populations. These enhanced findings will provide evidence for other states interested in adopting an FFC waiver policy.

As noted above, the data about FFC youths' foster care status is self-reported and not verified as part of the application process. MassHealth may find it beneficial to explore the utility and cost-effectiveness of verifying this information before enrolling these applicants in MassHealth. Confirmation of whether these youth are former foster care youth from another state may lead to them being enrolled in more appropriate benefit categories and potential cost savings for MassHealth.

The current analysis sheds light on whether FFC youth had different utilization and outcome from matched non-FFC youth. Coverage for FFC is not a new policy for Massachusetts. So, it will be useful to validate whether the insignificant differences or the absence of differences in outcomes between the two groups hold before the Demonstration.

An additional avenue of potential data exploration would be to understand FFC youth and their families' transition experiences from another state to Massachusetts. This information could point to ways in which MassHealth can support a smooth transition of coverage and consider targeting services to the FFC youth from other states to fill in the gaps. Similarly, an exploration of FFC youth's level of interaction with other Massachusetts state agencies to support their transition and address health and social issues may point to service gaps that can be filled by MassHealth or cross-agency collaborations to maximize the health outcomes of FFC youth. These can be addressed through qualitative data collection via focus groups or interviews with FFC youth or their family members.

VII. Demonstration Goal 7: Ensure the long-term financial sustainability of the MassHealth program

A. Background

Massachusetts is one of the few states to offer provisional eligibility (PE) enrollment in Medicaid. When initially put in place, PE was available to most MassHealth applicants, even if an individual's eligibility factors (e.g., income, residency) could not be readily verified with federal and state data.[125] Applicants were given a 90-day window during which they would receive the full benefits associated with their category of eligibility based on self-attested information. Verification of the eligibility factors – excluding disability, immigration, and citizenship – needed to be ascertained within the 90-day period, or the individual would either be dis-enrolled from MassHealth or, as applicable, enrolled in a different aid category.

With the refinement to PE requirements under this Demonstration, as of July 1, 2018, Massachusetts no longer provides PE for adult applicants with unverified income, except for individuals in the categories below. Provisional eligibility for items other than income remained the same.

- Under age 21
- Pregnant women with self-attested income at/below 200% of the Federal Poverty Level (FPL)
- Adults 21-64 years of age, who are HIV-positive and have attested income at/below 200% FPL
- Individuals with active treatment for breast and cervical cancer who are under age 65 and have attested income at/below 250% FPL

Existing members were able to receive the full 90 days of PE as of July 1, 2018. MassHealth enacted this change in order to reduce the number of individuals receiving PE who are ultimately not eligible for MassHealth and, as a result, realize savings from no longer incurring costs associated with the care of those individuals.

Another Demonstration provision under this goal, Student Health Insurance Program Premium Assistance (SHIP PA), provided MassHealth-eligible college students with assistance purchasing health insurance benefits offering a broad network of providers and services in any geographic location.[126] The program was intended to shift MassHealth-eligible students from full MassHealth coverage to SHIP coverage at their educational institution, with equal or better benefits relative to MassHealth, and at the

[125] PE eligibility is different from the presumptive eligibility. Presumptive eligibility enables qualified entities/providers (e.g., healthcare providers, community-based organizations, and schools, among others) to grant temporary Medicaid coverage to those who are unable to complete full Medicaid application at the time of service.
[126] American College Health Association. Do You Know Why Student Health Insurance Matters? Available at: https://www.acha.org/documents/Networks/Coalitions/Why_SHIPs_Matter.pdf

same time generate savings to MassHealth by changing primary health insurer to a non-MassHealth plan. Out-of-pocket costs to the students through SHIP PAs were typically lower than other health plans, and the student-specific membership provides predictable low-risk costs to the schools that offer them.

Requirements for post-secondary school-sponsored SHIPs in Massachusetts were established in 2014, mandating that students participate in either their school's plan or a health benefit plan offering comparable coverage.[127] Chapter 224 of the Massachusetts Acts of 2012 moved responsibility for administering SHIPs for public colleges and universities to the Health Connector. Beginning in 2014, students could waive their school's SHIP if they were enrolled in MassHealth or subsidized health plans through the Health Connector. Subsequent to this change and ACA implementation in 2014, which expanded Medicaid eligibility, allowing more students to become MassHealth eligible, fewer students enrolled in SHIPs.[128] In response, the MassHealth SHIP PA program was launched in 2016 through a partnership between MassHealth, schools, and commercial insurance plans.

Through the Demonstration authority, MassHealth members who were students in the state's public colleges and universities were required to enroll in their school's SHIP as a condition of eligibility. Once enrolled, coverage would be maintained for an academic year or partial year (spring semester only). The state provided premium and cost-sharing assistance and benefit wrap-around coverage to ensure that the out-of-pocket costs and available services from SHIP PA were at the same level as if services were covered directly from MassHealth.[129] The school's commercial insurance product acted as the primary payer of services, and MassHealth was the secondary payer.

As noted above, enrollment of MassHealth-covered students in the SHIP PA provision became mandatory as of the 2017-2018 academic year under the state's current Demonstration[3]. At the same time, MassHealth allowed out-of-pocket expense coverage for visits to any in-network health care provider, eliminating the previous requirement that the provider is a MassHealth provider. In 2019, MassHealth decided to discontinue the SHIP PA waiver authority at the end of the 2019-2020 academic year.

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[127] 956 CMR 8.00: Student Health Insurance Program Legislation. Available at: https://www.mass.gov/files/documents/2019/07/01/jud-lib-956cmr8.pdf

[128] Massachusetts Health Connector. Report to the Massachusetts Legislature Implementation of Health Care Reform. Fiscal Year 2017. Available at: https://betterhealthconnector.com/wp-content/uploads/annual-reports/ConnectorAnnualReport2017.pdf

[129] Changes to the MassHealth SHIP Premium Assistance Program for 2017. Available at: https://www.gallagherstudent.com/brochures/9115.pdf

B. Research Questions and Study Design

Research Questions

Because this goal addresses sustainability through two separate Demonstration provisions, there are two separate research questions and related hypotheses.

What is the effect of the Demonstration's refinement of provisional eligibility?

H1. The Demonstration's refinement of provisional eligibility will decrease the number of individuals deemed provisionally eligible for MassHealth based on self-attestation of eligibility factors but were not ultimately able to verify MassHealth eligibility relative to trends before the effective date of the current Demonstration extension period.

H2. The Demonstration's refinement of provisional eligibility will decrease costs to MassHealth by reducing MassHealth expenditures for individuals who are deemed provisionally eligible for MassHealth during the provisional eligibility period but cannot confirm their MassHealth eligibility within 90-days, relative to trends before the effective date of the current Demonstration extension period.

What is the effect of the Demonstration's authorization of SHIP Premium Assistance on MassHealth expenditures?

H3. The SHIP PA program will result in cost savings to MassHealth

H4: The SHIP PA program will result in a similar or better member experience compared with the period prior to enrollment

Study Design:

We intended to compare the trends in the number and percentage of individuals during each calendar quarter who receive PE but are later disenrolled due to not confirming their eligibility, before and after the current Demonstration period, to address H1. To address H2, we planned to compare the trends in healthcare costs incurred by members with provisional insurance who were later disenrolled due to not confirming their eligibility pre- and-post the current Demonstration period.

Per our approved EDD, we had intended to use MMIS data, which is fed from the HIX/IES system, for the H1 and H2 analysis. However, the PE information based on eligibility action reasons (i.e., the action reason code with opening and closing dates of an individual's eligibility status) in MMIS was only captured from 2018 onwards, which is after the Demonstration started. Therefore, we cannot perform the pre- and post-demonstration comparison to determine the impact of the PE policy. In addition, the action reason code indicates an individual's PE status; but the individual's PE eligibility closing dates have not been consistently reported. Therefore, we cannot accurately capture the number of PE individuals who later disenrolled.

We also explored the usability of the Daily Data Extract (DDE) from the Optum Reporting system, which is a replication of the HIX hCentive Operational Database[130] where the HIX/IES is being hosted. The DDE contains member data, however, we found that the DDE database is used for operational purposes and is not set upin a way that supports our evaluation purpose. The DDE data is a 'snapshot' in time, reflecting the data only at the time it is extracted. All data can be overwritten. including a PE flag, at any time for a variety of reasons, thus changing data values from any point in time. No historical records are retained after data are overwritten, thus we cannot retrieve historical data to determine the prior PE populations over time.

As a result, we will review the results from both data sources to compare the estimates and determine a better estimate for the Summative Report. We plan to make the most use of available data source options and refine research questions for this analysis for the summative report. One approach under consideration is to create weekly snapshots of the DDE data in real-time going forward to capture historical data that is as least overwritten as possible. However, even with this method, we will be limited from identifying the PE populations before the Demonstration; using DDE, we can only create the estimate of PE populations over time since July 2021 (when we started to capture this data on a weekly basis) to show the changes since then.

With regard to the hypotheses related to the SHIP PA, to evaluate H3, we conducted a cost savings analysis for SFY2017 to 2020 by comparing MassHealth costs for SHIP PA members and their non-SHIP PA counterparts. As MassHealth ended its SHIP PA program during the summer of calendar year 2020, additional analyses will not be possible for the final summative report. To evaluate H4, we used member experience survey data that MassHealth compiled in May 2019. The planned follow-up survey, which would allow for comparisons between the two time points, was not conducted because the program was discontinued.

Study Period: The evaluation period begins in SFY2017, the start of SHIP PA enrollment, and extends through the end of SFY2020.

Data Sources:

1) ***MassHealth administrative data***: MassHealth MMIS enrollment, medical claims/ encounter files, and pharmacy claims files were used to evaluate MassHealth enrollment and healthcare costs in the study populations

2) ***MassHealth capitation rate data****:* Capitation rates or per member per month (PMPM) premium rates were obtained from MassHealth

3) ***MassHealth SHIP PA member experience survey****:* Data about member experiences with the SHIP PA program were collected from college students enrolled in the program

[130] The HIX hCentive is propriety and restricted from reporting, so the Optum reporting system is an alternative.

Study Population: To evaluate H3 and H4, the study population was comprised of MassHealth members enrolled in SHIP PA.

Comparison Group: Because the Demonstration affects MassHealth members statewide, a clear comparison group to evaluate H3 and H4, that is, one that estimates what would have occurred in the absence of the Demonstration, does not exist. In lieu of a comparison group for H3, we calculated the cost to MassHealth of SHIP Premium Assistance enrollees had they not participated in the program, based on what MassHealth would have paid in capitated per member per month payments. To evaluate H4, we collected data directly from members enrolled in SHIP PA.

Measures: To evaluate Hypothesis H3, the measure is the healthcare costs that would have been paid by MassHealth for SHIP PA members if they were directly covered by MassHealth and enrolled in managed care.

To evaluate Hypothesis H4, measures include the members' perceptions of their access to care during enrollment into the SHIP PA program, the members' learned independence in coordinating their benefits and services, and overall satisfaction with the program.

Data Analysis: Relative to H3 and H4, using cost data provided by MassHealth, we reported actual program costs between SFY17 and SFY20 and calculated the annual cost savings of SHIP PA for that period from a MassHealth perspective for this interim report.

Cost savings were determined using the formula below:

Cost Savings = MassHealth costs without SHIP - MassHealth costs with SHIP

Where:

MassHealth costs with SHIP: The costs include total observed premiums, cost sharing, and benefit wrap coverage for SHIP PA members paid by MassHealth.

MassHealth healthcare costs without SHIP: Total costs to MassHealth will be estimated as the sum of the PMPM cost that would have been paid for SHIP PA enrollees had they been directly covered by MassHealth and enrolled in managed care. This was based on the capitated payment rate from MassHealth that reflects members' rating categories after inflation was considered. The total costs without SHIP were determined using the formula below:

MassHealth costs without SHIP = Estimated PMPM cost if student members[131] were not enrolled in SHIP PA X total number of member months of school enrollment

We also performed two sensitivity analyses to calculate the total cost for potential SHIP PA enrollees. The first sensitivity analysis relates to total cost relative to the length of school enrollment. For full-year students, the length of coverage was 12 months; however, for students enrolled in the Spring semester, the enrollment period could vary, so various assumptions of the length of spring coverage were made. Specifically, we used 7-, 7.5-, and 8-month timeframes along with the full-year (12-month) timeframe. Second, another sensitivity analysis was based on different scenarios for the SHIP PA members' total cost-sharing in SFY17, which was not available. We used a cost-sharing level of $0 PMPM versus an estimated $25 PMPM in cost-sharing payment for this year. In combination, this led to four scenarios of cost-saving estimates:

- Assumed 7-month spring semester enrollment & estimated SFY17 SHIP PA PMPM for cost sharing being $0
- Assumed 8-month spring semester enrollment & estimated SFY17 SHIP PA PMPM for cost sharing being $0
- Assumed 7-month spring semester enrollment & estimated SFY17 SHIP PA PMPM for cost sharing being $25
- Assumed 8-month spring semester enrollment & estimated SFY17 SHIP PA PMPM for cost sharing being $25

For H4 of the SHIP PA program evaluation, we describe member experience during enrollment in the SHIP PA program. While the evaluation team planned a pre-post survey, MassHealth conducted a member experience survey through its third-party liability (TPL) contractor in 2019 and determined that the results of the 2019 survey were sufficient for their programmatic needs and thus canceled plans for an additional survey. The key survey questions included length of being insured through SHIP PA, insurance history, and satisfaction with the program. As the SHIP PA program ended in summer 2020, a subsequent survey by MassHealth was not conducted. Thus, we report on the results of only the MassHealth-administered survey in our Findings below. The survey did not include a direct question about learned independence in the coordination of benefits and services; therefore, we did not conduct analyses about this dimension of member experience. The SHIP PA evaluation questions, measures, data sources, and analytic approach are summarized in ***Table VII-1***. Limitations for the data analysis are detailed in the Discussion section.

[131] The estimated PMPM is based on the SHIP student population who would have been covered by MassHealth directly, not based on all members of those ACO/MCO plans. The PMPM cost is adjusted for MassHealth coverage type (Family Assistance, CarePlus, CommonHealth, or standard), disability status and age.

Table VII-1:Overview of SHIP PA Analysis Methods Included in Interim Report

Research Question	Research Hypothesis	Measure [Reported for each Demonstration Year]	Recommended Data Source	Analytic Approach
What is the effect of the Demonstration's authorization of SHIP Premium Assistance on MassHealth expenditures?	The SHIP PA program will result in cost savings to MassHealth.	Healthcare premiums that would have been paid by MassHealth for SHIP PA members if they were directly covered by MassHealth and enrolled in managed care.	MassHealth premium cost data	Cost savings
What is the effect of the Demonstration's authorization of SHIP Premium Assistance on MassHealth expenditures?	The SHIP PA program will result in cost savings to MassHealth.	SHIP PA program costs	MassHealth cost data	Cost savings
What is the effect of the Demonstration's authorization of SHIP Premium Assistance on MassHealth expenditures?	The SHIP PA program will result in a similar or better member experience compared with the period prior to enrollment.	Measures include member's experience with perceived network access, actual care (personal doctor, specialist, and health plan)	SHIP Program Data, Member Experience Survey Data	Descriptive statistics

C. Interim Findings

SHIP PA Program Enrollment and Cost Analysis to Address H3

The total enrollment of students (both full-year and spring semester-only) was around 30,000 annually, except in SFY17 when program enrollment was beginning and much lower than subsequent years. Total MassHealth spending increased from year to year: from $66.5 million to $82.8 million from SFY 2018 to SFY2020, a 16.3 million or 24% increase, primarily driven by the increase in total premium costs (***Table VII-2***). Between SFY2018 and SFY2020, the total premium payments rose by approximately $13.7 million (from $64.4 to $78 million). The total cost sharing payments more than doubled, reaching $4.7 million in 2020. The total Out-of-Network Reimbursement Wrap cost saw the largest rate of increase, more than tripling from $13,456 in SFY18 to $46,712 in SFY19. It then decreased slightly in SFY20 to $41,265. However, the wrap cost was too small to impact the total cost savings significantly. The estimated cost to MassHealth of members, if they were not enrolled in SHIP PA, was $385 PMPM, on average, increasing from $357 to $430 over the evaluation period. The estimated PMPM cost to MassHealth of SHIP PA members was much lower, ranging from $164 in SFY2017 to $231 in SFY2020.

Table VII-2: SHIP PA Program Enrollment and Spend - SFY17 to SFY20*

State Fiscal Year	SFY17	SFY18	SFY19	SFY20
Total Enrollment Full Year/Spring Semester Only	4,550/	28,469/	30,069/	28,251/
	486	3,413	2,716	2,589
(Ratio of Spring to Full Year Enrollment)	(10.7%)	(12.0%)	(9.0%)	(9.2%)
Total Premium Payment	$9,522,317	$64,389,344	$72,541,102	$78,083,087
Total Cost Sharing Payments	Not available	$2,144,153	$5,249,081	$4,711,979
Total Out of Network Reimbursement Wrap	$1,230	$13,456	$46,712	$41,265
Total Spending	$9,523,547**	$66,546,953	$77,836,895	$82,836,331
Calculated PMPM of SHIP Enrollees* **	$164	$181	$204	$231
Estimated PMPM if Member Not Enrolled in SHIP PA	$400	$357	$368	$430

Data Source: MassHealth

*The estimated ACO/MCO rates to compare the SHIP costs to are based on an analysis done by Mercer and MassHealth. Mercer and MassHealth collaborated to identify members in the FY17 base data who had already elected SHIP coverage. In addition, Mercer identified members in the FY17 base period that were expected to disenroll from MassHealth by FY19 due to mandatory SHIP enrollment. The rate estimates were initially based on the rates that would have been experienced by these members had they remained on their previous MassHealth coverage, with updates for each fiscal year based on the actual rate updates which occurred.
**Does not include Total Cost-sharing payments, which were not available
***This was calculated by dividing the total spending by the total number of member months. For the Spring semester, an estimated enrollment of 7.5 months was used in the calculation.

Table VII-3: Estimated Cost Saving to MassHealth by Enrolling Members into SHIP PA

State Fiscal Year	SFY17	SFY18	SFY19	SFY20	Grand Total Enrollment
Total Enrollment Full Year/Spring Semester Only	4,550/ 486	28,469/ 3,413	30,069/ 2,716	28,251/ 2,589	91,339/ 9,204

Data Source: MassHealth
Note: The student attribution rate is unknown. If it is high (least likely), the cost savings presented could be an overestimation.

Table VII-4: Scenario 1 – Assumed 7-month Spring Semester Enrollment

State Fiscal Year	SFY17	SFY18	SFY19	SFY20	Grand Total Enrollment
Total Cost for Members Without SHIP-PA	$23,200,800	$130,380,627	$139,933,056	$153,710,904	**$447,225,387**
Total SHIP PA Actual Spend	$9,523,547	$66,546,953	$77,836,895	$82,836,331	**$236,743,726**
Cost Savings	$13,677,253	$63,833,674	$62,096,162	$70,874,573	**$210,481,661**

Data Source: MassHealth
Note: The student attribution rate is unknown. If it is high (least likely), the cost savings presented could be an overestimation.

Table VII-5:Scenario 2 – Assumed 8-month Spring Semester Enrollment

State Fiscal Year	SFY17	SFY18	SFY19	SFY20	Grand Total Enrollment
Total Cost for Members Without SHIP-PA	$23,395,200	$131,598,044	$140,933,630	$154,825,210	**$450,752,084**
Total SHIP PA Actual Spend	$9,523,547	$66,546,953	$77,836,895	$82,836,331	**$236,743,726**
Cost Savings	$13,871,653	$65,051,091	$63,096,736	$71,988,878	**$214,008,358**

Data Source: MassHealth
Note: The student attribution rate is unknown. If it is high (least likely), the cost savings presented could be an overestimation.

Table VII-6: Scenario 3 – Assumed 7-month Spring Semester Enrollment & Using SFY17 Cost-sharing Estimate

State Fiscal Year	SFY17	SFY18	SFY19	SFY20	Grand Total Enrolmment
Total Cost for Members Without SHIP-PA	$23,200,800	$130,380,627	$139,933,056	$153,710,904	**$447,225,387**
Total SHIP PA Spend	$10,973,597	$66,546,953	$77,836,895	$82,836,331	**$238,193,776**
Cost Savings	$12,227,203	$63,833,674	$62,096,162	$70,874,573	**$209,031,611**

Data Source: MassHealth
Note: The student attribution rate is unknown. If it is high (least likely), the cost savings presented could be an overestimation.

Table VII-7: Scenario 4 – Assumed 8-month Spring Semester Enrollment & Using SFY17 Cost-sharing Estimate

State Fiscal Year	SFY17	SFY18	SFY19	SFY20	Grand Total Enrollment
Total Cost for Members Without SHIP-PA	$23,395,200	$131,598,044	$140,933,630	$154,825,210	**$450,752,084**
Total SHIP PA Spend	$10,985,747	$66,546,953	$77,836,895	$82,836,331	**$238,205,926**
Cost Savings	$12,409,453	$65,051,091	$63,096,736	$71,988,878	**$212,546,158**

Data Source: MassHealth
Note: The student attribution rate is unknown. If it is high (least likely), the cost savings presented could be an overestimation.

SHIP PA Member Experience to Address H4

The survey of students garnered an overall 11% response rate by school, with 3,036 students completing the survey out of approximately 30,000 students enrolled in the MassHealth SHIP per year. Students from community colleges, state colleges & universities, and private schools all participated in the survey, although we cannot calculate the response rate by these three types of schools. The results are included in ***Table VII*-8 to *Table VII*-12**.

Slightly more than half (54%) of respondents were enrolled in SHIP PA for less than one year, and 28% were enrolled for one to two years. In response to the question of how being enrolled in their insurance plan had improved healthcare access, 30% of respondents noted that they have better coverage than they had before, 26% indicated having a larger network than they used to, and 41% had no opinion or hadn't used their insurance. A majority (64%) had a 'very' or 'somewhat' clear understanding of the insurance, and nearly one-third indicated they had better access to care via the SHIP. While 25% of respondents hadn't used the insurance plan prior to the time of the survey, two-thirds (63%) used the insurance coverage between one and five times, with responses pretty consistent across school type. When asked if they liked the "Student Health Insurance provided by MassHealth," approximately two-thirds (66%) indicated 'yes,' with the remainder split between 'no' and 'no opinion' (17% each). Most of the responses came from community colleges and state colleges/universities.

Table VII-8: How many years have you been enrolled in your student Health Insurance provided by MassHealth?

	Community Colleges	State Colleges & Universities	Private Schools	Total Numbers	Total %
Less Than 1 Year	658	562	417	**1,637**	**54%**
1-2 Years	224	422	208	**854**	**28%**
2-3 Years	59	211	91	**361**	**12%**
I Don't Know	74	67	41	**182**	**6%**

Data Source: MassHealth SHIP PA Experience Survey Results, May 2019
Note: The total number of respondents is 3,036 students from 16 Community Colleges, 13 State Colleges/Universities, and 44 Private Schools. For each specific question, the number of respondents may vary.

Table VII-9: How has being enrolled in your insurance plan improved your access to healthcare? (Respondents could select more than one)

	Community Colleges	State Colleges & Universities	Private Schools	Total Numbers	Total %
I have a larger network of providers available than I did before	219	327	249	**795**	**26%**
I have better coverage for my medical needs than I did before	266	409	261	**936**	**30%**
I have used the plan outside of MA	15	41	42	**98**	**3%**
No opinion / I haven't used the plan	497	518	262	**1277**	**41%**
Across all response categories	**997**	**1295**	**565**	**2857**	**100%**

Data Source: MassHealth SHIP PA Experience Survey Results, May 2019
Note: The total number of respondents is 3,036 students from 16 Community Colleges, 13 State Colleges/Universities, and 44 Private Schools. For each specific question, the number of respondents may vary.

Table VII-10: How clear is your understanding of your insurance coverage and benefits provided by MassHealth Student Insurance program?

	Community Colleges	State Colleges & Universities	Private Schools	Total Numbers	Total %
Very Clear	177	198	122	**497**	**15%**
Somewhat Clear	524	742	380	**1646**	**49%**
Unclear	314	315	215	**844**	**25%**
Across all response categories	**1015**	**1255**	**717**	**2987**	**89%**

Data Source: MassHealth SHIP PA Experience Survey Results, May 2019
Note: The total number of respondents is 3,036 students from 16 Community Colleges, 13 State Colleges/Universities, and 44 Private Schools. For each specific question, the number of respondents may vary.

Table VII-11: How many times have you used your health insurance coverage? Please include any doctor appointments, clinic visits, prescription benefits, etc.*

	Community Colleges	State Colleges & Universities	Private Schools	Total Numbers	Total %
Never	25%	22%	19%	**N/A**	**25%**
1-5 Times	62%	64%	63%	**N/A**	**63%**
More than 5 Times	13%	14%	19%	**N/A**	**13%**
Across all response categories	**100%**	**100%**	**100%**	**N/A**	**100%**

Data Source: MassHealth SHIP PA Experience Survey Results, May 2019
Note: The total number of respondents is 3,036 students from 16 Community Colleges, 13 State Colleges/Universities, and 44 Private Schools. For each specific question, the number of respondents may vary.
*Results are reported as shown in the SHIP PA Experience Survey Results; we do not have the numerators and denominators of the percentages for this question.

Table VII-12: Do you like your Student Health Insurance provided by MassHealth?

	Community Colleges	State Colleges & Universities	Private Schools	Total Numbers	Total %
Yes	608	855	523	**1986**	**66%**
No	211	201	110	**522**	**17%**
No Opinion	196	207	125	**528**	**17%**
Across all response categories	**1015**	**1263**	**758**	**3036**	**100%**

Data Source: MassHealth SHIP PA Experience Survey Results, May 2019
Note: The total number of respondents is 3,036 students from 16 Community Colleges, 13 State Colleges/Universities, and 44 Private Schools. For each specific question, the number of respondents may vary.

D. Discussion

1. Interpretation

MassHealth's SHIP PA program provided broader access to a network of providers and services while providing premium and cost-sharing assistance so that out-of-pocket costs and available services were at the same level as if the services were received directly from MassHealth. In addition, through the use of SHIP PA, students would have an opportunity to use commercial insurance earlier and begin to learn how to navigate insurance independently to facilitate their transition to independently obtaining and using insurance coverage post-graduation.

With respect to H3, there were tremendous savings to MassHealth. The SHIP PA started as an effective way to leverage a public-private partnership to achieve MassHealth's cost saving goal while ensuring MassHealth student members have the same or better health benefits as what they would have received from MassHealth directly.

Overall, relative to H4, a majority of students expressed satisfaction with the MassHealth SHIP PA. Some students indicated that they had improved access to care than before being insured under SHIP PA, expressed as a larger network or better coverage for medical needs. While these percentages were comparatively low, 26% and 30%, respectively, it is possible other students experienced access through SHIP PA that was similar to or better than what they had before being insured through a SHIP PA. In addition, 41% indicated that they hadn't used their plan by the time of the survey, so they may not have had the knowledge or experience to make the comparison.

Despite the estimated cost savings and overall student satisfaction with the program, MassHealth has decided, after internal data analysis, to end the program. Although the program is beneficial for MassHealth and MassHealth student members, not all stakeholders have received or perceived enough benefits to maintain the program. For the 2020-2021 academic year, BCBSMA indicated that there would be an average SHIP PA premium increase for all students attending public colleges/universities of ~47% if MassHealth members remained in the SHIP PA program.[132] This increase meant that non-MassHealth students would have paid almost 50% more for their premiums through the SHIP program. A 47% premium increase was considered far too heavy a burden for these students, which is why MassHealth decided to sunset the SHIP PA Program at the conclusion of the 2019-2020 academic year. The commercial payer was reluctant to keep the program in place as well.

2. Study Limitations

The estimated cost savings under H3 are subject to the analyses conducted by Mercer. We had to make various assumptions. To respond to H4, we had to rely on the results of the member experience survey conducted in 2019 to report our findings of member satisfaction. Thus, our interpretation is limited to these findings only. This survey had a low response rate, 11%, and results are not generalizable to the entire population of SHIP PA participants. Because we did not conduct a second survey, we did not examine differences in member experiences between the pre-enrollment and the enrollment period or heterogeneity in member experiences by the length of time in the program. Also, the survey is limited in the types of information collected and does not allow for subgroup analysis.

3. Policy Implications and Interactions with Other State Initiative

For the SHIP PA program, MassHealth engaged in an important and rewarding public-private partnership program in supporting MassHealth students with adequate healthcare coverage and with an opportunity to practice the independence of navigating commercial plans. The program was found to save MassHealth significant costs and satisfy student members. Even though the SHIP PA program was discontinued, it demonstrated the challenges and opportunities related to collaboration between MassHealth and commercial insurers.

Premium assistance can be a useful lever for MassHealth members to receive competitive healthcare coverage. In the general, non-SHIP PA population, premium assistance policies do not cost MassHealth as much as it would cost MassHealth to pay

[132] State to end health insurance program it once called a cost-saver. The reason: Costs are too high. Available at: https://www.bostonglobe.com/2020/02/06/metro/state-end-masshealth-program-it-once-called-cost-saver-reason-costs-are-too-high/

for all healthcare services that these members access. However, with significant year-over-year premium increases for the BCBSMA SHIP, those savings may have been erased, and providing premium assistance for SHIPs in the future may have cost MassHealth more than paying for the healthcare services of this population.

Although the SHIP PA program was ended in summer 2020, some students did not revert to MassHealth managed care immediately following the end of the program, totaling 4,776 members. These cases are individuals who, during the period they were enrolled in their SHIP, either lost their MassHealth eligibility or had their eligibility downgraded and were no longer eligible for MassHealth managed care. However, due to the COVID public health emergency, these individuals remain in SHIP aid categories as a protection to prevent them from losing or downgrading MassHealth benefits during the PHE. They continue to receive full MassHealth Fee For Service benefits while in these aid categories.

4. Lessons Learned and Recommendations

With MassHealth's decision to end the SHIP PA program, it seems that some public-private partnerships may not always work as they are originally intended. The sustainability of the policy implementation to promote a public and private partnership, such as through premium assistance, requires MassHealth to investigate the advantages of the policy not only to MassHealth and its members but also to other stakeholders (e.g., the private sector and non-MassHealth students). A policy is more sustainable if it supports the goals of *all stakeholders*. The decision to end this program reflects the reality that commercial insurers are unlikely to accept an influx of higher-cost members without commensurate adjustments in premium or coverage.

The SHIP PA policy could be re-configured by determining what would benefit schools and non-MassHealth students over the long run. Perhaps some cost-driving benefits (e.g., prevention and treatment of behavioral and substance use) can be covered by MassHealth instead of commercial plans, which will make risks between MassHealth and non-MassHealth students more comparable. In addition, continued prevention efforts by MassHealth to reduce behavioral health conditions and substance use will drive down the healthcare needs and risks of MassHealth students.

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IX. Appendices

A. Appendix A: Independent Evaluation Interim Report Acronyms

Acronym	
ACA	Affordable Care Act
ACO	Accountable Care Organizations
ACCS	Adult Community Clinical Services
ACS	American Community Survey
ACSC	Ambulatory Care Sensitive Conditions
ADA	American Dental Association
AHRQ	Agency for Healthcare Research and Quality
AMA	American Medical Association
APCD	All Payer Claims Database
ASAM	American Society of Addiction Medicine
BH	Behavioral Health
BSAS	Bureau of Substance Addiction Services
CBHI	Children's Behavioral Health Initiative
CBO	Community Based Organization
CDC	Centers for Disease Control and Prevention
CFIR	Consolidated Framework for Implementation Research
CHA	Cambridge Health Alliance
CHC	Community Health Center
CHIP	Children's Health Insurance Program
CHPR	Center for Health Policy Research
CMS	Centers for Medicare and Medicaid Services
COE RRS	Co-occurring Residential Rehabilitation Services
CP	Community Partner
CPT	Current Procedural Terminology
CSA	Community Service Agency
CY	Calendar Year
DCF	Department of Children and Families
DDE	Direct Data Entry
DSRIC	Delivery System Reform Implementation Advisory Council

DMH	Department of Mental Health
DPH	Department of Public Health
DSH	Disproportionate Share Hospital
DSRIP	Delivery System Reform Incentive Payment
DUA	Data Use Agreement
DY	Demonstration Year
ED	Emergency Department
EDD	Evaluation Design Document
EHR	Electronic Health Record
EMR	Electronic Medical Record
EPSDT	Early and Periodic Screening, Diagnostic, and Treatment
EOHHS	Executive Office of Health and Human Services
ESI	Employer Sponsored Insurance
FMCH	Family Medicine and Community Health
FFC	Former Foster Care Youth
FPL	Federal Poverty Level
FPP	Full Participation Plan
FS	Flexible Services
FY	Fiscal Year
HHA	Home Health Agency
HIT	Health Information Technology
HIE	Health Information Exchange
HIX/IES	Health Insurance Exchange/Integrated Eligibility System
HIX-IEIS	Health Insurance Exchange/Integrated Eligibility Information System
HIPAA	Health Insurance Portability and Accountability Act
HRSA	Health Resources and Survey Administrations
HRSN	Health Related Social Needs
HSN	Health Safety Net
HSN-PD	Health Safety Net Presumptive Determination
IA	Independent Assessor
ICER	Incremental Cost Effectiveness Ratio
IE	Independent Evaluator
IEIR	Independent Interim Evaluation Report
ICD	International Classification of Diseases

IMDs	Institute of Mental Disease
ISA	Interdepartmental Services Agreement
ITS	Interrupted Time Series
JOC	Joint Operating Committee
KII	Key Informant Interview
LICSW	License Independent Clinical Social Worker
LPN	Licensed Practical Nurse
LTSS	Long-Term Supports and Services
MA	Massachusetts
MAT	Medication for Addiction Treatment
MCO	Managed Care Organization
MCE	Managed Care Eligible
MDS	Minimum Data Set
MMIS	MassHealth Medicaid Management Information System
MRC	Massachusetts Rehabilitation Commission (MRC)
MRI	Magnetic Resonance Imaging
NSACO	National Survey of Accountable Care Organizations
NCQA	National Committee on Quality Assurance
NESCSO	New England States Consortium Systems Organization
Non-FFC	Not Former Foster Care Youth
NQF	National Quality Forum
OD	Overdose
OUD	Opioid Use Disorder
PCA	Personal Care Assistant
PCC	Primary Care Clinician
PCP	Primary Care Provider
PCPI	Physician Consortium for Performance Improvement
PE	Provisional Eligibility
PETI	Post-Eligibility Treatment of Income
PGAV	Production Grade Analytics Vendor
PHE	Public Health Emergency
PHM	Population Health Measure
PHTII	Public Hospital Transformation and Incentive Initiative
PMPM	Per Member Per Month

PMPY	Per Member Per Year
PPHS	Public and Private Health Solutions
QHS	Quantitative Health Sciences
QHP	Qualified Health Plan
RN	Registered Nurse
ROI	Return on Investment
RQ	Research Question
RRS	Residential Rehabilitation Services
SAC	Scientific Advisory Committee
SD	Standard Deviation
SFY	State Fiscal Year
SFTP	Secure File Transfer Protocol
SHIP	Student Health Insurance Program
SHVS	State Health and Value Strategies
SMI	Serious Mental Illness
SNF	Skilled Nursing Facility
SNCP	Safety Net Care Pool
SNPP	Safety Net Provider Payments
SSO	Social Service Organization
STC	Special Terms and Conditions
SUD	Substance Use Disorders
SWI	Statewide Investments
TA	Technical Assistance
TCOC	Total Cost of Care
TPL	Third Party Liability
UCC	Uncompensated Care Cost
UCCR	Uncompensated Care Cost & Charge Report
UMass Chan	University of Massachusetts Chan Medical School
VA	Veterans Affairs

B. Appendix B: List of ACO, CP, SSA's & SSO's

Table B.1: Accountable Care Organizations

Accountable Care Organization	Abbreviation
Merrimack Valley ACO in partnership with Allways Health Partners	AHP MVACO
Boston Accountable Care Organization in partnership with Boston Medical Center HealthNet Plan	BMCHP BACO
Mercy Health Accountable Care Organization in partnership with Boston Medical Center HealthNet Plan	BMCHP Mercy
Signature Healthcare Corporation in partnership with Boston Medical Center HealthNet Plan	BMCHP Signature
Southcoast Health Network in partnership with Boston Medical Center HealthNet Plan	BMCHP Southcoast
Community Care Cooperative, Inc.	C3
Health Collaborative of the Berkshires in partnership with Fallon Community Health Plan	FLN Berkshire
Reliant Medical Group in partnership with Fallon Community Health Plan	FLN Reliant
Wellforce in partnership with Fallon Community Health Plan	FLN Wellforce
Baystate Health Care Alliance in partnership with Health New England (BeHealthy Partnership)	HNE Baystate
Lahey Clinical Performance Network	Lahey CPN
Partners HealthCare Accountable Care Organization	PHACO
Steward Medical Care Network, Inc.	SMCN
Atrius Health in partnership with Tufts Health Public Plans	THPP Atrius
Beth Israel Deaconess Care Organization in partnership with Tufts Health Public Plans	THPP BIDCO
Cambridge Health Alliance in partnership with Tufts Health Public Plans	THPP CHA
Boston Children's Accountable Care Organization in partnership with Tufts Health Public Plans	THPP BCACO

Table B.2: Behavioral & LTSS Community Partners

Behavioral & LTSS Community Partner	Abbreviation
Behavioral Health Network, Inc.	BHN
Behavioral Health Partners of MetroWest, LLC	BHPMW
Boston Coordinated Care Hub	BCCH
Central Community Health Partnership (BH)	CCHP BP

Table B.3: Behavioral Health Community Partners

Behavioral Health Community Partner	Abbreviation
Brien Center Community Partner Program	Brien
Clinical and Support Options, Inc.	CSO
Community Care Partners, LLC	CCP
Community Counseling of Bristol County, Inc.	CCBC
Community Healthlink, Inc.	CHL
Eliot Community Human Services, Inc.	Eliot
Coordinated Care Network	CCN
Innovative Care Partners, LLC - BH	ICP-BH
Lahey Health Behavioral Services	LHBS
Lowell Community Health Center Community Partner d/b/a Greater Lowell BH Community Partner	Lowell CHC CP
Riverside Community Partners	Riverside
South Shore Community Partnership	South Shore
Southeast Community Partnership, LLC	Southeast
SSTAR Care Community Partners	SSTAR

Table B.4: Long-Term Services and Supports Community Program

Long-term Services and Supports Community Program	Abbreviation
Open Sky dba Central Community Health Partnership	CCHP LTSS
LTSS Care Partners, LLC	LTSS-CP
Boston Allied Partners	BAP
Merrimack Valley Community Partner	MVCP
Family Service Association	FSA
North Region LTSS Partnership	NRLP
Innovative Care Partners, LLC – LTSS	ICP-LTSS
Massachusetts Care Coordination Network	MCCN
Care Alliance of Western Massachusetts	CAWM

Table B.5: Community Services Agencies

Community Service Agencies
Bay State Community Services CSA
Behavioral Health Network CSA
Brien Center CSA
Brockton Area Multiservices
Child & Family Services
Children's Services of Roxbury
Clinical and Support Options CSA
Community Counseling of Bristol County CSA
Community HealthLink CSA
Eliot Community Human Services CSA
Family Service Association CSA
Gándara Center
Justice Resource Institute (JRI)
Lahey Health Behavioral Services CSA
North Suffolk Mental Health Association
Riverside CSA
The Home for Little Wanderers
Wayside Youth & Family Support Network
Youth Opportunities Upheld

Table B.6: Social Service Organizations

Social Service Organization
About Fresh
Behavioral Health Network, Inc.
Berkshire County Regional Housing Authority
Berkshire County Sheriff's Office
Boston Coordinated Care Hub
Community Action Pioneer Valley
Community Counseling of Bristol County (CCBC)

Community Servings
Community Teamwork, Inc. (CTI)
Daily Table
Elder Services of Worcester Area
Eliot Community Human Services Inc
FamilyAid Boston
Father Bill’s & Mainspring
Food Bank of Western Massachusetts (with partners)**
Fresh Food Generation
The Guild
Housing Assistance Corporation (HAC)
Just Roots
Making Opportunities Count
Massachusetts Coalition for the Homeless
Mental Health Association (MHA)
Merrimack Valley Community Partner
Metro Housing Boston
Mill City Grows
MLPB
Neighborworks Housing Solutions
Nutre
Old Colony YMCA
Open Sky
Project Bread
Project Hope
Revitalize CDC
ServiceNet
SMOC
Vinfen
WayFinders
Wellspring

C. Appendix C: DSRIP Domains, Research Questions, and Hypotheses

Table C.1: Domain 1: State, organizational and provider-level actions promoting delivery system transformation

Research Questions	Hypotheses
RQ1: To what extent did the state take actions to support delivery system transformation?	**H1.1.** DSRIP ACO and CP funding will support delivery system transformation **H1.2.** Statewide investment (SWI) initiatives aimed at increasing the supply, preparedness, and retention of the community-based workforce (SWI 1 through 4) will support delivery system transformation **H1.3** SWI initiatives aimed at providing technical assistance to ACOs and CPs, supporting provider preparedness to enter alternative payment models, reducing emergency department boarding, and improving access for people with disabilities and for whom English is not a primary language (SWI 5 through 8) will support delivery system transformations
RQ2: To what extent did ACOs take organizational-level actions to transform care delivery under an accountable and integrated care model?	**H2.1.** ACOs will vary with respect to governance structure (e.g., lead provider, role of provider and patients), service scope, and local conditions (e.g., experience participating in payment reforms, local context/market served) **H2.2.** ACOs will engage providers (primary care and specialty) in delivery system change through financial (e.g., shared savings) and non-financial levers (e.g., data reports) **H.2.3.** ACOs will implement Health Information Technology (HIT)/Health Information Exchange (HIE) infrastructure to support population health management (e.g., reporting, data analytics) and data exchange within and outside the ACO **H2.4** ACOs will implement non-CP-related population health management activities including risk stratification, needs screenings and assessments, and programs to address identified needs **H2.5** ACOs will implement structures and processes to coordinate care across the care continuum **H2.6** ACOs will implement processes to identify and address health-related social needs (HRSN), including management of Flexible Services H2.7 ACOs will implement strategies to reduce the total cost of care (e.g., utilization management, referral management, administrative cost reduction), excluding the population health management/care programs mentioned above **H2.8.** Accountable Care Partnership Plans (Model A) will transition more of the care management responsibilities to their ACO partners over the course of the demonstration **H2.9** ACOs will establish processes to facilitate member engagement **H2.10** ACOs will monitor quality performance and establish mechanisms to support quality improvement efforts

Research Questions	Hypotheses
RQ3: How and to what extent did CPs target resources and take actions to operate under an accountable and integrated care model?	**H3.1:** CPs will engage constituent entities in delivery system change **H3.2:** CPs will recruit, train and/or retrain staff by leveraging SWIs and other supports **H3.3:** CPs will develop HIT/HIE infrastructure and interoperability to support care coordination (e.g., reporting, data analytics) and data exchange (e.g., internally with ACOs & MCOs, and externally with BH, LTSS, specialty providers, and social service entities) **H3.4:** CPs will develop systems to coordinate services across the care continuum that complement services provided by other state agencies (e.g., DMH)
RQ4: How and to what extent did ACOs, MCOS, and CPs align resources and take common actions to operate under an accountable and integrated care model?	**H4.1:** ACOs, MCOs, & CPs establish structures and processes to promote improved administrative coordination between organizations (e.g., enrollee assignment, engagement and outreach) **H4.2:** ACOs, MCOs, & CPs establish structures and processes to promote improved clinical integration across their organizations (e.g., flow of patient and patient information across settings, integrated care plans) **H4.3:** ACOs, MCOs, & CPs establish structures and processes for joint management of performance, quality, and conflict resolution

Table C.2: Domain 2: Changes in care processes

Research Question	Hypotheses
RQ5: To what extent did the identification of member needs including physical, BH, LTSS, and social needs improve?	**H5.1:** The identification of individual members' unmet needs (including health-related social needs, BH, and LTSS needs) will improve
RQ6: To what extent did access to physical care, BH care, and LTSS improve?	**H6.1:** Access to physical care services will improve or remain consistent for members **H6.2:** Access to BH services for will improve or remain consistent for members **H6.3:** Access to LTSS will improve or remain consistent for members
RQ7: To what extent did engagement with physical care, BH care, and LTSS improve?	**H7.1:** Engagement with physical care services will improve or remain consistent for members **H7.2:** Engagement with BH services will improve or remain consistent for members **H7.3:** Engagement with LTSS will improve or remain consistent for members

Research Questions	Hypotheses
RQ8: To what extent did care processes improve for physical, BH, and LTSS?	**H8.1:** Physical health care processes (e.g., wellness & prevention, chronic disease management) will improve for members **H8.2:** BH care processes will improve for members **H8.3:** LTSS processes will improve for members **H8.4:** The management of health-related social needs will improve through use of Flexible Services and/or other social service interventions for members **H8.5:** Provider staff will report an improved experience delivering healthcare services to members
RQ9: To what extent did integration between physical health, behavioral, and long-term services increase?	**H9.1:** Integration across the care continuum (e.g., physical health, BH, LTSS, acute care, social services) will increase **H9.2:** Provider staff will report increased care integration (within and between ACOs and CPs)
RQ10: How did the volume and mix of services change during the course of the Demonstration?	**H10.1:** The volume and mix of services utilized will shift, when clinically appropriate, in the direction of lower cost sites and types of care **H10.2:** The utilization of low value care will decrease

Table C.3: Domain 3: Changes in member outcomes

Research Question	Hypotheses
RQ11: To what extent did member outcomes improve?	**H11.1:** Inpatient and emergency department utilization rates will decrease overall **H11.2:** Inpatient and emergency department utilization rates will decrease for adults and children with specific conditions including ambulatory care sensitive conditions **H11.3:** Inpatient and emergency department utilization rates will decrease among adults with mental illness, substance addiction, co-occurring conditions, or LTSS needs **H11.4:** Community tenure will increase **H11.5:** Members will report improved ratings of health
RQ12: To what extent did member experience improve during the Demonstration?	**H12.1:** Members will report improved overall ratings of their healthcare provider

Table C.4: Domain 4: Changes in healthcare cost trends

Research Question	Hypotheses
RQ13: To what extent were Medicaid total cost of care trends moderated for the for the ACO population?	**H13.1:** The rate of increase in the total cost of care for the ACO population will decrease

Table C.5: Domain 5: Sustainability of innovation delivery system changes, including ACOs, Community Partners and Flexible Services

Research Question	Hypotheses
RQ14: To what extent will innovative delivery system changes including ACOs, CPs, and Flexible Services will be sustainable without DSRIP funding?	**H14.1:** ACOs will develop strategies to continue to operate under an accountable and integrated care model after the Demonstration ends **H14.2:** CPs will develop strategies to continue to operate under an accountable and integrated care model after the Demonstration ends **H14.3:** ACOs will pursue strategies to continue to provide Flexible Services to members after the Demonstration ends' **H14.4** The costs and effects of the ACO program will warrant continued investment **H14.5** The costs and effects of the CP program will warrant continued investment **H14.6** The costs and effects of the FS program will warrant continued investment
RQ15: To what extent did alternative and value-based payments constitute an increasingly larger proportion of the payments to organizations and providers managing the care of MassHealth members?	**H15.1:** The number of members cared for in ACOs will increase **H15.2:** ACOs and MCOs will engage in value-based payment arrangements with specialist providers **H15.3:** ACOs and MCOs will engage in alternative payment models and value-based payment arrangements with hospitals **H15.4** The number of primary care practices participating in ACOs will increase

Table C.6: Domain 6: Effects of Specific DSRIP Investments and Actions

Research Question	Hypotheses
RQ16: To what extent can observed changes in care processes, outcomes, and costs be attributed to DSRIP?	**H16.1:** Improvements in care processes will be associated with key DSRIP inputs and outputs **H16.2:** Improvements in member outcomes will be associated with key DSRIP inputs and outputs **H16.3:** Moderated total cost of care trends will be associated with key DSRIP inputs and outputs **H16.4:** The State and local context will modify the relationship between DSRIP outputs and ACO quality and cost performance

D. Appendix D: Key Informant Interview Guides

This appendix contains interview guides, as listed below, used for qualitative data collection conducted between May 2019 and December 2020. The data collection process and analysis methods are described in Appendix E.

1. ACO Key Informant Interview Guide
2. CP Key Informant Interview Guide
3. MCO Key Informant Interview Guide
4. Member Experience Interview Guide - Adult
5. Member Experience Interview Guide - Pediatric
6. State Representative Interview Guide
7. ACO Case Study Interview Guide: ACO #1
8. ACO Case Study Interview Guide: ACO #2
9. ACO Case Study Interview Guide: ACO #3
10. ACO Case Study Interview Guide: ACO #4
11. CP Case Study Interview Guide: CP #1
12. CP Case Study Interview Guide: CP#2
13. CP Case Study Interview Guide: CP #3
14. CP Case Study Interview Guide: CP #4

1. ACO Key Informant Interview Guide

[Introduce Self] Thank you very much for taking the time to talk with me about your MassHealth ACO. As you know, we are part of the independent team that is evaluating the MassHealth ACO initiative. In this part of our study, we are trying to learn more about the approaches each ACO is taking to achieve the overall goals of the MassHealth ACO demonstration project: integrating and improving quality of care and reducing costs associated with caring for MassHealth beneficiaries. We know your healthcare organizations/ health plan may have more than one ACO contract, but we will be focusing only on your MassHealth ACO (insert name) in today's discussion. This will be the first of two rounds of interviews with ACO senior leaders that we plan to conduct as part of the evaluation – we anticipate administering the second round of interviews in about 2 years so that we can see how things have changed. Findings from these two rounds of interviews will be reported in the evaluation interim and final reports, respectively

Did you have a chance to review the fact sheet we sent ahead of time?

[if yes] Great. We want to remind you that we are recording the interviews to ensure that we accurately capture the information you provide. When we site of respondents.

[If no, offer the fact sheet to interviewee and read script above without "As a reminder" lead]

Turn Recorder On

Do you have any questions before we start?

(Ice Breaker) First, I'd like to hear about your current role at (insert ACO name).

- What are the main responsibilities associated with your role or position
- How many years of healthcare experience in this and/or other settings

(Grand Tours)

Can you tell me a little about the factors that went into your organization's decision to pursue a MassHealth ACO Contract?

What do you see as some of the most important changes your organization has needed to make in the process of implementing your ACO?

In general, how do you feel the MassHealth ACO initiative is working?

Are there patient populations that you feel have benefitted most in this first year?

Are there populations that you feel may have encountered greater challenges in the transition?

SECTION 1: Organizational Structure

1. What types of decisions are made at the MCO governance-level (in the case of Model A), ACO governance-level, or at the individual provider organization-level?

Probe:

What works well and less well about this division of decision-making

2. How has your ACO engaged MassHealth members in governance?

Probe:

Role members have in governance

What works well and less well

Adjustments made/planned for

3. How has your ACO engaged providers in governance?

Probe:

Roles providers have in governance

What works well and less well

Adjustments made/planned for

SECTION 2: Provider Engagement

Some ACOs are using financial incentives for primary care providers, specialists, and/or hospitals as a mechanism to engage providers in delivery system changes.

1. Is your ACO using financial incentives to engage providers in ACO-related changes?

2.If yes, please describe how your MassHealth ACO uses financial incentives to engage primary care providers in effective care delivery?

Probe:

Types of financial incentives (including alternative payment methods)

Types of providers exposed to risk

What works well/less well about these incentives

3. If yes, please describe how your ACO uses financial incentives to engage specialists and hospitals in effective care delivery?

Probe:
Types of financial incentives (including alternative payment methods)
Types of providers exposed to risk
What works well/less well about these incentives

4. If yes, please describe how are you using other strategies, such as staff meetings or written communication strategies to engage providers and front-line workers in effective care delivery?

Probe:

Types of strategies

What has worked well/less well about these strategies

Provider knowledge of ACO care model in general

SECTION 3: Care Coordination and Management

1. We have reviewed several of the documents your ACO prepared for MassHealth, such as your participation plan, and learned about your ACO's proposed strategies for coordinating care. How has your ACO implemented these strategies, specifically?

Probe:

Spread and uptake across ACO

Standardization of care coordination approach across provider orgs

2. Under what conditions are your ACO's strategies for coordinating care working well and less well?

Probe:

How care coordination quality is assessed

3. What processes are in place to engage MassHealth members in managing their own care?

Probe:

Degree to which these systems are common/vary across provider organizations:

4. Under what conditions are your systems for engaging MassHealth members in care working well and less well?

Probe:

How member engagement strategies are assessed

5. Excluding the CP assigned population for now (we ask separate questions about this population in a different portion of the interview), how does your ACO identify members who would benefit from (or are eligible for?) case management?

Probe:

Case management strategies used

Standardization of identification and/or care management strategies across provider orgs.

6. Under what conditions are your strategies for managing (non-CP) high need/complex members working well and less well?

Probe:

How care management effectiveness is assessed

7. (For Model A only): Can you tell us about your ACO's progress in transitioning care management from (insert MCO name) to the ACO, specifically the estimated percent of members whose care is now managed by your ACO?

8. In addition to working with CPs, what strategies are you using to coordinate and manage care for members with BH needs?

Probe:

Successes, challenges

Access issues

Specific programs for members with Opioid use disorders

9. How has your ACO approached screening for health-related social needs (HSRNs)?

Probe:

Screening tool used

Standardization of screening tool/approach across provider orgs.

Barriers/facilitators to HRSN screening

Issues about screening duplication/fatigue for members

10. When Health Related Social Needs are identified, how does your ACO intervene?

Probe:

Referrals/services provided

Barriers/facilitators to addressing HRSNs

SECTION 4: Quality and Process Improvement

The next set of questions are about quality and process improvement strategies, both for adult and pediatric Medicaid members. First, I will ask about strategies related to adult members, then ask if any of these strategies are different for pediatric members.

1. How would you characterize your ACO's main strategies for managing/reducing care costs?

Degree to which strategies are common/differ across provider orgs.

Barriers and facilitators to managing/reducing care costs

Differences, if any, for pediatric patients

2. How would you characterize your ACO's main strategies for meeting MassHealth's ACO care quality performance metrics?

Probe:

Care processes

Health outcomes

Member experience

Degree to which strategies are common/differ across provider orgs.

Barriers and facilitators to managing/reducing care costs

Differences, if any, for pediatric patients.

3. In what ways is your ACO's health information technology supporting or inhibiting your ability to achieve performance goals?

Probe:

Ability to electronically share MassHealth member info among ACO providers and with the MCO

Differences, if any, for pediatric patients

4. In general, how do you feel the transition to an ACO has impacted care to date?

Probe:

Conditions that impede/facilitate effective care under DSRIP/ACO model

Access to specialty care

Access for members with complex needs

BH care

Differences, if any, for pediatric patients

5. Is there anything else you'd like to tell us about your ACO's experience managing the performance metrics established under the ACO and DSRIP programs (e.g., quality measures) for adult or pediatric patients?

SECTION 5: Community Partners

We know that ACOs may contract with multiple CPs, therefore if your experiences differ considerably between CP's, please feel free to explain those differences in your answers

1. Overall, how well is the CP program working for your ACO?

    Probe:

    Relative success of LTSS vs. BH CPs

    Conditions that impede and facilitate CP program effectiveness

2. We understand that ACOs are expected to adopt systems for coordinating key administrative functions (e.g., enrollee identification and referrals, and enrollee outreach) with the MassHealth CPs they work with. Now that the program has launched, what do these systems look like?

    Probe:

    Enrollee identification and referral systems

    Enrollee outreach and engagement systems

    Sharing information systems with MassHealth? With CPs?

3. How effective are the systems you describe for coordinating administrative functions?

    Probe:

    Barriers and facilitators to coordinating administrative functions

4. We understand that ACOs are also expected to adopt systems for managing conflict resolution with the CPs they work with. Now that the program has launched, what do these systems look like?

5. How effective are the systems you describe for managing conflict resolution with CPs?

    Probe:

    What works well/less well

6. We understand that ACOs are expected to adopt systems to coordinate "care coordination" with CPs to avoid duplicating care management and coordination efforts (i.e., following up with an enrollee after an avoidable hospital admission). Now that the program has launched, what do those systems look like?

7. How effective are the systems you describe for coordinating care?

Probe:

Barriers and facilitators to coordinating care

SECTION 6: Role of MassHealth and Environment

1. How effective do you feel DSRIP funding has been in supporting care transformation at your ACO?

Probe:

Challenges accessing and spending DSRIP funding

Constraints on how DSRIP funds can be used

Need for additional financial or other resources

2. How is your ACO managing the intentional move towards sustainability, as opposed to reliance on DSRIP funds? (i.e., the decline over 5 years)

3. (If applicable) According to MassHealth data, we understand that your ACO has participated in the following Statewide Investments programs (*Insert programs*). What, if any, impact have these programs had on your ACO to date?

Probe:

Most beneficial/least beneficial about noted program(s)

4. Are there other ways MassHealth has supported (or impeded) your organization's ability to operate as an ACO that we have not covered? Please explain.

Probe:

Written and other types of guidance

Reporting burden

Data supports

5. How have other local, state, or federal policies -- that is, apart from MassHealth ACO policies -- helped or hindered your organization's ability to operate effectively as a MassHealth ACO?

Probe:

Other payer reporting requirements that align/conflict

Other funding/initiatives that align/conflict (e.g., Health Policy Commission's SHIFT-Care grant program)

Privacy/information sharing policies

Thank you for your time and insights.

2. CP Key Informant Interview Guides

[Introduce Self] Thank you very much for taking the time to talk with us about your organization's participation in MassHealth's Community Partner (CP) program, which is closely tied the Medicaid ACO initiative. As you know, we are part of the independent team that is evaluating and assessing the MassHealth Delivery System Reform Incentive Program (DSRIP) program that includes evaluating both the ACO and CP programs. In this part of our study, we are trying to learn more about the approaches CPs are taking to achieve the overall goals of the DSRIP program, integrating and improving quality of care and reducing costs for Medicaid members. This will be the first of two rounds of interviews with CP senior administrators that we plan to conduct as part of the evaluation – we anticipate administering the second round of interviews in about 2 years so that we can see how things have changed. Findings from these two rounds of interviews will be reported in the evaluation mid-point and final reports respectively.

Did you have a chance to review the fact sheet we sent ahead of time?

[If yes] Great. We want to remind you that we are recording the interviews to ensure that we accurately capture the information you provide. When we write our report about the interviews, we will not use the names, roles, or clinical practice sites of respondents.

[If no, offer the information sheet to interviewee and read script above without "As a reminder" lead]

Turn Recorder On

Do you have any questions before we start?

(Ice Breaker) First, I'd like to hear about your role in your organization.

- What are the main responsibilities associated with your role or position
- How many years of healthcare experience in this and/or other settings

(Grand Tours)

What do you see as some of the most important changes your organization has needed to make to operate as a MassHealth CP?

In general, how well do you feel the MassHealth CP program is working?

- And for what types of patients is the program working especially well; and for what types is it working less well?

We know that CPs contract with multiple ACOs, therefore if your experiences differ considerably between ACOs, please feel free to explain those differences in your answers throughout the interview. [Return to this as probe throughout interview]

SECTION 1: Alignment with ACO(s) and other Consortium/Affiliated CPs

1. We understand that CPs, through their Documented Processes, are expected to adopt systems for coordinating administrative functions with the ACOs they work with, including enrollee assignment, member outreach and engagement, and exchanging information about shared members. Now that the program has launched, how well are these systems functioning?

Probe:

Enrollee assignment systems

Member outreach and engagement systems

Sharing information systems

Differences from original plan

2. Under what conditions are your systems for coordinating administrative functions with the ACOs you work with working well and less well?

Probe:

Provide examples where things worked well/not well

3. We understand that CPs are expected to adopt systems to minimize duplicating care management/coordination efforts with the ACOs they work with (for instance, following up with a member after an avoidable hospital admission). How well are these systems functioning?

Probe:

Coordinating care coordination systems

Differences from original plan

Barriers and facilitators to coordinating care coordination efforts

4. We understand that CPs are also expected to include plans for managing conflict with the ACOs they work with in their Documented Processes. Have you needed to implement these plans, and if so, how are they working?

Probe:

Conflict resolution systems

Differences from original plan

Barriers and facilitators to managing conflict

5. Does your organization work with Adult Community Clinical Service (ACCS) enrollees?

6. If yes, do any of the systems that we have been discussing differ for your interactions with providers that work with your ACCS enrollees?

Probe:

If yes, please explain

7. (If applicable): We understand that your organization is part of a consortium/affiliation of CPs. What strategies does your organization use to engage consortium/affiliated partners in delivering care coordination supports to your enrollees?

Probe:

Barriers and facilitators to constituent engagement

SECTION 2: Care Management and Transitions

1. We understand that CPs are required to develop a care plan for their enrollees. For your ACO enrollees, can you tell us the systems you have in place for doing that?

Probe

Staff involved

Coordination with ACO

How well the process is working

2. How does your organization help MassHealth members navigate the BH/LTSS delivery system?

Probe:

Barriers and facilitators to effective member navigation

How effectiveness of member navigation practices is assessed

3. What strategies does your organization use to promote meaningful enrollee participation and engagement with their care?

Probe:

Barriers and facilitators to member engagement

How utility of member engagement strategies is assessed

4. What systems have you adopted to coordinate care across the clinical and social service providers that serve MassHealth members with complex BH/LTSS needs?

Probe:

Barriers and facilitators to care coordination

Use of electronic data transfer

5. We understand that CPs are expected to assist their MassHealth partner ACOs/MCOs to better leverage existing BH/LTSS community resources in caring for members with BH/LTSS needs. Can you comment on any activities in this area to date?

Probe:

Ask for examples

SECTION 3: Workforce Development

1. We are interested in understanding how your organization went about recruiting, training, and retaining staff for the new ACO/MCO partnerships. Let's start with recruitment. Please explain.

Probe:

Training

Retaining

2. What has gone well and less well about your efforts to recruit, train and retain staff?

Probe:

Barriers and facilitators to recruiting staff

Barriers and facilitators to training staff

Barriers and facilitators to retaining staff

SECTION 4: Quality and Process Improvement

1. What strategies has your organization adopted to meet the CP quality performance benchmarks under the MassHealth CP program?

Probe:

Barriers and facilitators to meeting performance metrics

Barriers and facilitators to aligning efforts

2. What strategies has your organization adopted to engage both leadership and front-line staff in your CP in working to meet CP performance goals?

Probe:

Financial incentives

Other types of incentives (such as quality improvement feedback loops)

Barriers and facilitators to staff engagement

SECTION 5: Role of MassHealth and Environment

1. To what degree has DSRIP funding allowed your organization to create the infrastructure needed to operate as a CP?

Probe:

Challenges accessing and spending DSRIP funding

Need for and availability of additional financial resources

2. (If applicable): We understand from MassHealth that your CP participated in the following State-Wide Investment programs (insert name of programs that CP has participated in). What if any impact has this (or these) program(s) had on your CP?

Probe:

Most beneficial/least beneficial about noted program(s)

3. Are there other ways MassHealth has supported (or impeded) your organization's ability to operate as a CP? Please explain.

Written or other types of guidance

Reporting burden

Data supports

Any suggested modifications for program improvement

4. How have other local, state, or federal policies helped or hindered your organization's ability to operate effectively as a MassHealth CP (for example, is your CP participating in any other state-funded programs that are aligned or in conflict with the MassHealth CP initiative)?

Probe:

Other payer reporting requirements that align/conflict

Other funding/Initiatives that align/conflict

Thank you for your time and insight.

Is there anything else you think is important for our team to know about your experiences as a CP in the new MassHealth ACO program?

3. MCO Key Informant Interview Guide

[Introduce Self] Thank you very much for taking the time to talk with me about your MassHealth MCO. As you know, we are part of the independent team that is evaluating and assessing the MassHealth Delivery System Reform Incentive Payment (DSRIP) Program that includes evaluating the ACO, MCO, and CP programs. In this part of our study, we are trying to learn more about the MCO experience and the steps you take as an MCO to achieve the overall goals of the DSRIP, integrating and improving quality of care and reducing costs associated with caring for MassHealth beneficiaries. Specifically, in these interviews, we are interested in the work that you do that is separate from your Model A and Model C contract work, and the ways in which the work differs from the MCO perspective. This will be the first of two rounds of interviews we plan to conduct as part of the evaluation. We anticipate administering the second round of interviews next year. Findings from these two rounds of interviews will be reported in the evaluation interim and final reports.

Did you have any questions about the fact sheet we sent ahead of time? [Address Questions]

We want to remind you that we are recording this interview to ensure that we accurately capture the information you provide. When we write our report about the interviews, we will not use specific names, roles, or clinical practice sites of participants.

[Turn Recorder On]

Do you have any further questions before we start?

These first questions will provide us with an overview. Then we will move onto questions about specific aspects of implementation over the past two years.

For the purposes of our evaluation, we are collecting the following demographic information:

Geographic Area of your MCO	
Your Role at the MCO	
Gender	
Age Range	20-30, 31-40, 41-50, 51-60, 65+
Years of Experience	
Years with the MCO	

1. Now, I'd like to learn a little bit more about your current role at (insert MCO name).

- What are the main responsibilities associated with your role or position?
- How many years of healthcare experience have you had in this and/or other settings?
- How does your role fit into the ACO-MCO relationship versus the MCO-only relationship?

2. We'd like to learn about the factors that went into your organization's decision to pursue a MassHealth MCO Contract? What did influence your organization's decision-making?
3. What are some of the most important changes your organization has needed to make in order to partner with CPs?
4. In general, how do you feel the DSRIP program is working?
5. Are there patient populations that you feel have benefitted most in the first years of the program?
6. Are there populations that you feel may have encountered greater challenges in the transition?

SECTION 1: Organizational Structure and Decision-Making

In this section, we would like to better understand the organizational structure and decision-making processes that your MCO uses. We are specifically interested in the differences between the MCO-only and the ACO-MCO structures.

7. What types of decisions are made at the MCO governance-level, or at the individual provider organization-level?

   Probe:

   - What works well and less well about this process/division of decision-making?

8. How has your MCO engaged MassHealth members in governance?

   Probes:

   - Role members have in governance
   - What works well and less well
   - Adjustments made/planned for

9. How has your MCO engaged in MassHealth governance?

   Probes:

   - Roles providers have in governance
   - What works well and less well
   - Adjustments made/planned for

The sections below touch upon subjects that are applicable to the traditional MCO and the ACO-MCO contracts. We would like to get your thoughts regarding the differences between the types of contracts and whether having the ACO contract has made a difference in how you engage in the following topics.

SECTION 2: Provider Engagement

Some MCOs are using financial incentives for primary care providers, specialists, and/or hospitals as a mechanism to engage providers in delivery system changes.

10. Regarding your MCO (in a non ACO context), are there financial incentives to engage providers in delivery system changes to integrate and improve the quality of care for MassHealth beneficiaries?

    Probes:

    - What differences are there between the provider practices that decided to participate in the MCO program versus those that decided to participate in the ACO program?

11. If yes, please describe how your MassHealth MCO uses financial incentives to engage primary care providers in effective care delivery?

    Probes:

    - Types of financial incentives (including alternative payment methods)
    - Types of providers exposed to risk
    - What works well/less well about these incentives

12. If yes, please describe how your MCO uses financial incentives to engage specialists and hospitals in effective care delivery?

    Probes:

    - Types of financial incentives (including alternative payment methods)
    - Types of providers exposed to risk
    - What works well/less well about these incentives?

13. If yes, please describe how are you are using other strategies, such as staff meetings or written communication strategies to engage providers and front-line workers in effective care delivery?

    Probes:

    - Types of strategies
    - What has worked well/less well about these strategies?
    - Provider knowledge of MCO care model in general

14. What was involved in assisting the MCO-participating practices to become ACO-participating practices? Have you noticed changes in provider perspective since the program began?

    Probe:

    - How do you feel about shifting practices between the MCO only and the ACO-MCO models? Do you prefer to shift them towards ACO-participating practices?

SECTION 3: Care Coordination and Management

15. How has your MCO implemented care coordination strategies?

    Probes:

    - Spread and uptake across MCO
    - Standardization of care coordination approach across provider organizations

16. Under what conditions are your MCO's strategies for coordinating care working well and less well?

    Probe:

    - How is care coordination quality assessed?

17. What processes are in place to engage MassHealth members in managing their own care?

    Probe:

    - Degree to which these systems are common/vary across provider organizations

18. Under what conditions are your systems for engaging MassHealth members in care working well and less well?

    Probe:

    - How are member engagement strategies assessed?

19. Excluding the CP assigned population for now (we ask separate questions about this population in a different portion of the interview), how does your MCO identify members who would benefit from (or are eligible for?) case management?

    Probe:

    - Case management strategies used
    - Is there standardization of identification and/or care management strategies across provider orgs?

20. Under what conditions are your strategies for managing (non-CP) high need/complex members working well and less well?

    Probe:

    - How is care management effectiveness assessed?

21. In addition to working with CPs, what strategies are you using to coordinate and manage care for members with BH and LTSS needs?

    Probe:

    - Successes, challenges
    - Access issues
    - Specific programs for members with opioid use disorders

22. How has your MCO approached screening for health-related social needs?

    Probes:

    - Is there a specific screening tool used?
    - Is there standardization of screening tool/approach across provider orgs?
    - Barriers/facilitators to HRSN screening
    - Issues about screening duplication/fatigue for members?

23. When Health Related Social Needs are identified, how does your MCO intervene?

    Probes:

    - Referrals/services provided
    - Barriers/facilitators to addressing HRSNs

SECTION 4: Quality and Process Improvement

The next set of questions are about quality and process improvement strategies, both for adult and pediatric Medicaid members. First, I will ask about strategies related to adult members, then ask if any of these strategies are different for pediatric members.

24. How would you characterize your MCO's main strategies for managing/reducing care costs?

    Probes:

    - Degree to which strategies are common/differ across provider organizations?
    - Barriers and facilitators to managing/reducing care costs?
    - Differences, if any, for pediatric patients?

25. How would you characterize your MCO's main strategies for meeting MassHealth's MCO care quality performance metrics?

    Probes:

    - Care processes
    - Health outcomes
    - Member experience
    - Degree to which strategies are common/differ across provider organizations
    - Barriers and facilitators to managing/reducing care costs
    - Differences, if any, for pediatric patients

26. In what ways is your MCO's health information technology supporting or inhibiting your ability to achieve performance goals?

    Probes:

    - Ability to electronically share MassHealth member info among MCO providers and with the MCO
    - Differences, if any, for pediatric patients

27. In general, how do you feel the DSRIP program has affected the way you deliver care?

    Probes:

    - Conditions that impede/facilitate effective care
    - Access to specialty care
    - Access for members with complex needs
    - BH care
    - LTSS care
    - Differences, if any, for pediatric patients

28. Is there anything else you'd like to tell us about your MCO's experience managing care for adult or pediatric patients?

SECTION 5: Community Partners

We know that MCOs may contract with multiple CPs, therefore if your experiences differ considerably between CP's, please feel free to explain those differences in your answers. As a reminder, we are interested in how your experience with CPs differs from the ACO-MCO model of CP partnerships.

29. Overall, how well is the CP program working for your MCO?

    Probes:

    - Relative success of LTSS vs. BH CPs
    - Conditions that impede and facilitate CP program effectiveness

30. We understand that MCOs are expected to adopt systems for coordinating key administrative functions (e.g., enrollee identification and referrals, and enrollee outreach) with the MassHealth CPs they work with. Now that the program has launched, what do these systems look like?

    Probe

    - Enrollee identification and referral systems
    - Enrollee outreach and engagement systems
    - Sharing information systems with MassHealth? With CPs?

31. How effective are the systems you describe for coordinating administrative functions?

    Probe

    - Barriers and facilitators to coordinating administrative functions

32. We understand that MCOs are also expected to adopt systems for managing conflict resolution with the CPs they work with. Now that the program has launched, what do these systems look like?
33. How effective are the systems you describe for managing conflict resolution with CPs?

    Probe

    - What works well/less well?

We understand that MCOs are expected to adopt systems to coordinate "care coordination" with CPs to avoid duplicating care management and coordination efforts (i.e., following up with an enrollee after an avoidable hospital admission). Now that the program has launched, what do those systems look like?

34. How effective are the systems you describe for coordinating care?

    Probe

    - Barriers and facilitators to coordinating care

35. Are there any differences in your relationships with CPs in the MCO only model of care versus in the ACO-MCO Partnership model?

SECTION 6: Role of MassHealth and Environment

In this section, we would like to ask about how the role of MassHealth and other factors that may or may not have impacted your work.

36. Excluding your ACO-MCO relationships, what, if any, impact have the Statewide Investment programs had on your MCO to date?

    Probe:

    - What has been most beneficial/least beneficial about noted program(s)?

37. Are there other ways MassHealth has supported (or impeded) your organization's ability to operate as an MCO that we have not covered? Please explain.

    Probes:

    - Written and other types of guidance
    - Reporting burden
    - Data supports

38. How have other local, state, or federal policies -- that is, apart from MassHealth MCO policies -- helped or hindered your organization's ability to operate effectively as a MassHealth MCO?

Probes:

- Other payer reporting requirements that align/conflict?
- Other funding/initiatives that align/conflict with this program?
- Privacy/information sharing policies

COVID Questions

Lastly, we would like to ask you questions that directly relate to the COVID-19 pandemic and how this has impacted your work.

39. Have your providers utilized telehealth or other technology such as FaceTime or similar app, Zoom, or Skype?
    a. If so, have you received feedback from members or providers alike about how these telehealth services have been perceived?
40. Have any members expressed difficulty with telehealth, for example with internet access or having the right equipment like a smartphone?
41. With the pandemic, are members given the option to see their provider in person or have they been asked to utilize telehealth only at this time?
42. Do you think you would want to make telehealth a routine option available to members after COVID 19? Why or why not?

Thank you for your time and insights.

Is there anything else you think is important for our team to know about your experience with the MassHealth MCO Demonstration Project and/or experience operating as a MassHealth MCO?

4. Member Experience Key Informant Interview Guide - Adult

Thank you so much for agreeing to talk to me today about your experience as a MassHealth Member enrolled in XXXXXX (ACO organization, if known). XXXXX is one of the 17 MassHealth Accountable Care Organizations, or ACOs, which were created about two years ago in the hopes of improving the way your healthcare is delivered. I'm part of the team that is evaluating the MassHealth ACO program, and we are going to be looking at many aspects of the ACO program over the next few years. In this part of our project, we want to learn more about member experiences with the health system (MassHealth). What we learn from these interviews will be reported in our two evaluation reports.

Did you have a chance to review the fact sheet we sent ahead of time?

[If yes] Great. We want to remind you that we are recording the interviews to ensure that we accurately capture the information you provide. When we write our report about the interviews, we will not use personal information like names, addresses, dates or month of medical care, or birthdays.

[If no, offer the fact sheet to interviewee and read script above without "As a reminder" lead]

If you have any questions about the Coronavirus pandemic/COVID-19, please use the following:

- **Members with COVID-19 related health questions should be directed to call their provider's office or 2-1-1 for guidance.**
- General eligibility and enrollment questions should go to **MassHealth CSC**:
  - Call: (800) 841-2900
  - TTY: (800) 497-4648
  - Hours: Monday - Friday, 8am till 5pm
- In general, managed care members with access to care issues can contact **My Ombudsman**:
  - Call: (855) 781-9898; VideoPhone: (339) 224-6831; TTY: use MassRelay at 711
  - Hours: Monday–Friday, 9 a.m.–4 p.m.
  - Email: info@myombudsman.org
  - Or visit: http://www.myombudsman.org

[Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates of care received, names of doctors, or other identifying information.

If an interviewee gives such details, you will need to stop the recording, rewind the recorder to the beginning of the question, and re-ask the question while reminding the interviewee not to provide such details.]

Turn Recorder On

Do you have any questions before we start?

(Ice Breaker) First, I'd like to learn a little bit about you and your healthcare needs.

Probes: Health concerns, other concerns, what kinds of providers do they see (PCP, specialists etc.)

How would you describe your health?

Where do you go for routine care? Do you have a primary care provider? Who are they? Have you seen them for more than a year, and if so, how many years have you been seeing them? Without identifying any dates or specific months, how often do you see them?

Has your health changed over the last 3 years?

You mentioned on your nomination form that you have X (condition)? How long have you had that? Please do not tell us any specific dates on which you received care or a diagnosis.

How long have you been on MassHealth?

BH Only: You had mentioned in your nomination form and screening call that you have behavioral health needs [mention reference to diagnoses or symptoms]. Do you have any supports to help you manage those needs?

Probes: Tell me about the supports you have. Assess for formal vs. informal supports

Do you have any community agency or case manager involved in helping you with you needs?

If you need to access behavioral health supports in the community, what has been easier and/or more challenging about getting the services you need?

Do you have a case manager or coordinator? [pause] This is an individual or team of people who are involved in coordinating or helping you with your care.

Probes: Tell me a bit about this person or people and what they do for you or help you with.

Are there times when they ask or do the same things?

Where do you meet with your care coordinator? Do they come to your home?

Do you receive any services at home? Please do not tell us any specific dates or months in which you received services at home.

Probes: How is your experience with your in-home services?

What types of services? PCA?

Enrollment (Workgroup as well as EDD re: Member Engagement)

The MassHealth ACO program started about two years ago. Our first questions are about the process you experienced when you enrolled in XXXXXX, your ACO (if known, use organization name). [Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

1. Let's talk about ACOs. Before today, did you know that you were enrolled in an ACO? [pause] From your perspective, what does it mean to belong to an ACO?

   Probes:

   - What is the role of the ACO?
   - How does your ACO fill that role?

2. I'd like to ask you about the process of getting started with your ACO [If the Member is unsure what ACO organization they are in, tell them that is ok and move on to some of the probes]

Did Member know what ACO Organization they an enrolled in? ___Yes _____ No

Probes:

- What were the easy parts about getting started? What about the difficult parts? (paperwork, stops in services/delays, other issues)
- What was the process to get your primary health care provider?
- Did you keep the same primary heath care provider you had before?

3. [If in CP] Let's talk for a few minutes about Community Partners. Based on your experience, how would you define or describe a Community Partner? [If known, reference CP by name]

   Probes:

   - What is the role of the CP? How does your CP provide supports to fill that role?
   - Can you talk about how you started working with your care coordinator at your CP? How long have you been working with them?
   - Did you experience any barriers to engaging with your CP? What was easy about starting services with them? What was difficult?

Care Experience (Workgroup and EDD re: Member Experience, Care Coordination/ Integration)

One of the goals of the MassHealth ACO was to create a better care experience for Members. This included things like more communication between providers to make sure you are getting what you need. Providers are the people who are involved in your care, and can include doctors, nurses and social workers or case managers. [Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

1. How do you feel about your health care in general?

2. In your opinion, what is a good or a bad health care experience? Alternate wording: What does good or bad care mean to you?

3. Can you tell me about what a typical visit to your doctor or primary care provider is like? (This is the doctor that you see most often, and could be a primary care provider, specialist, or other type of medical professional). Please do not identify any specific dates or months you saw them.

   Probes:

- How recently was your last visit to your primary care provider [or doctor you see most often]?
- Would you say that was a “typical” visit?
- What do you talk about? How comfortable are you about asking them questions?
- What questions do they ask you? What questions do you ask them?
- What services do they help you with?
- How would you describe your experience with your provider overall?
- Do you have suggestions for improvements?
- Was this a good or a bad health care experience?

4. You mentioned earlier that you are seeing XXXXXX provider for your XXXXX (ex: a cardiac specialist for your heart condition and blood pressure).

   Probes:

   - How recently was your last visit to this provider? Please do not identify the date or month.
   - Thinking about your last visit to the provider for X, Why were you there? Would you say that was a “typical” visit?
   - What do you talk about? What questions do they ask you? What questions do you ask them? How comfortable are you about asking them questions?
   - What services do they help you with?
   - How would you describe your experience with your provider overall?
   - Do you have suggestions for improvements?
   - Was this a good or a bad health care experience?

Another part of the MassHealth ACO program was to make sure Member’s care was coordinated, meaning that your providers and staff who work with you were talking to each other to identify and figure out how to meet your needs.

5. Do you think that your other providers know information you have told your PCP, or do you have to share information over and over again?

   Probes:

   - What questions or information do you feel you have to share over and over? How does this make you feel?
   - What about tests/assessments?
   - What types of information are they sharing (right information right time)? How helpful is this?

6. Many people get their care by going into a doctor's office or clinic, but it's possible to get care other ways like through the phone or internet. How do you get care (face to face vs other means)? [pause]

7. How does your doctor work with you to get you the care you want or need?

   Probes:

   - Do you feel your doctor understands your needs? How do you make sure your doctor understands your needs, both medical and not medical (like housing, transportation, nutrition)?
   - How do you work with your providers to explain your needs?
   - Who helps you with things like housing or transportation?
   - Who helps you decide what care you should get?
   - How easy or difficult is it for you to get the authorizations for other services you need, like personal care, nursing or psychiatric care?
   - *Must Probe: Who is on your care team?*

8. I want to hear a little more about how you set goals for your care, and how you make decisions about your health and your treatment. You mentioned just now that you consider XXXXXXXX as members of your care team. Can you explain what conversations you have with your care team to determine your health care goals?

   Probes:

   - How do you decide what is important?
   - What are your goals?
   - How is your care team working with you to meet your goals? How do they help you make decisions about your health?
   - What gets in the way of meeting your goals?

9. Sometimes it can be confusing to understand what care you can receive through MassHealth. Can you tell me how your care team helps you understand your care?

   Probes:

   - What kind of information do they provide you?
   - Do they talk about how what you tell them might be shared with other individuals (doctors, therapist, nurses, care coordinator, etc.)? What do they tell you?

- What type of information is really helpful for you? What type of information is not helpful for you?
- How would you like to receive information?
- What type of information would you like to receive?
- [If they say no to above] Where/how else are you finding information if it is not being shared with you?

10. In what year was the last time you went to the hospital, either planned or unplanned?

    Probes:

    - Thinking about your most recent trip to the hospital, what was the discharge process like?
    - When you were discharged from the hospital, who contacted you right afterwards?
    - What services were you offered? What services did you choose/receive?

11. What was the transition like for you when you left the hospital and went back home?

    Probes:

    - Were services set up for you to support your return home such as home health care, nursing or physical therapy? Who set up these services for you?
    - Any unmet needs? Lingering health concerns?
    - Were you contacted by too many people? Not enough/the right people?

12. We mentioned earlier that the MassHealth ACO program started about two years ago. That means before, you might not have been in an ACO. In what ways, if any, is your care different now than before? Say, two or three years ago?

    Probes:

    - In what ways is it different?
    - How is it the same?
    - What is better or worse, and why?

Health Status (EDD and workgroup)

In the next couple of questions I'm interested in learning about your feelings about your medical/physical health. [Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

1. How is your health overall? What else do you think impacts your health?

   Probes:
   - You mentioned earlier that your health [has changed, stayed consistent, etc.] over the past few years. You said [something happened, nothing happened]. Since [something happened—do not identify dates/months], how often do you go to the doctor/ER before that [thing happened, your health changed]
   - Other issues besides ACO/CP [ex: HRSNs, flex services, finances]

2. [CP Only] You told me about your experience in working with XXXXX, your CP. For the next few questions, I'd like to learn about how your Mental/Behavioral Health services, and/or the ways your LTSS supports impact your health. Can you tell me how your health is overall now that you are using CP services?

   Probes:

   - What else do you think impacts your health?
   - Has it changed? How?

3. Overall, how has your quality of life changed in the last year because of your health status or healthcare?
   - Probe for improvements (or not) in social situation, services, HRSNs

Community Partners (EDD)

As part of the MassHealth ACO program, ACOs have relationships with community-based organizations called Community Partners. These partnerships are another part of the goal of meeting members' needs and coordinating their care between providers, whether it's for medical care, mental/behavioral health, or long-term services and supports to help them stay in the community such as a personal care attendant or a visiting nurse. When we first started talking, you mentioned that you have XXXXXX [reference if they noted a mental health diagnosis and/or disability that requires LTSS support]. To help you manage those needs, you are getting supports from XXXXX [note CP name if known]. [Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

1. Do you know what CP you receive services from?

   Probes:

   - How did you hear about your CP?
   - What do you remember about the enrollment process with your CP?

- Where did you first meet your CP staff?

2. Tell me about what getting services from your CP typically looks like.

   Probes:

   - What services do they help you with?
   - What do you talk about?
   - What questions do they ask you? What questions do you ask them?
   - How do you make decisions about your care plan?

3. How does your CP help you with getting other services?

   Probes:

   - Does your CP help you with other needs (like housing, transportation, food)?
   - Who else helps you with those needs?

4. We asked you earlier about how you make your needs known to your doctors and medical providers, and how those providers help you to understand your care. In thinking about your CP can you also tell me how the CP staff helps you to understand services available to help you with your care and/or needs?

   Probes:

   - What kind of information do they give you?
   - What kind of information is really helpful? What is not?
   - How would you like to receive information?
   - What type of information would you like to receive that you haven't gotten?

5. We also talked about how your providers help you in setting and meeting your care goals. How does the CP help you make decisions about your goals?

6. Are there any goals that you have that you think both your PCP and the CP can help you with?
   - How does your CP work with your PCP or ACO?

7. The goals you set with your providers are usually written down as part of your plan of care. Do you know what a care plan is?

   Probes:

- What is in your care plan?
- Do you have a copy of your care plan?

Care Integration/Info Sharing (EDD)

Another goal of the MassHealth ACO was to better integrate care for Members. Integration means bringing people or things together.

1. Until two years ago or maybe even less, you might not have been in an ACO. When [Primary care doctor] refers you to see another provider now, what, if anything, is different in how those providers share and understand your information?

2. Can you talk about your experiences with getting the care/services you want or need when you need them?

   Probes:

   - Do you experience any delays in getting care?
   - How do you work with different members of your care team(providers) to get the care you want?
   - What is working well? Not so well?
   - What care are you not getting that you want/need?
   - Why do you think you aren't receiving them? (probe for availability/accessibility disability, language ,)
   - Can you talk about getting care when you are sick now that you are in an ACO (is it different than two or three years ago? Changes?)
   - Can you talk about getting care when you are healthy now that you are in an ACO? (Is it different than before? Changes?)

COVID-19 Considerations

We know that the novel coronavirus and the current epidemic of COVID-19 may have contributed to changes in the healthcare system.

1. Have you noticed any changes to your care over the last few weeks?

2. Has anyone been in touch with you about your care (in the context of COVID-19)? If so, how? What information? [e.g., telehealth?] How to get in contact with your provider?

3. Are you continuing to see your provider for routine visits? (think medically complex folks who may have frequent visits routinely) [Any trouble seeing your provider?]

4. Oh, you're not going into the office. Are there other ways you are in touch with your PCP, such as telehealth options including telephone or videoconferencing visits?

- Have you used telehealth (i.e., seen the doctor over the phone/video calling)?
  - Are you using technology such as FaceTime or another smartphone app? Or a service like Zoom or Skype?

- Were you given the option to see your doctor/provider in person or having a telehealth appointment or was this choice made for you?
- How many telehealth visits have you had over the last couple weeks/month?
    - Do these meet your definition of a “good care visit”? Are you satisfied with them?
    - If you needed to, were you able to go to the office/hospital (maybe for lab tests or vaccinations)?
- Which other providers would you want to see via telehealth?
- Do you think you would want to make telehealth part of your regular care routine after Covid-19?
- Have you had any issues with telehealth, for example with internet access or having the right equipment like a smartphone? Did you prefer one method over another?

5. Can you continue to focus on your health issues (or are you "distracted" by COVID-19)?

[Information from MassHealth – reference again for their awareness]

General eligibility and enrollment questions should go to **MassHealth CSC**:

Call: (800) 841-2900

TTY: (800) 497-4648

Hours: Monday - Friday, 8am till 5pm

Members with COVID-19 related health questions should be directed to call their provider's office or 2-1-1 for guidance.

In general, managed care members with access to care issues can contact **My Ombudsman**:

Call: (855) 781-9898; VideoPhone: (339) 224-6831; TTY: use MassRelay at 711

Hours: Monday–Friday, 9 a.m.–4 p.m.

Email: info@myombudsman.org

Or visit: http://www.myombudsman.org

Is there anything else that you would like to share with us today regarding your experiences as a MassHealth ACO member? **[Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]**

Thank you for your time today.

[Turn Recorder Off]

To better understand patient experience, we are asking some **optional** demographic information questions. You do not have to answer any question you do not want to.

[Go through demographic form questions]

As a token of our appreciation, we will be sending you your gift card via mail or email. Which would you prefer?

[Note down email address or physical address]

Thank you again for your time. We really appreciate your perspective and input. If you have any

additional comments or questions about this project, please feel free to reach out to me via

phone: 508-856-4040 or email: Aparna.Kachoria@umassmed.edu.

5. Member Experience Key Informant Interview Guide – PEDS

[Introduce Self]

Thank you so much for agreeing to talk to me today about your child's experience as a MassHealth Member enrolled in XXXXXX (ACO organization, if known). XXXXX is one of the 17 MassHealth Accountable Care Organizations, or ACOs, which were created about two years ago in the hopes of improving the way healthcare is delivered for your child. I'm part of the team that is evaluating the MassHealth ACO program, and we are going to be looking at many aspects of the ACO program over the next few years. In this part of our project, we want to learn more about patient experiences with the health system (MassHealth). What we learn from these interviews will be reported in our two evaluation reports.

Did you have a chance to review the fact sheet we sent ahead of time?

[If yes] Great. We want to remind you that we are recording the interviews to ensure that we accurately capture the information you provide. When we write our report about the interviews, we will not use personal information like names or birthdays.

[If no, offer the fact sheet to interviewee and read script above without "As a reminder" lead]

[Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information. If an interviewee gives such details, you will need to stop the recording, rewind the recorder to the beginning of the question, and re-ask the question while reminding the interviewee not to provide such details.]

Turn Recorder On

Do you have any questions before we start?

(Ice Breaker) First, I'd like to learn a little bit about your child and her/his healthcare needs.

Probes: Health concerns, other concerns, what kinds of providers do they see (PCP, specialists etc.)

- How would you describe your child's health?
- Where does your child go for routine care? Does your child have a primary care provider? Who is it? Has your child been seeing them for more than a year, and if so, how many years? Without identifying any dates or specific months, how often do you see them?

- In what ways, if any, has your child's health changed over the last 3 years?
- You mentioned on your nomination form that your child has X (condition). How long has your child had that? Please do not tell us any specific dates on which your child received care or a diagnosis.
- How long has your child been insured by MassHealth?

Does your child have a case manager or care coordinator? This is an individual or team of people who are involved in coordinating or helping you with your child's care.

Probes: Tell me a bit about this person or people and what they do for your child or help you/your child with.

Are there times when they ask or do things over and over again?

Where do you meet with your care coordinator? Do they come to your home?

What services, if any, does your child receive at home? Please do not tell us any specific dates or months in which your child received services at home.

Probes: How is your experience with your in-home services?

Enrollment (Workgroup as well as EDD re: Member Engagement)

The MassHealth ACO program started about two years ago. Our first questions are about the process you experienced when your child was enrolled in XXXXXX, your ACO (if known, use organization name). [Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

1. Let's talk about ACOs. From your perspective, what does it mean to belong to an ACO?

   Probes:

   - What is the role of the ACO?
   - How does your ACO fill that role?

2. I'd like to ask you about the process of getting started with your ACO [If the Member is unsure what ACO organization they are in, tell them that is ok and move on to the probes]

Did Member know what ACO Organization they an enrolled in? _____Yes ____ No

Probes:

- What were the easy parts about getting started? What about the difficult parts? (paperwork, stops in services/delays, other issues)
- What was the process to get your child's primary health care provider?
- Did your child keep the same primary health care provider they had before joining the ACO?

3. [If in CP] Let's talk for a few minutes about Community Partners. Based on your experience, how would you define or describe a Community Partner? [If known, reference CP by name]

Probes:

- What is the role of the CP in your child's healthcare? How does your CP provide supports to fill that role? Do you feel that the CP is providing helpful services specific to your child's needs?
- Can you talk about how you started working with your care coordinator at your CP? How long have you been working with them?
- Did you experience any barriers to engaging with your CP? What was easy about starting services with them? What was difficult?

Care Experience (Workgroup and EDD re: Member Experience, Care Coordination/ Integration)

One of the goals of the MassHealth ACO was to create a better care experience for Members. This included things like more communication between providers to make sure you are getting what you need. Providers are the people who are involved in your care, and can include doctors, nurses and social workers or case managers. [Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

1. How do you feel about your child's health care in general?
2. In your opinion, what is a good or a bad health care experience? Alternate wording: What does good or bad care mean to you?
3. Can you tell me about what a typical visit to your child's doctor or primary care provider is like? (This is the doctor that your child sees most often, and could be a primary care provider, specialist, or other type of medical professional) Please do not identify any specific dates or months you saw them.

Probes:

- How recently was your last visit to your child's primary care provider [or doctor your child sees most often] and what was the reason for the visit?
- Would you say that was a "typical" visit?
- What do you talk about? How comfortable are you about asking them questions? [If pediatric patient is 10 years or older: How comfortable is your child asking questions?]
- What questions do they ask you? What questions do you ask them?
- What services do they help you with?
- Was this a good or a bad health care experience?
- How would you describe your experience with your provider overall?
- Do you have suggestions for improvements?

4. You mentioned earlier that you are seeing XXXXXX provider for your child's XXXXX (ex: a cardiac specialist for your heart condition and blood pressure).

   Probes:

   - How recently was your last visit to this provider? Please do not identify the date or month.
   - Thinking about your last visit to the provider for XXXX, why were you there? Would you say that was a "typical" visit?
   - What do you talk about? What questions do they ask you? What questions do you ask them? How comfortable are you/your child about asking them questions?
   - What services do they help you with?
   - How would you describe your experience with your provider overall?
   - Do you have suggestions for improvements?
   - Was this a good or a bad health care experience?

Another part of the MassHealth ACO program is to make sure every patients' care is coordinated, meaning that the providers and staff who work with you are talking to each other to identify and figure out how to meet your needs.

5. Do you think that your child's other providers know information you have told your child's PCP, or do you have to share information over and over again?

Probes:

- What questions or information do you feel you have to share over and over? How does this make you feel?
- Does your child have to repeat tests/assessments?
- What types of information are they sharing (right information right time)? How helpful is this?

6. Many people get their care by going into a doctor's office or clinic, but it's possible to get care other ways like through the phone or internet. How do you get care (face to face vs other means) for your child? [pause]
7. How does your doctor work with you/your child to get you the care you want or need?

Probes:

- Do you feel your doctor understands your/your child's needs? How do you make sure your doctor understands your/your child's needs, both medical and not medical (like housing, transportation, nutrition)?
- How do you work with your providers to explain your/your child's needs?
- Who helps you with things like housing or transportation?
- Who helps you decide what care you/your child should get?
- How easy or difficult is it for you to get the authorizations for other services you/your child needs, like personal care, nursing or psychiatric care?
- *Must Probe: Who is on your child's care team?*

8. I want to hear a little more about how you set goals for your child's care, and how you make decisions about your child's health and your treatment. You mentioned that you consider XXXXXXXX as members of your child's care team. Can you explain what conversations you have with the care team to determine your child's health care goals?

Probes:

- How do you decide what is important? What influences these decisions?
- What are your goals?
- How is your child's care team working with you to meet your goals? How do they help you make decisions about your child's health?
- What gets in the way of meeting your goals?

9. Sometimes it can be confusing to understand what care your child can receive through MassHealth. Can you tell me how your child's care team helps you understand your child's care?

   Probes:

   - What kind of information do they provide you?
   - Do they talk about how what you tell them might be shared with other individuals (doctors, therapist, nurses, care coordinator, etc.)? What do they tell you?
   - What type of information is really helpful for you? What type of information is not helpful for you?
   - How would you like to receive information?
   - What type of information would you like to receive?
   - [If they say no to above] Where/how else are you finding information if it is not being shared with you?

10. Was the last time your child went to the hospital, either planned or unplanned?

    Probes:

    - Thinking about your most recent trip to the hospital, what was the discharge process like for your child?
    - When your child was discharged from the hospital, who, if anyone, contacted you right afterwards?
    - [If they were contacted] What services were you/your child offered? What services did you/your child choose/receive?
    - [If they were not contacted] Would you have liked to have been contacted? Did you know you were supposed to be contacted? What information would you have liked to have received?

11. What was the transition like for your child when they left the hospital and went back home?

    Probes:

    - Were services were set up for you to support your child's return home? These could be things like home health care, nursing or physical therapy. Who set up these services for you?
    - Does your child have any unmet needs? Does your child have any lingering health concerns?
    - Were you contacted by too many people? Not enough/the right people?

12. We mentioned earlier that the MassHealth ACO program started about two years ago. That means before then, you might not have been in an ACO. In what ways, if any, is your child's care different now than before? Say, two or three years ago?

    Probes:

    - In what ways is it different?
    - How is it the same?
    - What is better or worse, and why?

Health Status (EDD and workgroup)

In the next couple of questions I'm interested in learning about your feelings about your child's medical/physical health. [Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

1. How is your child's health overall? What else do you think impacts your child's health?

    Probes:

    - You mentioned earlier that your child's health [has changed, stayed consistent, etc.] over the past few years. You said [something happened, nothing happened]. Since [something happened—do not identify dates/months], how often do you go to the doctor/ER before that [thing happened, your health changed]
    - Do you have any other issues besides ACO/CP [ex: HRSNs, flex services, finances, school/education issues] that you would like to discuss in relation to your child's health?

2. [CP Only] You told me about your experience in working with XXXXX, your CP. For the next few questions, I'd like to learn about your feelings about your child's Mental/Behavioral Health services, and/or the ways your LTSS supports impact your child's health. Can you tell me how your child's health is overall now that you are using CP services?

    Probes:

    - What else do you think impacts your health?
    - Has it changed? How?

3. Overall, how has your child's quality of life changed in the last year because of your child's health status or healthcare?
    - Probe for improvements (or not) in social situation, services, HRSNs
    - Do you feel anything can be done to better your child's health and quality of life?

Community Partners (EDD)

As part of the MassHealth ACO program, ACOs have relationships with community-based organizations called Community Partners. These partnerships are another part of the goal of meeting members' needs and coordinating their care between providers, whether it's for medical care, mental/behavioral health, or long-term services and supports to help them stay in the community. When we first started talking, you mentioned that you have XXXXXX [reference if they noted a mental health diagnosis and/or disability that requires LTSS support]. To help you manage those needs, you are getting supports from XXXXX [note CP name if known]. [Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

1. Do you know what CP your child receive services from?

    Probes:

    - How did you hear about your CP?
    - What do you remember about the enrollment process with your CP?
    - Where did you first meet your CP representative/staff member?
2. Tell me about what getting services from your CP for your child typically looks like.

    Probes:

    - What services do they help you with?
    - What do you talk about?
    - What questions do they ask you? What questions do you ask them?
    - How do you make decisions about your child's ?
3. How does your CP help your child with getting other services?

    Probes:

    - Does your CP help you with other needs (like housing, transportation, food)?
    - Who else helps you with those needs?
4. We asked you earlier about how you make your child's needs known to your doctors and medical providers, and how those providers help you to understand

your care. In thinking about your CP can you also tell me how the CP staff helps you to understand services available to help you with your child's care and/or needs?

Probes:

- What kind of information do they give you?
- What kind of information is really helpful? What is not?
- How would you like to receive information?
- What type of information would you like to receive that you haven't gotten?

5. We also talked about how your providers help you/your child in setting and meeting your care goals. How does the CP help you/your child make decisions about your goals?
6. Are there any goals that you have that you think both your PCP and the CP can help you or your child with?
    - How does your child's CP work with your child's PCP or ACO?
7. The goals you set with your child's providers are usually written down as part of your child's plan of care. Do you know what a care plan is?

    Probes:

    - What is in your child 's care plan?
    - Do you have a copy of your child's care plan?

Care Integration/Info Sharing (EDD)

Another goal of the MassHealth ACO was to better integrate care for Members. Integration means bringing people or things together.

1. Until two years ago or maybe even less, your child might not have been in an ACO. When [Primary care doctor] refers you to see another provider now, what, if anything, is different in how those providers share and understand your child's information?
2. Can you talk about your experiences with getting the care/services your child wants or needs when you need them?

    Probes:

    - Do you experience any delays in getting care for your child?
    - How do you work with different members of your care team(providers) to get the care you want for your child?
    - What is working well? Not so well?
    - What care are you not getting for your child that you want/need?

- Why do you think you aren't receiving them? (probe for availability/accessibility disability, language)
- Can you talk about the process for getting care when your child is sick now that you are in an ACO (is it different than two or three years ago? Changes?)
- Can you talk about getting care when your child is healthy now that you are in an ACO? (Is it different than before? Changes?)

COVID-19 Considerations

We know that the novel coronavirus and the current epidemic of COVID-19 may have contributed to changes in the healthcare system.

1. Have you noticed any changes to your care over the last few weeks?

2. Has anyone been in touch with you about your care (in the context of COVID-19)? If so, how? What information? [e.g., telehealth?] How to get in contact with your provider?

3. Are you continuing to see your provider for routine visits? (think medically complex folks who may have frequent visits routinely) [Any trouble seeing your provider?]

4. Oh, you're not going into the office. Are there other ways you are in touch with your PCP, such as telehealth options including telephone or videoconferencing visits?

- Have you used telehealth (i.e., seen the doctor over the phone/video calling)?
    - Are you using technology such as FaceTime or another smartphone app? Or a service like Zoom or Skype?
- Were you given the option to see your doctor/provider in person or having a telehealth appointment or was this choice made for you?
- How many telehealth visits have you had over the last couple weeks/month?
    - Do these meet your definition of a "good care visit"? Are you satisfied with them?
    - If you needed to, were you able to go to the office/hospital (maybe for lab tests or vaccinations)?
- Which other providers would you want to see via telehealth?
- Do you think you would want to make telehealth part of your regular care routine after Covid-19?
- Have you had any issues with telehealth, for example with internet access or having the right equipment like a smartphone? Did you prefer one method over another?

5. Can you continue to focus on your health issues (or are you "distracted" by COVID-19)?

[Information from MassHealth – reference again for their awareness]

- General eligibility and enrollment questions should go to **MassHealth CSC**:
    - Call: (800) 841-2900
    - TTY: (800) 497-4648
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    - Hours: Monday–Friday, 9 a.m.–4 p.m.
    - Email: info@myombudsman.org
    - Or visit: http://www.myombudsman.org

Is there anything else that you would like to share with us today regarding your or your child's experiences as a MassHealth ACO patient? **[**Note to Interviewer: Please remind interviewee that they should not provide any identifying details such as dates or month of care received, names of doctors, or other identifying information.]

Thank you for your time today.

[Turn Recorder Off]

To better understand patient experience, we are asking some **optional** demographic information questions. You do not have to answer any question you do not want to.

[Go through demographic form questions]

As a token of our appreciation, we will be sending you your gift card via mail or email. Which would you prefer?

[Note down email address or physical address]

Thank you again for your time. We really appreciate your perspective and input. If you have any additional comments or questions about this project, please feel free to reach out to me via phone: 734-834-4477 or email: Aparna.Kachoria@umassmed.edu.

6. State Representative Interview Guide

Goals of the MassHealth Leadership/Staff Key Informant Interviews (KIIs):

To obtain Mass Health Leaders/Staff perspective on delivery system reform and DSRIP program implementation (process and progress) from their particular vantage point, both internally, within MassHealth, and externally, with ACOs, CPs, and other stakeholders (e.g., health systems and members)

To understand the goals, organizational structure and system transformation/changes built into the DSRIP program from the perspective of MassHealth leaders/staff involved in design and/or implementation; and the ways in which their interpretation of these have shaped their expectations/evaluations for process and progress.

To identify delivery system and DSRIP implementation successes and challenges, innovations, and opportunities, both inside MassHealth as well as related to the ACOs, CPs and other stakeholders.

To explore MassHealth actions to support delivery system transformation so far, and lessons learned that have informed course corrections or might inform activities over the next few years

A. Introduction

1. We'd like to understand your perspective on DSRIP/Demonstration implementation. What has been/is your role at Mass Health regarding DSRIP (design, development, implementation, evaluation (e.g., performance and quality indicators)? What are your responsibilities?
    a. What have been the major changes in your role, if any?
    b. How long have you worked in this role? And health care in general?
    c. Do you view this work through any particular lens, shaped by your current role/responsibilities or previous experiences?
    d. How do you stay up to date with the process and progress of implementing DSRIP? Meetings? Newsletters and other documents? Interactions with stakeholders? (e.g., DSRIC meetings, etc.)

2. What is MassHealth's overarching strategy to improving care and quality while lowering costs? How is that strategy applied to the current Demonstration and DSRIP program?
    a. What are the levers MassHealth is using through the Demonstration to bring about desired changes?
        i. Where do contracting requirements, quality measures, financial risk for total cost of care, and DSRIP funds as incentives fit into the overall strategy?
        ii. Are there levers outside of those four areas MassHealth is using?

B. DSRIP Investments

3. Overall, how have DSRIP funds been spent?
    a. At MassHealth specifically, were DSRIP funds spent mostly on furthering existing initiatives or bringing about new programs?
    b. Outside of MassHealth (at ACOs and CPs), were DSRIP funds spent mostly on furthering existing initiatives or bringing about new programs?
        i. Have DSRIP funds been spent in the way MassHealth had hoped?
4. MassHealth has undergone significant internal or intra-organizational changes in operations to implement the DSRIP program. These may have been changes in structure (e.g., the "org chart"), roles or responsibilities ("who does what"), or perhaps in "culture" (reflecting the shift from a fee-for-service to value-based payment "mentality", population health concerns, cost containment, etc.).
    a. What have been the most important changes MassHealth has made organizationally/internally, so, far to promote health system transformation in the context of DSRIP?
        i. Successes or challenges? Facilitators or barriers? Innovations? Lessons learned?

C. MassHealth Development and implementation of Quality and Performance Indicators

5. Please share your perspective on MassHealth's engagement in the process of setting and assessing performance indicators.
    a. How were certain domains of measures (e.g., for a specific member population, for certain types of care) identified as priorities for inclusion in the ACO and CP measure slates?
    b. What was the process for choosing between existing measures and development of new measures by the state?
    c. What was the process for working with stakeholders within the state and gaining consensus on which metrics to include? What about CMS?

d. Have there been any changes in the metrics? Why?

e. How was the level of accountability associated with quality measure performance determined?

f. How many performance measures and what mix of process and outcome measures were considered important for evaluating performance without overburdening ACOs and CPs?

6. What have been the challenges in operationalizing the metrics? What has been done to overcome those challenges?

    a. How did the state seek to maintain fairness in quality performance evaluation across diverse organizations with unique member populations?

7. What are the strategies that, to you, appear to be successful in improving quality and value of healthcare?

D. MassHealth DSRIP Activities to support ACOs

Now let's shift to specific DSRIP-related activities for the ACO program. Your perspective and level of insight into these will obviously vary according to your role and responsibilities, or perhaps your previous experiences. People may even differ in their definitions of these activities. But let me ask you about the following, and I can learn more about your perspective as we go along.

Care Coordination/Integration:

8. How do you define care coordination and service integration?

    a. What key activities have you seen, internal to MassHealth that support these activities?

    b. What new activities have you seen ACOs implement to support these activities?

    c. What is working particularly well? Or not so well? Does it vary across ACOs?

    d. What factors/conditions have worked to support innovation and improvement?

    e. Have there been challenges? How has MassHealth/organizations responded to challenges

9. Have you seen any difference around care coordination or service integration when it comes to LTSS services? How so? Or why not?
    a. What is working particularly well? Or not so well?
    b. What factors/conditions have worked to support innovation and improvement?
    c. Have there been challenges? How has MassHealth/organizations responded to challenge?
10. Keeping on the idea of integration, can you describe how the integration with Community Partners is going for the ACOs? What actions have you seen ACOs take to implement this part of DSRIP?
    a. What is working particularly well? Or not so well?
    b. What factors/conditions have worked to support innovation and improvement?
    c. Have there been challenges? How has MassHealth and/or organizations responded to challenges?
    d. What has MassHealth done to support these relationships?
    e. We know that originally ACOs had to contract with all BH CPs in their service area and at least 2 LTSS CPs. We also know there have been some discussion about changing the CP program (CP 2.0). Can you describe what MassHealth was hoping to get out of the first configuration and why they are making changes?
    f. One thing we heard a lot in some of our interviews was that how ACOs and CPs shared information and coordinated care depended a lot on the relationship the two organizations had. For CPs specifically, they often had to deal with multiple ways to send care plans or member information to ACOs (ISS) and that was sometimes a barrier. Why did MassHealth not standardize or require any specific way to share information? Have you seen any issues around that flexible set up?

Population Health Management

11. Please describe what ACOs are doing for population health management and non-CP related care coordination?
    a. What are the actions MassHealth has taken to support these activities?
    b. What is working particularly well? Or not so well? Does it vary across ACOs?
    c. What factors/conditions have worked to support innovation and improvement?
    d. Have there been challenges? How has MassHealth and/or organizations responded to challenges?

Health Related Social Needs

12. Please describe what ACOs are doing around Health-related Social Needs (HRSN) screenings and then addressing those needs.
    a. What key activities has MassHealth taken to support these activities?
    b. What is working particularly well? Or not so well?
    c. What factors/conditions have worked to support innovation and improvement?
    d. Have there been challenges? How has MassHealth and/or organizations responded to challenges?

Flexible Services Program

13. Please describe how ACOs are planning to utilize the flexible services program.
    a. What key activities has MassHealth taken to support these activities?
    b. There have been several adjustments to the flexible services program since the start of the Demonstration such as scope of the program and timing of rollout. Why did these changes occur?
    c. Will these changes impact the overall success of the program?

Data Analytics and Reporting

14. Please describe what ACOs are doing around data analytics and data reporting.
    a. What key activities have you seen, either internal to MassHealth (to support these activities) or in the field (to implement these activities)?
    b. What is working particularly well? Or not so well?
    c. What factors/conditions have worked to support innovation and improvement? Have there been challenges?

Health Information Technology

15. Please describe what ACOs are doing with implementing and using Health Information Technology?
    a. What has MassHealth done to support these actions?
    b. What is working particularly well? Or not so well?
    c. What factors/conditions have worked to support innovation and improvement?
    d. Have there been challenges? How has MassHealth or organizations responded to those challenges?

Financial Performance/Engagement

16. How would you describe how the ACOs are doing financially? What strategies are they taking for financial performance/sustainability?
    a. What is MassHealth doing to support these actions?
    b. What is working particularly well? Or not so well?
    c. What factors/conditions have worked to support innovation and improvement? Have there been challenges? How is MassHealth organizations responding to these challenges?

Quality Performance Indicators

17. How are the ACOs and CPs doing with meeting their QPI metrics? What are they doing to meet those metrics?
    a. How has MassHealth supported the in those activities?
    b. What is working well and not so well?
    c. What factors contribute to success/innovation? How Is MassHealth/ organizations responding to challenges?

Provider Engagement

18. What does provider engagement by ACOs mean to you? What is it “supposed” to look like? How does this compare with what is happening in the field?
    a. What strategies have you heard ACOs are using to engage providers? (e.g., informative meetings, better communication, etc.)
    b. How effective are these strategies?
    c. Some ACOs, for example, are using financial incentives for primary care providers, specialists, and/or hospitals as a mechanism to engage providers in delivery system changes. How are these working out?
    d. What MassHealth strategies have been used to promote provider engagement efforts?

Member Engagement

19. Member Engagement
    a. What does member engagement mean to you? What is it “supposed” to look like? Why is it supposed to matter?
    b. Organizations are using various strategies to promote member engagement. What strategies have you heard about? (e.g., Advisory groups, xxx, yyy, etc.) How are these working out?
    c. What MassHealth strategies have been used to promote member engagement efforts?

E. MassHealth DSRIP Activities to support CPs

Now let’s shift to specific DSRIP-related activities for the CP program. Your perspective and level of insight into these will obviously vary according to your role and responsibilities, or perhaps your previous experiences. People may even differ in their definitions of these activities. But let me ask you about the following, and I can learn more about your perspective as we go along.

20. How have the CPs done with implementing the program? What did they do? Have you seen differences between BH and LTSS CPs?
    a. What has MassHealth done to help CPs start operations and implement the program?
    b. What is working particularly well? Or not so well? Does it vary across CPs?
    c. What factors/conditions have worked to support innovation and improvement? Have there been challenges? How are MassHealth and organizations responding to challenges?
    d. Do you have any thoughts about sustainability of these efforts? Is MassHealth considering ways to support CP sustainability?

Health Information Technology

21. Please describe what CPs have done around implementing and using Health Information Technology
    a. What key activities have you seen, either internal to Mass Health (to support these activities) or in the field (to implement these activities)?
    b. What is working particularly well? Or not so well? Does it vary across CPs?
    c. What factors/conditions have worked to support innovation and improvement? Have there been challenges?

Data Analytics and reporting

22. Please describe what CPs have done around using data analytics and reporting?
    a. What key activities have you seen, either internal to MassHealth (to support these activities) or in the field (to implement these activities)?
    b. What is working particularly well? Or not so well? Does it vary across CPs?
    c. What factors/conditions have worked to support innovation and improvement? Have there been challenges?

Member Engagement

23. Member Engagement
    a. Earlier when talking about the ACOs, you described member engagement as “x”. Is that the same definition for the CPs? What actions are the CPs doing around supporting member engagement?
        i. How are these working out? What challenges are organizations facing and how are they responding?
        ii. How has Mass Health supported these efforts? How is MassHealth responding to challenges?
    b. Originally, the CP timeline for member engagement was 30-days but was changed to 90-days. Can you describe why MassHealth made that change? Has it been helpful?

F. ACO and CP Alignment

24. How have ACOs and CPs been doing in establishing relationships?
    a. Are there any notable challenges or successes in these relationships so far?
    b. Have you noticed any common barriers to establishing or continuing these relationships?
    c. How has MassHealth helped to facilitate the development of these relationships?

G. MassHealth Support for Delivery System Transformation through Statewide Investments

25. We know that there are various statewide investments that can be used by CPs and ACOs to implement the DSRIP program. We would like to ask you about specific ones and how they are going. What has MassHealth and participating organizations done with the SWI meant to ready participating organizations to operate as ACOs and CPs? What have been challenges? How have organizations responded to those challenges?
    a. How were the SWIs identified or determined? Why were they needed?
    b. For workforce development?
        i. How specifically did the student loan forgiveness payment program fit into this?
        ii. Specific strategies for recruitment, retention, and/or training?
    c. To address ED boarding challenges?
    d. To improve accessibility for people with disabilities and people for whom English is not a primary language?

H. Stakeholder Engagement

26. How has MassHealth engaged stakeholders throughout the state to inform the implementation of the Demonstration and DSRIP?'
    a. How has the relationship with DSRIC informed implementation?
    b. Social Services Integration Working Group (SSIWG)?
    c. Monthly meetings with advocates?
    d. Are there any concerns or recommendations that have emerged from stakeholders that you haven't been able to address? Why not?

I. Factors External to Mass Health

27. What local, state, or national factors have impacted the implementation of DSRIP?
28. Are there any changes that have occurred external to the Demonstration or DSRIP that you think will influence the success of the program?

J. Covid-19 Impacts

29. How did Covid-19 impact the implementation of DSRIP and the overall Demonstration?
    a. How did expectations for ACOs change at all as a result of the pandemic?
    b. How did expectations for CPs change at all as a result of the pandemic?
    c. Do you expect any health systems will adjust their participation in the ACO program to take on less risk as they recover financially?
    d. Disruptions from Covid-19 may lead to worsened outcome and performance measures, causing ACO losses against predefined capitated benchmarks. How was this accounted for in the crisis response (for example, adjusting capitated rates, experimenting with temporary fee-for-service reimbursement)? How long will these crisis-era adjustments last after the pandemic? How will these emergency steps impact DSRIP implementation over the next 1, 2 years?
    e. Which emergency measures put in place by MassHealth to mitigate the impact of the pandemic may also advance aspects of the Demonstration? Which might hinder the goals of the demonstration?
    f. How do you expect reimbursement for telehealth services to change after the pandemic (e.g., parity for telehealth/in-person visits, reimbursing store-and-forward or remote patient monitoring)? How might telehealth utilization during the crisis affect plans to change relative payment rates to encourage a healthy balance of in-person vs virtual care after the pandemic?
    g. How will MassHealth support or sustain telehealth adoption after the state of emergency is lifted?
    h. How has the flexible services program been impacted by social and economic disruptions for MassHealth members, including school closures, child care and school lunch suspensions, new unemployment/underemployment?

J. Looking to the Future

30. Do you have suggestions for modifying MassHealth efforts to promote delivery system transformation under the current 1115 waiver? Challenges that will have to be faced?
31. Which of the delivery system reform efforts made possible through the DSRIP funding should the state support going forward? What are your thoughts about potential funding sources if DSRIP is not renewed?

32. What one change does MassHealth have to implement in the next five years to achieve the state's long-term healthcare goals?
33. Are there any lessons that have been learned so far by MassHealth at the organizational level that should be considered going forward or would be of interest/value to other states pursuing delivery system reform?

7. ACO Case Study Interview Guide ACO: #1

MassHealth ACO Case Study/Site Visit Interview Protocol

ACO Case Study ACO #1

Thank you for taking the time to speak with us today about your experience as a MassHealth ACO during the DSRIP implementation. Based on the information ACO leaders at [ACO #1] shared with us during the first round of Key Informant Interviews, we are looking forward to learning more about specific aspects of your program. [ACO #1] is one of 4 ACOs selected for more detailed exploration based on certain unique and potentially innovative approaches used for building capacity and/or delivering care to MassHealth members. Findings from interviews with [ACO #1] staff and other ACOs will inform our evaluation of the MassHealth ACO program, and will be compiled and reported in the aggregate in both the interim and final evaluation reports. When we write reports based on information gathered in these ACO interviews, we will not use the names, roles, or clinical practice site of participants without your permission (e.g., if there is an example of an innovation we'd like to highlight).

Do you have any questions about the fact sheet we sent ahead of time? [Address Questions.]

We know that everything and everyone has been affected by the COVID-19 pandemic over the past months, especially those of us working in health care. We have not included specific questions in our interviews related to your organization's response to the pandemic, but encourage you to mention anything that comes up about the pandemic and how it's affected your ACO activities as we go along. We hope to explore what and how changes have been made as part of DSRIP, and what additional changes might be attributable to COVID-19.

We are also interested in whether and how your ACO practices have influenced (or not) your care practices or procedures for non-ACO patients. For example, have the resources made available through the DSRIP initiative informed the care of non-ACO patients? These are themes that may come up as we move through the interview process, so please add any comments where they might be relevant.

Do you have any questions before we start? We want to remind you that we would like to audio record these discussions to ensure that we accurately capture the information you provide.

[Turn Recorder On.]

INTRODUCTION/OVERVIEW

1. What were the most significant changes that took place in your organization, practice site or your role as a result of the MassHealth ACO Program? How have they affected the health and care of your members?
2. What were the most important aspects of the DSRIP program that facilitated implementation in your organization?
3. What have been the biggest barriers to transforming how care is delivered to better meet the needs of your members?

MEMBER CARE/EXPERIENCE

For this section, we would like to understand member care and experience at [ACO #1] better. We have created the following hypothetical situations to help answer these questions as they might be relevant.

Hypothetical Situation 1: A pediatric patient with autism

Hypothetical Situation 2: A patient who is homeless

Hypothetical Situation 3: A patient who has BH needs, LTSS needs, and/or medical complexity

Thinking of each of the above situations (as they might be relevant), how would you describe the member care experience in each of the following categories?

Member Engagement

Suggested Participant(s): PFAC Representative(s)

4. How are members engaged in governance?
5. How are concerns or issues raised with governance structures?
6. How are concerns resolved?
7. What are other ways members maybe involved in ACO governance or decision making? How would suggest further including members in governance structures?

Suggested Participant(s): Care Coordination Team Member(s)

8. How are members involved in care planning? What conversations do you have with members?
    a. Goal planning and decision-making: what if issues are in conflict between member's desires and/or medical team?
    b. How do you manage this or work with the member to resolve?
9. How do you make sure their concerns or needs are met?

10. Please walk us through how you engage a member in care planning. **(CORE)** Who do you bring into the planning process (i.e., family, other advocates, CP?)
    a. Do you use motivational interviewing techniques? What sort of paperwork is done? What is the conversation like?
11. What has been helpful in keeping members engaged long-term? For example, how do you help them manage chronic or other conditions? Or do their own follow-up/connect and find resources ("navigation")? **(CORE)**
    a. How are you leveraging your member engagement strategies to care for hard to reach populations during Covid? Have you had to employ any new strategies?

Suggested Participant(s): CHW(s) (hard to reach members and provide care)

12. Can you explain how you outreach to members? What does it look like to connect with members in the community? (CORE)
    a. Based on the hypotheticals above, are the processes different for any of them? How so?
13. What populations have you found are more difficult to reach? How do you find individuals who are considered "hard to reach"? Where do you work with them?
    b. Say, if I was homeless, where would you go to look for me?
14. Can you talk about your training around cultural competency (Three R's)? Who provides it and what topics are covered?
    c. Have you found this, or other trainings, helpful? How so?

Health Related Social Needs

Suggested Participant(s): CHW(s)

15. Contractually, we know all patients are meant to undergo an HRSN screening Which patients do you, as a CHW, do that screening with? How is that determination made – say, versus a PCP or other staff member? (CORE)
    a. Are the same needs assessed for all people? If not, how do you decide what to ask about?
16. Where do you do your screenings? How are they done (on tablet, on paper, using motivational interviewing, by the member alone)?
17. Please describe how you do screenings in community settings? Where? (Such as a pre-set location or wherever you find the member?) How?

18. Once you identify a need, how do you help address it? Who do you call, what resources do you have (internal vs external)? (CORE)
    a. What additional questions do you ask to get a full idea of the need?
    b. How do you address/measure: transportation, housing, food, employment/education, utilities, social supports, experience of violence? Any others?
19. Do you work with a CP to address these needs? Who else might help you or who else do you work with (other community organizations, SSO, etc.?)

Suggested Participant(s): CCM Team Member(s)

20. Please walk us through the process of conducting the HRSN screening with your patients? Is it conducted in person, on paper, in the portal?
    a. Once you have the screening information, then what happens next?
21. How do you address needs such as: transportation, housing food, employment, utilities?
22. Is there a difference between the members you work with on HRSN compared to the CHWs? If so, why?
23. Is the screening stored in the EMR? If not, where is it stored and how is it shared/accessed by staff who need it? Who can access it to assist the member?
    a. We understand there is a tracking system to keep track of needs? Can you show us or walk us through the system?
    b. How does it help?

Let's now talk about Flexible Services. Who do you partner with? What programs are in place?

    a. How do you identify someone who would benefit from Flexible Services? (CORE)
    b. Do you use a risk stratification or other system to identify?

24. Have there been any changes in ways that you identify members or connect members to services? (innovations in practice)
25. How do you track services and monitor outcomes for both HRSN and Flex? Is there a system? (CORE)
26. What programs do SSOs help you/members with? Please describe the relationship.
27. Have you had any issues with waitlists or not having access to enough resources to cover need?

CARE PLANNING/COORDINATION

In this section of the interview, we would like to understand the care coordination and care planning process at [ACO #1] better. A large part of the DSRIP program is the relationship between the ACOs and the CPs. In the sections that follow, we will explore this in more detail. We understand that you work with multiple CPs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #3], Family Service Association, Central Health Community Partnership, and Boston Healthcare for the Homeless, and the ways in which these relationships and processes are similar or different from each other or from other CPs.

ACO/CP Care Coordination Relationship

Suggested Participant(s): CP Coordinators (at site level and ACO level), Care management staff who are responsible for managing ACO/CP relationship and member coordination

28. How do you manage CP relationships? Our understanding is that as care management staff you are responsible for managing the relationship, communication, and member coordination. Do you work with one specific CP or all of the CPs connected with [ACO #1]?
    a. If relevant, how do you manage the relationships with multiple CPs/keep track of details and different processes, contacts, etc?
        1. What is hard and/or what is easy about this process?
            a. Issues with assessments, paper work, PCP sign off?
        2. Who do you call? What's that like? Is there a central contact person at each CP? Please walk us through coordinating and managing the relationship with them, if that is your responsibility.
29. What is the internal health screening tool used to identify members in need of BH and LTSS care (CP support)? Who conducts the screening? How is it conducted (interview style vs tablet?) (CORE)
30. How does care coordination work with CPs?
    a. What meetings do you have? How do you manage comp assessments, care plants, other paperwork?
    b. What is working well and/or not so well?

Suggested Participant(s): Senior Director for Behavioral Health, Director of LTSS and SDOH

31. Please describe the overall strategy, maintaining compliance, contracts, etc. with CPs.

32. Who manages the risk stratification for CP referrals and EMR documentation? How does that information get to the CPs? What factors would place someone in the risk category resulting in referral to CP? Who developed it? Why that level? (CORE)
33. What are the analytics and data warehouse platforms? Who manages them?
    a. What reports are produced and how frequently? Who sees them? How are the data used? (CORE)
34. What does the referral process look like at the site/community health center level? How does EMR identify whether ACO central or ACO #4 is responsible for care coordination (or is this done through the care management platform? Do they speak to each other?)? What are the reasons for who has responsibility?
    a. Is any of this different for other [ACO #1] care management programs (i.e., does the determination of responsibility differ?
35. How is performance monitored (what staff are involved, what systems are used, how are decisions made about next steps)? How do you work on improving performance? How do you improve workflows, case management, etc.?
    a. Who do you talk with? How does that go?

Other/Non-CP Specific Care Coordination and Management

(to review the multitude of non-CP [ACO #1] care management programs)

Suggested Participant(s): Care Management Leadership

36. How do you evaluate CCM programs? Does this differ for different diseases/conditions? (CORE)

    Suggested Participant(s): CCM Team Member(s) (CHWs, RNs, etc.), site-embedded care team member(s)s, ACO #1 employee(s), BH care management staff, CHW(s), Medical Assistant(s) at some sites

37. Who qualifies for different types of care management (Disease specific? Risk levels? Other factors)? How/Who determines this and how is it determined? (CORE)
38. What tools are used to stratify people into different care management programs (e.g., Complex care management, condition care for BH or chronic conditions [non-CP], vs care coordination for non-intensive)?
39. Is there an algorithm to determine risk/need for care management? Or is it based on individual clinical and social characteristics (i.e., decided by PCP or other medical professionals)?
40. Can someone other than a medical professional override a decision (i.e., if a member is not placed in CCM)?

41. Where are you (CCM staff) located? PCP, hospital, [ACO #1] central office, etc.?
42. How is it decided who is managed centrally or site specific (by ACO staff or CHC staff)?
43. What is the referral process for CCM and how do members get engaged into care? How is outreach conducted?
44. Are there promotional materials we could see? How do you explain your role or the program (i.e., what's the pitch)?
45. We saw in some material that you have a standalone social resource tool to manage CCM referrals? What is the tool? How do you get referrals? Where/who do they come from?
46. We understand this is the same tool used to track the results of HRSN screenings. How does that work? What are examples of "results"?
47. How do you handle care transitions, especially re: hospitals? (**CORE**)
48. Is there a difference here in process/practice between non-CP and CP members?
49. Do you pass people off to the Transition Care program staff? Who decides who is in charge of which patients?
50. What are meetings for case management like? Who is there from the ACO, the PCP or specialty care, the team? What do you talk about?
51. How do the bi-weekly case manager check-ins and home visits work (i.e., what is on the agenda?)
52. How do you use technology (risk stratification tool, ADTs, etc.)?
53. Was this new to you? How have you adapted new things (like data, population health) into your work?

Suggested Participant(s): RN care manager specifically for LTSS issues, and LICSW for BH issues

54. How do you, as the RN, connect members to home services or primary care?
55. How do you, as the LICSW, connect members to BH services?
56. How do you integrate PCPs into the care? What has worked well and less well?
57. Is there overlap in your care management teams or does each team have specific responsibilities? What are the responsibilities of the distinct care management teams?

Suggested Participant(s): Transition Care program staff member(s)

58. How do you decide who is at risk (criteria) after leaving the hospital? (CORE)
59. How do you support members and link to services? (CORE)
    a. What is the process for medication reconciliation and who performs it?
60. Have you seen barriers in getting members connected to services after leaving the hospital? Have you seen improvement in members' care and/or outcomes (e.g., reduced readmissions)?

Suggested Participant(s): Care Manager(s) (for those getting state agency services)

61. What is the process to connect to state agencies and other organizations?
62. How do you develop relationships with state agencies or others to serve members? Is this the same process for all members?

SERVICE INTEGRATION AND HIT

In this section of the interview, we would like to understand the efforts that went into health information technology integration, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

Population Health Management

Suggested Participant(s): Chief of Practice Transformation and Quality-Implementation Strategies, site leadership, data and analytics team, population health manager

63. How do the sites manage population health vs. how is it managed centrally at [ACO #1]? Who is in charge of which aspects of this process?
    a. What data analytics do you use? What system is used to manage and or create data?
    b. What support is given to sites to understand and utilize data?
64. How are data used by [ACO #1] vs. by the sites themselves?
65. What strategies are being implemented for population health management or sustainability/performance improvement? (CORE)'

Information Sharing

Suggested Participant(s): IT staff and/or IT Director level staff member

66. How do you share information with CPs? SSOs? Providers at other sites such as specialists? Providers outside of the ACO?
67. Please walk us through the data warehouse for risk stratification.
    a. Who manages this or runs the data? How much is automated?
    b. Who receives the data and how are data distributed?
68. We would like to see the ACO-wide EMR interface for data sharing. How is this used? Is it automated? How is it sent out, to whom? And the ACO-wide EMR interface for data sharing (use, etc).?

WORKFORCE DEVELOPMENT

In this section, we would like to learn about the efforts that went into workforce development, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

General Workforce Recruitment and Training Policies

Suggested Participant(s): HR Staff and/or Director of HR would be ideal Participants

69. How do you recruit for roles? ? Is it all centralized or done by specific sites, especially for case coordination/management roles?
70. Role specific trainings-what did you have to develop? What was new? How is it going? What external groups do you partner with? Evaluation of trainings?
71. What kind of policies and procedures are in place to ensure staff meets the contractual training requirements?
    a. How are competing training and other demands managed?

Care Coordination and Management Trainings

Suggested Participant(s): Population Health Tool super user(s)

72. How do you train people? What is the process? How often do you do trainings, refreshers, etc?
    a. If I was a staff member and had a question, do I reach out to you? How does staff get help on technology and other aspects of their job (i.e., coordinating care for a difficult member or in a complicated situation)?
        i. Can you show me or explain to me how you train on PDSA cycles, quality assurance, root cause analysis? How do staff use those trainings in their daily jobs?

SUSTAINABILITY/FINANCIALS/QUALITY

In this section of the interview, we would like to ask about the efforts that are being made to assure the sustainability of the ACO programs and thinking about the future of your organization, considering the tapering off of DSRIP funds. Financial incentive and quality measures are an important aspect of the DSRIP program and the subsections below will explore this in more detail.

Reducing Total Cost of Care

Suggested Participants: Data and Analytics Team Member(s) (speak about QPI), Chief of Practice Transformation and Quality. Finance Committee (governance board), select site leadership

73. How do you use data analytics and score cards, for sustainability issues, reducing potentially avoidable care, improving quality, and transforming care (e.g., leveraging multidisciplinary care teams, integration with community organizations, shifting modality to telehealth and email/portal communications)?
    a. Can you walk us through a scorecard and how a site might use it i(.e., what does it show)? How have sites used them to change practice or process? Please describe a success story(s)?
    b. How do you, as the Quality Committee or Chief of Practice Transformation, work with community health centers to develop plans to improve score card?
    c. How is technology used, such as electronic data warehouse dashboards, to improve performance, to reduce total cost of care, or to improve quality of care?
        i. What other roles do technology and data analytics play in addressing QPI?
74. How do you set performance improvement priorities? What data are used? Which stakeholders are engaged? (CORE)

Risk Management

Suggested Participant(s): Chief of Practice Transformation and Quality, select site leadership

75. We understand you have a three-tiered approach to improve quality and cost. (They are low, high, medium risk sharing at the health center level, right?)
    a. What defines the risk levels?
    b. How has this worked at the site level? How did they develop this procedure? Is it working? How is it working?
    c. We understand providers do not receive TCOC data, but do receive quality data. How do they use these data to improve their work, etc.?

BUY-IN FROM PROVIDERS AND GOVERNANCE

In this section, we would like to understand other factors that may affect the DSRIP program at [ACO #1]. Specifically, we are interested in learning more about provider engagement and governance especially considering that you are a Model B ACO.

Provider Engagement

Suggested Participant(s): The individual(s) who conduct one-on-one feedback with providers and select providers

76. We understand that [ACO #1] uses one-on-one feedback with providers on quality measures. What do those meetings look like? What material is used?
    a. How does site leadership/do you engage providers in quality performance measurement? Do providers feel engaged?
    b. What are incentives you may be using now?
        i. We believe when we did our first round of interviews you were not using financial incentives. Why (if it did) did that change?

Governance and Getting Buy-In

Suggested Participant(s): Talk to different governing board members – especially any member who may not be covered in an above section; Operations Subcommittee member(s) may also have insight

77. How would you describe the role of the governance structure in your ACO? Do you think that this model has helped in delivery of care? How so?
78. If you could change your governance structure or the way in which you obtain buy-in from patients, what would you change?

INNOVATIONS

Throughout our conversation today, you have shared many innovative solutions to different aspects of the DSRIP program. Our last section aims to understand these facets that are unique to you here at [ACO #1].

Suggested Participant(s): SIte leadership

79. Please tell us about the PCMH certification? What is the value? How is that process going?

Suggested Participant(s): Everyone

80. What new programs, processes, etc. have you seen come online in the last year or so that you find really helpful? Why/how were they helpful?

Is there anything else you think is important for our team to know about your experience as a MassHealth ACO? Thank you for your time and insights into your programs at [ACO #1].

8. ACO Case Study Interview Guide: ACO #2

MassHealth ACO Case Study/Site Visit Interview Protocol

ACO #2

Thank you for taking the time to speak with us today about your experience as a MassHealth ACO during the DSRIP implementation. Based on the information ACO leaders at [ACO #2] shared with us during the first round of Key Informant Interviews, we are looking forward to learning more about specific aspects of your program. [ACO #2] is one of 4 ACOs selected for more detailed exploration based on certain unique and potentially innovative approaches used for building capacity and/or delivering care to MassHealth members. Findings from interviews with [ACO #2] staff and other ACOs will inform our evaluation of the MassHealth ACO program, and will be compiled and reported in the aggregate in both the interim and final evaluation reports. When we write reports based on information gathered in these ACO interviews, we will not use the names, roles, or clinical practice site of participants without your permission (e.g., if there is an example of an innovation we'd like to highlight).

Do you have any questions about the fact sheet we sent ahead of time? [Address Questions.]

We know that everything and everyone has been affected by the COVID-19 pandemic over the past months, especially those of us working in health care. We have not included specific questions in our interviews related to your organization's response to the pandemic, but encourage you to mention anything that comes up about the pandemic and how it's affected your ACO activities as we go along. We hope to explore what and how changes have been made as part of DSRIP, and what additional changes might be attributable to COVID-19.

We are also interested in whether and how your ACO practices have influenced (or not) your care practices or procedures for non-ACO patients. For example, have the resources made available through the DSRIP initiative informed the care of non-ACO patients? These are themes that may come up as we move through the interview process, so please add any comments where they might be relevant.

Do you have any questions before we start? We want to remind you that we would like to audio record these discussions to ensure that we accurately capture the information you provide.

[Turn Recorder On.]

INTRODUCTION/OVERVIEW

1. What were the most significant changes that took place at [ACO #2] as a whole, an individual practice site or within your role as a result of the MassHealth ACO Program? How have they affected the health and care of your members?
2. What were the most important aspects of the DSRIP program that facilitated implementation in your organization?
3. What have been the biggest barriers to transforming how care is delivered to meet the needs of your members better?
4. Many of the initiatives that are a part of the ACO program are building off past initiatives at the organization. Do you think this helped or hindered your ability to meet the specific goals established by MassHealth?

MEMBER CARE/EXPERIENCE

For this section, we would like to understand member care and experience better at [ACO #2]. We have created the following hypothetical situations to help answer these questions.

> *Hypothetical Situation 1: A pediatric patient with autism*
>
> *Hypothetical Situation 2: A patient who is homeless*
>
> *Hypothetical Situation 3: A patient who has BH needs, LTSS needs, and/or medical complexity*

Thinking of each of the above hypotheticals (as they might be relevant), how would you describe the member care experience in each of the following categories?

Member Engagement

Suggested Participant: [ACO #2] Medical Director

5. Please describe the organization's overall member engagement strategy.
    a. How are you leveraging your member engagement strategies to care for hard to reach populations during Covid? Have you had to employ any new strategies?
6. How have your processes changed with the integration of community wellness advocates, community health workers, and social workers within primary care sites?

Suggested Participant(s): Clinical Subcommittee Member(s)

7. Please walk us through what it looks like when embedded CCCM staff engage a patient in the ED?
    a. Is there a separate program for low-acuity or potentially preventable ED visits?

8. What is the role of enrollment specialists?
    a. Are the enrollment specialists and ED CCCM staff new initiatives or have these strategies been used before?
9. How are the disease management workshops and opioid urgent care clinic operating under the MassHealth ACO program? Have there been any changes since the program started?
10. Are there other programs to assist with member engagement such as transportation vouchers or a member assistance fund?
11. How is telemedicine used to engage members in care?
    a. What have been the successes, challenges, and barriers to implementing a telehealth program?

Health Related Social Needs

Suggested Participant(s): Quality Subcommittee Member(s)

12. Please walk us through doing the HRSN screening. Is it in person, on paper, in the portal?
    a. How did you decide to use the “psycho-social-physical-spiritual” assessments? How long have you been using this particular form of assessment?
    b. Are the results of these assessments logged in the EHR?
13. How successful have you been in implementing a universal HRSN screening program?

Suggested Participant(s): Clinical Subcommittee Member(s)

14. When a patient is identified with an HRSN, what is done to support them?
    a. Can providers directly refer to CPs and CCCM programs?
    b. Say you identify a HIV+ patient who is unstably housed. What does the process look like for them getting support? Has that changed at all due to the implementation of the ACO program?

Suggested Participant: [ACO #2] Medical Director

15. Let’s talk about your Flexible Services (FS) programs.
    a. How did you design your FS programs?
    b. How will you identify someone who would benefit from Flexible Services?
        i. Will you use risk stratification or other system to identify?
    c. How will you track services and monitor outcomes for both HRSN and Flex? Will there be a system?

d. Which SSOs will [ACO #2] work with to deliver Flexible Services? Describe the relationship

e. How are the coordination and provision of FS housing and nutrition services integrated with a members overall clinical care? How do staff at [ACO #2] and partner organizations work together to address the members clinical and health related social needs?

CARE PLANNING/COORDINATION

In this section of the interview, we would like to understand the care coordination and care planning process at [ACO #2] better. A large part of the DSRIP program is the relationship between the ACOs and the CPs. In the sections that follow, we will explore this in more detail. We understand that you work with multiple CPs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #3], Family Service Association, Central Health Community Partnership, and Boston Healthcare for the Homeless, and the ways in which these relationships and processes are similar or different from each other or from other CPs.

Suggested Participant(s): Clinical Subcommittee Member(s)

16. How have your processes changed with the integration of community wellness advocates, community health workers, and social workers within primary care Sites?
    a. How are these roles differentiated?
    b. How often are care teams brought together to discuss high-risk patients?
17. How are care transitions handled, especially regarding hospitals? **(CORE)**
18. Please walk us through how you engage a member in care planning? **(CORE)** Who do you bring into the planning process (i.e., family, other advocates, CP staff?)
19. What has been helpful in getting members engaged long-term? For example, how do you help them manage chronic or other conditions? Or do their own follow-up/connect and find resources (“navigation”)? (CORE)

Suggested Participant(s): Regional Manager, Medical Director

20. In general, were there previous relationships between practices and CPs?
    a. Do you think this is a predictor of success or progress in the program?
21. How do you manage the relationship with CPs? How has that been going at the administrative level, at the practice site level?

Suggested Participant(s): Clinical Champion, local champion

22. What is the delineation of the role of CPs in CCM vs practice site staff like CHWs and CWAs?
    a. How are CP staff involved in risk-stratification, and care management? Please walk us though what that looks like.
        i. Regarding risk stratification for CP referrals and EMR documentation, who manages these elements and how is this information shared with CPs? What is the stratification level? Who developed this process? Why was that level determined for this process?
        ii. What are the analytics and data warehouse platforms that [ACO #2] uses to share information? Who manages it?
            - What reports are produced regularly and how frequently? Who sees them? How is that data used?
            - Is there anything else you would like to share about your efforts in regards to data and analytics?

Suggested Participant(s): Regional Manager, Medical Director

23. What efforts have been successful in embedding behavioral health substance use disorder programs in primary care sites?
    a. How successful have they been?
    b. Can you describe to me what it would look like if a PCP identifies a member with SUD who is not receiving treatment? How are they engaged in those programs?
24. What is the Integrated Behavioral Health Learning Community?
    a. Who participates? Do CPs participate in this as well?

Suggested Participants: Front-line staff

25. Who qualifies for different types of care management at [ACO #2]? Is the determination process disease specific? Are risk levels part of the determination process? Are there other factors that go into the determination process?
    a. How is this process determined and who determines it?
26. What is the screening tool used to identify members in need of care? Who conducts the screening? How is it conducted - interview style or survey they can take on a tablet or at home?
    a. Do those screenings stratify members into different treatment groups?
    b. *Probe* - Complex care management, condition care for BH or chronic, vs care coordination for non-intensive?

27. How are referrals made and how do people get engaged in their care?
28. How are care transitions handled, especially regarding hospitals?
29. How does care coordination work with the CPs you work with?
    a. What is the process that you use to set up meetings, review comprehensive assessments or other issues? Who is managing these relationships?
    b. What is working well and not so well?
    c. Are there any other aspects you would like to discuss?
30. How do you use technology to assist with care coordination?
    a. Was this a new process for you? How have you adapted new ideas such as data or population health management into your work?

Suggested Participant(s): Quality Subcommittee Member(s)

31. How do you evaluate and/or assess your activities around care management? Who makes decisions and what is the process for implementing changes when activities don't work?
    a. Is there a feedback process that you utilize to determine best practices and lessons learned?

SERVICE INTEGRATION AND HIT

In this section of the interview, we would like to understand the efforts that went into service integration and health information technology, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

Population Health Management

Suggested Participant(s): Informatics Subcommittee Member(s), Population Health Management Team Member(s), Regional Manager(s)

32. What is the role of the regional managers?
33. Can you walk us through the risk-stratification process and how that information is shared with pods? How much of this is centralized?
34. How much experience do practices have in operationalizing risk-stratification?
    a. What is the process like of sharing that information with sites who may have less experience in using this data?
35. Are there any pods, practice sites, or health centers who are doing exceptionally well or lagging behind in terms of population health management? What may be leading to those outcomes?
36. What strategies are being implemented for population health management or sustainability/performance improvement?

Information Sharing

Suggested Participant(s): IT Subcommittee Member(s)

37. What has been done to reduce fragmentation in EMRs across practice sites? Besides technology have there been other barriers in achieving interoperability?
38. Given the fragmentation and the solutions used to share information, what has the process been to share information with CPs and SSOs?
39. What is the process like of sending information out to CPs and getting information back from them? Is this uniform across practices and health centers?
    a. Is this the same process for sharing information related to health-related social needs?
40. How have event notifications changed information sharing? Where are there still gaps in identifying when a patient is admitted or discharged from a facility?

WORKFORCE DEVELOPMENT

In this section, we would like to learn about the efforts that went into workforce development, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

General Workforce Recruitment and Training Policies

Suggested Participant: The ideal Suggested Participant is someone from the HR Department. Another option would be to speak to someone involved at the governance level who is involved in DSRIP specific matters.

41. What strategies are being used to recruit and limit vacancies?
    a. Is recruiting centralized or decentralized? How much is left up to the pods or individual practices and health centers?
    b. What strategies are particularly being used to recruit culturally and linguistically diverse staff?
42. What are the training processes for local champions, CCM staff, and clinical champions?
    a. Do CPs or SSOs have any role in the training process? Any other outside orgs?
    b. Is training available mostly as on-boarding or are there opportunities for ongoing training as well?
43. What strategies are used to retain staff in these positions?
    a. Tell us about “resiliency meetings” and how they are working
44. What strategies that are being used are new through MassHealth resources and which have been used in the past by the organization?

SUSTAINABILITY/FINANCIALS/QUALITY

In this section of the interview, we would like to ask about the efforts that are being made to assure the sustainability of the ACO programs and thinking about the future of your organization, considering the tapering off of DSRIP funds. Financial incentive and quality measures are an important aspect of the DSRIP program and the subsections below will explore this in more detail.

Suggested Participant(s): Finance Subcommittee Member(s)

45. What is shared at the provider-level in terms of financial goals?
46. Tell us more about your overall strategy for reducing total cost of care. You described reducing fragmentation as the primary means of reducing TCOC. How is that going? Is the MassHealth ACO program helping in this?
47. How does the MassHealth ACO program fit into the overall financial health and sustainability efforts of the organization?
48. How do you set performance improvement priorities? What data is used? Which stakeholders are engaged?

BUY-IN FROM PROVIDERS AND GOVERNANCE

In this section, we would like to understand other factors that may affect the DSRIP program at [ACO #2]. Specifically, we are interested in learning more about provider engagement and governance especially in the Model A partnership.

Provider Engagement

Suggested Participant(s): Quality Subcommittee Member(s)

49. Please tell us about the scorecards, how they're developed, and the process of getting the information from the central organization to individual providers?
    a. What quality efforts are managed centrally vs among the risk pods?
    b. How do you engage providers in quality improvement processes?
        i. Is a decentralized approach a new tactic or has this been used before?
    c. Is there good integration between providers and quality teams?
50. What do providers see as their role in reducing TCOC?
    How does quality influence risk-sharing?
51. Tell us about risk-sharing at the pod-level
    a. How was the number and size of pods determined as appropriate?
52. What information is shared with CPs about performance and quality?
    a. Are CPs engaged in these efforts?

b. What strategies have been used to engage CPs in these efforts?

Suggested Participant(s): Local Group Champion, Regional Manager

53. Your accountability is grouped into regional pods; is this an entirely new structure?
    a. Have these physician groups worked together in the past?
    b. What are the benefits to working in this structure? What are the pitfalls?
54. Tell us about risk sharing at the pod-level
    a. How does this compare with providers' past experiences with risk-sharing?
55. Beside financial risk, how are providers engaged in the care management of their members?
56. Has it been helpful to have QI staff embedded within primary care?
    a. Could you give an example of a QI initiative you've been able to implement that you wouldn't have otherwise?
57. Has discretionary funding been helpful for pods in engaging providers and improving care? If so, how?
58. Are providers engaged in the goal of reducing TCOC?

Governance and Getting Buy-In

Suggested Participant(s): PFAC Representative(s), Consumer Advocate(s), other Board Member(s)

59. How would you describe the role of the governance structure in your ACO? Do you feel that this model has helped in delivery of care? How so?
60. Do you feel that all member of the Board of Directors share common goals?
61. How are PFAC members engaged in governance?
62. How has consumer advocate involvement impacted the implementation of the MassHealth ACO program?
63. How are concerns or issues raised with governance structures? What is the process for reporting these concerns or issues?
    a. How are concerns resolved and who is responsible for resolving them?
64. Are there other ways to involve members in governance beyond the PFAC? What do these practices look like?

INNOVATIONS

Throughout our conversation today, you have shared many innovative solutions to

different aspects of the DSRIP program. Our last section aims to understand these facets that are unique to you here at [ACO #2].

65. What are new programs, processes, etc that you have seen come online in the last year or so that you find really helpful? Why were they implemented or changed?
66. If you could make any other changes to the DSRIP model at [ACO #2], what would you change? Why?

Is there anything else you think is important for our team to know about your experience as a MassHealth ACO? Thank you for your time and insights into your programs at [ACO #2].

9. ACO Case Study Interview Guide: ACO # 3

MassHealth ACO Case Study/Site Visit Interview Protocol

ACO # 3

Thank you for taking the time to speak with us today about your experience as a MassHealth ACO during the DSRIP implementation. Based on the information ACO leaders at [ACO #3] shared with us during the first round of Key Informant Interviews, we are looking forward to learning more about specific aspects of your program. [ACO #3] is one of 4 ACOs selected for more detailed exploration based on certain unique and potentially innovative approaches used for building capacity and/or delivering care to MassHealth members. Findings from interviews with [ACO #3] staff and other ACOs will inform our evaluation of the MassHealth ACO program and will be compiled and reported in the aggregate in both the interim and final evaluation reports. When we write reports based on information gathered in these ACO interviews, we will not use the names, roles, or clinical practice sites of participants without your permission (e.g., if there is an example of an innovation we'd like to highlight).

Do you have any questions about the fact sheet we sent ahead of time? [Address Questions.]

We know that everything and everyone has been affected by the COVID-19 pandemic over the past months, especially those of us working in health care. We have not included specific questions in our interviews related to your organization's response to the pandemic, but encourage you to mention anything that comes up about the pandemic and how it's affected your ACO activities as we go along. We hope to explore what and how changes have been made as part of DSRIP, and what additional changes might be attributable to COVID-19.

We are also interested in whether and how your ACO practices have influenced (or not) your care practices or procedures for non-ACO patients. For example, have the resources made available through the DSRIP initiative informed the care of non-ACO patients? These are themes that may come up as we move through the interview process, so please add any comments where they might be relevant.

Do you have any questions before we start? We want to remind you that we would like to audio record these discussions to ensure that we accurately capture the information you provide.

[Turn Recorder On.]

INTRODUCTION/OVERVIEW

1. What were the most significant changes that took place at [ACO #3] Collaborative ACO, an individual practice sites or within your role as a result of the MassHealth ACO Program? How have they affected the health and care of your members?
2. What were the most important aspects of the DSRIP program that facilitated implementation in your organization?
3. What have been the biggest barriers to transforming how care is delivered to better meet the needs of your members?

MEMBER CARE/EXPERIENCE

For this section, we would like to understand member care and experience at [ACO #3] Collaborative better. We have created the following hypothetical situations to help think about these questions as they might be relevant.

Hypothetical Situation 1: A pediatric patient with autism

Hypothetical Situation 2: A patient who is homeless

Hypothetical Situation 3: A patient who has BH needs, LTSS needs, and/or medical complexity

Thinking of each of the above hypotheticals (as they might be relevant), how would you describe the member care experience in each of the following categories?

Member Engagement

Suggested Participant(s): PFAC Representative(s)

4. How are PFAC members engaged in governance? What is helpful/less helpful about the way in which members are engaged?
5. How are concerns or issues raised with governance structures? What is the process for reporting these concerns or issues?
6. How are concerns resolved and who is responsible for resolving them?
7. Are there other ways to involve members in governance beyond the PFAC? What do these practices look like?

Suggested Participant(s): ACO Pod team member(s); (RN, CHW and LSWs)

8. How are members involved in their care planning? What conversations do you have with members?
    a. Goal planning and decision making: What issues are in conflict?
9. Can you describe the Pods and walk us through a typical day (i.e., Pods in action)?

10. Can you walk me through how you engage a member in care planning? (CORE) Who do you bring into the planning process (i.e., family, other advocates, CP?)
11. Please walk us through the Pod Team's process for identifying members eligible for BH or LTSS services? How do you evaluate the effectiveness of the three-tier intensity system?
12. What criteria do you use to assign members to three service levels: Complex Case Management, Case Management and Care Coordination?
13. How does the ACO/CP discuss internal case review?
14. What is the interaction like with primary care practices about members to optimize care and referrals?
15. How do you promote longitudinal member engagement?
    b. What is the strategy to improve members ability to self-manage their conditions?
    c. What criteria are used to determine who qualifies for different types of care management (disease specific? Risk levels? Other factors)? Who determines this and how is it determined? (CORE)
    d. How do you identify members in need of care? Who conducts the screening? How is it conducted (interview style vs tablet?) (CORE)
    e. How do those screenings stratify members into different treatment (e.g., complex care management, condition care for BH or chronic, vs care coordination for non-intensive)?

Health Related Social Needs

Suggested Participant(s): Navigator(s) and CHW(s)

16. Please walk us through the process of conducting the HRSN screening with your patients? Is it conducted in person, on paper, in the portal? **(CORE)**
    a. Once someone is identified as needing services, what happens next?
        i. How are specific transportation, housing food, employment, and utility needs addressed?
    b. How are members who are homeless or have complex social needs targeted for complex case management services?
    c. How would you describe your relationship with social service agencies or state agencies such as DDS, DMH, and DYS for members receiving services?
    d. Once you identify need, how do you develop a better understanding of the need? Is this performed by a partner community-based organization?

e. How do you track services and monitor outcomes for both HRSN and Flexible Services (FS)? Is there a system? **(CORE)**

f. How is financial assistance for health-related household goods needs assessed? How are members' transportation concerns addressed?

   i. Where is the information stored after an assessment is performed?

   ii. How do you monitor for receipt of services and social outcomes after a person is assessed as "positive" for a HRSN and/or referred for FS?

We know that program development is informed by population health analysis.

17. How are programs tailored to their members with Chronic conditions such as, CHF, diabetes and depression?
18. Please explain coaching/educational strategies?
19. Please walk us through your wellness programs such as smoking cessation, and community-based health initiatives such as biometric screenings, nutrition counseling, and childbirth education?
    a. How are these programs working?
    b. Well or less well?
20. How do you address potential barriers that impact members' overall health (e.g., housing assistance, applying for benefits)?
21. Please describe the DPH grant funded program that provides care coordination for individuals who are HIV+ and how this impacts your DSRIP programs?

CARE PLANNING/COORDINATION

In this section of the interview, we would like to understand the care coordination and care planning process at [ACO #3]better. A large part of the DSRIP program is the relationship between the ACOs and the CPs. In the sections that follow, we will explore this in more detail. We understand that you work with multiple CPs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #3], Family Service Association, Central Health Community Partnership, and Boston Healthcare for the Homeless, and the ways in which these relationships and processes are similar or different from each other or from other CPs.

ACO/CP Care Coordination Relationship

Suggested Participant(s)s: Care Team Pods

22. How do you manage your CP relationships?
    a. Please walk us through the experience of coordinating and managing relationship with them, if that is part of your responsibilities?

23. What do you find facilitates these relationships? What about difficulties in cultivating these relationships?
    b. Have you noticed any issues with assessments, paperwork, PCP sign off/the care plan process, or any other aspects of working with the CPs?
24. When you need to work with your CP partners, whom do you call?

Suggested Participant(s)s: ACO Pods (Care Management Team member(s), Program Coordinators)

25. How are relationships with CPs managed? Who is the point of contact in your organization?
26. Please walk us through your standard process for referrals for BH, LTSS, anyone with health-related social needs?
27. How are plans signed off?
28. Please describe any plans for streamlining processes?
29. What is your relationship with the larger area CP?
30. ACO/MCO Coordination?
31. How are activities coordinated between ACO/MCO?

Care Management Leadership

Suggested Participant(s)s: [ACO #3]

32. How do you evaluate CCM programs? Does it differ by diseases/conditions? **(CORE)**
33. In regard to risk stratification for CP referrals and EMR documentation, who manages these elements and how is this information shared with CPs? What is the stratification level? Who developed this process? Why was that level determined for this process?
34. What are the analytics and data warehouse platforms [ACO #3]uses to monitor this information? Who manages it?
35. What reports are produced regularly and how frequently? Who sees them? How are these data used?
36. Is there anything else you would like to share about your efforts regarding data and analytics?
37. What does the referral process look like at the practice site level? Does your EMR identify whether something is centralized at the ACO level versus centered at the practice site level?

38. How do you monitor clinical or other performance metrics? How do you and your team work on improving performance? Improving workflows, case management, or other parts of care coordination?
    a. Who do you talk to at the site level? At the CP level? How has this process been working for you?

Suggested Participant(s)s – Potentially a group interview consisting of member(s) of the POD teams, CCCM, program coordinators, ED Navigators, CHWs, RNs, and a Director level staff member. The Director could also be interviewed separately, if advisable, to keep the group conversation more comfortable.

39. Who qualifies for different types of care management at [ACO #3] Collaborative? Is the determination process disease specific? Are risk levels part of the determination process? Are there other factors that go into the determination process?
    a. Who determines the process?
    b. How is it determined?
40. What is the screening tool used to identify members in need of care? Who conducts the screening? How is it conducted - interview style or a survey they can take on a tablet or at home?
    a. Do those screenings stratify members into different treatment groups?
        - *Probe* - Complex care management, condition care for BH or chronic, vs care coordination for non-intensive?
41. Where are the care teams located?
    a. What is the care coordination staff make up between ACO and CP staff members? How is it decided who is managed centrally or site specific?
    b. How are referrals made for LTSS? BH? How do people get engaged in their care?
    c. How do you evaluate and/or assess your activities around care management? Who makes decisions and what is the process for implementing changes when activities don't work?
    d. Is there a feedback process you utilize to determine best practices and lessons learned?
    e. What are the meetings for case management like? Who attends these meetings from the [ACO #3] - the PCP or specialty care providers, other team members? What do you talk about during these meetings?
    f. How do you use technology to assist with care coordination?

g. Was this a new process for you? How have you adapted new ideas such as data or population health management into your work?

h. How does care coordination work with the CPs you work with?

i. What is the process you use to set up meetings, review comprehensive assessments or other issues? Who is managing these relationships?

j. What is working well and not so well?

k. Are there any other aspects you would like to discuss?

Suggested Participant(s)s: Program Coordinator(s), RN Case Manager

42. How do the program coordinators connect members to home services or primary care services?
43. How do the program coordinators connect members to BH services?
44. How do the care management staff integrate PCPs into the care of their patients? What has worked well and less well?
45. Is there any overlap in your care management teams or does each team have specific responsibilities?
46. Is there anything you would like to discuss in regards to the care management practices at the [ACO #3]?

Member Outreach

Suggested Participant(s)s: CCCM staff member(s)

47. Can you explain how you target the hard to reach population with complex social need? Has this process changed over time?
    a. Can you explain how use your IT system to outreach to members in the community? How do they reach transient population? How are this being tracked, any documentation?
48. What materials do they use for outreach? How do they address language barriers?
49. What are the recruiting methods?
50. How do you foster 1:1 relationship and what is your process regarding ongoing follow-up?
51. How does the 24/7 health information coaching services work? How do you get patients engaged?
52. What is the process for referrals and follow up?

ACO/CP Care Coordination Relationship

Suggested Participant(s)s: CCCM staff and Pod team member(s)

53. How are relationships established? What are the best methods of communication?
54. How do they support CPs internal operations? How well/less well is that working. Are systems standardized? Why or why not?
55. Please describe any challenges working with CPs working with members.
56. How are relationships built with members? What methods do they use to develop that trust and use language that works for them?
57. In what ways do they address member language barriers?

SERVICE INTEGRATION AND HIT

In this section of the interview, we would like to understand the efforts that went into health information technology integration, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

Population Health Management

Suggested Participant(s)s: ACO Quality Manager and Quality Analysist – maybe an MCO representative

58. How is population health management handled at [ACO #3] Collaborative? Who performs the data analysis for stratification and generates high risk member registries?
59. How are members assigned to the three service intensity levels?
    a. Please describe strategies for stratifying members to service intensity level, and the use of the population health analysis platform to combine varied data sources.
    b. Tell us about how you develop your registries of high-risk members and stratify members at the ACO level?
60. What data analytics practices are you using? What system are you using for data analysis?
61. What strategies are being implemented for population health management or sustainability/performance improvement? (CORE)

Information Sharing

Suggested Participant(s)s: IT Staff member and IT Director level staff member

62. How is information shared with CPs? SSOs? Providers at other sites such as specialists? Providers outside of the ACO?
63. How are care plans shared?

64. Please walk us through the process of risk stratification and the ACO wide EMR interface for data sharing (e.g., use, etc.)?
    a. Who manages this process? Who analyzes the data? Is any part of this process automated?
    b. How is the information shared with individual sites?
    c. Is there an ACO wide EMR interface for data sharing? How is this process working for you?
    d. If not, would you find this type of interface helpful or less helpful?
65. Please tell us more about the information sharing process as it relates to HRSN information
    a. Who is managing these processes? What are these processes like?
    b. Have you changed anything about these processes since implementation?

Please describe the information sharing process as it relates to conflict resolution

    a. Who is managing these processes? What are these processes like?
    b. Have you changed anything about these processes since implementation?

66. What efforts have you made to improve EHR interoperability through third party platforms?
67. Have you implemented and trained staff on new systems to ensure workflow integration? What is your plan to develop real time sharing and report performance data with providers?
68. How are standard operations for referrals addressed?

WORKFORCE DEVELOPMENT

In this section, we would like to learn about the efforts that went into workforce development, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

General Workforce Recruitment and Training Policies

Suggested Participant(s): The ideal Suggested Participant(s) is someone from the HR Department. Another option would be to speak to someone involved at the governance level who is involved in DSRIP specific matters.

69. How did/does your team recruit staff? What strategies have you used to attract and retain a diverse team?
    a. Please describe your career development opportunities.
70. What policies and procedures were put in place to ensure staff meet the contractual training requirements? How often do you hold trainings?
71. How are staff trained to provide services in homes or other nonclinical settings?

72. What types of training are given for non-clinical staff?
    a. How did/do you recruit staff to join your organization? Are your processes standardized? Is recruitment centralized or done in a site-specific manner?
        i. How does targeting specific roles, such as recruiting staff for case coordination/management roles, make a difference in your recruitment strategy?
        ii. If you could go back to the beginning of the program, knowing what you know now, how would you change your recruitment strategy?
    b. We know that training is very role-specific. What kinds of materials did you have to develop?
        iii. Were the materials developed or created for this program or were they existing materials?
        iv. How are the trainings going? What kind of feedback have you received about the training offered to staff?
        v. Do you partner with external groups to execute these trainings or do HR staff or others provide them? If so, whom do you partner with? Who conducts the actual training?
            - Is it in-house or outsourced?
            - In-person or online?
        vi. What kinds of policies and procedures were put in place to ensure staff are able to meet contractual training requirements?
        vii. How do you evaluate your training sessions? Do you survey or otherwise ask staff for their feedback?
        viii. If you could go back to the beginning of the program, knowing what you know now, how would you change your training strategy?

Suggested Participant(s): RN(s) (Pods), CCCM staff member(s), CHW(s)

73. What trainings do you have in place for all staff?
74. What trainings do you have in place that are specific to CHW's?
75. What trainings do you have in place that are specific to care coordination and management? What feedback do staff provide about these trainings?
76. How do you obtain feedback from staff regarding the training they are receiving?
77. Do you feel that staff need more or less training, or different types of training, to implement the care coordination and management specific programs and policies in place at [ACO #3] Collaborative?

SUSTAINABILITY/FINANCIALS/QUALITY

In this section of the interview, we would like to ask about the efforts that are being made to assure the sustainability of the ACO programs and thinking about the future of your organization, considering the tapering off of DSRIP funds. Financial incentive and quality measures are an important aspect of the DSRIP program and the subsections below will explore this in more detail.

Suggested Participant(s)s could be from the JOC, the data and analytic team to talk about QPI, and/or site leadership involved in managing total cost of care.

78. How do you share administrative and clinical data between ACO and MCO entities? How are reports and including population health and cost of care analysis circulated?
79. How do you use data analytics and risk scores to understand sustainability?
    a. Probes - reducing potentially avoidable care, improving quality, and transforming care (e.g., leveraging multidisciplinary care teams, integration with community organizations, shifting modality to telehealth and email/portal communications)
80. How does the JOC or Chief of Practice Transformation work with each of the practice sites to develop plans to improve risk scores?
81. How do you set performance improvement priorities? What data are used? Which stakeholders are engaged?
82. What has been helpful and less helpful in implementing strategies to mitigate risk?
83. Is there anything else you would like to share with us about how [ACO #3]as a whole is working on risk management? What about at the practice level?
84. Total Cost of care:
    a. Please describe your quality metrics reporting?
    b. What kind of analytic tools are employed?
    c. How do you use data analytics for sustainability issues, reducing potentially avoidable care, improving quality, and transforming care (e.g., leveraging multidisciplinary care teams, integration with community organizations, shifting modality to telehealth and email/portal communications)?
    d. In what ways are data shared with providers?
    e. How are performance improvement priorities set?

BUY-IN FROM PROVIDERS AND GOVERNANCE

In this section, we would like to understand other factors that may affect the DSRIP program at [ACO #3]. Specifically, we are interested in learning more about provider engagement and governance, especially considering your perspective as a Model A ACO.

Provider Engagement

Suggested Participant(s)s: Staff in charge of ACO Providers; Provider(s), to the extent that we do not overlap with the provider survey questions

85. How do you engage providers in quality improvement processes? Do providers feel engaged?

Can you explain the process of sharing and reporting quality and performance data?

a. on-going performance reviews?

b. How often are meetings held to discuss areas for improvement of performance?

Governance and Getting Buy-In

Suggested Participant(s)s: Governing Board member(s) – especially any member who may not be included in an above section; Operations Subcommittee member(s) may also have insight

86. How would you describe the role of the governance structure in your ACO? Do you feel that this model has helped in delivery of care? How so?

87. If you could change your governance structure or the way in which you receive buy-in from patients, what would you change?

INNOVATIONS

Throughout our conversation today, you have shared many innovative solutions to different aspects of the DSRIP program. Our last section aims to understand these facets that are unique to you here at [ACO #3].

88. We know that [ACO #3] has a 24/7 health information coaching service. Please describe this service, the goal of the program and how it's being used.

Is there anything else you think is important for our team to know about your experience as a MassHealth ACO? Thank you for your time and insights into your programs at [ACO #3].

10. ACO Case Study Interview Guide: ACO # 4

MassHealth ACO Case Study/Site Visit Interview Protocol

[ACO #4]

Thank you for taking the time to speak with us today about your experience as a MassHealth ACO during the DSRIP implementation. Based on the information ACO leaders at ACO #4 shared with us during the first round of Key Informant Interviews, we are looking forward to learning more about specific aspects of your program. ACO #4 is one of 4 ACOs selected for more detailed exploration based on certain unique and potentially innovative approaches used for building capacity and/or delivering care to MassHealth members. Findings from interviews with ACO #4 staff and other ACOs will inform our evaluation of the MassHealth ACO program, and will be compiled and reported in the aggregate in both the interim and final evaluation reports. When we write reports based on information gathered in these ACO interviews, we will not use the names, roles, or clinical practice site of participants without your permission (e.g., if there is an example of an innovation we'd like to highlight).

Do you have any questions about the fact sheet we sent ahead of time? [Address Questions.]

We know that everything and everyone has been affected by the COVID-19 pandemic over the past months, especially those of us working in health care. We have not included specific questions in our interviews related to your organization's response to the pandemic, but encourage you to mention anything that comes up about the pandemic and how it's affected your ACO activities as we go along. We hope to explore what and how changes have been made as part of DSRIP, and what additional changes might be attributable to COVID-19.

We are also interested in whether and how your ACO practices have influenced (or not) your care practices or procedures for non-ACO patients. For example, have the resources made available through the DSRIP initiative informed the care of non-ACO patients? These are themes that may come up as we move through the interview process, so please add any comments where they might be relevant.

Do you have any questions before we start? We want to remind you that we would like to audio record these discussions to ensure that we accurately capture the information you provide.

[Turn Recorder On]

INTRODUCTION/OVERVIEW

1. What were the most significant changes that took place at ACO #4 as a whole, an individual practice site or within your role as a result of the MassHealth ACO Program? How have they affected the health and care of your members?
2. What were the most important aspects of the DSRIP program that facilitated implementation in your organization?
3. What have been the biggest barriers to transforming how care is delivered to meet the needs of your members better?

MEMBER CARE/EXPERIENCE

For this section, we would like to understand member care and experience better at ACO #4. We have created the following hypothetical situations to help think about these questions as they might be relevant.

Hypothetical Situation 1: A pediatric patient with autism

Hypothetical Situation 2: A patient who is homeless

Hypothetical Situation 3: A patient who has BH needs, LTSS needs, and/or medical complexity

Thinking of each of the above hypotheticals (as they might be relevant), how would you describe the member care experience in each of the following categories?

Member Engagement

Suggested Participant: MassHealth Focus Group Coordinator

The next few questions are specific to the focus group with MassHealth members that ACO #4 conducted. We would like to learn more about this process and the results.

4. How were members recruited to join? Were there incentives offered?
    a. What was the incentive?
    b. What was the feedback from members who participated in the group? Did they feel it was helpful to improving their patient experience?
5. Which staff person at ACO #4 ran the focus group? When was it conducted?
6. Are there plans to hold more focus groups like this? Have there been more since the initial group?

Suggested Participant(s): PFAC Representative(s)

7. How are PFAC members engaged in governance? What is helpful/less helpful about the way in which members are engaged?
8. How are concerns or issues raised with governance structures? What is the process for reporting these concerns or issues?
9. How are concerns resolved and who is responsible for resolving them?

10. Are there other ways to involve members in governance beyond the PFAC? What do these practices look like?

Suggested Participant(s): Care Coordination Team Member(s)

11. How are members involved in their care planning? What conversations do you have?
    a. Goal planning and decision-making: what happens if issues are in conflict?
    b. How are you leveraging your member engagement strategies to care for hard to reach populations during Covid? Have you had to employ any new strategies?
12. How do you make sure their concerns or needs are met?
13. Can you walk me through how you engage a member in care planning? (**CORE**) Who do you bring into the planning process (i.e., family, other advocates, CP staff?)
    a. Motivational interviewing? Paperwork? What is the conversation like?
    b. What has been helpful in getting members engaged long-term? For example, how do you help them manage chronic or other conditions? Or do their own follow-up/connect and find resources ("navigation")? (**CORE**)

Suggested Participant(s): Staff member(s) who can speak to specifics

14. Tell us more about your emphasis on pediatric and BH/SUD needs and how you are building those out for this program. I am specifically interested in the reasons why these were focus areas for you.
    a. Who all from your staff were involved in the decision-making process for these areas of care?

Health Related Social Needs

Suggested Participant(s): Care Coordination and Management team

15. Let's walk through the process of conducting the HRSN screening with your patients? Is it conducted in person, on paper, in the portal? **(CORE)**
    a. Once you have conducted the screening, what happens next?
    b. Can you tell us more about how you help patients around their specific transportation, housing food, employment, and utility needs?
16. Is the information from the screening stored in the EMR? If not, where is it stored and how is it shared/accessed by staff who need it?
    a. Who can access it and/or help the member with access? Is a patient portal directly linked to the EMR?
        i. Do you have any other tracking systems? How helpful are they?

17. You mentioned a survey that members can take to connect to resources – tell us more about that – what are the topics? How is the survey formatted - oral, paper, online? What happens after survey data about screening is collected?
    a. You talked a lot about transportation in previous data collection activities – can you tell us more about that?
        ii. Why was transportation of interest to your team?
        iii. In Hypothetical Situation 2, if a patient is homeless, where would they go look for me to connect me to services?
        iv. If your team found someone in the ED, what would you do next to connect that patient to services in each of the Hypothetical Situations presented above?
18. We would like to learn more about your Flexible Service related work. Which organizations do you partner with to deliver these services?
    a. How do you identify someone who would benefit from flexible services? **(CORE)** Do you use a risk stratification or other type of system to identify members that would benefit from these services?
    b. How do you track services and monitor outcomes for both HRSN and FS? Is there a system? **(CORE)**
    c. What programs do social service organizations (SSOs) help members with? Describe the relationship you have with these organizations.
    d. Have you had any issues with waitlists or patients not having access to enough resources to cover their needs?
    e. How do you track referrals to ensure PCPs and care coordinators can confirm services received, document results in the EHR, and document decisions in the care plan?

CARE PLANNING/COORDINATION

In this section of the interview, we would like to understand the care coordination and care planning process at ACO #4 better. A large part of the DSRIP program is the relationship between the ACOs and the CPs. In the sections that follow, we will explore this in more detail. We understand that you work with multiple CPs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #3], Family Service Association, Central Health Community Partnership, and Boston Healthcare for the Homeless, and the ways in which these relationships and processes are similar or different from each other or from other CPs.

ACO/CP Care Coordination Relationship

Suggested Participant(s): CP Coordinators (at site level and at site ACO level), Care management staff involved

19. How do you manage your CP relationships?
    a. Can you walk me through coordinating and managing the relationship(s) with them, if that is part of your responsibilities?
20. What do you find facilitates these relationships? What about difficulties in cultivating these relationships?
    a. Have you noticed any issues with assessments, paperwork, PCP sign off/the care plan process, or any other aspects of working with the CPs?
21. When you need to work with your CP partners, whom do you call?
    a. Can you share what the process is like for connecting with your CP partners? Is there a central contact person at each CP?

Suggested Participant(s): Senior Director for Behavioral Health, Director of LTSS and SDOH

22. Can you share more about compliance, the contract process, and the overall strategy for working with CPs?
23. In regards to risk stratification for CP referrals and EMR documentation, who manages these elements and how is this information shared with CPs? What is the stratification level? Who developed this process? Why was that level determined for this process? **(CORE)**
24. What are the analytics and data warehouse platforms that ACO #4 uses to monitor this information? Who manages it?
    a. What reports are produced regularly and how frequently? Who sees them? How is that data used? **(CORE)**
    b. Is there anything else you would like to share about your efforts in regards to data and analytics?
25. What does the referral process look like at the practice site level? Does your EMR identify whether something is centralized at the ACO level versus centered at the practice site level?
    a. What are the reasons for referrals?

Suggested Participant: Someone at the Director Level

26. How do you monitor clinical or other performance metrics? How do you and your team work on improving performance? Improving workflows, case management, or other parts of care coordination?
    a. Who do you talk to at the site level? At the CP level?
    b. How has this process been working for you?
27. Tell us more about the CP Advisory Group. How has that impacted your relationships with CPs?
28. Is there anything else you would like to share about your relationship with your CPs?

Suggested Participant(s): Potentially a group interview consisting of members of the CCM team, practice site embedded care teams, site employees, ED Navigators, CHWs, RNs, and a Director level staff member. The Director could also be interviewed separately, if advisable, to keep the group conversation more comfortable.

29. Who qualifies for different types of care management at site? Is the determination process disease specific? Are risk levels part of the determination process? Are there other factors that go into the determination process? **(CORE)**
    a. Who determines the process this and how is it determined? **(CORE)**
30. What is the screening tool used to identify members in need of care? Who conducts the screening? How is it conducted - interview style or survey they can take on a tablet or at home? **(CORE)**
    a. Do those screenings stratify members into different treatment groups?
    b. *Probe* - Complex care management, condition care for BH or chronic, vs care coordination for non-intensive?
31. Where are the care teams located? Are the embedded with the PCPs at the ACO #4 offices? Located in the hospital?
    a. What is the care coordination staff make-up between ACO and CP staff members?
    b. How are decisions made about who is managed centrally or site specific?
32. How are referrals made and how do people get engaged in their care?
33. How are care transitions handled, especially regarding hospitals? (CORE)

34. How do you evaluate and/or assess your care management activities?
    a. Who makes decisions and what is the process for implementing changes when activities don't work?
    b. Is there a feedback process you use to determine best practices and lessons learned?
35. What are the meetings for case management like? Who attends these meetings from ACO #4 - the PCP or specialty care providers, other team members? What do you talk about during these meetings?
36. How do you use technology to assist with care coordination?
    a. Was this a new process for you?
    b. How have you adapted new ideas such as data or population health management into your work?
37. How does care coordination work with the CPs you work with?
    a. What is the process that you use to set up meetings, review comprehensive assessments or other issues? Who is managing these relationships?
    b. What is working well and not so well?
    c. Are there any other aspects you would like to discuss?

Suggested Participant(s): RN Care Manager, specifically who works on LTSS issues; LICSW for BH issues

38. How do the RN staff providers connect members to home services or primary care services?
39. How do the LICSW staff connect members to BH services?
40. How do the care management staff integrate PCPs into the care of their patients? What has worked well and less well?
41. Is there any overlap in your care management teams or does each team have specific responsibilities?
42. Is there anything you would like to discuss in regards to the care management practices at ACO #4?

SERVICE INTEGRATION AND HIT

In this section of the interview, we would like to understand the efforts that went into health information technology integration, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

Population Health Management

Suggested Participant: Staff member directly involved in population health management efforts

43. How is population health management handled at ACO #4? Is it handled more at the ACO level or the individual practice site level?
    a. Which components of population health management happen at the practice level vs. ACO level?
    b. Who is responsible for which components?
44. How are you using data? What data analytics practices are you utilizing? What system are you using for data analysis?
    a. What support is given to individual practice sites to understand and utilize data?
    b. What feedback have you had from sites about facilitators and barriers in these processes?
        i. How have you used this feedback?
        ii. How is this feedback integrated into everyday processes?
45. How is data used by ACO #4 or by the sites themselves?
    a. What strategies are being implemented for population health management or sustainability/performance improvement? **(CORE)**

Information Sharing

Suggested Participant(s): IT Staff member and IT Director level staff member

46. How do you share information with CPs? Is there interoperability between ACO #4 as a whole, individual practice sites, and your CP partner sites?
47. Can you walk through the process of how the data are handled for risk stratification purposes?
    a. Who manages this process? Who analyzes the data? Is any part of this process automated?
    b. How is the information shared with individual sites?
    c. Is there an ACO wide EMR interface for data sharing?
        i. How is this process working for you?
        ii. If not, would you find this type of interface helpful or less helpful?

48. Please tell us more about the information sharing process as it relates to HRSN information
    a. Who is managing these processes? What are these processes like?
    b. Have you changed anything about these processes since implementation?
49. Please tell us more about the information sharing process as it relates to conflict resolution
    a. Who is managing these processes? What are these processes like?
    b. Have you changed anything about these processes since implementation?

WORKFORCE DEVELOPMENT

In this section, we would like to learn about the efforts that went into workforce development, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

General Workforce Recruitment and Training Policies

Suggested Participant: The ideal participant is someone from the HR Department. Another option would be to speak to someone involved at the governance level who is involved in DSRIP specific matters

50. How did/do you recruit staff to join your organization? Are your processes standardized? Is recruitment centralized or done in a site-specific manner?
    a. How do individual roles, such as recruiting staff for case coordination/management roles, make a difference in your recruitment strategy?
    b. If you could go back to the beginning of the program, knowing what you know now, how would you have changed your recruitment strategy?
51. We know that training is very role-specific. What kind of materials did you all have to develop?
    a. Were the materials developed created for this program or were they existing materials?
    b. How are the trainings going? What kind of feedback have you received about the training offered to staff?
    c. Do you partner with external groups to execute these trainings or do HR staff host them? If so, whom do you partner with? Who conducts the actual training?
        i. Is it in-house or outsourced? In-person or online?
    d. What kind of policies and procedures were put in place to ensure staff are able to meet contractual training requirements?

e. How do you evaluate your training sessions? Do you survey or otherwise ask staff for their thoughts?

f. If you could go back to the beginning of the program, knowing what you know now, how would you have changed your training strategy?

Care Coordination and Management Trainings

Suggested Participant(s): Staff member(s) involved in care coordination and management specific trainings

52. What trainings do you have in place that are specific to care coordination and management?
    a. What do staff think about these trainings?
    b. What is the process to implement feedback from staff regarding the training they are receiving?
53. Do you feel that staff need more or less training to implement the care coordination and management specific programs and policies in place at ACO #4?

SUSTINABILITY/FINANCIALS/QUALITY

In this section, we would like to ask about the efforts that are being made to assure the sustainability of the ACO programs and thinking about the future of your organization, considering the tapering off of DSRIP funds. Financial incentive and quality measures are an important aspect of the DSRIP program and the subsections below will explore this in more detail.

Reducing Total Cost of Care

Suggested Participant options: Operations Subcommittee, Data and analytics team member to speak about Quality and Performance Indicators, Chief of Practice Transformation and Quality, Finance Committee member from the governance board, site leadership involved in managing total cost of care

54. How do you utilize data analytics and score cards to understand sustainability of ACO #4 programs?
    a. Do you think the ACO #4 ACO is financially sustainable? What are the challenges you're facing? Thoughts about addressing them?
    b. Which programs do you plan to continue after DSRIP funding ends? Which programs have proven to be cost-effective?
    c. Probes - reducing potentially avoidable care, improving quality, and transforming care (e.g., leveraging multidisciplinary care teams, integration with community organizations, shifting modality to telehealth and email/portal communications)

55. Please walk us through a scorecard and describe how a practice site might use it. [Ask to see an example of score card?]
56. How does Quality Committee, or Chief of Practice Transformation, work with each of the practice sites to develop plans to improve the score card?
    a. How specifically are you utilizing the EDW Dashboards technology?
    b. Are there other methods in place that have helped with improving methodology around the score card?
57. How do you set performance improvement priorities? What data is used? Which stakeholders are engaged? **(CORE)**

Risk Management

Suggested Participant options: Operations Subcommittee, Chief of Practice Transformation and Quality, ACO #4 leadership (if applicable)

We know ACO #4 has a methodology for identifying rising risk patients who might benefit from care management using claims data and ADT feeds. Tell us more about your methodology for reducing total cost of care and understanding risk management.

58. Tell us more about the referral services program and how you are utilizing that as a way to control cost
59. What has been helpful and less helpful in implementing strategies to mitigate risk?
60. Is there anything else you would like to share with us about how ACO #4 as a whole is working on risk management? What about at the practice level?

BUY-IN FROM PROVIDERS AND GOVERNANCE

For this section, we would like understand other factors that may affect the DSRIP program at ACO #4. Specifically, we are interested in learning more about provider engagement and governance especially considering that you are a Model B ACO.

Provider Engagement

Suggested Participant(s): Staff in charge of ACO Providers; providers to the extent that we do not overlap with the provider survey questions

61. Tell us more about how you build relationships with providers to ensure they understand the program.
    a. You mentioned holding practice manager meetings, patient experience summits, and using incentivization as strategies to improve engagement. Please tell us more about those aspects and any others that play a role in engagement at ACO #4

62. How do ACO #4s engage providers in quality performance measurement? Do providers feel engaged?
    a. What is the system to collect feedback from providers? How often is feedback incorporated into changing operations?
    b. How specifically are you engaging providers in the implementation and care management of their patients?
63. Tell us about the financial incentive program that you have for your providers. Has this been helpful? Would you change anything about this program?

Governance and Getting Buy-In

Suggested Participant(s): Talk to different governing board members – especially any member who may not be covered in an above section; Operations Subcommittee member(s) may also have insight

64. How would you describe the role of the governance structure in your ACO? Do you feel that this model has helped in delivery of care? How so?
65. If you could change your governance structure or the way in which you receive buy-in from patients, what would you change?

INNOVATIONS

Throughout our conversation today, you have shared many innovative solutions to different aspects of the DSRIP program. Our last section aims to understand these facets that are unique to you here at ACO #4.

Suggested Participant(s): Talk to any participant ACO #4 key contact recommends to answer these questions

66. What are new programs and processes that you have seen come online in the last year or so that you find really helpful? Why were they implemented or changed? **(CORE)**
67. If you could make any other changes to the DSRIP model at ACO #4, what would you change? Why?

Is there anything else you think is important for our team to know about your experience as a MassHealth ACO? Thank you for your time and insights into your programs at ACO #4.

11. CP Case Study Interview Guide: CP#1

MassHealth CP Case Study/Site Visit Interview Protocol

[CP # 1]

Thank you for taking the time to speak with us today about [CP # 1] participation in the MassHealth Community Partner (CP) Program as part of the DSRIP implementation. Based on the information that CP leaders at [CP # 1] shared with us during the first round of Key Informant Interviews, we are looking forward to learning more about specific aspects of your program. Central Community Health Partnership is one of 4 CPs selected for more detailed exploration based on these earlier interviews. Findings from interviews with [CP # 1] staff and other CPs will inform our evaluation of the MassHealth DSRIP program and will be compiled in at the summary level in both the interim and final evaluation reports to CMS. The reports based on information gathered in these CP interviews will not identify specific names, roles, clinical practice or other sites of participants without your permission (e.g., if there is an example of an innovation we'd like to highlight). In that case, we would reach back out to the site liaison to coordinate permissions.

Do you have any questions about the fact sheet we sent ahead of time? [Address Questions.]

We know that everything and everyone has been affected by the COVID-19 pandemic over the past months, especially those of us working in health care. We have not included specific questions in our interviews related to your organization's response to the pandemic, but encourage you to mention anything that comes up about the pandemic and how it's affected your CP activities as we go along. We hope to explore what and how changes have been made as part of DSRIP, and what additional changes might be attributable to COVID-19.

We are also interested in whether and how your CP practices have influenced (or not) your care coordination practices or procedures for non-ACO enrollees. For example, have the resources made available through the DSRIP initiative informed the care of non-ACO enrollees? These are themes that may come up as we move through the interview process, so please add any comments where they might be relevant.

Do you have any questions before we start? We want to remind you that we would like to audio record these discussions to ensure that we accurately capture the information you provide.

[Turn Recorder On]

INTRODUCTION/OVERVIEW

1. What were the most significant changes that took place at [CP # 1] as a whole, an individual site, or within your role as a result of the MassHealth CP Program?
    a. How have they affected the health and care of your members?
2. What were the most important aspects of the DSRIP program that facilitated implementation in your organization?
3. What have been the biggest barriers to transforming how care coordination supports are delivered to better meet the needs of your members?
    a. How have these been addressed?
    b. Which are still posing challenges?
4. Looking back to the start of the program, what do you wish was in place then that would have helped your organization perform better in the program now?

Governance/Operations
Suggested participant: Executive board members

5. I understand you are a consortium CP. Why did you choose to operate as a consortium and how is that going?
    a. Do all member organizations have the same vision for the work?
        i. How did the organizations come together?
        ii. If you have differing visions, how did you resolve this?
    b. What have been facilitators to this partnership working well?
    c. How different are processes at the different organizations in terms of workforce, HIT, and communication?
    d. How do you divide up work and keep everyone engaged/feeling like part of a team?
6. What are you currently doing to address racial inequities in your organization?
    a. What more would you like to do as an organization to address racial inequities in health care or the population you are serving?

ACO/CP ALIGNMENT

In this section of the interview, we would like to understand [CP # 1] relationship with the ACOs. A large part of the DSRIP program is the relationship between the ACOs and the CPs. We understand that you work with multiple (10) ACOs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #2], [ACO #1] and [ACO#4], and the ways in which these relationships and processes are similar or different from each other or from other ACOs.

Participant: LTSS/BH Referral Coordinator, Staff involved in ACO/CP relationship building/maintenance, Clinical Director,

7. How were the relationships developed with each ACO?
8. How is [CP # 1] relationship with [ACO #1]?
    a. Who, by role, do you talk to/work with at the ACO?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?
9. How is [CP # 1] relationship with [ACO #4]?
    a. Who, by role, do you talk to/work with at the ACO?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?
10. How is [CP # 1] relationship with [ACO #2]?
    a. Who, by role, do you talk to/work with at the ACO?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?
11. What is the process of maintaining the relationships like?
    a. At what level is the relationship managed - at the [CP # 1] level or within the individual agencies under the partnership?
12. How have you resolved any issues that have come up?
    a. Can you provide an example?
13. What is the referral process between the ACO and [CP # 1]?
    a. How do you share this information internally? With affiliated/consortium partners? With ACOs?

14. Do you have any suggestions for changes to the ACO-CP relationship process?
    a. What, if anything, would you do differently?

MEMBER CARE EXPERIENCE

For this section, we would like to better understand member care and experience at [CP # 1]. We have created the following hypothetical situations to help answer these questions.

> *Hypothetical Situation 1: A pediatric patient with autism*
>
> *Hypothetical Situation 2: A patient who is homeless*
>
> *Hypothetical Situation 3: A patient who has BH needs, LTSS needs, and/or medical complexity*

Thinking of each of the above situations, how would you describe the member experience receiving care coordination supports from [CP # 1] in each of the following area of member care experience?

Participant: Care Managers, Care Coordinators, Community Health Workers

Member outreach:

15. How are enrollees assigned to the different partnership agencies for outreach and enrollment?
16. (LTSS) Regarding members with LTSS needs, how do you outreach to your target populations of those who are homeless, those with a substance use disorder, and those with existing LTSS?
    a. What is the process for member outreach?
    b. Which staff are involved?
    c. How does it differ for the different populations?
17. (BH) Regarding members with behavioral health needs, how do you outreach to your target populations of those with a substance use and co-occurring disorder and those with behavioral health needs?
    a. What is the process for member outreach?
    b. What staff are involved?
    c. How does it differ for the different populations?
18. Can you walk me through a typical outreach scenario?
19. What mechanisms or relationships are needed to enable staff to engage enrollees in hospitals during acute behavioral health events?
    a. How are those mechanisms or relationships developed and maintained?

Comprehensive Assessment & Care Plan

20. What is the process for completing the comprehensive assessment?
    a. What are the differences between BH and LTSS?
    b. What is the process of getting information from the PCP? Please comment on differences, if any, between the ACOs and practice sites that you work with.
21. How do you obtain member information from the ACO or other providers?
22. How do you work with the member to develop the care plan?
23. Where do you meet with members to develop the care plan?
24. How do you develop goals with the member?
25. How do you balance a member's preferences and medical needs?
26. How do you share the care plan with the PCP?
27. How do you maintain the care plan over time?
28. Are there any specific processes for Adult Community Clinical Services, or ACCS, enrollees?

CARE PLANNING/COORDINATION

In this section of the interview, we would like to understand the care coordination and care planning process at [CP # 1] better. A large part of the DSRIP program is the relationship between the ACOs and the CPs. We understand that you work with multiple ACOs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #1] and [ACO #4] and the ways in which these relationships and processes are similar or different from each other or from other ACOs.

Participant: *LTSS:* Senior Long-Term Services & Supports Care Manager, Care Managers, Care Coordinators; BH: Senior Behavioral Health Clinical Care Manager, Senior Registered Nurse, Clinical Care Manager, Care Coordinators

29. How do you define care coordination?
30. How is care coordination work with members divided within/across each agency in [CP # 1], if at all?
    a. Do different individuals manage different steps of the process? How does it work?
31. How do you provide care coordination for your members?
32. How do you work with PCPs to get signatures or provide services?
33. What is your level of engagement as a care team member in coordinating members' care?

34. How do you work with other providers to coordinate care for members (i.e., get appointments, services, etc)?
35. How are care plans shared among agency staff and the larger care team?
36. How do you keep the care managers and coordinators across the agencies engaged and feeling like part of the same team?
37. (BH) How do you conduct medication reconciliation?
    a. How do you work with the providers?
    b. Is this a new function for [CP # 1]?
38. How do you manage transitions from behavioral health and substance use treatment facilities?
    a. What staff, by role, are involved?
    b. What does this process look like?
    c. Are there facilitators or barriers to transitions between facilities or to the community?
39. How do you provide or work with providers around health and wellness coaching for members?
    a. How well do you feel the health and wellness coaching is working for enrollees?
    b. What feedback have you received from enrollees?

<u>Member Needs/HRSN</u>

40. How do you assess a member's health-related social needs?
41. Who do you collaborate with within and outside [CP # 1] agencies to address these needs for members? Probe for social service, community-based, and legal resource organizations.
    a. How does that collaboration work?
    b. What is different about collaborating with ACOs versus social service or community-based organizations?
42. What resources or relationships were in place prior to the start of DSRIP?
43. What resources or relationships needed to be added?
    a. How did you go about adding these resources?
    b. What still needs to be addressed?

44. How does your Health and Wellness Committee work to meet member needs?
    a. Who are the committee members?
    b. Who does the Committee report to in the Partnership?

Flexible Services

44. Though it's early on, what can you say about the financial sustainability of the program?
    a. Do you think this model better facilitates sustainability as compared to other models?

WORKFORCE DEVELOPMENT

In this section, we would like to learn about the efforts that went into workforce development, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

Participant: Human Resources staff, Care coordination leads

Recruitment

45. What workforce gaps were identified as needing to be addressed to promote success in the DSRIP program?
46. What recruitment strategies have you employed?
47. How have you worked with community-based organizations to recruit?
    a. What kind of recruitment activities have been done?
48. How have you partnered with colleges and universities to recruit?
49. Have some strategies worked better than others? In what ways?
50. Do you anticipate making any changes to your recruitment strategy as a result?
51. How have you used DSRIP funds for recruitment?
52. How is recruitment and hiring coordinated across [CP # 1]?

Training

53. What trainings do you provide to staff such as care managers, care coordinators, and community health workers?
    a. What do staff think about these trainings?
    b. How are trainings evaluated?
54. How is training managed across the different agencies?
55. What existing resources were in place for training? What had to be developed?
56. What external resources, such as CHW or Certified Peer Specialist (CPS) statewide trainings and MassHealth trainings, have been utilized?

57. How have partner ACOs been involved in the trainings?

Retention

58. We understand that [CP # 1] used statewide investments (listed below). What have been the benefits and drawbacks of the statewide investment programs?
    - (LTSS) Student Loan Repayment Program for all licensed staff and care coordinators?
    - (BH) Student Loan Repayment Program & BH Workforce Development Program for all Licensed Staff and Care Coordinators?
59. What other formal or informal ways have you worked to increase staff satisfaction and retention?
60. How have you collaborated with other CPs, ACOs, MCOs to develop and implement staff retention programs?

SUSTAINABILITY AND QUALITY AND PERFORMANCE IMPROVEMENT

In this section, we would like to ask about the efforts that are being made to assure the sustainability of the CP programs and thinking about the future of your organization, considering the tapering off of DSRIP funds. Financial incentives and quality measures are an important aspect of the DSRIP program and the subsections below will explore this in more detail.

Quality and Performance Improvement

Participant: LTSS/BH Quality Manager, Quality Committee, QI-Involved Enrollee

61. How do you use data and analytics to understand performance?
    a. Do you use your own data to track performance on the quality measures established by MassHealth?
    b. Have you developed any of your own internal metrics? If so, what types of measures do you use?
62. How do you set performance improvement priorities? What data is used? Which stakeholders are engaged?
63. How is progress tracked and reported? What software is used?
64. How helpful or not have DSRIP funds been for your quality and performance improvement activities?
65. We understand that ‘community tenure’ is a quality improvement long-term goal, focusing on improving member experience, use of preventive care and referrals to appropriate services. Can you describe the activities that have taken place to date?
66. How does [CP # 1] work with its agencies on their quality goals and objectives?

67. What are the roles and responsibilities assigned to each partner agency?
68. How are staff engaged in the process of improving on processes and performance?
    a. What are the facilitators and barriers to staff engagement in [CP # 1] quality improvement efforts?
69. In what ways are enrollees and their families involved in [CP # 1] quality improvement activities?
    a. What are the facilitators and barriers to enrollee engagement in the quality improvement activities?

Sustainability

70. What progress has been made on developing initiatives with your partner ACOs/MCOs to promote shared savings and improved quality measure performance?
71. What progress has been made on selling services to ACOs and MCOs for non-CP eligible individuals who can benefit from CP services, for the purpose of helping manage population health and member Total Cost of Care?
72. How are each of these contributing to your CP sustainability?
    a. In the absence of the CP program, would you anticipate continuing similar partnerships with ACOs and MCOs for MassHealth members?

SERVICE INTEGRATION AND HIT

In this section of the interview, we would like to understand the efforts that went into health information technology integration, as this is another important aspect of the DSRIP program.

Information Sharing

Participant(s): IT Staff member and IT Director level staff member

73. How do you share information with ACOs? Is there interoperability between [CP # 1] as a whole and your ACO partner sites?
74. How has HIT evolved within [CP # 1] partner agencies during the DSRIP program?
    a. What changes had to be made to facilitate the CP program?
75. How have you worked to develop interoperability between [CP # 1] and the ACOs? What is working well or not working well?
76. Please tell us more about the conflict resolution process for all aspects of the ACO/CP relationship.
    c. Who is managing these processes? What are these processes like?

d. Have you changed anything about these processes since implementation?

INNOVATIONS

Throughout our conversation today, you have shared many innovative solutions to different aspects of the DSRIP program. Our last section aims to understand these facets that are unique to you here at [CP # 1].

Participant(s): *A*ny participant that [CP # 1] key contact recommends to answer these questions

77. Thinking back to your efforts to assign dedicated behavioral health care coordinators to special populations and hiring a referral coordinator as the central point of contact for referrals:
    a. How did these innovations facilitate your service delivery?
    b. Were there any barriers or lessons learned?
78. What new programs and processes that you have seen come online in the last year or so that you find particularly helpful? Why were they implemented or changed?
79. If you could make any other changes to the DSRIP model at [CP # 1], what would you change? Why?
80. We know that you have recruited members to be a part of a Consumer Advisory Board. Please tell us more about this Board and how you recruited members. Are you still engaging this group?

Is there anything else you think is important for our team to know about your experience as a CP in this program?

Thank you for your time and insights into your programs at [CP # 1].

12. CP Case Study Interview Guide: CP#2

MassHealth CP Case Study/Visit Interview Protocol

[CP # 2]

Thank you for taking the time to speak with us today about [CP # 2] participation in the MassHealth Community Partner (CP) Program as part of the DSRIP implementation. Based on the information that CP leaders at [CP # 2] shared with us during the first round of Key Informant Interviews, we are looking forward to learning more about specific aspects of your program. Family Service Association is one of 4 CPs selected for more detailed exploration based on these earlier interviews. Findings from interviews with [CP # 2] staff and other CPs will inform our evaluation of the MassHealth DSRIP program and will be compiled in at the summary level in both the interim and final evaluation reports to CMS. The reports based on information gathered in these CP interviews will not identify specific names, roles, clinical practice or other sites of participants without your permission (e.g., if there is an example of an innovation we'd like to highlight). In that case, we would reach back out to the site liaison to coordinate permissions.

Do you have any questions about the fact sheet we sent ahead of time? [Address Questions.]

We know that everything and everyone has been affected by the COVID-19 pandemic over the past months, especially those of us working in health care. We have not included specific questions in our interviews related to your organization's response to the pandemic, but encourage you to mention anything that comes up about the pandemic and how it's affected your CP activities as we go along. We hope to explore what and how changes have been made as part of DSRIP, and what additional changes might be attributable to COVID-19.

We are also interested in whether and how your CP practices have influenced (or not) your care coordination practices or procedures for non-ACO enrollees. For example, have the resources made available through the DSRIP initiative informed the care of non-ACO enrollees? These are themes that may come up as we move through the interview process, so please add any comments where they might be relevant.

Do you have any questions before we start? We want to remind you that we would like to audio record these discussions to ensure that we accurately capture the information you provide.

[Turn Recorder On]

INTRODUCTION/OVERVIEW

1. What were the most significant changes that took place at [CP # 2] as and organization as a direct result of your participation and partnership in the MassHealth ACO Program? How have they affected the health and care of your members?
2. What were the most important aspects of the DSRIP program that facilitated implementation in your organization?
3. What have been the biggest barriers to transforming how care is delivered to meet the needs of your members better?
    a. How have these been addressed?
    b. Which are still posing challenges?
4. Looking back to the start of the program, what do you wish was in place then that would have helped your organization perform better in the program now?
5. What more would you like to do as an organization to address racial inequities?

ACO/CP ALIGNMENT

We know that you have created individualized reports for your ACOs and MCOs which included information about monthly enrollment-disenrollment information, member status, and outreach information. In this section of the interview, we would like to understand [CP # 2] relationship with the ACOs. A large part of the DSRIP program is the relationship between the ACOs and the CPs. We understand that you work with multiple (10) ACOs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #2], [ACO #1], and ACO #4, and the ways in which these relationships and processes are similar or different from each other or from other ACOs.

Suggested Participant(s): ACO/CP Coordinators, Care management staff involved; [CP # 2] Program Director

6. We know that developing relationships between the ACOs and MCOs was new for you. How do you manage your ACO relationships?
    b. Can you walk me through coordinating and managing the relationship(s) with them, if that is part of your responsibilities?
    c. We know that originally [CP # 2] staff built these relationships such that frontline personnel with previous experience were interacting at the frontline level. What has been successful and less successful in this setup?
7. How is [CP # 2] relationship with [ACO #1]?
    d. Who do you talk to/work with at the ACOs?

e. What is the referral process? How do you share information?

f. What are meetings like? How often? Do you have case conferences and how are those run?

8. How is [CP # 2] relationship with [ACO #2]?
    a. Who do you talk to/work with at the ACOs?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?
9. How is [CP # 2] relationship with ACO #4?
    a. Who do you talk to/work with at the ACOs?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?
10. We know that you utilize an SFTP for information sharing with your ACOs. What is the referral process like?
    a. What are meetings between your staff and the ACO staff like? How often do you meet?
    b. Do you hold special meetings – such as a case conference – with your ACO counterparts?
        - How often?
        - What do these meetings look like and how do they differ from routine meetings?
11. What does the referral process look like for ACO members being referred to [CP # 2]?
    b. What are the reasons for referrals?
12. Thinking specifically about the LTSS Comprehensive Assessment, how does this process work between [CP # 2] and your ACO partners?
13. What do you find facilitates these relationships? What about difficulties in cultivating these relationships?
    b. Have you noticed any issues with assessments, paperwork, PCP sign off/the care plan process, or any other aspects of working with the ACOs?

MEMBER CARE/EXPERIENCE

For this section, we would like to understand member care and experience better at [CP # 2]. We have created the following hypothetical situations to help think about these questions as they might be relevant.

Hypothetical Situation 1: A pediatric patient with autism

Hypothetical Situation 2: A patient who is homeless

Hypothetical Situation 3: A patient who has BH needs, LTSS needs, and/or medical complexity

Thinking of each of the above situations, how would you describe the member experience receiving care coordination supports from [CP # 2] in each of the following area of member care experience?

Member Outreach

Suggested Participant(s): [CP # 2] Outreach team; RN Case Coordinator,

14. We know that you created a special unit for member outreach. How effective has this been for your team? What is the process for member outreach?
    a. Where do you meet with them for initial contact?
    b. Walk me through the process of enrolling a member to receive [CP # 2] services
15. Considering the hypothetical situations above, walk me through what a typical outreach phone call or meeting looks like.

Care Plan

Suggested Participant(s): Care Coordination Team Member(s)- CHWs and Care Coordinators; Social Workers, Frontline Staff

16. How are members involved in their care planning? What conversations do you have?
    c. Goal planning and decision-making: what happens if issues are in conflict?
17. How do you make sure their concerns or needs are met?
18. Can you walk me through how you engage a member in care planning? (**CORE**) Who do you bring into the planning process (i.e., family, other advocates, PCP)
    c. Do you utilize techniques such as motivational interviewing? Paperwork? What is the conversation like?
    d. Where do you meet with members to work on the care plans?
    e. What has been helpful in getting members engaged long-term? For example, how do you help them manage chronic or other conditions? Or do their own follow-up/connect and find resources (“navigation”)? (**CORE**)

f. What are some best practices that you have developed to facilitate member engagement in care planning?

19. How do you share the care plan information with PCPs?

Health Related Social Needs

Suggested Participant(s): Care Coordination and Management team, including - CHWs and Care Coordinators; Social Workers

20. How does your team work to address member health related social needs?
    a. Walk us through the hypothetical scenarios above
    b. What resources tend to be most compelling for members to require assistance with?
21. How is the information about HRSN collected and stored?
    a. How is it shared/accessed by staff who need it?
22. What resources or relationships needed to be added? What still needs to be addressed?
    a. What about legal resources to address social needs?

CARE PLANNING/COORDINATION

In this section of the interview, we would like to understand the care coordination and care planning process at [CP # 2] better. A large part of the DSRIP program is the relationship between the ACOs and the CPs. In the sections that follow, we will explore this in more detail. We understand that you work with multiple ACOs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO#3], [ACO #2], [ACO #1], and [ACO #4], and the ways in which these relationships and processes are similar or different from each other or from other ACOs.

General Care Coordination

Suggested Participant(s): CCM team member(s)

23. How is care coordination work with members divided, if at all? **(CORE)**
    a. Do individuals do different steps of the process? How does it work?
    b. Do the care teams continue to have caseloads of 100-125 members? If so, how is this working for [CP # 2]? If not, what has changed?
24. We know that [CP # 2] is not a part of a consortium entity or working with affiliated partners as part of this program. However, are there other partnerships that you have that facilitate care coordination for your members?
25. As a care team member, how engaged in the care plan process are you? Does this differ from member to member? What determines a care team member's level of engagement in the care plan process?

a. How do you work with other providers to provide care for members (i.e., get appointments, services, etc)?

26. Can you define care coordination? How do you do care coordination for your members?
    a. How do you coordinate with other service providers, state agencies, etc outside of just medical providers?
27. What is the care coordination staff make-up between ACO and CP staff members?
    c. How are decisions made about who is managed centrally or site specific?
28. How are referrals made and how do people get engaged in their care?
29. How are care transitions handled, especially regarding hospital follow up care?
30. How do you evaluate and/or assess your care management activities?
    a. Who makes decisions and what is the process for implementing changes when activities don't work?
    b. Is there a feedback process you use to determine best practices and lessons learned?
31. How do you use technology to assist with care coordination?
    c. How have you adapted new ideas such as data or population health management into your work?
32. How well do you think the health and wellness coaching is working for enrollees?
    a. What feedback have you received from enrollees?
33. How does care coordination work with the ACOs you work with?
    a. What is the process that you use to set up meetings, review comprehensive assessments or other issues? Who is managing these relationships?
    b. What is working well and not so well?
    c. Are there any other aspects you would like to discuss?
34. How do you conduct medication reconciliation? How do you work with the providers on this issue?

Suggested Participant(s): RN Care Manager, specifically who works on LTSS

35. How do the RN staff providers connect members to home services or primary care services?
36. Is there any overlap in your care management teams or does each team have specific responsibilities?

37. Is there anything you would like to discuss in regards to the care management practices at [CP # 2]?

SERVICE INTEGRATION AND HIT

In this section of the interview, we would like to understand the efforts that went into health information technology integration, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

Population Health Management

Suggested Participant: Staff member directly involved in population health management efforts; Director of Healthcare Transformation?

38. How do you monitor performance metrics? How do you and your team work on improving performance? Improving workflows, case management, or other parts of care coordination?
    a. How has this process been working for you?
39. How is population health management handled at [CP # 2]?
    a. Who is responsible for which components?
40. How are you using data? What data analytics practices are you utilizing? What system are you using for data analysis?
    c. What support is given for staff to understand and utilize data?
41. We know that you were using the eHana platform for data, and quality and process improvements. How effective have you found this system to be for your staff to monitor performance and task competition?
    d. Did you utilize supports or hire staff in regards to the eHana software utilization
    e. What feedback have you had from staff about facilitators and barriers in these processes?
        i. How have you used this feedback?
        ii. How is this feedback integrated into everyday processes?
42. How is data used by [CP # 2] to assist in care coordination efforts? In meeting member needs?

Information Sharing

Suggested Participant(s): IT Staff member and IT Director level staff member

43. How do you share information with ACOs? Is there interoperability between [CP # 2] as a whole and your ACO partner sites?
44. How has HIT evolved for [CP # 2] during the DSRIP program?

c. Have you changed anything about these processes since implementation?

45. Please tell us more about the information sharing process as it relates to conflict resolution for all aspects of the ACO/CP relationship.

    e. Who is managing these processes? What are these processes like?

    f. Have you changed anything about these processes since implementation?

WORKFORCE DEVELOPMENT

In this section, we would like to learn about the efforts that went into workforce development, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

General Workforce Recruitment and Training Policies

Suggested Participant: Recruitment Specialist hired in 2018; Other idea participant(s) including someone from the HR Department. Another option would be to speak to someone involved at the governance level who is involved in DSRIP specific matters

Recruitment

46. We know that you utilized a recruitment specialist and offered a sign-on bonus for some of your recruitment efforts. How effective did you think this was? How did/do you recruit staff to join your organization? Are your processes standardized? Is recruitment centralized or done in a site specific manner?

    c. How do individual roles, such as recruiting staff for case coordination/management roles, make a difference in your recruitment strategy?

    d. If you could go back to the beginning of the program, knowing what you know now, how would you have changed your recruitment strategy?

44. Have some strategies worked better than others? In what ways?

47. Do you anticipate making any changes to your recruitment strategy as a result?

48. How have you used DSRIP funds for recruitment?

49. How is recruitment and hiring coordinated across [CP # 2]?

Training

50. We know that training is very role-specific. What kind of materials did you all have to develop?

    g. Were the materials developed created for this program or were they existing materials?

    h. How are the trainings going? What kind of feedback have you received about the training offered to staff?

i. Do you partner with external groups to execute these trainings or do HR staff host them? If so, whom do you partner with? Who conducts the actual training?
    - Is it in-house or outsourced? In-person or online?

j. What kind of policies and procedures were put in place to ensure staff are able to meet contractual training requirements?

k. How do you evaluate your training sessions? Do you survey or otherwise ask staff for their thoughts?

l. If you could go back to the beginning of the program, knowing what you know now, how would you have changed your training strategy?

51. How have partner ACOs been involved in the trainings?

52. We know that [CP # 2] certifies all care coordinators and CHWs through the BU School of Social Work Center for Aging and Disability Education and Research. How was this relationship created? What has worked well and less well for you in using this system?

Retention

53. We understand that [CP # 2] used statewide investments (listed below). What have been the benefits and drawbacks of the statewide investment programs?
    a. [CP # 2] utilized the SWI Special Projects Program in Year 2 – please tell us more about your experience with this program.

54. What other formal or informal ways have you worked to increase staff satisfaction and retention?

55. How have you collaborated with other CPs, ACOs, MCOs to develop and implement staff retention programs?

Care Coordination and Management Trainings

Suggested Participant(s): Staff member(s) involved in care coordination and management specific trainings

56. What trainings do you have in place that are specific to care coordination and management?
    c. What do staff think about these trainings?

    d. What is the process to implement feedback from staff regarding the training they are receiving?

57. Do you think that staff need more or less training to implement the care coordination and management specific programs and policies in place at [CP # 2]?

SUSTAINABILITY AND QPI

In this section, we would like to ask about the efforts that are being made to assure the sustainability of the CP programs and thinking about the future of your organization, considering the tapering off of DSRIP funds. Financial incentive and quality measures are an important aspect of the DSRIP program and the subsections below will explore this in more detail.

Suggested Participant options: Quality Management Committee; possibly the Consumer Advisory Board as they help manage some of the quality metrics?

58. We know that [CP # 2] has developed a dashboard to monitor key quality metrics. How specifically do you use data and analytics to understand performance?
59. How do you set performance improvement priorities? What data is used? Which stakeholders are engaged? **(CORE)**
60. How are staff engaged in the process of improving on processes and performance?
    a. How are financial incentives or other types of incentives used to leverage feedback?
    b. What are the barriers and facilitators to staff engagement in this regard?
61. How have the strategies [CP # 2] has adopted to meet quality performance benchmarks been working?
    a. What are barriers and facilitators to your success in this regard?

<u>Sustainability</u>

62. What progress has been made on developing initiatives with your partner ACOs/MCOs to promote shared savings and improved quality measure performance?
63. What progress has been made on selling services to ACOs and MCOs for non-CP eligible individuals who can benefit from CP services, for the purpose of helping manage population health and member Total Cost of Care?
64. How are each of these contributing to your CP sustainability?
    a. In the absence of the CP program, would you anticipate continuing similar partnerships with ACOs and MCOs for MassHealth members?

INNOVATIONS

Throughout our conversation today, you have shared many innovative solutions to different aspects of the DSRIP program. Our last section aims to understand these facets that are unique to you here at [CP # 2].

Suggested Participant(s): Talk to any participant [CP # 2] key contact recommends to answer these questions

65. Thinking back to the member outreach unit that you created early on, how effective did you feel that process was?
    a. We know that you hired a temporary worker to do door-to-door outreach and also hired skilled social workers to inform the care plan development process. How did these innovations facilitate your service delivery? Were there any barriers or lessons learned?
66. What are new programs and processes that you have seen come online in the last year or so that you find really helpful? Why were they implemented or changed? **(CORE)**
67. If you could make any other changes to the DSRIP model at [CP # 2], what would you change? Why?
68. We know that you have recruited members to be a part of a Consumer Advisory Board. Please tell us more about this Board and how you recruited members. Are you still engaging this group?

Is there anything else you think is important for our team to know about your experience as a CP in this program? Thank you for your time and insights into your programs at [CP # 2].

13. CP Case Study Interview Guide: CP #3

MassHealth CP Case Study/ Visit Interview Protocol

[CP # 3]

Thank you for taking the time to speak with us today about [CP # 3]'s participation in the MassHealth Community Partner (CP) Program as part of the DSRIP implementation. Based on the information that CP leaders at [CP # 3] shared with us during the first round of Key Informant Interviews, we are looking forward to learning more about specific aspects of your program. [ACO #3] is one of 4 CPs selected for more detailed exploration based on these earlier interviews. Findings from interviews with [CP # 3] staff and other CPs will inform our evaluation of the MassHealth DSRIP program and will be compiled in at the summary level in both the interim and final evaluation reports to CMS. The reports based on information gathered in these CP interviews will not identify specific names, roles, clinical practice or other sites of participants without your permission (e.g., if there is an example of an innovation we'd like to highlight). In that case, we would reach back out to the site liaison to coordinate permissions.

Do you have any questions about the fact sheet we sent ahead of time? [Address Questions.]

We know that everything and everyone has been affected by the COVID-19 pandemic over the past months, especially those of us working in health care. We have not included specific questions in our interviews related to your organization's response to the pandemic, but encourage you to mention anything that comes up about the pandemic and how it's affected your CP activities as we go along. We hope to explore what and how changes have been made as part of DSRIP, and what additional changes might be attributable to COVID-19.

We are also interested in whether and how your CP practices have influenced (or not) your care coordination practices or procedures for non-ACO enrollees. For example, have the resources made available through the DSRIP initiative informed the care of non-ACO enrollees? These are themes that may come up as we move through the interview process, so please add any comments where they might be relevant.

Do you have any questions before we start? We want to remind you that we would like to audio record these discussions to ensure that we accurately capture the information you provide.

[Turn Recorder On]

Introduction/Overview

1. What were the most significant changes that took place at [CP # 3] in the last 12 months? How have they affected the health and care of your members? What aspects of the DSRIP program helped to facilitate those changes?
2. What have been the biggest barriers to transforming how care is delivered to better meet the needs of your members?
3. Overall, do you think the CP program is effective at meeting the needs of MassHealth members?
4. Looking back to the start of the program, what do you wish was in place then that would have helped your organization perform better in the program now?

Governance/Operations

Suggested participant: Executive board members

5. Why did you choose to operate as a consortium and how is that going?
    a. Do all member organizations have the same vision for the work?
        - How did the organizations come together?
        - If you have differing visions, how did you resolve this?
    b. What have been facilitators to this partnership working well?
    c. How different are processes at the different organizations in terms of workforce, HIT, and communication?
    d. How do you divide up work, keep everyone engaged/feeling like part of a team?
6. How is care coordination work with members divided, if at all?
    a. i.e., do individuals do different steps of the process? How does it work?
7. You've had a hard time consistently engaging folks to participate in the community advisory board, why is that?
    a. What do you think the effect has been of not having an engaged or consistent CAB?

Suggested participant: Leadership

8. As an organization explicitly formed to provide culturally-sensitive care for mostly Black and Latinx populations, what has been your experience joining the other two organizations who don't focus as heavily on cultural sensitivity?
    a. Do you think they changed their practices based on some of the things you were doing?
    b. Do you think you changed your processes based on some of the things they were doing?
    c. What is your organization currently doing to address racial inequities in healthcare or the population you serve?
    d. What more would you like to do as an organization to address racial inequities in health care or the population you are serving?

ACO/CP ALIGNMENT

In this section of the interview, we would like to understand [CP # 3]'s relationship with the ACOs. A large part of the DSRIP program is the relationship between the ACOs and the CPs. We understand that you work with multiple (10) ACOs. We're interested in the ways in which these relationships and processes are similar or different from each other or from other ACOs.

Suggested participant: VP of healthcare integration, Director of health integration, Service area director

9. You are partnered with most of the ACOs in the program. What are the opportunities this broad network presents? What are the challenges?
10. Has the variation in relationships or processes with ACOs affected the care you're able to provide you members?
11. How is [CP # 3]'s relationship with [ACO #1]?
    g. Who do you talk to/work with at the ACOs?
    h. What is the referral process? How do you share information?
    i. What are meetings like? How often? Do you have case conferences and how are those run?
12. How is [CP # 3]'s relationship with [ACO #2]?
    a. Who do you talk to/work with at the ACOs?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?
13. How is [CP # 3]'s relationship with SITE?

a. Who do you talk to/work with at the ACOs?
b. What is the referral process? How do you share information?
c. What are meetings like? How often? Do you have case conferences and how are those run?

14. How is [CP # 3]'s relationship with other [ACO #3] ?
    a. Who do you talk to/work with at the ACOs?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?
15. Tell us more about your HIT as it relates to system alignment/integration. How has HIT evolved during the DSRIP program?
    a. How well does the event notification system work? Does it facilitate better care for members?
16. Are there any specific processes for ACCS or DMH enrollees?
17. Please tell us more about the information sharing process as it relates to conflict resolution for all aspects of the ACO/CP relationship.
    a. Who is managing these processes? What are these processes like?
    b. Have you changed anything about these processes since implementation?

MEMBER CARE EXPERIENCE

For this section, we would like to better understand member care and experience at [ACO #3]. We have created the following hypothetical situations to help answer these questions.

Hypothetical Situation 1: A pediatric patient with autism

Hypothetical Situation 2: A patient who is homeless

Hypothetical Situation 3: A patient who has BH needs, LTSS needs, and/or medical complexity

Thinking of each of the above situations, how would you describe the member experience receiving care coordination supports from [CP # 3] in each of the following area of member care experience?

Member outreach:

Suggested participants: Enrollment team, training specialist, focus on talking to the care coordination staff, frontline managers

18. Can you describe the enrollment team?
    - Who is a part of it? Does it differ for LTSS and BH?
19. What is the process for member outreach? Where do you meet them, etc?
20. Walk me through service navigation for a BH enrollee without a PCP. How long does this process usually take?
    a. How do you work with the PCP to engage the member?
21. Walk me through service navigation for a LTSS enrollee. What is the process for helping them choose a provider?
22. Are there any workforce challenges in engaging enrollees?

CARE PLANNING/COORDINATION

In this section of the interview, we would like to understand the care coordination and care planning process at [CP # 3] better. A large part of the DSRIP program is the relationship between the ACOs and the CPs. We understand that you work with multiple ACOs.

Care Plan – BH

Suggested participants: Clinical care managers

23. How do you work with the member to develop the care plan?
    a. What is follow-up process with the care plan? How often do you check in with the member about what was written? How often is the care plan rewritten?
24. How do you develop goals? What about member preferences vs medical needs?
25. Where do you meet?
26. Who is engaged the care plan process?
    a. How is the PCP engaged?
    b. Anyone else, family members, caretakers, etc.?
27. Can you walk me through the process of sharing the information with the PCP once the care plan is written?

Care Plan – LTSS

Suggested participants: Clinical care manager, care transition care coordinator

28. How do you work with the member to develop the care plan?
    a. What is follow-up process with the care plan? How often do you check in with the member about what was written? How often is the care plan rewritten?
29. How do you develop goals? What about member preferences vs medical needs?
30. Where do you meet?
31. Who is engaged the care plan process?
    a. How is the PCP engaged?
    b. Anyone else, family members, caretakers, etc.?
32. Can you walk me through the process of sharing the information with the PCP once the care plan is written?

Care Coordination

Suggested participants: Care coordinator supervisor, RNs, ILCs

33. How do you work with PCPs to get signatures or provide services? How engaged are you as a care team member?
34. How do you work with other providers to provide care for members (i.e., get appointments, services, etc)?
35. Can you define care coordination? How do you do care coordination for your members?
    a. How do you coordinate with other service providers, state agencies, etc outside of just medical providers?
36. Can you walk us through the process after a comprehensive assessment is done, how does that information get to the ACO?
    a. Who completes the comprehensive assessment?
    b. Is this the same for care plans?
    c. Are there any differences in your process for LTSS vs BH?
37. How variable is care coordination across different ACOs?
    a. Are some members getting more coordinated care than others?

b.

Member Needs/HRSN

Suggested participants: Care coordinators, RNs, ILCs

38. How do you address members' needs, whether medical or social? What is the process? What resources do you use or leverage, etc?
    a. Do you offer any health and wellness coaching? What does that look like? Who receives those supports?
39. Who do you collaborate and how does that work?
40. What outside organizations have you partnered with?
    a. How are these partnerships going?
    b. Has anything facilitated the success of these partnerships? What about challenges?
41. Do you think these processes are well-standardized? Do you think they should be?
42. ServiceNet offers a number of housing supports including identifying unhoused members and facilitating home modifications when appropriate. Is this work that your organization was doing before?
    a. How has participating in the CP program changed the way you do the work?

WORKFORCE DEVELOPMENT

In this section, we would like to learn about the efforts that went into workforce development, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

Suggested participants: Recruiter, training specialist

Recruitment

43. What workforce gaps were identified as needing to be addressed to promote success in the DSRIP program?
44. What recruitment strategies have you employed?
45. How have you worked with community-based organizations to recruit?
    b. What kind of recruitment activities have been done?
46. Have some strategies worked better than others? In what ways?
47. Do you anticipate making any changes to your recruitment strategy as a result?
48. How have you used DSRIP funds for recruitment?
49. How is recruitment and hiring coordinated across the agencies?

50. Can you tell us about your workforce development plan?

Retention

51. What retention strategies does [CP # 3] use?
    a. Do these vary across consortium members?
52. Can you tell us about the CHW pathway program?
53. Has this been successful? Do those that complete the program begin working as CHWs?
54. You used statewide investment TA to help develop your workforce development efforts. What was this process like?

Training

55. What trainings do you provide to care managers and care coordinators?
    c. What do staff think about these trainings?
    d. How are trainings evaluated?
56. How is training managed across the different agencies?
57. What existing resources were in place for training? What had to be developed?
58. What other training opportunities do you provide to staff?

SERVICE INTEGRATION AND HIT

In this section of the interview, we would like to understand the efforts that went into health information technology integration, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

59. You have fairly unique and robust analytics platforms. Was the DSRIP program helpful in establishing and developing those?
60. How do you use data and analytics to understand performance?
61. Working with 8-10 ACOs, is interoperability a challenge?

SUSTAINABILITY AND QUALITY AND PROCESS IMPROVEMENT

In this section, we would like to ask about the efforts that are being made to assure the sustainability of the CP programs and thinking about the future of your organization, considering the tapering off of DSRIP funds. Financial incentives and quality measures are an important aspect of the DSRIP program and the subsections below will explore this in more detail.

QP

Suggested participants: [CP # 3] Quality Director, CHD Medical Director

62. How are staff engaged in the process of improving on processes and performance?

63. Do you use a specific QI framework such as PDSA, Six Sigma, etc?
    a. There was an instance where an issue in data validity was noticed and your processes changed in terms of who was transmitting data, in addition to random audits of member records. Can you walk us through what the process was like to identify the issue and implement a solution?

Sustainability

64. What progress has been made on developing initiatives with your partner ACOs/MCOs to promote shared savings and improved quality measure performance?
65. What progress has been made on selling services to ACOs and MCOs for non-CP eligible individuals who can benefit from CP services, for the purpose of helping manage population health and member Total Cost of Care?
66. How are each of these contributing to your CP sustainability?
67. In the absence of the CP program, would you anticipate continuing similar partnerships with ACOs and MCOs for MassHealth members?
68. Though it's early on, what can you say about the financial sustainability of the program?
    a. Do you think this model better facilitates sustainability as compared to other models?

Is there anything else you think is important for our team to know about your experience as a CP in this program? Thank you for your time and insights into your programs at [CP # 3].

14. CP Case Study Interview Guide: CP #4

MassHealth CP Case Study/Site Visit Interview Protocol

[CP # 4]

Thank you for taking the time to speak with us today about [CP # 4] participation in the MassHealth Community Partner (CP) Program as part of the DSRIP implementation. Based on the information that CP leaders at shared with us during the first round of Key Informant Interviews, we are looking forward to learning more about specific aspects of your program. [CP # 4]is one of 4 CPs selected for more detailed exploration based on certain unique and potentially innovative approaches used for building capacity and/or delivering care to MassHealth members. Findings from interviews with [CP # 4] staff and other CPs will inform our evaluation of the MassHealth DSRIP program and will be compiled in at the summary level in both the interim and final evaluation reports to CMS. The reports based on information gathered in these CP interviews will not identify specific names, roles, clinical practice or other sites of participants without your permission (e.g., if there is an example of an innovation we'd like to highlight). In that case, we would reach back out to the site liaison to coordinate permissions.

Do you have any questions about the fact sheet we sent ahead of time? [Address Questions.]

We know that everything and everyone has been affected by the COVID-19 pandemic over the past months, especially those of us working in health care. We have not included specific questions in our interviews related to your organization's response to the pandemic, but encourage you to mention anything that comes up about the pandemic and how it's affected your CP activities as we go along. We hope to explore what and how changes have been made as part of DSRIP, and what additional changes might be attributable to COVID-19.

We are also interested in whether and how your CP practices have influenced (or not) your care coordination practices or procedures for non-ACO enrollees. For example, have the resources made available through the DSRIP initiative informed the care of non-ACO enrollees? These are themes that may come up as we move through the interview process, so please add any comments where they might be relevant.

Do you have any questions before we start? We want to remind you that we would like to audio record these discussions to ensure that we accurately capture the information you provide.

[Turn Recorder On]

INTRODUCTION/OVERVIEW

1. What were the most significant changes that took place at [CP # 4] in the last 12 months? How have they affected the health and care of your members? What aspects of the DSRIP program helped to facilitate those changes?
2. What have been the biggest barriers to transforming how care is delivered to better meet the needs of your members?
3. Overall, do you think the CP program is effective at meeting the needs of MassHealth members?
4. Looking back to the start of the program, what do you wish was in place then that would have helped your organization perform better in the program now?

Governance/Operations
Suggested participant: Executive board members

5. Why did you choose to operate as a consortium and how is that going?
    a. Do all member organizations have the same vision for the work?
        - How did the organizations come together?
        - If you have differing visions, how did you resolve this?
    b. What have been facilitators to this partnership working well?
    c. How different are processes at the different organizations in terms of workforce, HIT, and communication?
    d. How do you divide up work, keep everyone engaged/feeling like part of a team?
6. How is care coordination work with members divided, if at all?
    b. i.e., do individuals do different steps of the process? How does it work?
7. What more would you like to do as an organization to address racial inequities in health care or the population you are serving?
    a. What are you currently doing to address racial inequities in your organization?

ACO/CP ALIGNMENT

In this section of the interview, we would like to understand [CP # 4] relationship with the ACOs. A large part of the DSRIP program is the relationship between the ACOs and the CPs. We understand that you work with multiple (10) ACOs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #2], [ACO #1] and [ACO #4], and the ways in which these relationships and processes are similar or different from each other or from other ACOs.

Participant: Administrative assistant in charge of monitoring PCP signature, Care coordinator supervisor (?), CP Program Director, Clinical Director

a. To the admin assistant: I understand you are in charge of monitoring when care plans get signed off on. Can you walk me through how that works?
    i. Do you monitor sign off for all affiliated partners?

8. What is the referral process from the ACOs? How do you share information, specifically with [ACO #4], [ACO #2], and [ACO #1]?
    a. I understand that [CP # 4]/[CP # 4] has access to some ACOs EMRs? Can you tell me which ones you do? How do you utilize that information during the referral, outreach, and engagement processes?
9. How is [CP # 4] relationship with [ACO #1]?
    j. Who do you talk to/work with at the ACOs?
    k. What is the referral process? How do you share information?
    l. What are meetings like? How often? Do you have case conferences and how are those run?
10. How is [CP # 4] relationship with [ACO #2]?
    a. Who do you talk to/work with at the ACOs?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?
11. How is [CP # 4] relationship with [ACO #4]?
    a. Who do you talk to/work with at the ACOs?
    b. What is the referral process? How do you share information?
    c. What are meetings like? How often? Do you have case conferences and how are those run?

12. I understand that there are quarterly meetings with the ACOs to discussed shared members. Who attends those meetings? What is discussed? What are the meetings like?
    a. I also understand there are monthly case conferences with hospital clinicians and staff for high utilizers. Can you tell me more about those meetings? How do they help you integrate systems and provide better care for members, specifically in regard to [ACO #2], [ACO #1], and [ACO #4]?
    b. We read that you have biweekly case conferences specifically with [ACO #2]. Can you tell more about those meetings, what is discussed, and how you have found them helpful?
13. What systems do you use to send care plans and other information back and forth with the ACOs in general and [ACO #1], [ACO #2], and [ACO #4] specifically? How are those systems working?
    a. How has [CP # 4] use of HIT evolved during the DSRIP program?
    b. Who has access to ENS/ADT information? For which ACOs? How helpful is that, especially for care transitions?
14. Are there any specific processes for enrollees not a part of an ACO (including ACCS), if you have any?

MEMBER CARE EXPERIENCE

For this section, we would like to better understand member care and experience at [CP # 4]. We have created the following hypothetical situations to help answer these questions.

Hypothetical Situation 1: Homeless members who are youth/young adults

Hypothetical Situation 2: A patient who is homeless

Hypothetical Situation 3: A patient who has BH needs, LTSS needs, and/or medical complexity

Thinking of each of the above situations, how would you describe the member care experience in each of the following categories?

Participant(s): CP program director, CHWs, Care Coordinators, Team Leads (care coordinator supervisors)

Operations

15. How is care coordination work with members divided among CP staff, if at all? **(CORE)**
    a. I.e. do individuals do different steps of the process, i.e., comp assessment, care plan, etc? How does it work?

16. *I understand you are a consortium CP* how do you work with your affiliated partners to coordinate care for members? How do you divvy up the work and keep everyone engaged/feeling like part of a team?
    a. I heard that you have monthly meetings with your affiliated partners to go over assignments. Who attends those meetings from the affiliated partners? What is discussed at those meetings?
    b. How do you leverage everyone's/each organizations expertise to best help your members? How do you refer to services internally i.e., to other partners?
    c. We may talk about this more in workforce development, but do you do the same onboarding and/or training for each affiliated partner when new staff are hired?
        i. What effort is made to engage staff and make them all feel like part of the team, especially when dealing with affiliated partners?

Member Outreach

Participants: Embedded RN at respite facilities, outreach team coordinators

17. What is the process for member outreach? Where do you meet them, do you call them first and what do you talk about? Can you walk me through a call or a meeting?
    a. What is your "elevator pitch" to explain the CP program to someone?
    b. How do you work to gain their trust?
18. I understand that [CP # 4] as a philosophy of "Meet the person where they are at", including physically, mentally, and linguistically. Can you explain to me how you use that in your work when outreaching to members?
19. *Embedded RNs:* I understand that some of the staff is embedded at local facilities, including RNs at respite facilities. Can you talk me through you utilize that arrangement and how you leverage it to outreach to members?
20. How do you utilize the Homeless Management Information System from the City of Boston to find and outreach to the homeless population? Who is in charge of that process? Can you walk me through how you connect with the members (i.e., meeting them at a shelter or other location)?

CARE PLANNING/COORDINATION

In this section of the interview, we would like to understand the care coordination and care planning process at [CP # 4] better. A large part of the DSRIP program is the relationship between the ACOs and the CPs. We understand that you work with multiple ACOs. For the purposes of our conversation today, we are particularly interested in your relationships with [ACO #2], [ACO #1] and [ACO #4] and the ways in which these relationships and processes are similar or different from each other or from other ACOs.

21. Who develops the care plan? Is it a single care coordinator or does it also involve the RN or other members of the care team?
    a. How do you work with the member to develop the care plan? What conversations do you have to figure out and define their goals?
        - Who does the comprehensive assessment? When is that done in the process? How is it incorporated into the care plan?
    b. How do you develop goals? How do you balance member preferences vs medical needs?
        - I understand that sometimes the content of the care plan might differ depending on who is involved in the development of it based on who has access to the medical record. Can you explain that more? Does that mean it may have fewer medical goals?
    c. Where do you meet with the member to develop the care plan? Is it all done in one session or over multiple days?
        - Who decides where the meeting will be?
        - How much say does the member have in their care plan?
    d. How do you share with PCPs? Do you just send it or is there a conversation about it?
        - What processes are in place specifically at [ACO #2], [ACO #4] and [ACO #1] to move care plans through the signature process? Do you work directly with the PCP or another ACO staff member?
        - Are there other processes with your other ACOs?
22. your members?
    a. How do you work with PCPs or the ACOs to provide services to your member? How engaged are you as a care team member in a member's care, specifically at [ACO #2], ACO #4, or [ACO #1]?

b. How do you work with other providers, such as specialists or BH providers, to provide care for members (i.e., get appointments, additional services, etc)?
    - How do you coordinate with other service providers, state agencies, etc outside of just medical providers?
    - How do you provide or work with providers around health and wellness coaching for members?

c. How do you conduct medication reconciliation? How do you work with the providers on this issue?

d. What HIT or information sharing systems do you use to coordinate care both with the PCP at the ACO and other medical provides or social service providers? This would be outside of sharing of care plans, but would include how you make sure a provider is helping the member get correct services

e. I understand that staff are embedded at local facilities and/or hospitals. Which facilities? How has that helped transitions of care and member care?
    - I understand that you have a data warehouse ("the Hub") for quality and data analytics as well as care coordination. How are care transitions documented in the HUB and shared with the rest of the CP team?
    - I understand when you do not have embedded staff in local facilities, you work to develop relationships with site staff. Can you walk me through that process?
    - How has the care transition training been helpful in improving communication and CP staff work in care transitions?
    - I understand that you worked with BMC to develop their plan for discharging homeless individuals. What is that process? How was the process to develop the plan?

Member Needs/HRSN

23. How do you address members' needs, whether medical or social? What is the process? What resources to you leverage from different affiliated partners versus other organizations?
    a. I read that [CP # 4] has expanded its Medication for Opioid Use Disorder (MOUD) capacity. How so? Can you walk me through how you the CP has been able to take advantage of this to help members?
    b. I read that you have "HER Saturdays" (health, empowerment, resources) and health resource fairs to help members health and wellness. What

goes on at those fairs? What information is provided to members? Have you received member feedback about these fairs?

24. What is the role of community health workers in addressing both member medial needs and social needs?
    a. I understand they are receiving/received training on chronic disease management. Can you walk me through how they manage disease and how they work with the member?
25. With whom do you collaborate and how does that work?
26. I understand that you have used the special projects SWI. Can you talk about how that has helped you meet member needs?
27. I understand that as part of the Hub data system, you have a dashboard on members' housing situations that is shared with ACOs. Can you walk me through how you us that to address housing issues, or work with the ACO to address those issues?
    a. The Hub also stores social needs assessments. Do you have a similar process, like this dashboard, to address those needs?
28. What flexible services do you provide/are planning on providing? How does that process differ from the other CP services?
    a. How do you work with [ACO #2] as a SSO compared to as a CP?
    b. Can you discuss how you coordinate within the organization (CP vs SSO for flex) vs with outside organizations (ACOs or other community agencies)?

WORKFORCE DEVELOPMENT

In this section, we would like to learn about the efforts that went into workforce development, as this is another important aspect of the DSRIP program. The subsections below will explore this in more detail.

Participant: HR staff? CP Program Director? May also ask care coordination staff?

Recruitment

29. How are staff recruited and retained? What strategies have you utilized?
    a. I heard about your employee referral program. Can you speak more about that? How helpful has that been in recruiting staff?
    b. What other methods are used to recruit staff? Have there been any changes in those strategies over the course of the last 2 years?
30. How have you worked with community-based organizations to recruit?
    c. What kind of recruitment activities have been done?

31. How have you partnered with colleges and universities to recruit?
32. Have some strategies worked better than others? In what ways?
33. Do you anticipate making any changes to your recruitment strategy as a result?
34. How have you used DSRIP funds for recruitment?

Training

35. What trainings do you provide for staff? What topics are covered and what do staff learn?
    a. Are these trainings developed internally or do you leverage outside resources to provide them?
    b. Are there trainings on QPI or how to use data for performance improvement?
    c. Have you received feedback on any of these trainings?
36. What does orientation look like for new staff? Are all affiliated partners included in the same orientation?
37. I understand that you offer professional development, other internal trainings, and trainings specifically on care transitions? Can you speak to those? What opportunities are available for staff to get further trained?
38. Are their issues managing conflicting priorities, such as trainings they want, contractual trainings, time to do care coordination, or other situations that arise?
39. I understand that the CHWs have a special training on complex disease management. Can you tell me more about that training?
    d. Why was that training developed?
40. How have trainings changed over the course of the last couple of years? Were new trainings added or were trainings dropped?

Retention

41. What other formal or informal ways have you worked to increase staff satisfaction and

    retention?
42. How have you collaborated with other CPs, ACOs, and MCOs to develop and implement staff retention programs?
43. I understand that you have staff development funds and have utilized the tuition reimbursement statewide investment programs. Can you talk about how useful those have been in recruiting or retaining staff?
    a. What about the Behavioral Workforce Development SWI, Certified Peer Specialist training, and CHW SWI? Have those been helpful?

b. Have strategies for retention changed in the last couple of years? How so?

SUSTAINABILITY AND QUALITY AND PROCESS IMPROVEMENT

In this section, we would like to ask about the efforts that are being made to assure the sustainability of the CP programs and thinking about the future of your organization, considering the tapering off of DSRIP funds. Financial incentives and quality measures are an important aspect of the DSRIP program and the subsections below will explore this in more detail.

QPI

Participant: Members of the Quality Management Committee (Chief Medical Officer?), Quality Data Analyst, Data Systems Project Manager

44. I understand that the Hub data warehouse is used for data analytics and quality metrics. Can you walk me through how you use it? How do you use data and analytics to understand performance?

    a. Who has access to this data? How often are reports run, and data used to monitor performance?

    b. Can you also walk me through how the Hub is used for care coordination, as it stores member information and forms?

45. How are care coordinator or other staff engaged in the process of improving on processes and performance?

    c. I understand there is a dashboard that provides staff with timely quality metrics. Where is that dashboard located? How are staff trained on how to utilize the data and analytics to improve performance?

46. I understand that you developed a workgroup with [ACO #2] to work on quality improvement plans for certain measures. Can you talk to me about that workgroup?

    d. Who was on it? Who was represented from the ACO?

    e. What was the process to develop the quality improvement plans? How has the process been to implement those plans?

47. I also understand that you and your affiliated partners have the same care management platform and EHR. How does that help you with your care management, information sharing, and QPI efforts?

48. I also understand you are connected to other organizations with the same EHR via Mass HIway and have read-only access. What organizations are you connected with? Can you tell me about how that helps you with care coordination?

Sustainability

49. What progress has been made on developing initiatives with your partner ACOs/MCOs to promote shared savings and improved quality measure performance?
50. What progress has been made on selling services to ACOs and MCOs for non-CP eligible individuals who can benefit from CP services, for the purpose of helping manage population health and member Total Cost of Care?
51. How are each of these contributing to your CP sustainability?
    a. In the absence of the CP program, would you anticipate continuing similar partnerships with ACOs and MCOs for MassHealth members?

SERVICE INTEGRATION AND HIT

In this section of the interview, we would like to understand the efforts that went into health information technology integration, as this is another important aspect of the DSRIP program.

52. How has your use of HIT evolved during the DSRIP program (in addition to the use of data in QPI and member care specified above)?
    a. What changes had to be made to facilitate the CP program?
53. How have you worked to develop interoperability between [CP # 4] and the ACOs? What is working well or not working well?

Flexible Services (if providing)

Is there anything else you think is important for our team to know about your experience as a CP in this program? Thank you for your time and insights into your programs at [CP # 4].

E. Appendix E: Qualitative Data Collection, Analysis, and Reporting Processes

The evaluation team conducted data collection with multiple respondent types to gather a wide range of viewpoints about DSRIP to inform the evaluation. The data was rigorously analyzed to determine themes relevant to the goals of the evaluation. Table 1 below summarizes the data collection designs and their related domains.

Table 1: Data Collection Designs

Respondent Type	Data Collection Format*	Domains of Interest	Timing
Key Informant Interviews (KIIs) 96 interviews with 108 key informants in 17 ACOs; 2 MCOs; 27 CPs	Individual or Group 60-90 Minute Interviews In-person, Telephonic, or Videoconference	Barriers to implementing DSRIP projects; Progress adopting structures and processes to promote integrated and accountable care; and perceived effectiveness of state actions to support transformation	March – June 2019 (ACOs/CPs) September – October 2020 (MCOs)
Case Studies in four ACO and for CP 35 interviews with 139 key informants	Group 60-90 Minute Interviews Videoconference	Obtain a nuanced understanding of progress adopting structures and processes to promote integrated and accountable care	September – December 2020
MassHealth Member Interviews 30 interviews with 25 adults and five parents of pediatric members	Individual 60-Minute Interviews Telephonic	Health status, knowledge about ACO and CP programs, experiences and opinions about health care interactions and coordination, telehealth use, the impact of COVID-19 on care access	March – June 2020
MassHealth Key Informant Interviews Eight interviews with 18 staff	Individual or Group 60-Minute Interviews Videoconference	Actions taken to support DSRIP implementation	June – September 2020

*ACO, MCO, and CP key informant interviews were conducted in person or via telephone or videoconference per respondent preference prior to COVID-19 restrictions. Due to restrictions on in-person interactions due to COVID-19, other data collection was not conducted in person as planned in the EDD.

1. Study Participants

ACO, MCO, and CP Key Informants

The evaluation team interviewed between one and three senior administrators at the executive or leadership level (i.e., CEOs, CMOs, CTOs) at each of the 17 ACOs and two MCOs and up to two senior administrators at each of the 27 CPs. The sites identified the staff they believed could respond to questions corresponding to several topic areas about the organization.

ACO and CP Case Studies

In-depth interviews were conducted with a cross-section of staff at four ACOs and four CPs, selected to represent diverse organizational types and structures as well as geographic variation. Each site identified the staff (i.e., frontline care coordinators or nurse managers, program managers, or mid-level administrators such as supervisors overseeing care coordinators) they believed would be able to respond to questions corresponding to several topic areas about their ACO/CP.

MassHealth Members

The evaluation team interviewed 30 MassHealth members who use ACO services, including some who use CP supports, and represent the diverse populations served by MassHealth, including subgroups targeted by DSRIP programs. These populations include adult members or parents of pediatric members who access behavioral health services or long-term services and supports and those who are medically complex and not utilizing CPs. To identify appropriate members, the team engaged and coordinated with EOHHS, patient advocates, and health care providers to outreach to MassHealth members. Nomination forms that collected contact information and demographic characteristics were completed by members or by ACO/CP staff on behalf of members and submitted to and reviewed by the evaluation team. A diverse group of members was selected to be contacted regarding interview participation.

MassHealth Key Informants

For this data collection effort, the evaluators interviewed staff within MassHealth who had leadership roles and responsibilities related to implementing and/or overseeing aspects of the DSRIP program. Demographic descriptions of the study participants are detailed in the Study Sample Characteristics section below.

Interview guides

Semi-structured interview guides were developed for each data collection activity. The development of interview guides was informed by the evaluation design and logic model, review of ACO/CP documents, and the expertise of several researchers on the UMass Chan evaluation team. The evaluation team worked with Collective Insight, LLC to convene and manage a Member Experience Stakeholder Workgroup to gather and include their insights and feedback into the interview guide development process.

MassHealth DSRIP staff reviewed and provided feedback on the guides before the interview administration. Interview guides can be found in Appendix D.

2. Interview Scheduling

ACO, MCO, CP Key Informant Interviews and ACO/CP Case studies

Researchers from the evaluation team were designated as site liaisons responsible for outreaching to and managing the logistics of these interviews. The liaisons worked with a contact person at each site to identify appropriate respondents and schedule interviews. The Evaluation Design Document weblink and a fact sheet about the interview process were provided to each interviewee in an email confirming the schedule and format of the interview. Onsite KII interviews with a site were all scheduled for the same day when possible. Researchers aimed to conduct interviews with each participant individually, but interviews were scheduled with multiple people when requested by the ACO/MCO/CP. Case study interviews were scheduled at the convenience of site participants and conducted in groups via videoconference due to restrictions to in-person interviews posed by the COVID-19 pandemic. Site Liaisons sent emails approximately two days before the scheduled interview.

MassHealth Member Interviews

Evaluation team members were designated as liaisons responsible for outreaching and managing the logistics of interviews with the members. As these interviews were conducted during the COVID-19 pandemic, all interviews were conducted by telephone. Interviews would be conducted at the time of the outreach telephone call or at a future date. For interviews that were scheduled for a future date, reminder phone calls were made approximately one day before the scheduled interview date. Reminder emails were also sent if an email address was available. The team verbally reviewed a fact sheet about the project reviewed with the member prior to the interview and sent it to the interviewee via email when an email address was available. Participants were asked to identify their accommodation needs prior to their interview to allow for these needs to be met during the interview. Three interviews were conducted in Spanish language using an interpreter to relay questions and answers between the interviewer and the respondent. Interviewees received their choice of a $50 Amazon, Target, or Walmart gift card via email or postal mail after completing their interview.

MassHealth Key Informant Interviews

A member of the evaluation team worked with a liaison at MassHealth to schedule the interviews. The number of interview participants in each session varied, depending on the interview topic and scheduling convenience. Reminder emails were sent approximately two days before the scheduled interview.

3. Interview Process

The evaluation team conducted a review of documents that MassHealth provided to prepare for data collection. These documents included the initial Participation Plans submitted by ACOs and CPs to MassHealth in Spring 2017, which detailed their implementation plans. Researchers extracted and summarized data from the Participation Plans in several domains: service area, governance structure, population served, goals, investments, workforce development, information sharing, challenges, and provider accountability. These summaries were used to inform interview guide development and acquaint the researchers with each site before conducting the interviews. Data prepared for the Midpoint Assessment by the Independent Assessor (IA), which detailed the progress made at each ACO and CP, were an additional resource.

Pairs of experienced researchers from the evaluation team participated in each interview: a lead interviewer and a notetaker. The notetaker who also assured all questions were asked and managed the audio recorders. Field notes captured researchers' observations about participant non-verbal communication, the interview environment, and other pertinent information that could contribute to the interview and analysis process. After each interview, researchers typed field notes into Microsoft Word for documentation and saved them to a secure drive on UMass Chan computers.

All interviews were audio-recorded to enable researchers to ensure transcripts accurately reflected the discussion. The interviewers obtained verbal consent from each participant at the start of each interview. Audio files were saved to a secure drive on UMass Chan computers and sent via secure file transfer to an external vendor for transcription. All contact information, contact attempts, and interview logistics were tracked in Microsoft Excel. Demographic information regarding participants was entered into the Excel file after interviews.

To prepare the researchers for the first set of interviews (the ACO/MCO/CP KIIs), a lead investigator conducted training sessions to review the interview process and mock interviews using the prepared guides. After each interviewer's first interview was completed, the lead investigator reviewed the audio recording and completed a quality assurance checklist to ensure that the interviewer followed the planned process, including that all necessary information was communicated to the interview participant and all questions in the guide were asked.

The researchers also piloted the ACO/CP KIIs interview outreach, scheduling, and interview processes with one ACO and one CP in preparation for subsequent interviews. Researchers solicited feedback on the outreach and interview process, and based on that, made changes to documents and processes for subsequent interviews.

4. Data Analysis

Demographic data for the interview participants were documented and compiled in Microsoft Excel. The demographics information was uploaded into Dedoose, a web-based qualitative data management software, for use in the analysis of interview data.

Using a framework approach[133], the team developed initial codes based on the evaluation logic model and interview component areas and added themes that arose during the interview process. Coding was conducted in multiple rounds, first by pairs of research team members and then individually, to ensure the team understood and applied the codes consistently. The team met routinely to discuss coding until agreement on coding definitions and applications was reached and to resolve any issues. Interrater reliability analysis was conducted during the coding processes and confirmed consistency across coders, and a kappa coefficient of at least .94 was achieved.

Once the coding process was complete, researchers extracted reports of coded text from Dedoose, reviewed the coded text for emerging themes, and explored patterns among them. The team then developed summary reports of the themes in Microsoft Word. Finally, the team reviewed and discussed the summary reports to ensure that the themes were accurately conveyed and added additional information as needed.

5. Limitations

We confronted a number of limitations in primary data collection due to the COVID-19 pandemic. In-depth interviews to provide case study data are typically performed in person to observe activities in context and obtain relevant materials to develop an in-depth understanding of processes and behaviors. However, due to the coronavirus pandemic, all in-depth case study interviews were conducted by videoconference, as travel was restricted. While this limited our ability to view organizational contexts firsthand, we solicited responses from a range of staff and probed for specifics about processes and workflows in order to achieve a nuanced understanding of each organization's activities.

Similarly, the MassHealth staff interviews could not be conducted in person due to the pandemic. In this case, videoconference interviews provided a sufficient medium through which to collect this data. Along with the change in data collection methods, the timelines for some data collection were moved to later in the year to mitigate challenges presented by the pandemic. Finally, we were cognizant of the impact the pandemic might have on members when recruiting and interviewing them. Some members who had expressed interest when first recruited were no longer interested or were unable to participate in an interview due to anxiety about the pandemic. Because we had a

[133] See The Consolidated Framework for Implementation Research – Technical Assistance for users of the CFIR framework (cfirguide.org)

sufficiently representative pool of potential interviewees from which to draw, we were able to complete the planned number of interviews.

Study Sample Characteristics

Descriptions of each respondent type are summarized in Table 2 below. The tables that follow are selected characteristics for ACO, MCO, and CP key informant and case study interview respondents, based on available demographic data.

Table 2: Data Collection Sample Description

Participants	Description
ACO key informants	• The majority were from Model A ACOs. • Almost half were program management level staff and one-third were executive level. • Representative of all areas of the state, with some entities serving the entire state and others serving specific areas. • Years of experience with the ACO and in the health care field varied.
MCO key informants	• Only two entities in the state. • Interviewees were higher-level leadership.
CP key informants	• Majority from behavioral health CPs. • Almost half were program management level staff and one-third were executive level. • Representative of all areas of the state, with some entities serving the entire state and others serving specific areas. • Experience levels varied.
MassHealth members	• Of participating adult members (*n*=26), approximately half were female, white/Caucasian, not Hispanic/Latino, age 51 to 60, English-speaking, medically complex, or with behavioral health needs. • Pediatric members represented in parent interviews (*n*=4) were primarily male, white/Caucasian, Hispanic/Latino, 11 to17 years old, and English-speaking.
MassHealth staff key informants	• Represent all levels of DSRIP administration, such as Chief, Director, Deputy Director, Senior Manager, and Manager. • Areas of focus include contracting, quality, data management, integration, SWIs, ACO program, and CP program. • Some have been with MassHealth prior to DSRIP start; others have joined since program start; many have prior experience in health care.
ACO/CP In-depth case study key informants	• ACO/CP leadership roles include CEOs, COOs, Vice Presidents, Executive Managers, and Senior Directors • Program Directors represent clinical and management areas, including behavioral health, patient experience, population health, human resources, and quality • Frontline staff include care coordinators, community health workers, Registered Nurses, and enrollment managers,

ACO/MCO, MCO, CP Key Informant Interviews

Number and Percent of ACO, MCO, and CP Key Informant Interview Respondents

	N	% Overall	% w/in Category
Total ACO Interviewees	**53**		**100%**
ACO Model A	41	41.4%	77.4%
ACO Model B	9	9.1%	17.0%
ACO Model C	3	3.0%	5.7%
Total CP Interviewees	**46**		**100.0%**
BH CP	29	29.3%	63.0%
LTSS CP	12	12.1%	26.1%
BH/LTSS CP	5	5.1%	10.9%
Total MCO Interviewees			
MCOs	**4**	**100.0%**	**100.0%**
TOTAL	**103**	**100.0%**	

Number and Percent of Interviewee's Gender

	N	%
Female	79	76.7%
Male	24	23.3%
TOTAL	**103**	**100.0%**

Number and Percent of Interviewee's Role Group

	N	%
Executive	32	31.1%
Mid-Level	22	21.4%
Program Management	48	46.6%
Other	1	1.0%
TOTAL	**103**	**100.0%**

Data represents those who provided demographic information (N=98)

Number and Percent of Interviewee's Age

Case Study Interviews*

*	N	%
21-30 Years	15	15.3%
31-40 Years	28	28.6%
41-50 Years	19	19.4%
51-60 Years	25	25.5%
61-64 Years	4	4.1%
65+ Years	4	4.1%
Missing	3	3.1%
TOTAL	**98**	**100.0%**

Number and Percent of Interviewee's Gender

	N	%
Female	76	77.6%
Male	21	21.4%
Missing	1	1.0%
TOTAL	**98**	**100.0%**

Number and Percent of Interviewee's Race

	N	%
African-American/Black	10	10.2%
African-American/Black & Caucasian/White	2	2.0%
Asian	1	1.0%
Caucasian/White	76	77.6%
Caucasian/White & Asian	1	1.0%
Caucasian/White & Middle Eastern	2	2.0%
Multiracial	3	3.1%
Missing	3	3.1%
TOTAL	**98**	**100.0%**

Number and Percent of Interviewee's Ethnicity

	N	%
Hispanic/Latino	5	5.1%
Not Hispanic/Latino	84	85.7%
Missing	9	9.2%
TOTAL	**98**	**100.0%**

F. Appendix F. Measures Calculated from MassHealth Administrative Data

This appendix lists the measures calculated from MassHealth administrative data (member enrollment, provider, claims, and encounter files) covered in Domains 2 and 3. The measures are grouped by research questions (RQs). The appendix covers all administrative measures included in the EDD and identifies those covered in the interim report (IR) and lists those planned for inclusion in the Summative Report (SR); the measures included in the IR will also be included in the Summative Report. The methods used to analyze these measures are covered in **Section II.C.c**. We studied the overall managed care eligible population, i.e., those eligible to enrolled in ACOs, MCOs, and Primary Care Clinician program (PCC) (~1.28 million members as of 12/31/2020), and the major subpopulations that are the targets of Demonstration reforms. The primary population of interest was ACO members (~1.08 million). We also study the ~100,000 MCO members who are not directly exposed to most DSRIP program components; MCO members are expected to serve as a comparison group in analyses conducted for the Summative Independent Evaluation report. Although the primary care clinician (PCC) program is not a focus of the Demonstration, as the third sector comprising the MassHealth managed care eligible population we included PCC members as part of the overall managed care eligible population. Our approach limited the study population to members enrolled for at least 320 days in a calendar year, therefore our study population is smaller than total MassHealth enrollment at any point in time.

Domain 2 Measures

1- RQ5
   a. Oral health evaluation (IR)
   b. Developmental Screening (IR)
   c. Adolescent well care (SR)
   d. Lead screening (SR)
   e. Initiation of Alcohol, Opioid, or Other Drug Abuse or Dependence Treatment (IR)
   f. Engagement of Alcohol, Opioid, or Other Drug Abuse or Dependence Treatment (IR)
   g. BH CP engagement (SR)
   h. LTSS CP engagement (SR)

2- RQ6
   a. Adult access to preventive/ambulatory health services (IR)
   b. Asthma medication ratio (SR)
   c. Primary Care Provider Visit (Younger Children) (IR)
   d. Primary Care Provider Visit (Older Children) (IR)

e. Annual primary care visit (adults) (IR)
f. Annual primary care visit (BH CP enrollees) (IR)
g. Annual primary care visit (LTSS CP enrollees) (IR)
h. ED Boarding of Members with SMI/SUD Conditions (IR)

3- RQ7
a. Gap in HIV Medical Visits (IR)
b. Antidepressant medication management (IR)
c. Continuity of care for children with complex medical conditions (Continuity of Primary Care for Children with Medical Complexity) (SR)

4- RQ8
a. Multiple Antipsychotic Use in Children (IR)
b. Follow-up care for children prescribed ADHD medication (Initiation phase) (SR), (Maintenance Phase) (SR)
c. Metabolic Monitoring for Children and Adolescents on Antipsychotics (SR)
d. Annual treatment plan completion (BH CP) (SR)
e. Annual care plan completion (LTSS CP) (SR)

5- RQ9
a. Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD) (SR)
b. Cardiovascular monitoring for people with cardiovascular disease and schizophrenia (replaced cholesterol testing for members using antipsychotics measure from the evaluation design document) (IR)
c. Follow-up with BH CP after any hospitalization within 3 days (IR)
d. Follow-up with LTSS CP after any hospitalization within 3 days (SR)
e. Follow-up with BH CP after ED visit (IR)
f. Follow-up after emergency department for mental illness (7 days) (IR)
g. Follow-up after hospitalization for mental illness (7 days) (IR)
h. Physician visit within 30 days of hospital discharge (IR)

6- RQ10
a. Imaging for low back pain (IR)
b. Abdomen CT combined studies (IR)
c. Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis (SR)
d. Pre-operative chest radiography (SR)

e. Head imaging for syncope (SR)
f. CT/MRI for headache (SR)
g. CT without ultrasound for childhood appendicitis (SR)
h. Strep test with antibiotic dispensing for childhood pharyngitis (IR)
i. Use of opioids at high dosage in patients without cancer (IR)
j. Rate of Primary Care Visits (adult and pediatric) (IR)
k. Rate of Primary Care Visits, Pediatric (IR)
l. Rate of Primary Care Visits, Adult (IR)
m. Rate of Primary Care Visits (adults with SMI or SUD conditions) (IR)
n. Rate of Primary Care Visits (adults with DM) (IR)
o. Post-acute care utilization (overall) (IR)
p. Post-acute care utilization (institutional) (IR)
q. Post-acute care utilization (home health) (IR)
r. Post-acute care utilization (overall) adults with SMI or SUD conditions (IR)
s. Post-acute care utilization (institutional) adults with SMI or SUD conditions (IR)
t. Post-acute care utilization (home health) adults with SMI or SUD conditions (IR)
u. Post-acute care utilization (overall) adults with DM (IR)
v. Post-acute care utilization (institutional) adults with DM (IR)
w. Post-acute care utilization (home health) adults with DM (IR)

Domain 3 Measures

7- RQ11

a. Acute unplanned inpatient admissions, adult (IR)
b. All cause hospital readmissions, adult (IR)
c. All cause hospital readmissions, pediatric (IR)
d. All cause ED visits, adults (IR)
e. Primary care sensitive ED visits (IR)
f. Acute unplanned admissions adult (chronic ACSCs) (IR)
g. Acute unplanned admissions adult (acute ACSCs) (IR)
h. Acute unplanned admissions among adults with diabetes (IR)
i. Pediatric ED Visits (all-cause) (IR)

j. Pediatric hospitalizations (all-cause) (IR)
k. Pediatric asthma admissions (IR)
l. Pediatric readmissions (IR)
m. Adults readmissions (IR)
n. All cause readmissions among BH CP members (IR)
o. All cause readmissions among LTSS CP members (IR)
p. ED Visits for Adults with SMI, Addiction, or Co-occurring Conditions (IR)
q. Acute unplanned hospital admissions for adults with mental illness and/or substance use disorder (IR)
r. NICU Hospitalizations (SR)
s. Community tenure: members with bipolar disorder, schizophrenia, or psychoses (SR)
t. Community tenure: members using LTSS (SR)
u. Long-term nursing home admissions (SR)

Domain 2: RQ5

1- Oral health evaluation
2- Developmental Screening
3- Initiation of Alcohol, Opioid, or Other Drug Abuse or Dependence Treatment
4- Engagement of Alcohol, Opioid, or Other Drug Abuse or Dependence Treatment

Oral Health Evaluation

Description: Percentage of enrolled children under age 18 years who received a comprehensive or periodic oral evaluation within the reporting year
Numerator: Number of enrolled children under age 18 years who received a comprehensive or periodic oral evaluation as a dental service
Denominator: Number of enrolled children under age 18 years

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	674,256		303,171		308,014		614,960		285,765		304,518		36,430		12,025		1,092	
Measure, Observed*	65.80		64.86		66.22		65.90		64.96		66.22		65.10		62.50		63.46	
Observed:Expected Ratio	1.00		0.99		1.01		1.00		0.99		1.01		0.99		0.95		0.97	
Women, %	48.5		48.8		48.8		48.4		48.8		48.9		49.3		48.7		45.7	
Age (years), mean SD	8.91	4.3	9.87	4.5	9.80	4.6	8.91	4.3	9.87	4.5	9.80	4.6	8.70	4.3	9.79	4.5	9.87	4.5
Age <18y, %	100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0	
DxCG RRS, mean SD	0.44	1.0	0.49	1.2	0.51	1.2	0.44	1.0	0.49	1.2	0.51	1.2	0.42	0.8	0.42	1.1	0.42	1.1
Housing Problems, %	12.4		10.8		9.8		12.3		10.7		9.7		13.1		12.1		13.7	
Any Disability, %	6.8		6.2		6.5		6.7		6.2		6.5		7.4		5.8		5.7	
NSS, mean SD	0.26	1.8	0.13	1.0	0.12	1.0	0.29	1.8	0.14	1.0	0.12	1.0	0.06	1.8	-0.09	0.9	0.06	1.0

**** Percent of members evaluated***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Developmental Screening

Description: The percentage of children ages two and three years who had a developmental screening performed
Numerator: Children who had documentation of a developmental screening (screening for risk of developmental, behavioral, and social delays) using a standardized tool by their second, and third birthdays
Denominator: Children with a visit who turned two or three years of age

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	82,092		22,537		24,411		65,235		17,708		20,390		10,922		2,166		1,451	
Measure, Observed*	80.12		84.32		82.96		80.19		85.75		84.23		80.12		77.98		70.64	
Observed:Expected Ratio	1.00		1.05		1.03		1.00		1.06		1.05		1.00		0.97		0.88	
Women, %		48.2		48.9		48.5		48.2		49.0		48.6		48.6		49.1		49.6
Age (years), mean SD	2.50	0.5	3.00	0.6	2.94	0.6	2.50	0.5	3.00	0.6	2.94	0.6	2.50	0.5	3.02	0.6	2.95	0.5
Age <18y, %		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0
DxCG RRS, mean SD	0.41	1.1	0.62	2.1	0.50	1.4	0.42	1.2	0.63	2.1	0.51	1.5	0.34	0.8	0.51	1.7	0.40	0.9
Housing Problems, %		13.8		9.6		9.4		13.9		9.6		9.5		13.0		9.7		9.2
Any Disability, %		2.8		2.2		3.7		2.7		2.1 %		3.6		2.5		1.8		2.6
NSS, mean SD	0.16	1.6	0.11	1.0	0.12	1.0	0.22	1.6	0.15	1.0	0.15	1.0	-0.08	1.5	-0.08	0.9	-0.06	0.9

**** Percent of members screened***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. “Observed” equals the calculated outcome for the quality measure. “Expected” is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. “Observed:Expected” is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Initiation of Alcohol, Opioid or Other Drug Abuse or Dependence Treatment (Adults)

Description: The percentage of patients who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of diagnosis
Numerator: Initiation of AOD treatment through an inpatient admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of the index episode start date
Denominator: Patients age 18 years of age and older who were diagnosed with a new episode of alcohol or other drug dependence (AOD) during the first 10 and ½ months of the measurement year (e.g., January 1-November 15)

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2016-17		2018		2019		2016-17		2018		2019		2016-17		2018		2019	
Population Size, n		37,671		21,297		15,313		28,981		15,856		12,133		6,993		3,269		1,796
Measure, Observed*		38.29		37.95		37.99		37.94		36.54		37.14		39.05		43.71		43.49
Observed:Expected Ratio		1.00		0.96		0.97		0.99		0.93		0.94		1.01		1.08		1.09
Women, %		39.8		39.9		39.2		39.9		40.5		39.6		38.0		35.8		34.6
Age (years), mean SD	39.5	12.6	41.7	12.7	41.5	13.0	39.6	12.7	42.0	12.8	41.4	13.1	39.5	12.2	40.0	11.6	40.6	11.9
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	3.0	3.6	3.5	3.9	3.6	4.1	3.0	3.6	3.6	4.0	3.7	4.1	2.9	3.5	3.2	3.6	3.2	3.8
Housing Problems, %		19.7		24.8		20.4		20.0		25.4		21.2		18.1		23.0		17.8
Any Disability, %		27.3		31.2		32.4		28.1		32.8		33.2		21.5		18.8		19.4
NSS, mean SD	0.0	1.8	0.0	1.0	0.0	1.0	0.0	1.8	0.1	1.0	0.1	1.0	-0.3	1.7	-0.2	0.9	-0.3	1.0

**** Percent of members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2016-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2016-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Engagement of Alcohol, Opioid or Other Drug Abuse or Dependence Treatment (Adults)

Description: The percentage of patients who initiated treatment and who had two or more additional services with a diagnosis of AOD within 30 days of the initiation visit
Numerator: Initiation of AOD treatment and two or more inpatient admissions, outpatient visits, intensive outpatient encounters or partial hospitalizations with any AOD diagnosis within 30 days after the date of the Initiation encounter (inclusive)
Denominator: Patients age 18 years of age and older who were diagnosed with a new episode of alcohol or other drug dependence (AOD) during the first 10 and ½ months of the measurement year (e.g., January 1-November 15)

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2016-17		2018		2019		2016-17		2018		2019		2016-17		2018		2019	
Population Size, n	37,671		21,297		15,313		28,981		15,856		12,133		6,993		3,269		1,796	
Measure, Observed*	14.83		14.38		13.20		14.46		13.55		12.62		16.02		18.81		16.93	
Observed:Expected Ratio	1.00		0.97		0.91		0.98		0.93		0.88		1.05		1.18		1.10	
Women, %	39.8		39.9		39.2		39.9		40.5		39.6		38.0		35.8		34.6	
Age (years), mean SD	39.5	12.6	41.7	12.7	41.5	13.0	39.6	12.7	42.0	12.8	41.4	13.1	39.5	12.2	40.0	11.6	40.6	11.9
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	3.0	3.6	3.5	3.9	3.6	4.1	3.0	3.6	3.6	4.0	3.7	4.1	2.9	3.5	3.2	3.6	3.2	3.8
Housing Problems, %	19.7		24.8		20.4		20.0		25.4		21.2		18.1		23.0		17.8	
Any Disability, %	27.3		31.2		32.4		28.1		32.8		33.2		21.5		18.8		19.4	
NSS, mean SD	0.0	1.8	0.0	1.0	0.0	1.0	0.0	1.8	0.1	1.0	0.1	1.0	-0.3	1.7	-0.2	0.9	-0.3	1.0

**** Percent of members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2016-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2016-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Domain 2: RQ6

1- Adult access to preventive/ambulatory health services
2- Primary care provider visit (younger children)
3- Primary care provider visit (older children)
4- Annual primary care visit (adults)
5- Annual primary care visit (SMI/SUD CP enrollees)
6- Annual primary care visit (LTSS CP enrollees)
7- ED boarding of members with SMI/SUD conditions

Adult access to preventive/ambulatory health services

Description: This measure is used to assess the percentage of members 20 years and older who had an ambulatory or preventive care visit.
Medicaid members who had an ambulatory or preventive care visit during the measurement year
Numerator: One or more ambulatory or preventive care visits during the measurement year
Denominator: Members age 20 years and older as of December 31 of the measurement year

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	1,318,478		425,271		434,618		1,015,234		316,414		341,824		228,093		67,917		55,988	
Measure, Observed*	83.02		82.77		82.57		83.28		84.22		83.69		81.85		74.93		73.42	
Observed:Expected Ratio	1.00		1.00		0.99		1.00		1.00		0.99		1.00		0.96		0.95	
Female, %		58.0		57.7		57.4		58.5		58.7		58.2		55.2		52.0		51.4
Age in years, Mean (SD)	40.22	12.8	41.85	12.5	41.33	12.7	40.25	12.8	42.10	12.5	41.40	12.8	40.26	12.7	40.56	12.2	40.33	12.3
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, Mean (SD)	1.47	2.5	1.72	2.7	1.86	2.9	1.46	2.5	1.76	2.7	1.90	3.0	1.40	2.4	1.46	2.5	1.53	2.7
Housing Problems, %		11.1		12.5		11.5		11.2		12.7		11.9		10.2		11.7		9.8
Any Disability, %		20.0		20.5		20.3		20.0		21.3		20.7		14.4		12.5		12.8
NSS, Mean (SD)	-0.01	1.8	0.00	1.0	0.00	1.0	0.07	1.8	0.07	1.0	0.06	1.0	-0.33	1.7	-0.23	0.9	-0.25	0.9

**** Percent of members with access***
Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Primary Care Provider Visit (Younger Children)

Description: Percentage of children and adolescents ages 25 months to age 6 who had a visit with a primary care practitioner (PCP**)
Numerator: One or more visits with a PCP (Ambulatory Visits Value Set) during the measurement year.
Denominator: The eligible population

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	177,034		112,042		111,422		141,240		87,984		93,313		22,677		10,529		6,004	
Measure, Observed*	97.30		97.38		96.45		97.10		97.56		96.44		97.74		94.35		92.80	
Observed:Expected Ratio	1.00		1.00		0.99		1.00		1.00		0.99		1.01		0.97		0.96	
Female, %	48.5		48.8		48.8		48.5		48.9		48.8		48.5		48.8		49.4	
Age in years, mean SD	3.99	1.4	4.51	1.4	4.41	1.4	3.99	1.4	4.51	1.4	4.41	1.4	3.95	1.4	4.51	1.4	4.38	1.4
Age <18y, %	100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0	
DxCG RRS, mean SD	0.38	1.0	0.49	1.5	0.45	1.3	0.38	1.0	0.49	1.6	0.45	1.3	0.35	0.9	0.43	1.4	0.40	1.2
Housing Problems, %	14.1		10.9		10.0		14.2		10.8		10.0		14.0		11.3		9.8	
Any Disability, %	4.0		3.7		4.5		3.9		3.5		4.4		4.0		3.2		3.8	
NSS, mean SD	0.17	1.6	0.10	1.0	0.09	1.0	0.23	1.6	0.15	1.0	0.12	1.0	-0.03	1.6	-0.08	0.9	-0.06	1.0

**** Percent of members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

** PCP provider types are: General Practice, Family Practice, Internal Medicine, OBGYN, Pediatric medicine, geriatric medicine, nurse practitioner, Preventative Medicine

Primary Care Provider Visit (Older Children)

Description: Percentage of children and adolescents ages 7 to 11 and 12 to 19 who had a visit with a primary care practitioner (PCP**)
Numerator: One or more visits with a PCP (Ambulatory Visits Value Set) during the measurement year or the year prior to the measurement year
Denominator: The eligible population

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)			Accountable Care Organizations (ACOs)			Managed Care Organizations (MCOs)		
Characteristics	**2015-17**	**2018**	**2019**	**2015-17**	**2018**	**2019**	**2015-17**	**2018**	**2019**
Population Size, n	454,007	254,871	263,607	356,357	197,263	217,432	58,311	25,144	16,190
Measure, Observed*	95.11	94.74	93.91	95.01	95.07	94.25	95.54	91.12	85.98
Observed:Expected Ratio	1.00	1.00	0.99	1.00	1.00	0.99	1.01	0.98	0.92
Female, %	48.1	48.5	48.5	48.2	48.6	48.6	48.5	48.5	48.7
Age in years, mean SD	13.05 3.4	14.15 3.1	13.42 3.3	13.03 3.4	14.13 3.1	13.40 3.3	13.00 3.4	14.19 3.1	13.56 3.3
Age <18y, %	87.8	85.0	89.8	87.8	85.2	89.9	87.9	84.5	88.5
DxCG RRS, mean SD	0.49 1.0	0.54 1.1	0.58 1.3	0.49 1.0	0.54 1.1	0.58 1.2	0.48 0.9	0.46 1.0	0.50 1.3
Housing Problems, %	11.9	10.5	9.8	12.0	10.4	9.8	11.9	10.8	9.4
Any Disability, %	8.5	8.2	8.3	8.3	8.0	8.1	8.6	6.7	7.1
NSS, mean SD	0.09 1.6	0.07 1.0	0.07 1.0	0.16 1.6	0.13 1.0	0.12 1.0	-0.10 1.6	-0.10 0.9	-0.08 1.0

**** Percent of members***
Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

** PCP include General Practice, Family Practice, Internal Medicine, OBGYN, Pediatric medicine, geriatric medicine, nurse practitioner, Preventative Medicine

Annual Primary Care Visit (Adults)

Description: Percentage of enrollees 18 to 64 years of age who had an annual primary care visit in the measurement year
Numerator: Number of enrollees who had at least one primary care visit during the measurement year
Denominator: Eligible population of adults 18 to 64 years of age as of December 31st

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	861,306		474,672		462,219		672,777		354,074		364,263		142,687		73,164		57,918	
Measure, Observed*	39.85		41.65		40.21		40.01		43.22		41.09		38.74		32.53		31.43	
Observed:Expected Ratio	1.00		1.03		1.00		1.00		1.07		1.01		0.99		0.84		0.81	
Female, %	56.5		56.6		56.8		57.0		57.5		57.5		54.1		51.6		51.3	
Age in years, mean SD	38.03	12.9	39.50	13.7	40.05	13.4	38.02	12.9	39.67	13.8	40.08	13.5	38.43	12.6	39.04	13.0	39.67	12.7
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	1.36	2.3	1.62	2.6	1.80	2.9	1.36	2.3	1.65	2.6	1.84	2.9	1.34	2.3	1.40	2.4	1.50	2.6
Housing Problems, %	12.5		12.3		11.4		12.6		12.4		11.8		11.4		11.6		9.8	
Any Disability, %	19.5		19.6		19.8		19.5		20.2		20.2		15.5		12.3		12.7	
NSS, mean SD	0.00	1.6	0.01	1.0	0.01	1.0	0.07	1.6	0.08	1.0	0.07	1.0	-0.29	1.6	-0.22	0.9	-0.25	1.0

**** Percent with a visit***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

ED Boarding of Adults with Serious Mental Illness (SMI) and/or Substance Use Disorder (SUD)

Description: The number of days spend boarding in the ED among members with SMI or SUD
Numerator: The number of ED boarding days among members with SMI or SUD condition with an arrival date and discharge date separated by one or more days (a minimum duration in the ED of 24 hours)
Denominator: Enrollees 18 to 64 years of age as of December 31 of the measurement year with a diagnosis of serious mental illness and/or substance use disorder
Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n		302,843		165,168		168,225		234,022		122,104		132,414		51,405		25,480		20,498
Measure, Observed*		563.5		355.5		316.6		567.8		348.1		318.2		724.6		588.3		526.8
Observed:Expected Ratio		1.00		0.58		0.47		1.00		0.57		0.46		1.31		0.88		0.80
Women, %		57.9		57.7		57.7		58.3		58.6		58.2		55.6		52.0		51.8
Age (years), mean SD	40.6	12.7	41.5	12.8	41.5	12.6	40.8	12.8	41.9	12.9	41.7	12.7	39.9	12.3	39.8	11.7	40.0	11.5
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	2.5	3.2	2.8	3.4	3.1	3.7	2.5	3.2	2.9	3.4	3.1	3.7	2.4	3.1	2.5	3.2	2.7	3.4
Housing Problems, %		19.4		20.5		19.3		19.6		20.7		20.0		18.1		19.9		16.9
Any Disability, %		37.0		34.7		34.0		37.6		36.3		35.1		28.7		21.2		21.2
NSS, mean SD	0.1	1.6	0.0	1.0	0.0	1.0	0.1	1.7	0.1	1.0	0.1	1.0	-0.2	1.6	-0.2	0.9	-0.3	0.9

**** Number of days per 1000 members***
Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Domain 2: RQ7

1- Gap in HIV Medical Visits
2- Antidepressant medication management, Acute

Gap in HIV Medical Visits

Description: Percentage of patients, regardless of age, with a diagnosis of HIV who did not have a medical visit in the last 6 months of the measurement year
A medical visit is any visit in an outpatient/ambulatory care setting with a nurse practitioner, physician, and/or a physician assistant who provides comprehensive HIV care
Numerator: Number of patients in the denominator who did not have a medical visit in the last 6 months of the measurement year
Denominator: Number of patients, regardless of age, with a diagnosis of HIV who had at least one medical visit in the first 6 months of the measurement year.

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	12,305		4,415		4,595		10,327		3,745		3,998		1,087		323		254	
Measure, Observed*	7.05		7.88		7.42		6.99		7.69		7.25		7.91		12.38		11.02	
Observed:Expected Ratio	1.00		1.05		0.99		0.99		1.03		0.97		1.03		1.37		1.23	
Women, %		43.3		44.0		44.1		43.0		43.6		43.4		43.3		42.4		46.1
Age (years), mean SD	46.6	11.8	47.7	12.6	47.1	12.7	46.6	11.8	47.9	12.5	47.2	12.5	45.3	11.9	43.9	12.9	43.7	13.1
Age <18y, %		1.8		2.5		2.3		1.8		2.3		2.1		1.5		3.1		3.5
DxCG RRS, mean SD	5.0	4.3	5.4	4.5	5.7	4.8	5.0	4.3	5.5	4.5	5.72	4.8	5.09	4.7	5.02	4.7	5.3	4.9
Housing Problems, %		18.3		22.8		23.2		18.4		22.8		23.6		18.3		23.8		21.3
Any Disability, %		80.9		54.2		52.1		80.8		54.1		51.9		73.3		39.3		37.8
NSS, mean SD	0.7	1.9	0.4	1.0	0.4	1.0	0.7	1.9	0.4	1.0	0.44	1.0	0.43	1.9	0.13	1.1	0.1	1.1

**** Percent of members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Antidepressant Medication Management: Acute
Description: The percentage of patients 18 years of age and older with a diagnosis of major depression and were treated with antidepressant medication, and who remained on an antidepressant medication treatment for at least 84 days (12 weeks).
Numerator: Adults 18 years of age and older who were treated with antidepressant medication, had a diagnosis of major depression, and who remained on an antidepressant medication treatment
Denominator: Patients 18 years of age and older with a diagnosis of major depression and were newly treated with antidepressant medication.

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	44,412		22,959		25,725		34,583		17,252		20,590		7,615		3,277		2,920	
Measure, Observed*	42.06		41.15		45.33		41.89		40.89		44.41		42.98		41.93		50.62	
Observed:Expected Ratio	1.00		0.97		1.07		0.99		0.96		1.05		1.02		1.00		1.20	
Female, %		65.2		64.4		64.0		65.7		65.2		64.4		62.4		59.5		59.9
Age in years, mean SD	40.37	12.3	41.71	12.2	41.09	12.4	40.56	12.3	42.01	12.2	41.21	12.4	39.71	12.1	40.01	11.5	40.40	11.8
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	2.62	3.3	3.09	3.6	3.24	3.8	2.62	3.3	3.10	3.7	3.28	3.8	2.64	3.3	3.07	3.7	3.08	3.7
Housing Problems, %		21.2		23.4		22.3		21.3		23.5		23.2		20.4		24.7		18.8
Any Disability, %		32.7		31.2		29.1		33.3		32.4		30.0		27.6		21.5		20.4
NSS, mean SD	0.17	1.7	0.12	1.1	0.09	1.0	0.25	1.7	0.19	1.1	0.16	1.1	-0.14	1.6	-0.16	1.0	-0.28	0.9

**** Percent of members***
Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Domain 2: RQ8

1- Metabolic Monitoring for Children and Adolescents on Antipsychotics

Multiple Antipsychotic Use in Children

Description: Percentage of children and adolescents ages 1 to 17 who were treated with antipsychotic medications and who were on two or more concurrent antipsychotic medications for at least 90 consecutive days during the measurement year
Numerator: Beneficiaries on two or more concurrent antipsychotic medications for at least 90 consecutive days during the measurement year
Denominator: The eligible population

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n		10,625		3,330		3,584		7,551		2,430		2,812		1,371		243		160
Measure, Observed*		2.79		2.46		2.43		2.64		2.47		2.20		2.77		1.23		3.13
Observed:Expected Ratio		0.99		0.86		0.85		0.94		0.86		0.78		0.97		0.44		1.13
Women, %		31.2		30.0		31.3		31.3		29.4		31.1		31.3		31.3		31.3
Age (years), mean SD	12.83	3.1	13.77	2.8	13.34	3.1	12.74	3.1	13.75	2.8	13.30	3.1	12.89	3.1	13.90	2.7	13.58	2.8
Age <18y, %		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0
DxCG RRS, mean SD	2.11	1.9	2.26	2.1	2.42	2.2	2.10	1.8	2.29	2.1	2.41	2.1	2.02	1.9	1.99	2.1	2.32	2.2
Housing Problems, %		19.4		21.7		19.4		19.5		21.9		20.0		18.6		18.1		15.0
Any Disability, %		56.3		58.2		55.1		56.0		58.2		55.1		58.1		56.0		51.3
NSS, mean SD	-0.06	1.8	-0.02	1.0	-0.06	1.0	0.04	1.8	0.05	1.0	-0.02	1.0	-0.10	1.8	-0.15	0.9	-0.08	1.0

**** Percent of members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Domain 2: RQ9

1- Cardiovascular monitoring for people with cardiovascular disease and schizophrenia
2- Follow-up with BH CP after any hospitalization within 3 days
3- Follow-up with BH CP after ED visit
4- Follow-up after emergency department for mental illness (7 days)
5- Follow-up after hospitalization for mental illness (7 days)
6- Physician visit within 30 days of hospital discharge

Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia (Adults)

Description: The percentage of members 18–64 years of age with schizophrenia and cardiovascular disease, who had an LDL-C test during the measurement year
Numerator: An LDL-C test performed during the measurement year, as identified by claim/encounter or automated laboratory data
Denominator: The eligible population of members 18–64 years of age with schizophrenia and cardiovascular disease

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n		426		150		171		336		124		145		31		<11		<11
Measure, Observed*		73.00		72.67		72.51		72.32		70.16		74.48		74.19		-		-
Observed:Expected Ratio		1.00		1.01		1.03		0.99		0.98		1.06		1.02		-		-
Women, %		37.8		34.0		36.8		36.0		32.3		35.9		32.3	-	-	-	-
Age (years), mean SD	54.9	7.5		7.1	56.2	7.0	54.82	7.6	56.6	7.2	56.3	6.9	54.4	6.9	-	-	-	-
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0	-	-	-	-
DxCG RRS, mean SD	9.4	7.2	10.26	6.7	11.020	6.9	9.45	7.1	9.8	6.4	10.9	6.8	10.3	7.8	-	-	-	-
Housing Problems, %		26.1		32.0		33.3		28.9		35.5		31.0		16.1	-	-	-	-
Any Disability, %		96.2		94.7		89.5		96.1		94.4		88.3		90.3	-	-	-	-
NSS, mean SD	0.5	1.8	0.35	1.0	0.4	1.0	0.61	1.8	0.4	1.0	0.4	1.0	0.7	2.1	-	-	-	-

**** Percent of members monitored***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Follow-up with BH CP after any hospitalization within 3 days

Description: Percentage of acute or post-acute stays for enrollees 18 to 64 years of age where the member received follow-up from the CP within 3 business days of discharge
Numerator: Enrollees 18 to 64 years of age who received follow-up care from the CP within 3 business days of discharge
Denominator: CP enrollees 18 to 64 years of age who were hospitalized in the measurement year

Observed Performance in the MassHealth MCE Population during the First Two DSRIP Years (2018-2019)

Characteristics	Behavioral Health CP Enrollees			
	2018		2019	
Measure, Observed (%)*	59,615	1.55	141,304	6.04
Women, n, %	33,742	56.6%	83,511	59.1%
Age (years), mean SD	43.55	11.7	43.61	11.6
Age <18y, n, %	0	0.0%	0	0.0%
DxCG RRS, mean SD	5.55	4.9	5.50	5.2
Housing Problems, n, %	21,908	36.8%	45,774	32.4%
Any Disability, n, %	35,101	58.9%	81,415	57.7%
NSS, mean SD	0.24	1.1	0.23	1.1

***Percentage of visits with follow-up**

Each year includes members who are managed care eligible (MCE) for at least 320 days that year and enrolled with a BH CP at the time of the hospitalization through the end of the three business days of follow-up. “Observed” equals the calculated outcome for the quality measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Follow-up with BH CP after ED visit within 7 days

Description: Percentage of ED visits for enrollees 18 to 64 years of age where the member received follow-up within 7 days of ED discharge
Numerator: Enrollees 18 to 64 years of age who received follow-up care from a BH CP after an ED visit
Denominator: CP enrollees 18 to 64 years of age who had an ED visit in the measurement year

Observed Performance in the MassHealth MCE Population during the First Two DSRIP Years (2018-2019)

Characteristics	Behavioral Health CP Enrollees			
	2018		2019	
Measure, Observed (%)*	15,025	1.42	35,212	15.26
Women, n, %	8,429	56.1%	20,005	56.8%
Age (years), mean SD	42.17	11.4	42.34	11.7
Age <18y, n, %	0	0.0%	0	0.0%
DxCG RRS, mean SD	6.27	5.1	6.51	5.7
Housing Problems, n, %	6,937	46.2%	15,259	43.4%
Any Disability, n, %	7,676	51.1%	18,025	51.3%
NSS, mean SD	0.26	1.1	0.26	1.1

***Percentage of visits with follow-up**
Each year includes members who are managed care eligible (MCE) for at least 320 days that year and enrolled with a BH CP at the time of the ED visit through the 7-day follow-up. “Observed” equals the calculated outcome for the quality measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Follow up after emergency department visit for mental illness (7 days)

Description: The percentage of ED visits for members 6 to 64 years of age with a principal diagnosis of mental illness, who had a follow-up visit for mental illness within 7 days of the ED visit.
Numerator: ACO attributed members 6 to 64 years of age as of the date of the ED visit who received follow-up within 7 days after discharge.
Denominator: ACO attributed members 6 to 64 years of age as of the date of the ED visit.

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	28,801		10,126		9,347		21,770		7,244		7,376		4,258		1,485		962	
Measure, Observed*	78.36		77.31		76.85		78.05		77.22		76.67		76.26		72.66		71.00	
Observed:Expected Ratio	1.00		0.99		0.98		1.00		0.99		0.98		0.99		0.96		0.94	
Female, %	49.4		49.2		48.1		49.5		49.2		48.1		48.5		49.6		49.0	
Age in years, Mean SD	29.53	14.3	30.42	14.8	30.01	14.9	29.61	14.4	30.46	15.0	30.11	15.1	30.55	13.5	32.17	13.2	32.22	13.1
Age <18y, %	26.3		26.4		28.9		26.3		27.1		28.8		20.9		17.5		17.0	
DxCG RRS, Mean SD	3.43	3.4	3.62	3.5	3.93	3.9	3.44	3.4	3.66	3.6	3.95	3.9	3.39	3.4	3.57	3.3	3.96	3.8
Housing Problems, %	33.0		37.4		37.7		33.1		36.8		37.7		32.7		38.2		40.0	
Any Disability, %	41.2		39.9		40.3		41.4		40.5		40.9		33.2		29.2		29.7	
NSS, Mean SD	0.10	1.8	0.05	1.0	0.08	1.0	0.16	1.8	0.12	1.0	0.13	1.0	-0.10	1.8	-0.15	1.0	-0.15	1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Follow-up after Hospitalization for Mental Illness (7 days)

Description: The percentage of discharges for members 6 to 64 years of age who were hospitalized for treatment of selected mental illness diagnoses and who received a follow-up visit with a mental health practitioner within 7 days of discharge
Numerator: ACO attributed members 6 to 64 years of age as of the date of discharge who had a follow-up visit with a mental health practitioner within 7 days after discharge
Denominator: ACO attributed members 6 to 64 years of age as of the date of discharge who were hospitalized for treatment of selected mental illness diagnoses

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	42,886		16,388		17,400		32,585		11,879		13,752		6,558		2,556		2,027	
Measure, Observed*	52.14		49.16		47.30		52.43		49.73		47.61		49.21		43.90		41.44	
Observed:Expected Ratio	1.00		0.95		0.91		1.01		0.96		0.92		0.96		0.87		0.82	
Female, %		49.3		48.2		48.1		49.6		48.5		48.2		47.3		45.1		45.3
Age in years, mean SD	33.74	13.6	35.08	13.8	34.42	14.0	33.76	13.6	34.97	14.0	34.31	14.2	34.47	12.7	36.86	11.7	35.74	11.5
Age <18y, %		13.7		12.2		15.3		13.6		13.0		16.1		9.9		4.6		5.9
DxCG RRS, mean SD	4.49	3.7	4.95	3.8	5.18	4.1	4.47	3.7	4.98	3.9	5.21	4.1	4.55	3.7	4.88	3.7	5.07	4.0
Housing Problems, %		35.8		42.6		42.5		35.6		42.2		43.0		37.7		45.0		42.9
Any Disability, %		46.5		44.9		43.4		46.6		45.6		43.9		37.6		33.8		31.6
NSS, mean SD	0.01	1.8	0.00	1.0	0.01	1.0	0.07	1.8	0.06	1.0	0.07	1.0	-0.23	1.7	-0.20	0.9	-0.28	0.9

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Physician Visit within 30 days of hospital discharge

Description: Percentage of hospitalizations for enrollees 18 to 64 years of age where the member received follow-up within 30 days of hospital discharge
Numerator: Enrollees 18 to 64 years of age who had a follow-up visit within 30 days of hospital discharge
Denominator: Enrollees 18 to 64 years of age who were hospitalized

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	164,558		59,765		60,807		127,427		44,728		48,634		26,014		8,428		6,583	
Measure, Observed*	69.15		70.46		70.55		69.03		71.43		70.98		68.56		63.28		65.14	
Observed:Expected Ratio	1.00		1.00		1.00		1.00		1.01		1.00		1.01		0.94		0.96	
Women, %	64.1		62.3		62.3		64.4		62.4		62.7		62.2		61.1		59.6	
Age in years, mean SD	34.89	14.9	36.85	15.9	37.13	15.6	34.78	14.9	36.87	16.1	37.03	15.7	35.88	14.1	37.26	13.9	37.72	13.5
Age <18y, %	11.3		11.5		10.7		11.5		12.1		11.2		8.1		5.9		5.0	
DxCG RRS, mean SD	5.15	5.0	5.88	5.4	6.32	5.8	5.12	5.0	5.93	5.5	6.34	5.8	5.11	4.9	5.41	4.9	5.89	5.4
Housing Problems, %	24.1		25.9		25.1		24.1		25.9		25.6		24.0		26.6		24.6	
Any Disability, %	30.7		31.9		32.0		30.6		32.8		32.5		24.9		21.8		22.2	
NSS, mean SD	0.13	1.8	0.08	1.0	0.08	1.0	0.21	1.8	0.15	1.0	0.14	1.0	-0.14	1.8	-0.16	1.0	-0.21	0.9

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Domain 2: R10

1- Imaging for low back pain
2- Abdomen CT combined studies
3- Strep test with antibiotic dispensing for childhood pharyngitis
4- Use of opioids at high dosage in patients without cancer
5- Rate of Primary Care Visits (adult and pediatric)
6- Rate of Primary Care Visits, Pediatric
7- Rate of Primary Care Visits, Adult
8- Rate of Primary Care Visits (adults with SMI or SUD conditions)
9- Rate of Primary Care Visits (adults with DM)
10- Post-acute care utilization (overall)
11- Post-acute care utilization (institutional)
12- Post-acute care utilization (home health)
13- Post-acute care utilization (overall) adults with SMI or SUD conditions
14- Post-acute care utilization (institutional) adults with SMI or SUD conditions
15- Post-acute care utilization (home health) adults with SMI or SUD conditions
16- Post-acute care utilization (overall) adults with DM
17- Post-acute care utilization (institutional) adults with DM
18- Post-acute care utilization (home health) adults with DM

Low Back Pain Imaging

Description: Percentage of patients at least 18 years of age with a diagnosis of back pain for whom the physician ordered imaging studies during the six weeks after pain onset, in the absence of "red flags" (overuse measure, lower performance is better)
Numerator: The number of patients with an order for or report on an imaging study during the six weeks after pain onset
Denominator: Patients at least 18 years of age with new onset back pain lasting six weeks or less

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	39,516		10,968		6,281		30,270		8,611		5,037		6,763		1,176		599	
Measure, Observed*	16.73		17.50		18.18		16.04		16.78		17.93		18.48		16.58		15.19	
Observed:Expected Ratio	1.00		1.03		1.06		0.96		0.99		1.05		1.10		0.97		0.89	
Women, %	67.6		67.6		63.3		68.2		68.5		63.8		64.9		61.8		55.3	
Age (years), mean SD	35.1	8.9	37.01	8.7	35.64	9.0	35.12	8.9	37.03	8.7	35.52	9.0	35.33	8.7	36.61	8.6	36.42	8.7
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	1.44	1.8	1.64	1.8	1.70	2.1	1.43	1.7	1.63	1.8	1.71	2.1	1.46	1.8	1.58	2.1	1.44	1.9
Housing Problems, %	11.9		13.7		10.5		12.0		13.9		10.7		11.5		11.1		9.1	
Any Disability, %	14.7		15.9		19.1		14.6		15.6		18.9		11.8		11.3		12.4	
NSS, mean SD	0.27	2.0	0.16	1.0	0.17	1.1	0.37	2.0	0.22	1.1	0.23	1.1	-0.05	1.9	-0.14	1.0	-0.15	0.9

**** Percent of members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Abdomen CT Combined Studies

Description: This measure calculates the percentage of abdomen and abdominopelvic computed tomography (CT) studies that are performed without and with contrast, out of all abdomen and abdominopelvic CT studies performed (those without contrast, those with contrast, and those with both) at each facility
Numerator: Of studies identified in the denominator, number of abdomen and abdominopelvic studies with and without contrast (combined studies)
Denominator: The number of abdomen and abdominopelvic studies performed with contrast, without contrast, or both without and with contrast

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n		939		293		257		830		243		211		95		39		31
Measure, Observed*		4.90		2.39		3.89		4.58		2.06		4.27		8.42		5.13		3.23
Observed:Expected Ratio		0.98		0.50		0.79		0.94		0.44		0.85		1.41		0.86		0.65
Women, %		71.4		68.3		63.4		72.5		71.2		64.0		61.1		48.7		67.7
Age (years), mean SD	42.8	12.0	42.1	12.8	42.5	12.4	42.8	12.0	42.2	12.6	42.6	12.5	43.2	12.8	43.5	13.7	42.4	12.0
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	3.35	3.8	4.30	4.8	5.68	6.4	3.29	3.7	4.29	4.9	5.86	6.9	3.72	4.2	4.60	4.5	4.62	3.2
Housing Problems, %		11.3		19.5		17.6		11.7		18.9		19.1		8.4		23.1		12.9
Any Disability, %		23.2		25.9		32.2		23.1		28.0		34.4		24.2		15.4		16.1
NSS, mean SD	-0.14	1.6	-0.12	1.0	0.04	1.0	-0.09	1.6	-0.09	1.0	0.09	1.0	-0.64	1.5	-0.26	1.0	-0.30	0.9

**** Percent of members***
Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Strep test with antibiotic dispensing for childhood pharyngitis

Description: The percentage of children 2–18 years of age who were diagnosed with pharyngitis, dispensed an antibiotic and received a group A streptococcus (strep) test for the episode. A higher rate represents better performance (i.e., appropriate testing)
Numerator: A group A streptococcus test (Group A Strep Tests Value Set) in the seven-day period from three days prior to the Index Episode Start Date (IESD) through three days after the IESD
Denominator: Children age 2 years as of July 1 of the year prior to the measurement year to 18 years as of June 30 of measurement year who had an outpatient or ED visit with only a diagnosis of pharyngitis and were dispensed an antibiotic for the episode of care during the 6 months prior to through the 6 months after the beginning of the measurement year

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	26,098		12,228		13,055		20,581		9,650		11,422		4,918		1,772		1,156	
Measure, Observed*	94.60		94.96		94.42		94.76		95.35		94.76		94.45		94.19		92.82	
Observed:Expected Ratio	1.00		1.00		1.00		1.00		1.01		1.00		1.00		1.00		0.98	
Girls, %	51.4		51.5		50.9		51.4		51.4		50.5		51.2		52.2		55.4	
Age (years), mean SD	8.84	3.7	9.99	3.5	9.32	3.7	8.80	3.7	9.93	3.5	9.29	3.7	9.00	3.7	10.3	3.5	9.70	3.9
Age <18y, %	100		100		100		100		100		100		100		100		100	
DxCG RRS, mean SD	0.44	0.8	0.50	0.9	0.54	0.9	0.44	0.8	0.50	1.0	0.54	0.8	0.44	0.7	0.46	0.8	0.45	0.7
Housing Problems, %	12.1		10.3		9.3		12.0		10.0		9.2		11.9		11.7		8.0	
Any Disability, %	4.9		5.4		5.6		4.7		5.4		5.6		5.3		5.3		5.3	
NSS, mean SD	0.04	1.5	0.00	1.0	-0.02	1.0	0.09	1.5	0.04	1.0	0.00	1.0	0.14	1.5	0.18	0.9	0.17	1.0

**** Percent of members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Use of opioids at high dosage in persons without cancer (Adults)

Description: The proportion of individuals without cancer receiving prescriptions for opioids with a daily dosage greater than 120mg morphine equivalent dose (MED) for 90 consecutive days or longer, AND who received opioid prescriptions from four (4) or more prescribers AND four (4) or more pharmacies
Numerator: Any member in the denominator with opioid prescription claims where the MED is greater than 120mg for 90 consecutive days or longer* AND who received opioid prescriptions from 4 or more prescribers AND 4 or more pharmacies
Denominator: Any member with two or more prescription claims for opioids filled on at least two separate days, for which the sum of the days' supply is greater than or equal to 15

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	87,159		19,535		18,252		64,569		14,473		14,012		15,428		2,346		2,035	
Measure, Observed*	3.92		3.86		3.73		3.44		3.31		3.11		4.67		5.92		6.24	
Observed:Expected Ratio	1.00		0.97		0.93		0.88		0.82		0.77		1.27		1.62		1.69	
Women, %	61.3		62.0		62.4		61.4		61.9		62.4		58.8		62.0		61.3	
Age (years), mean SD	46.6	10.9	49.4	10.3	48.9	10.6	46.7	10.9	49.6	10.2	49.0	10.6	45.8	10.9	46.9	10.8	47.3	10.9
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	3.48	3.9	4.12	4.4	4.45	4.7	3.52	3.9	4.20	4.4	4.55	4.8	3.26	3.7	3.85	4.2	4.10	4.4
Housing Problems, %	14.0		15.1		14.0		14.5		15.6		14.8		12.6		14.3		12.3	
Any Disability, %	45.9		49.1		49.0		46.5		50.7		50.3		34.8		33.1		34.1	
NSS, mean SD	0.03	1.9	0.01	1.0	0.01	1.0	0.12	1.9	0.07	1.0	0.07	1.0	-0.28	1.8	-0.26	0.9	-0.30	0.9

**** Percent of members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Rate of Primary Care Visits (Adult and Pediatric)

Description: Rate of primary care visits for adult and pediatric members
Numerator: All visits on or between January 1 and December 31 of the measurement year with a PCP** or OB/GYN
Denominator: ACO attributed members ages 2 to 64 years of age as of December 31 of the measurement year

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	2,349,069		858,349		839,433		1,818,528		652,655		677,101		357,469		110,563		80,261	
Measure, Observed*	614.11		664.82		708.84		614.92		688.20		723.92		528.58		412.65		456.61	
Observed:Expected Ratio	1.00		1.05		1.09		1.00		1.08		1.12		0.87		0.67		0.70	
Female, %		53.6		53.1		53.2		53.9		53.6		53.5		52.7		50.7		50.7
Age in years, mean SD	25.5	17.3	26.3	18.2	26.5	18.3	25.44	17.3	26.0	18.2	26.1	18.3	27.6	17.3	29.2	17.5	31.41	17.3
Age <18y, %		42.7		44.7		44.9		43.0		45.7		46.2		36.2		33.8		27.8
DxCG RRS, mean SD	1.0	2.0	1.1	2.2	1.2	2.4	0.97	2.0	1.1	2.2	1.2	2.4	1.0	2.0	1.1	2.1	1.21	2.4
Housing Problems, %		11.6		11.6		10.7		11.7		11.6		10.9		10.9		11.4		9.7
Any Disability, %		13.4		13.6		13.9		13.2		13.8		13.9		11.2		9.9		10.8
NSS, mean SD	0.07	1.8	0.04	1.0	0.04	1.0	0.15	1.8	0.11	1.0	0.09	1.0	-0.20	1.8	-0.18	0.9	-0.20	1.0

**** Number visits per 100 members per year***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

** PCP provider types are: General Practice, Family Practice, Internal Medicine, OBGYN, Pediatric medicine, geriatric medicine, nurse practitioner, Preventative Medicine.

Rate of Primary Care Visits (Pediatric)

Description: Rate of primary care visits for pediatric members (2-17 years of age) in MCEs, ACOs, and MCOs.
Numerator: All visits on or between January 1 and December 31 of the measurement year with a PCP**
Denominator: ACO attributed members ages 2 to 17 years of age as of December 31 of the measurement year

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	836,612		383,677		377,214		654,951		298,581		312,838		108,316		37,399		22,343	
Measure, Observed*	470.08		492.14		483.24		470.87		497.56		481.82		396.29		323.07		322.23	
Observed:Expected Ratio	1.00		1.03		1.01		1.00		1.04		1.01		0.85		0.69		0.66	
Girls, %		48.5		48.7		48.8		48.6		48.8		48.9		49.0		49.0		49.2
Age in years, mean SD	7.93	3.8	9.90	4.5	9.85	4.6	7.92	3.8	9.88	4.5	9.82	4.6	7.89	3.7	9.93	4.5	9.99	4.6
Age <18y, %		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0
DxCG RRS, mean SD	0.41	1.0	0.49	1.2	0.51	1.2	0.41	1.0	0.49	1.2	0.51	1.2	0.38	0.8	0.42	1.1	0.44	1.3
Housing Problems, %		12.2		10.8		9.8		12.4		10.7		9.8		11.9		11.1		9.4
Any Disability, %		5.9		6.2		6.6		5.7		6.1		6.5		5.9		5.3		5.7
NSS, mean SD	0.16	1.8	0.09	1.0	0.08	1.0	0.24	1.8	0.14	1.0	0.12	1.0	-0.02	1.8	-0.09	0.9	-0.07	1.0

**** Number visits per 100 members per year***
Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.
** PCP provider types are: General Practice, Family Practice, Internal Medicine, OBGYN, Pediatric medicine, geriatric medicine, nurse practitioner, Preventative Medicine.

Rate of Primary Care Visits (Adult)

Description: Rate of primary care visits for adult (18-64) members
Numerator: All visits on or between January 1 and December 31 of the measurement year with a PCP** or OB/GYN
Denominator: ACO attributed members ages 18 to 64 years of age as of December 31 of the measurement year

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)			Accountable Care Organizations (ACOs)			Managed Care Organizations (MCOs)		
Characteristics	**2015-17**	**2018**	**2019**	**2015-17**	**2018**	**2019**	**2015-17**	**2018**	**2019**
Population Size, n	1,345,632	474,672	462,219	1,035,868	354,074	364,263	228,205	73,164	57,918
Measure, Observed*	718.95	804.40	892.96	721.80	848.96	931.83	603.81	458.44	508.45
Observed:Expected Ratio	1.00	1.07	1.14	1.00	1.11	1.17	0.88	0.66	0.71
Women, %	57.5	56.6	56.8	57.9	57.5	57.5	54.9	51.6	51.3
Age in years, mean SD	37.68 12.7	39.50 13.7	40.05 13.4	37.70 12.8	39.67 13.8	40.08 13.5	38.07 12.5	39.04 13.0	39.67 12.7
Age <18y, %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DxCG RRS, mean SD	1.38 2.4	1.62 2.6	1.80 2.9	1.38 2.3	1.65 2.6	1.84 2.9	1.34 2.3	1.40 2.4	1.50 2.6
Housing Problems, %	11.4	12.3	11.4	11.5	12.4	11.8	10.5	11.6	9.8
Any Disability, %	18.6	19.6	19.8	18.6	20.2	20.2	13.8	12.3	12.7
NSS, mean SD	0.01 1.8	0.01 1.0	0.01 1.0	0.09 1.8	0.08 1.0	0.07 1.0	-0.29 1.8	-0.22 0.9	-0.25 1.0

**** Number visits per 100 members per year***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

** PCP provider types are: General Practice, Family Practice, Internal Medicine, OBGYN, Pediatric medicine, geriatric medicine, nurse practitioner, Preventative Medicine

Rate of Primary Care Visits (adults with SMI or SUD)

Description: Rate of primary care visits for adult (18-64) members
Numerator: All visits on or between January 1 and December 31 of the measurement year with a PCP** or OB/GYN
Denominator: ACO attributed members ages 18 to 64 years of age as of December 31 of the measurement year and diagnosed with SMI or SUD

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	292,518		165,168		168,225		225,868		122,104		132,414		49,933		25,480		20,498	
Measure, Observed*	1287.33		1348.70		1477.21		1305.34		1422.74		1538.37		1075.03		827.68		922.10	
Observed:Expected Ratio	1.00		1.00		1.07		1.01		1.05		1.10		0.86		0.66		0.72	
Women, %		57.8		57.7		57.7		58.3		58.6		58.2		55.5		52.0		51.8
Age in years, mean SD	39.85	12.2	41.52	12.8	41.53	12.6	39.96	12.2	41.89	12.9	41.70	12.7	39.23	11.8	39.80	11.7	39.97	11.5
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	2.43	3.1	2.83	3.4	3.05	3.7	2.44	3.1	2.88	3.4	3.11	3.7	2.36	3.1	2.53	3.2	2.66	3.4
Housing Problems, %		19.7		20.5		19.3		19.8		20.7		20.0		18.4		19.9		16.9
Any Disability, %		36.1		34.7		34.0		36.7		36.3		35.1		28.0		21.2		21.2
NSS, mean SD	0.07	1.6	0.05	1.0	0.05	1.0	0.14	1.7	0.12	1.0	0.11	1.0	-0.21	1.6	-0.22	0.9	-0.26	0.9

**** Number visits per 100 members per year***
Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.
** PCP provider types are: General Practice, Family Practice, Internal Medicine, OBGYN, Pediatric medicine, geriatric medicine, nurse practitioner, Preventative Medicine.

Rate of Primary Care Visits (Adults with DM)

Description: Rate of primary care visits for adult (18-64) members
Numerator: All visits on or between January 1 and December 31 of the measurement year with a PCP** or OB/GYN
Denominator: ACO attributed members ages 18 to 64 years of age as of December 31 of the measurement year and diagnosed with DM

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	77,774		35,715		37,859		61,215		28,218		31,152		11,568		3,616		2,982	
Measure, Observed*	1509.75		1610.31		1739.46		1515.28		1658.98		1765.50		1161.49		873.70		1071.03	
Observed:Expected Ratio	1.00		1.04		1.10		1.00		1.07		1.11		0.82		0.60		0.71	
Women, %	54.4		54.2		53.9		54.9		54.5		54.4		50.3		50.1		48.5	
Age in years, mean SD	49.32	10.0	51.81	10.5	51.72	10.5	49.40	10.0	51.97	10.4	51.75	10.4	48.83	10.1	50.80	10.8	51.12	10.7
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	3.60	4.3	3.96	4.4	4.22	4.7	3.59	4.3	3.95	4.4	4.21	4.7	3.43	4.1	3.85	4.5	4.13	4.7
Housing Problems, %	12.3		12.8		11.5		12.6		13.0		11.9		11.1		11.9		10.7	
Any Disability, %	44.2		42.8		43.0		44.0		43.0		43.0		34.4		30.9		33.1	
NSS, mean SD	0.34	1.8	0.20	1.0	0.20	1.0	0.43	1.8	0.27	1.0	0.25	1.0	-0.06	1.7	-0.13	1.0	-0.17	1.0

**** Number visits per 100 members per year***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

** PCP provider types are: General Practice, Family Practice, Internal Medicine, OBGYN, Pediatric medicine, geriatric medicine, nurse practitioner, Preventative Medicine.

Post-acute Care Utilization (Overall), Adults

Description: Rate of post-acute care utilization overall and by type for members in MCEs, ACOs, and MCOs
Numerator: Number of discharges where the person used any post-acute care service (inpatient rehab, nursing facility, or home care)
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31)

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	266,555		87,914		89,499		203,908		64,157		70,070		47,004		15,284		12,026	
Measure, Observed*	17.69		16.96		17.72		17.68		17.70		17.93		16.61		13.09		14.70	
Measure, Expected	17.69		18.52		19.23		17.71		18.94		19.48		16.99		16.10		16.98	
Observed:Expected Ratio	1.00		0.92		0.92		1.00		0.93		0.92		0.98		0.81		0.87	
Women, %		62.7		60.7		60.0		63.2		61.6		60.5		59.1		55.7		54.3
Age in years, mean SD	39.4	13.1	40.9	12.8	40.6	13.0	39.4	13.1	41.2	12.9	40.7	13.0	39.3	12.8	39.3	11.9	39.4	12.1
Age <18y, %		0.0		0.0		0.		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	5.05	4.8	5.72	5.1	6.16	5.5	5.04	4.8	5.81	5.1	6.22	5.5	4.91	4.7	5.05	4.7	5.53	5.1
Housing Problems, %		23.7		27.5		27.2		23.8		27.7		27.8		23.2		27.6		26.5
Any Disability, %		31.2		31.7		31.7		31.3		33.1		32.4		24.5		20.3		21.3
NSS, mean SD	0.07	1.8	0.06	1.0	0.06	1.0	0.14	1.8	0.13	1.0	0.12	1.0	-0.21	1.7	-0.19	1.0	-0.21	1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Post-acute Care Utilization (Institutional), Adults

Description: Rate of post-acute institutional care utilization overall and by type for members in MCEs, ACOs, and MCOs
Numerator: Number of discharges where the person was discharged to any institutional post-acute care service (inpatient rehab or nursing facility
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31)

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	266,555		87,914		89,499		203,908		64,157		70,070		47,004		15,284		12,026	
Measure, Observed*	6.17		5.19		6.03		6.14		5.22		5.96		6.71		5.59		7.03	
Observed:Expected Ratio	1.00		0.78		0.87		0.99		0.78		0.85		1.07		0.85		1.02	
Women, %	62.7		60.7		60.0		63.2		61.6		60.5		59.1		55.7		54.3	
Age in years, mean SD	39.4	13.1	40.9	12.8	40.6	13.0	39.4	13.1	41.2	12.9	40.7	13.0	39.4	12.8	39.3	11.9	39.4	12.1
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	5.05	4.8	5.72	5.1	6.16	5.5	5.04	4.8	5.81	5.1	6.22	5.5	4.91	4.7	5.05	4.7	5.53	5.1
Housing Problems, %	23.7		27.5		27.2		23.8		27.		27.8		23.2		27.6		26.5	
Any Disability, %	31.2		31.7		31.7		31.3		33.1		32.4		24.5		20.3		21.3	
NSS, mean SD	0.07	1.8	0.06	1.0	0.06	1.0	0.14	1.8	0.13	1.0	0.12	1.0	-0.21	1.7	-0.19	1.0	-0.21	1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Post-acute Care Utilization (Home Health), Adults

Description: Rate of post-acute home health care utilization overall and by type for members in MCEs, ACOs, and MCOs
Numerator: Number of discharges where the person was discharged to any home health service
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31)

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	266,555		87,914		89,499		203,908		64,157		70,070		47,004		15,284		12,026	
Measure, Observed*	11.52		11.76		11.68		11.54		12.48		11.97		9.90		7.50		7.68	
Observed:Expected Ratio	1.00		0.99		0.95		1.00		1.02		0.96		0.92		0.79		0.75	
Women, %	62.7		60.7		60.0		63.2		61.6		60.5		59.1		55.7		54.3	
Age in years, mean SD	39.4	13.1	40.9	12.8	40.57	13.0	39.43	13.1	41.24	12.9	40.66	13.0	39.36	12.8	39.32	11.9	39.40	12.1
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	5.1	4.8	5.7	5.1	6.16	5.5	5.04	4.8	5.81	5.1	6.22	5.5	4.91	4.7	5.05	4.7	5.53	5.1
Housing Problems, %	23.7		27.5		27.2		23.8		27.7		27.8		23.2		27.6		26.5	
Any Disability, %	31.2		31.7		31.7		31.3		33.1		32.4		24.5		20.3		21.3	
NSS, mean SD	0.07	1.8	0.06	1.0	0.06	1.0	0.14	1.8	0.13	1.0	0.12	1.0	-0.21	1.7	-0.19	1.0	-0.21	1.0

**** Number follow-ups per 100 discharges***
Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Post-acute Care Utilization (Overall) Adults with SMI/SUD Condition

Description: Rate of post-acute care utilization overall and by type for members in MCEs, ACOs, and MCOs
Numerator: Number of discharges where the person was discharged to any post-acute care service
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31) among members with SMI or SUD

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	127,229		66,982		69,246		97,673		48,544		54,009		22,887		12,058		9,686	
Measure, Observed*	18.75		17.08		18.02		18.71		17.80		18.34		17.60		13.03		14.52	
Observed:Expected Ratio	1.00		0.88		0.90		0.99		0.89		0.90		0.98		0.77		0.84	
Women, %	54.4		53.1		52.3		54.8		53.9		52.6		51.2		47.5		46.6	
Age in years, mean SD	40.83	12.8	42.11	12.5	41.76	12.6	40.95	12.8	42.55	12.6	42.04	12.7	39.99	12.3	39.85	11.4	39.59	11.4
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	5.52	5.1	6.27	5.3	6.75	5.8	5.54	5.1	6.41	5.4	6.86	5.8	5.31	5.1	5.46	5.0	5.89	5.4
Housing Problems, %	30.1		33.6		33.8		30.2		34.0		34.7		29.3		33.5		32.2	
Any Disability, %	41.4		39.6		39.3		42.0		41.8		40.7		32.8		24.6		25.1	
NSS, mean SD	0.05	1.6	0.05	1.0	0.06	1.0	0.12	1.6	0.12	1.0	0.12	1.0	-0.19	1.6	-0.20	1.0	-0.22	1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Post-acute Care Utilization (Institutional) Adults with SMI/SUD Condition

Description: Rate of post-acute institutional care utilization overall and by type for members in MCEs, ACOs, and MCOs
Numerator: Number of discharges where the person was discharged to any institutional post-acute care service (inpatient rehab or nursing facility
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31) among members with SMI or SUD

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	127,229		66,982		69,246		97,673		48,544		54,009		22,887		12,058		9,686	
Measure, Observed*	7.98		6.13		7.14		7.96		6.18		7.10		8.38		6.54		8.01	
Observed:Expected Ratio	1.00		0.73		0.82		1.00		0.73		0.81		1.03		0.76		0.92	
Women, %		54.4		53.1		52.3		54.8		53.9		52.6		51.2		47.5		46.6
Age in years, mean SD	40.83	12.8	42.11	12.5	41.76	12.6	40.95	12.8	42.55	12.6	42.04	12.7	39.99	12.3	39.85	11.4	39.59	11.4
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	5.52	5.1	6.27	5.3	6.75	5.8	5.54	5.1	6.41	5.4	6.86	5.8	5.31	5.1	5.46	5.0	5.89	5.4
Housing Problems, %		30.1		33.6		33.8		30.2		34.0		34.7		29.3		33.5		32.2
Any Disability, %		41.4		39.6		39.3		42.0		41.8		40.7		32.8		24.6		25.1
NSS, mean SD	0.05	1.6	0.05	1.0	0.06	1.0	0.12	1.6	0.12	1.0	0.12	1.0	-0.19	1.6	-0.20	1.0	-0.22	1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Post-acute Care Utilization (Home Health) Adults with SMI/SUD Condition

Description: Rate of post-acute home health care utilization overall and by type for members in MCEs, ACOs, and MCOs
Numerator: Number of discharges where the person was discharged to any home health service
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31) among members with SMI or SUD

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)			Accountable Care Organizations (ACOs)			Managed Care Organizations (MCOs)		
Characteristics	**2015-17**	**2018**	**2019**	**2015-17**	**2018**	**2019**	**2015-17**	**2018**	**2019**
Population Size, n	127,229	66,982	69,246	97,673	48,544	54,009	22,887	12,058	9,686
Measure, Observed*	10.77	10.95	10.88	10.75	11.63	11.25	9.21	6.49	6.50
Observed:Expected Ratio	1.00	0.99	0.95	0.99	1.01	0.96	0.95	0.78	0.75
Women, %	54.4	53.1	52.3	54.8	53.9	52.6	51.2	47.5	46.6
Age in years, mean SD	40.83 12.8	42.11 12.5	41.76 12.6	40.95 12.8	42.55 12.6	42.04 12.7	39.99 12.3	39.85 11.4	39.59 11.4
Age <18y, %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DxCG RRS, mean SD	5.52 5.1	6.27 5.3	6.75 5.8	5.54 5.1	6.41 5.4	6.86 5.8	5.31 5.1	5.46 5.0	5.89 5.4
Housing Problems, %	30.1	33.6	33.8	30.2	34.0	34.7	29.3	33.5	32.2
Any Disability, %	41.4	39.6	39.3	42.0	41.8	40.7	32.8	24.6	25.1
NSS, mean SD	0.05 1.6	0.05 1.0	0.06 1.0	0.12 1.6	0.12 1.0	0.12 1.0	-0.19 1.6	-0.20 1.0	-0.22 1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Post-acute Care Utilization (Overall) Adults with DM

Description: Rate of post-acute care utilization overall and by type for adult members with DM in MCEs, ACOs, and MCOs
Numerator: Number of discharges where an adult member with DM was discharged to any post-acute care service
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31) among adult members with DM

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	19,952		7,567		7,804		15,605		5,823		6,338		2,967		875		662	
Measure, Observed*	62.81		60.13		62.56		62.74		61.55		62.73		58.00		49.71		56.34	
Observed:Expected Ratio	1.00		0.97		0.97		1.00		0.97		0.97		0.98		0.91		0.93	
Women, %	54.3		52.9		52.1		54.6		53.0		52.6		50.2		49.5		42.6	
Age in years, mean SD	49.97	11.0	50.78	10.8	50.27	11.1	50.03	10.9	51.04	10.7	50.33	11.1	49.21	11.1	49.06	11.0	48.98	11.1
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	8.30	6.3	9.07	6.5	9.69	6.9	8.31	6.4	9.16	6.5	9.69	6.9	7.97	6.3	8.42	6.5	9.42	6.7
Housing Problems, %	19.1		22.9		21.9		19.5		23.3		22.8		18.6		23.3		20.1	
Any Disability, %	58.0		56.6		56.9		58.4		58.0		57.4		45.9		41.7		45.2	
NSS, mean SD	0.37	1.9	0.21	1.0	0.22	1.0	0.44	1.9	0.28	1.0	0.28	1.1	0.02	1.8	-0.10	1.0	-0.16	1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Post-acute Care Utilization (Institutional) Adults with DM

Description: Rate of post-acute institutional care utilization overall and by type for adult members with DM in MCEs, ACOs, and MCOs
Numerator: Number of discharges where an adult member with DM was discharged to any institutional post-acute care service (inpatient rehab or nursing facility
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31) among adult members with DM

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	19,952		7,567		7,804		15,605		5,823		6,338		2,967		875		662	
Measure, Observed*	15.11		13.82		15.43		15.16		13.93		15.53		17.05		16.11		18.58	
Observed:Expected Ratio	1.00		0.89		0.96		1.00		0.88		0.95		1.16		1.13		1.19	
Women, %	54.3		52.9		52.1		54.6		53.0		52.6		50.2		49.5		42.6	
Age in years, mean SD	49.97	11.0	50.78	10.8	50.27	11.1	50.03	10.9	51.04	10.7	50.33	11.1	49.21	11.1	49.06	11.0	48.98	11.1
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	8.30	6.3	9.07	6.5	9.69	6.9	8.31	6.4	9.16	6.5	9.69	6.9	7.97	6.3	8.42	6.5	9.42	6.7
Housing Problems, %	19.1		22.9		21.9		19.5		23.3		22.8		18.6		23.3		20.1	
Any Disability, %	58.0		56.6		56.9		58.4		58.0		57.4		45.9		41.7		45.2	
NSS, mean SD	0.37	1.9	0.21	1.0	0.22	1.0	0.44	1.9	0.28	1.0	0.28	1.1	0.02	1.8	-0.10	1.0	-0.16	1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Post-acute Care Utilization (Home Health) Adults with DM

Description: Rate of post-acute home health care utilization overall and by type for adult members with DM in MCEs, ACOs, and MCOs
Numerator: Number of discharges where an adult member with DM was discharged to any home health service
Denominator: The number of eligible index hospital stays (discharges) during the study period (between January 1 and December 31) among adult members with DM

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	19,952		7,567		7,804		15,605		5,823		6,338		2,967		875		662	
Measure, Observed*	47.70		46.31		47.13		47.59		47.62		47.21		40.95		33.60		37.76	
Observed:Expected Ratio	1.00		1.00		0.98		1.00		1.01		0.98		0.92		0.83		0.85	
Women, %	54.3		52.9		52.1		54.6		53.0		52.6		50.2		49.5		42.6	
Age in years, mean SD	49.97	11.0	50.78	10.8	50.27	11.1	50.03	10.9	51.04	10.7	50.33	11.1	49.21	11.1	49.06	11.0	48.98	11.1
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	8.30	6.3	9.07	6.5	9.69	6.9	8.31	6.4	9.16	6.5	9.69	6.9	7.97	6.3	8.42	6.5	9.42	6.7
Housing Problems, %	19.1		22.9		21.9		19.5		23.3		22.8		18.6		23.3		20.1	
Any Disability, %	58.0		56.6		56.9		58.4		58.0		57.4		45.9		41.7		45.2	
NSS, mean SD	0.37	1.9	0.21	1.0	0.22	1.0	0.44	1.9	0.28	1.0	0.28	1.1	0.02	1.8	-0.10	1.0	-0.16	1.0

**** Number follow-ups per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Domain 3 Measures

RQ11

1- Acute unplanned inpatient admissions, adult
2- All cause hospital readmissions, adult
3- All cause hospital readmissions, pediatric
4- All cause ED visits, adults
5- Primary care sensitive ED visits
6- Acute unplanned admissions adult (chronic ACSCs)
7- Acute unplanned admissions adult (acute ACSCs)
8- Acute unplanned admissions among adults with diabetes
9- Pediatric ED Visits (all-cause)
10- Pediatric hospitalizations (all-cause)
11- Pediatric asthma admissions
12- Pediatric readmissions
13- ED Visits for Adults with SMI, Addiction, or Co-occurring Conditions
14- Acute unplanned hospital admissions for adults with mental illness and/or substance use disorder
15- All cause readmissions among BH CP members
16- All cause readmissions among LTSS CP members

Acute Unplanned Inpatient Admissions, Adult

Description: Rate of acute unplanned hospital admissions (or observation stays**)**
Numerator: The number of acute unplanned inpatient admissions from any cause
Denominator: Enrollees 18 to 64 years of age as of December 31 of the measurement year
Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	1,409,651		474,672		462,219		1,085,291		354,074		364,263		239,406		73,164		57,918	
Measure, Observed*	152.5		158.1		168.6		152.8		158.0		169.7		145.2		153.4		156.4	
Observed:Expected Ratio	1.00		0.97		0.96		0.99		0.96		0.96		1.03		1.03		0.99	
Women, %		57.4		56.6		56.8		57.8		57.5		57.5		54.9		51.6		51.3
Age (years), mean SD	38.8	13.5	39.5	13.7	40.1	13.4	38.8	13.5	39.7	13.8	40.1	13.5	39.2	13.2	39.0	13.0	39.7	12.7
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	1.4	2.4	1.6	2.6	1.8	2.9	1.4	2.4	1.7	2.6	1.8	2.9	1.4	2.3	1.4	2.4	1.5	2.6
Housing Problems, %		11.1		12.3		11.4		11.3		12.4		11.8		10.3		11.6		9.8
Any Disability, %		19.4		19.6		19.8		19.4		20.2		20.2		14.3		12.3		12.7
NSS, mean SD	0.0	1.8	0.0	1.0	0.0	1.0	0.1	1.8	0.1	1.0	0.1	1.0	-0.3	1.7	-0.2	0.9	-0.3	1.0

**** Number of admissions per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

All Cause Hospital Readmissions (adult)

Description: Rate of readmissions (or observation stays) for members age 18 to age 64
Numerator: The outcome measure is the observed number of readmissions for members between 18 and 64 years of age at risk for admissions
Denominator: The expected rate of readmissions for members between 18 and 64 years of age when adjusting for case mix

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	100,293		36,269		36,350		76,963		27,147		29,055		20,301		7,062		5,726	
Measure, Observed*	21.04		22.19		22.65		21.18		22.40		22.73		19.79		21.48		22.00	
Observed:Expected Ratio	1.00		0.97		0.92		1.00		0.96		0.91		0.95		0.99		0.93	
Women, %	49.4		48.4		47.8		49.8		49.6		48.6		47.8		43.5		43.8	
Age in years, Mean (SD)	40.74	12.2	42.67	13.0	42.62	12.9	40.75	12.2	43.05	13.1	42.87	13.0	41.09	11.9	42.14	12.3	42.12	12.1
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, Mean (SD)	6.07	5.4	6.98	5.8	7.50	6.1	6.04	5.4	7.11	5.8	7.63	6.2	6.23	5.5	6.65	5.6	7.19	6.0
Housing Problems, %	26.2		33.2		34.1		26.1		33.3		34.7		25.1		31.2		30.0	
Any Disability, %	36.9		42.3		42.9		37.2		44.7		44.8		31.7		29.4		29.7	
NSS, Mean (SD)	-0.02	1.8	0.04	1.0	0.07	1.0	0.03	1.8	0.12	1.0	0.13	1.0	-0.22	1.7	-0.22	0.9	-0.23	0.9

**** Number re-admissions per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

All Cause Hospital Readmissions (children)

Description: Rate of pediatric readmissions (or observation stays) for members ages 2 to age 17
Numerator: The outcome measure is the observed number of pediatric readmissions for members 2 to 17 at risk for admissions
Denominator: The expected rate of readmissions for members under 18 years of age when adjusting for case mix

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)			Accountable Care Organizations (ACOs)			Managed Care Organizations (MCOs)		
Characteristics	**2015-17**	**2018**	**2019**	**2015-17**	**2018**	**2019**	**2015-17**	**2018**	**2019**
Population Size, n	8,564	4,264	4,512	6,977	3,523	3,933	1,313	416	288
Measure, Observed*	7.20	8.16	9.51	7.20	7.95	9.26	6.09	6.97	8.68
Observed:Expected Ratio	1.00	0.91	0.92	0.99	0.89	0.94	0.93	0.73	0.49
Girls, %	44.8	46.0	50.2	45.0	45.2	49.9	43.5	48.6	49.2
Age in years, Mean (SD)	7.66 4.2	10.11 5.4	11.23 5.1	7.61 4.2	10.02 5.3	11.03 5.1	7.31 4.2	8.71 5.5	11.11 5.2
Age <18y, %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
DxCG RRS, Mean (SD)	2.89 4.7	4.03 6.3	4.43 6.3	2.92 4.8	4.01 6.4	4.44 6.3	2.73 4.5	4.37 7.0	5.05 7.9
Housing Problems, %	19.0	19.8	18.5	18.7	19.4	18.1	17.2	16.3	14.9
Any Disability, %	21.7	25.8	27.0	21.2	26.1	26.8	20.6	16.6	19.6
NSS, Mean (SD)	0.31 1.8	0.13 1.0	0.08 1.0	0.37 1.8	0.19 1.0	0.14 1.0	0.13 1.8	-0.13 0.9	-0.25 0.9

**** Number re-admissions per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

All Cause ED Visits, Adult

Description: Rate of all cause ED visits for enrollees 18 to 64 years of age
Numerator: The number of ED visits
Denominator: Enrollees 18 to 64 years of age as of December 31 of the measurement year
Observed and Observed: Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	1,409,651		474,672		462,219		1,085,291		354,074		364,263		239,406		73,164		57,918	
Measure, Observed*	775.1		851.1		847.9		777.3		859.5		864.7		729.6		792.4		741.5	
Observed:Expected Ratio	1.00		1.06		1.03		1.00		1.07		1.04		0.98		1.03		0.96	
Women, %	57.4		56.6		56.8		57.8		57.5		57.5		54.9		51.6		51.3	
Age (years), mean SD	38.8	13.5	39.5	13.7	40.0	13.4	38.8	13.5	39.7	13.8	40.1	13.5	39.2	13.2	39.0	13.0	39.7	12.7
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	1.4	2.4	1.6	2.6	1.8	2.9	1.4	2.4	1.6	2.6	1.8	2.9	1.4	2.3	1.4	2.4	1.5	2.6
Housing Problems, %	11.1		12.3		11.4		11.3		12.4		11.8		10.3		11.6		9.8	
Any Disability, %	19.4		19.6		19.8		19.4		20.2		20.2		14.3		12.3		12.7	
NSS, mean SD	0.0	1.8	0.0	1.0	0.0	1.0	0.1	1.8	0.1	1.0	0.1	1.0	-0.3	1.7	-0.2	0.9	-0.2	1.0

**** Number of visits per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Primary Care Sensitive ED Visits, Adults and Children

Description: Rate of primary care sensitive ED visits for enrollees 2 to 64 years of age
Numerator: The number of primary care sensitive ED visits
Denominator: Enrollees 2 to 64 years of age as of December 31 of the measurement year
Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	2,413,065		858,349		839,433		1,867,933		652,655		677,101		368,668		110,563		80,261	
Measure, Observed*	279.9		302.7		284.5		283.5		302.3		283.9		248.7		295.9		278.5	
Observed:Expected Ratio	1.00		1.07		1.00		1.01		1.07		0.99		0.89		1.05		0.95	
Female, %	53.7		53.1		53.2		54.0		53.6		53.5		52.8		50.7		50.7	
Age (years), mean SD	26.5	18.1	26.3	18.2	26.5	18.3	26.4	18.1	26.0	18.2	26.1	18.3	28.7	18.1	29.2	17.5	31.4	17.3
Age <18y, %	41.6		44.7		44.9		41.9		45.7		46.2		35.1		33.8		27.8	
DxCG RRS, mean SD	1.0	2.0	1.1	2.2	1.2	2.4	1.0	2.0	1.1	2.2	1.2	2.4	1.0	2.0	1.1	2.1	1.2	2.4
Housing Problems, %	11.4		11.6		10.7		11.6		11.6		10.9		10.7		11.4		9.7	
Any Disability, %	14.0		13.6		13.9		13.8		13.8		13.9		11.5		9.9		10.8	
NSS, mean SD	0.1	1.8	0.0	1.0	0.0	1.0	0.1	1.8	0.1	1.0	0.1	1.0	-0.2	1.8	-0.2	0.9	-0.2	1.0

**** Number of visits per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Acute Unplanned Admissions for Chronic Ambulatory Care Sensitive Conditions (ACSCs) – Adults

Description: Rate of acute unplanned hospital admissions for chronic ACSCs
Numerator: The number of acute unplanned hospital admissions for chronic ACSCs
Denominator: Enrollees 18 to 64 years of age as of December 31 of the measurement year
Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	1,409,651		474,672		462,219		1,085,291		354,074		364,263		239,406		73,164		57,918	
Measure, Observed*	2.40		1.88		1.49		2.34		2.24		1.64		1.97		0.93		1.02	
Observed:Expected Ratio	1.00		0.71		0.50		0.97		0.83		0.54		0.93		0.43		0.44	
Women, %	57.4		56.6		56.8		57.8		57.5		57.5		54.9		51.6		51.3	
Age (years), mean SD	38.8	13.5	39.5	13.7	40.0	13.4	38.8	13.5	39.7	13.8	40.1	13.5	39.2	13.2	39.0	13.0	39.7	12.7
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	1.4	2.4	1.6	2.6	1.8	2.9	1.4	2.4	1.6	2.6	1.8	2.9	1.4	2.3	1.4	2.4	1.5	2.6
Housing Problems, %	11.1		12.3		11.4		11.3		12.4		11.8		10.3		11.6		9.8	
Any Disability, %	19.4		19.6		19.8		19.4		20.2		20.2		14.3		12.3		12.7	
NSS, mean SD	0.0	1.8	0.0	1.0	0.0	1.0	0.1	1.8	0.1	1.0	0.1	1.0	-0.3	1.7	-0.2	0.9	-0.2	1.0

**** Number of admissions per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Acute Unplanned Admissions for Acute Ambulatory Care Sensitive Conditions (ACSCs) – Adults

Description: Rate of acute unplanned admissions for acute ACSCs
Numerator: The number of acute unplanned hospital admissions for acute ACSCs
Denominator: Enrollees 18 to 64 years of age as of December 31 of the measurement year
Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)			Accountable Care Organizations (ACOs)			Managed Care Organizations (MCOs)		
	2015-17	2018	2019	2015-17	2018	2019	2015-17	2018	2019
Population Size, n	1,409,651	474,672	462,219	1,085,291	354,074	364,263	239,406	73,164	57,918
Measure, Observed*	0.85	0.80	0.66	0.89	0.88	0.71	0.42	0.14	0.17
Observed:Expected Ratio	1.00	0.87	0.67	1.04	0.93	0.71	0.57	0.19	0.21
Women, %	57.4	56.6	56.8	57.8	57.5	57.5	54.9	51.6	51.3
Age (years), mean SD	38.8 13.5	39.5 13.7	40.0 13.4	38.8 13.5	39.7 13.8	40.1 13.5	39.2 13.2	39.0 13.0	39.7 12.7
Age <18y, %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DxCG RRS, mean SD	1.4 2.4	1.6 2.6	1.8 2.9	1.4 2.4	1.6 2.6	1.8 2.9	1.4 2.3	1.4 2.4	1.5 2.6
Housing Problems, %	11.1	12.3	11.4	11.3	12.4	11.8	10.3	11.6	9.8
Any Disability, %	19.4	19.6	19.8	19.4	20.2	20.2	14.3	12.3	12.7
NSS, mean SD	0.0 1.8	0.0 1.0	0.0 1.0	0.1 1.8	0.1 1.0	0.1 1.0	-0.3 1.7	-0.2 0.9	-0.2 1.0

**** Number of admissions per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Acute Unplanned Hospital Admissions for Adults with Diabetes

Description: Rate of acute unplanned hospital admissions (or observation stays) for members with diabetes
Numerator: The number of acute unplanned inpatient admissions from any cause
Denominator: Enrollees 18 to 64 years of age as of December 31 of the measurement year with a diagnosis of diabetes
Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	89,227		35,715		37,859		70,274		28,218		31,152		13,229		3,616		2,982	
Measure, Observed*	406.3		389.3		398.5		404.5		381.5		393.8		381.4		415.7		408.1	
Observed:Expected Ratio	1.00		0.92		0.89		0.99		0.90		0.87		1.03		1.02		0.93	
Women, %	54.9		54.2		53.9		55.3		54.5		54.4		51.0		50.1		48.5	
Age (years), mean SD	51.1	10.4	51.8	10.5	51.7	10.5	51.2	10.4	52.0	10.4	51.7	10.4	50.6	10.6	50.8	10.8	51.1	10.7
Age <18y, %	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
DxCG RRS, mean SD	3.6	4.3	4.0	4.4	4.2	4.7	3.6	4.3	4.0	4.4	4.2	4.7	3.4	4.2	3.9	4.5	4.1	4.7
Housing Problems, %	11.8		12.8		11.5		12.0		13.0		11.9		10.5		11.9		10.7	
Any Disability, %	45.2		42.8		43.0		45.1		43.0		43.0		35.1		30.9		33.1	
NSS, mean SD	0.3	1.8	0.2	1.0	0.2	1.0	0.4	1.8	0.3	1.0	0.3	1.0	-0.1	1.8	-0.1	1.0	-0.2	1.0

**** Number of admissions per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

All Cause ED Visits, Children

Description: Rate of all-cause pediatric ED visits
Numerator: The number of all cause ED visits
Denominator: Enrollees 2 to 17 years of age as of December 31 of the measurement year

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	1,003,414		383,677		377,214		782,642		298,581		312,838		129,262		37,399		22,3	
Measure, Observed*	440.1		486.4		439.3		446.6		493.3		442.8		397.6		434.8		37	
Observed:Expected Ratio	1.00		1.10		0.99		1.01		1.11		1.00		0.91		0.99		0	
Women, %	48.5		48.7		48.8		48.6		48.8		48.9		48.8		49.0		4	
Age (years), mean SD	9.3	4.5	9.9	4.5	9.8	4.6	9.2	4.5	9.9	4.5	9.8	4.6	9.2	4.5	9.9	4.5	10.0	
Age <18y, %	100.0		100.0		100.0		100.0		100		100.0		100.0		100.0			1
DxCG RRS, mean SD	0.4	1.0	0.5	1.2	0.5	1.2	0.4	1.0	0.5	1.2	0.5	1.2	0.4	0.9	0.4	1.1	0.4	
Housing Problems, %	11.8		10.8		9.8		12.0		10.7		9.8		11.6		11.1			
Any Disability, %	6.4		6.2		6.6		6.2		6.1		6.5		6.5		5.3			
NSS, mean SD	0.1	1.8	0.1	1.0	0.1	1.0	0.2	1.8	0.1	1.0	0.1	1.0	0.0	1.8	-0.1	0.9	-0.1	

**** Number of visits per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) a 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, member are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Pediatric Hospitalizations, All Cause

Description: Rate of acute unplanned hospital admissions (and observation stays) for children
Numerator: The observed number of all-cause acute unplanned hospitalizations
Denominator: Enrollees 2 to 17 years of age as of December 31 of the measurement year

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	1,003,414		383,677		377,214		782,642		298,581		312,838		129,262		37,399		22,343	
Measure, Observed*	22.0		21.3		20.8		22.3		21.5		20.9		17.7		15.1		16.5	
Observed:Expected Ratio	1.00		0.80		0.88		1.05		0.79		0.92		0.86		0.55		0.46	
Girls, %		48.5		48.7		48.8		48.6		48.8		48.9		48.8		49.0		49.2
Age (years), mean SD	9.3	4.5	9.9	4.5	9.9	4.6	9.2	4.5	9.9	4.5	9.8	4.6	9.2	4.5	9.9	4.5	10.0	4.6
Age <18y, %		100		100		100		100		100		100		100		100		100
DxCG RRS, mean SD	0.4	1.0	0.5	1.2	0.5	1.2	0.4	1.0	0.5	1.2	0.5	1.2	0.4	0.9	0.4	1.1	0.4	1.3
Housing Problems, %		11.8		10.8		9.8		12.0		10.7		9.8		11.6		11.1		9.4
Any Disability, %		6.4		6.2		6.6		6.2		6.1		6.5		6.5		5.3		5.7
NSS, mean SD	0.2	1.8	0.1	1.0	0.1	1.0	0.2	1.8	0.1	1.0	0.1	1.0	-0.0	1.8	-0.1	0.9	-0.1	1.0

**** Number of admissions per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Rate of Pediatric Asthma Admissions

Description: Rate of hospital admissions with a principal diagnosis of asthma among children
Numerator: Hospital admissions with a principal ICD-9-CM diagnosis code for asthma
Denominator: Enrollees 2 to 17 years of age as of December 31 of the measurement year
Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	1,003,414		383,677		377,214		782,642		298,581		312,838		129,262		37,399		22,343	
Measure, Observed*	13.86		9.49		7.62		14.53		9.68		7.86		10.79		6.60		4.70	
Observed:Expected Ratio	1.00		0.64		0.53		1.06		0.65		0.56		0.79		0.44		0.29	
Girls, %	48.5		48.7		48.8		48.6		48.8		48.9		48.8		49.0		49.2	
Age (years), mean SD	9.3	4.5	9.9	4.5	9.8	4.6	9.2	4.5	9.9	4.5	9.8	4.6	9.2	4.5	9.9	4.5	10.0	4.6
Age <18y, %	100		100		100		100		100		100		100		100		100	
DxCG RRS, mean SD	0.4	1.0	0.5	1.2	0.5	1.2	0.4	1.0	0.5	1.2	0.5	1.2	0.4	0.9	0.4	1.1	0.4	1.3
Housing Problems, %	11.8		10.8		9.8		12.0		10.7		9.8		11.6		11.1		9.4	
Any Disability, %	6.4		6.2		6.6		6.2		6.1		6.5		6.5		5.3		5.7	
NSS, mean SD	0.1	1.8	0.1	1.0	0.1	1.0	0.2	1.8	0.1	1.0	0.1	1.0	0.0	1.8	-0.1	0.9	-0.1	1.0

**** Number of visits per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Emergency Department Visits for Adults with Serious Mental Illness (SMI) and/or Substance Use Disorder (SUD)

Description: Rate of ED visits for members adults with a diagnosis of serious mental illness and/or substance use disorder
Numerator: Number of emergency department visits
Denominator: Enrollees 18 to 64 years of age as of December 31 of the measurement year with a diagnosis of serious mental illness and/or substance use disorder

Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
Characteristics	**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**		**2015-17**		**2018**		**2019**	
Population Size, n	302,843		165,168		168,225		234,022		122,104		132,414		51,405		25,480		20,498	
Measure, Observed*	1,380.1		1,477.5		1,447.7		1,386.1		1,493.1		1,476.5		1,328.4		1,408.8		1,307.2	
Observed:Expected Ratio	1.00		1.03		0.98		1.00		1.04		0.99		0.97		1.00		0.93	
Women, %		57.9		57.7		57.7		58.3		58.6		58.2		55.6		52.0		51.8
Age (years), mean SD	40.6	12.7	41.5	12.8	41.5	12.6	40.8	12.8	41.9	12.9	41.7	12.7	39.9	12.3	39.8	11.7	40.0	11.5
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	2.5	3.2	2.8	3.4	3.1	3.7	2.5	3.2	2.9	3.4	3.1	3.7	2.4	3.1	2.5	3.2	2.7	3.4
Housing Problems, %		19.4		20.5		19.3		19.6		20.7		20.0		18.1		19.9		16.9
Any Disability, %		37.0		34.7		34.0		37.6		36.3		35.1		28.7		21.2		21.2
NSS, mean SD	0.1	1.6	0.0	1.0	0.0	1.0	0.1	1.7	0.1	1.0	0.1	1.0	-0.2	1.6	-0.2	0.9	-0.3	0.9

**** Number of visits per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Acute Unplanned Hospital Admissions - Adults with Serious Mental Illness (SMI) and/or Substance Use Disorder (SUD)

Description: Rate of acute unplanned hospital admissions (or observation stays) for members 18 to 64 years of age with a diagnosis of serious mental illness (SMI) and/or substance addiction (SUD)
Numerator: The number of hospital admissions for adults with SMI and/or SUD
Denominator: Enrollees 18 to 64 years of age as of December 31 of the measurement year with a diagnosis of serious mental illness and/or substance use disorder
Observed and Observed:Expected Performance in the MassHealth MCE Population during Baseline (2015-2017) and the First Two DSRIP Years (2018-2019)

Characteristics	Managed Care Eligible (MCE)						Accountable Care Organizations (ACOs)						Managed Care Organizations (MCOs)					
	2015-17		2018		2019		2015-17		2018		2019		2015-17		2018		2019	
Population Size, n	302,843		165,168		168,225		234,022		122,104		132,414		51,405		25,480		20,498	
Measure, Observed*	323.4		329.7		338.4		324.5		331.3		340.7		311.0		323.0		328.4	
Observed:Expected Ratio	1.00		0.96		0.92		0.99		0.95		0.92		1.01		0.98		0.97	
Women, %		57.9		57.7		57.7		58.3		58.6		58.2		55.6		52.0		51.8
Age (years), mean SD	40.6	12.7	41.5	12.8	41.5	12.6	40.8	12.8	41.9	12.9	41.7	12.7	39.9	12.3	39.8	11.7	40.0	11.5
Age <18y, %		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
DxCG RRS, mean SD	2.5	3.2	2.8	3.4	3.1	3.7	2.5	3.2	2.9	3.4	3.1	3.7	2.4	3.1	2.5	3.2	2.7	3.4
Housing Problems, %		19.4		20.5		19.3		19.6		20.7		20.0		18.1		19.9		16.9
Any Disability, %		37.0		34.7		34.0		37.6		36.3		35.1		28.7		21.2		21.2
NSS, mean SD	0.1	1.6	0.1	1.0	0.1	1.0	0.1	1.7	0.1	1.0	0.1	1.0	-0.2	1.6	-0.2	0.9	-0.3	0.9

**** Number of visits per 1000 members***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year. "Observed" equals the calculated outcome for the quality measure. "Expected" is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. "Observed:Expected" is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population. During the pre-DSRIP baseline, members are assigned to the ACO, MCO, or primary care clinician (PCC) sector based on their primary care provider's affiliation at the time of the ACO program launch in 2018.

Hospital Readmissions (BH CP Members)

Description: The rate of acute unplanned hospital readmissions within 30 days of discharge for BH CP enrollees 18 to 64 years of age
Numerator: The number of all-cause readmissions among BH CP members
Denominator: The number of discharges among BH CP members

Observed Performance in the MassHealth MCE Population during the First Two DSRIP Years (2018-2019)

Characteristics	2018		2019	
Measure, n Observed*	4,923	32.16	10,215	30.20
Women, n %	1,469	46.7%	2,488	47.5%
Age in years, mean sd	43.20	11.4	43.33	11.6
Age <18y, n %	0	0.0%	0	0.0%
DxCG RRS, mean sd	8.82	5.9	8.99	6.5
Housing Problems, n %	1,691	53.7%	2,538	48.5%
Any Disability, n %	1,786	56.7%	2,943	56.2%
NSS, mean sd	0.10	1.0	0.13	1.0

**** Number re-admissions per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year and CP enrolled from the discharge date through 30 days post-discharge. “Observed” equals the calculated outcome for the quality measure. “Expected” is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. “Observed:Expected” is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

Hospital Readmissions (LTSS CP Members)

Description: The rate of acute unplanned hospital readmissions within 30 days of discharge for LTSS CP enrollees 18 to 64 years of age
Numerator: The number of all-cause readmissions among LTSS CP members
Denominator: The number of discharges among LTSS CP members

Observed Performance in the MassHealth MCE Population during the First Two DSRIP Years (2018-2019)

Characteristics	2018		2019	
Measure, n Observed*	449	18.26	885	17.97
Female, n %	204	59.0%	346	55.6%
Age in years, mean sd	51.50	12.3	46.03	14.7
Age <18y, n %	0	0.0%	0	0.0%
DxCG RRS, mean sd	12.93	8.6	11.74	8.3
Housing Problems, n %	66	19.1%	145	23.3%
Any Disability, n %	308	89.0%	511	82.2%
NSS, mean sd	0.56	1.1	0.45	1.1

**** Number re-admissions per 100 discharges***

Each year includes members who are managed care eligible (MCE) for at least 320 days that year and CP enrolled from the discharge date through 30 days post-discharge. “Observed” equals the calculated outcome for the quality measure. “Expected” is from a model that accounts for changes in member characteristics (i.e., age and sex; disability; unstably housed or homeless; and, medical morbidity) between baseline (2015-2017) and 2018 and 2019. “Observed:Expected” is the ratio of observed to expected values and varies around 1.0; O:E ratios <1 indicate lower than expected outcomes while O:E ratios >1 indicates greater than expected outcomes for the measure. The DxCG relative risk score (RRS) is a summary measure of medical morbidity with mean set to 1 in the MassHealth MCE baseline (2015-2017) population. NSS is the Neighborhood Stress Score, standardized to have mean = 0 and SD = 1 in the same population.

G. Appendix G. Select Additional Member Experience Survey Results

This appendix presents the results of 12-member experience surveys of adult and children who received primary care, BH, and LTTS services during the first two years of the demonstration (CY 2018 and 2019) and covered in Domains 2 and 3. The method used to analyze these questions are covered in Section II.C.c. We focused on usable responses defined as members who answered yes to the screening question and answered 50% of survey questions prior to the demographics section at the conclusion of the survey. We used inverse probability weighting to address potential bias due to non-response.

Pediatric Member Experience: Primary Care, ACO Members

Question and Response Options	2018	2019
Number of Respondents	***10,890***	***10,107***
Is this the provider you usually see if your child needs a check-up or gets sick or hurt?		
No	4%	4%
Yes	96%	96%
P-value	0.81	
How long has your child been going to this provider?		
Less than 6 months	6%	7%
At least 6 months but less than 1 year	7%	9%
At least 1 year but less than 3 years	20%	18%
At least 3 years but less than 5 years	15%	14%
5 years or more	51%	53%
P-value	<0.001	
In the last 12 months, did you ever stay in the exam room with your child during a visit to this provider?		
No	10%	11%
Yes	90%	89%
P-value	0.60	
Did this provider give you enough information about what was discussed during the visit when you were not there?		
No	14%	12%
Yes	86%	88%

Question and Response Options	2018	2019
P-value	0.31	
Is your child able to talk with providers about his or her health care?		
No	28%	24%
Yes	72%	76%
P-value	<0.0001	
In the last 12 months, how often did this provider explain things in a way that was easy for your child to understand?		
Never	0%	1%
Sometime	4%	4%
Usually	17%	15%
Always	79%	81%
P-value	<0.05	
In the last 12 months, how often did this provider listen carefully to your child?		
Never	0%	0%
Sometime	2%	2%
Usually	12%	11%
Always	86%	86%
P-value	0.26	
Did this provider tell you that you needed to do anything to follow up on the care your child got during the visit?		
No	29%	31%
Yes	71%	69%
P-value	0.07	
Did this provider give you enough information about what you needed to do to follow up on your child's care?		
No	1%	1%
Yes	99%	99%
P-value	0.74	
In the last 12 months, did you call this provider's office to get an appointment for your child for an illness, injury, or condition that needed care right away?		
No	30%	33%

Question and Response Options	2018	2019
Yes	70%	67%
P-value	<0.0001	
In the last 12 months, when you called this provider's office for an appointment for care your child needed right away, how often did you get an appointment as soon as your child needed?		
Never	1%	1%
Sometime	7%	7%
Usually	20%	19%
Always	72%	73%
P-value	<0.01	
In the last 12 months, did you make any appointments for a check-up or routine care for your child with this provider?		
No	6%	6%
Yes	94%	94%
P-value	0.12	
In the last 12 months, when you made an appointment for a check-up or routine care for your child with this provider, how often did you get an appointment as soon as your child needed?		
Never	1%	1%
Sometime	8%	7%
Usually	24%	24%
Always	68%	68%
P-value	0.24	
Did this provider's office give you information about what to do if your child needed care during evenings, weekends, or holidays?		
No	14%	14%
Yes	86%	86%
P-value	0.52	
In the last 12 months, did you call this provider's office with a medical question about your child during regular office hours?		
No	45%	45%
Yes	55%	55%

Question and Response Options	2018	2019
P-value	0.33	
In the last 12 months, when you called this provider's office during regular office hours, how often did you get an answer to your medical question that same day?		
Never	1%	1%
Sometime	6%	5%
Usually	21%	22%
Always	72%	72%
P-value	0.25	
In the last 12 months, how often did this provider explain things about your child's health in a way that was easy to understand?		
Never	1%	1%
Sometime	3%	3%
Usually	15%	14%
Always	81%	82%
P-value	0.19	
In the last 12 months, how often did this provider listen carefully to you?		
Never	1%	1%
Sometime	3%	2%
Usually	13%	12%
Always	84%	85%
P-value	0.13	
In the last 12 months, how often did this provider seem to know the important information about your child's medical history?		
Never	1%	1%
Sometime	4%	4%
Usually	18%	17%
Always	77%	78%
P-value	0.60	
In the last 12 months, how often did this provider show respect for what you had to say?		
Never	1%	1%

Question and Response Options	2018	2019
Sometime	2%	2%
Usually	11%	11%
Always	86%	87%
P-value	0.05	
In the last 12 months, how often did this provider spend enough time with your child?		
Never	1%	1%
Sometime	5%	4%
Usually	18%	18%
Always	76%	77%
P-value	0.18	
How would you rate this provider's knowledge about your child as a person – special abilities, concerns, fears?		
Very poor	0%	0%
Poor	1%	1%
Fair	4%	4%
Good	13%	13%
Very good	27%	28%
Excellent	54%	55%
P-value	0.66	
Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and other doctors who specialize in one area of health care. In the last 12 months, did your child see a specialist for a particular health problem?		
No	65%	66%
Yes	35%	34%
P-value	0.17	
In the last 12 months, how often did the provider named in Question 1 seem informed and up-to-date about the care your child got from specialists?		
Never	3%	2%
Sometime	8%	8%
Usually	24%	24%

Question and Response Options	2018	2019
Always	65%	66%
P-value	0.48	
In the last 12 months, did your child take any prescription medicine?		
No	42%	44%
Yes	58%	56%
P-value	0.14	
In the last 12 months, how often did you and someone from this provider's office talk about all the prescription medicines your child was taking?		
Never	6%	6%
Sometime	11%	12%
Usually	20%	19%
Always	62%	64%
P-value	0.14	
In the last 12 months, did your child get care from more than one kind of health care provider or use more than one kind of health care service?		
No	67%	65%
Yes	33%	35%
P-value	<0.01	
In the last 12 months, did you need help from anyone in this provider's office to manage your child's care among these different providers and services?		
No	54%	57%
Yes	46%	43%
P-value	<0.05	
In the last 12 months, did you get the help you needed from this provider's office to manage your child's care among these different providers and services?		
No	3%	3%
Yes, somewhat	15%	15%
Yes, definitely	82%	82%
P-value	0.87	
In the last 12 months, did the provider named in Question 1 order a blood test, x-ray, or other test for your child?		

Question and Response Options	2018	2019
No	56%	58%
Yes	44%	42%
P-value	<0.05	
In the last 12 months, when this provider ordered a blood test, x-ray, or other test for your child, how often did someone from this provider's office follow up to give you these results?		
Never	5%	6%
Sometime	9%	7%
Usually	18%	17%
Always	68%	70%
P-value	<0.05	
Using any number from 0 to 10, where 0 is the worst provider possible and 10 is the best provider possible, what number would you use to rate this provider?		
0 Worst provider possible	0%	0%
1	0%	0%
2	0%	0%
3	0%	0%
4	1%	0%
5	2%	1%
6	2%	1%
7	5%	4%
8	14%	14%
9	20%	20%
10 Best provider possible	57%	59%
P-value	<0.05	
Would you recommend this provider to your family and friends?		
Definitely not	1%	1%
Probably not	1%	1%
Not sure	4%	4%
Probably yes	18%	17%
Definitely yes	76%	77%

Question and Response Options	2018	2019
P-value	0.74	
In the last 12 months, did you and anyone in this provider's office talk about your child's learning ability?		
No	43%	43%
Yes	57%	57%
P-value	0.46	
In the last 12 months, did you and anyone in this provider's office talk about the kinds of behaviors that are normal for your child at this age?		
No	30%	29%
Yes	70%	71%
P-value	0.16	
In the last 12 months, did you and anyone in this provider's office talk about how your child's body is growing?		
No	17%	17%
Yes	83%	83%
P-value	0.56	
In the last 12 months, did you and anyone in this provider's office talk about your child's moods and emotions?		
No	32%	29%
Yes	68%	71%
P-value	<0.0001	
In the last 12 months, did you and anyone in this provider's office talk about things you can do to keep your child from getting injured?		
No	38%	37%
Yes	62%	63%
P-value	0.16	
In the last 12 months, did anyone in this provider's office give you information about how to keep your child from getting injured?		
No	42%	41%
Yes	58%	59%
P-value	<0.05	

Question and Response Options	2018	2019
In the last 12 months, did you and anyone in this provider's office talk about how much time your child spends on a computer and in front of a TV?		
No	33%	32%
Yes	67%	68%
P-value	<0.05	
In the last 12 months, did you and anyone in this provider's office talk about how much or what kind of food your child eats?		
No	17%	16%
Yes	83%	84%
P-value	0.34	
In the last 12 months, did you and anyone in this provider's office talk about how much or what kind of exercise your child gets?		
No	24%	23%
Yes	76%	77%
P-value	0.11	
In the last 12 months, did you and anyone in this provider's office talk about how your child gets along with others?		
No	29%	28%
Yes	71%	72%
P-value	0.52	
In the last 12 months, did you and anyone in this provider's office talk about whether there are any problems in your household that might affect your child?		
No	43%	41%
Yes	57%	59%
P-value	<0.01	
In the last 12 months, did you and anyone in this provider's office talk about specific goals for your child's health?		
No	39%	36%
Yes	61%	64%
P-value	<0.01	

Question and Response Options	2018	2019
In the last 12 months, did anyone in this provider's office ask you if there are things that make it hard for you to take care of your child's health?		
No	61%	58%
Yes	39%	42%
P-value	<0.0001	
In the last 12 months, how often were the front office staff at this provider's office as helpful as you thought they should be?		
Never	1%	1%
Sometime	7%	7%
Usually	26%	26%
Always	65%	66%
P-value	0.33	
In the last 12 months, how often did the front office staff at this provider's office treat you with courtesy and respect?		
Never	1%	1%
Sometime	5%	5%
Usually	19%	18%
Always	75%	76%
P-value	0.10	
In general, how would you rate your child's overall health?		
Excellent	45%	47%
Very good	37%	37%
Good	16%	14%
Fair	2%	2%
Poor	0%	0%
P-value	<0.01	
In general, how would you rate your child's overall mental or emotional health?		
Excellent	44%	43%
Very good	32%	32%

Question and Response Options	2018	2019
Good	18%	18%
Fair	5%	6%
Poor	1%	1%
P-value	0.35	

Adult Member Experience: Primary Care, ACO Members

Question and Response Options	2018	2019
Number of Respondents	***11,526***	***12,320***
Is this the provider you usually see if you need a check-up, want advice about a health problem, or gets sick or hurt?		
No	5%	7%
Yes	95%	93%
P-value	<0.001	
How long have you been going to this provider?		
Less than 6 months	6%	8%
At least 6 months but less than 1 year	8%	8%
At least 1 year but less than 3 years	19%	20%
At least 3 years but less than 5 years	16%	15%
5 years or more	51%	49%
P-value	<0.001	
In the last 12 months, did you call this provider's office to get an appointment for an illness, injury, or condition that needed care right away?		
No	34%	38%
Yes	66%	62%
P-value	<0.001	
In the last 12 months, when you called this provider's office to get an appointment for care you needed right away, how often did you get an appointment as soon as you needed?		
Never	2%	2%
Sometime	10%	11%

Question and Response Options	2018	2019
Usually	25%	26%
Always	62%	61%
P-value	0.13	
In the last 12 months, did you make any appointments for a check-up or routine care with this provider?		
No	8%	10%
Yes	92%	90%
P-value	<0.001	
In the last 12 months, when you made an appointment for a check-up or routine care with this provider, how often did you get an appointment as soon as you needed?		
Never	1%	1%
Sometime	9%	9%
Usually	28%	28%
Always	62%	62%
P-value	0.65	
Did this provider's office give you information about what to do if you needed care during evenings, weekends, or holidays?		
No	21%	21%
Yes	79%	79%
P-value	0.59	
In the last 12 months, did you call this provider's office with a medical question during regular office hours?		
No	43%	43%
Yes	57%	57%
P-value	0.55	
In the last 12 months, when you called this provider's office during regular office hours, how often did you get an answer to your medical question that same day?		
Never	3%	3%
Sometime	11%	12%

Question and Response Options	2018	2019
Usually	30%	30%
Always	55%	55%
P-value	0.48	
In the last 12 months, how often did this provider explain things in a way that was easy to understand?		
Never	1%	1%
Sometime	4%	5%
Usually	17%	17%
Always	77%	77%
P-value	0.46	
In the last 12 months, how often did this provider listen carefully to you?		
Never	1%	2%
Sometime	5%	5%
Usually	15%	15%
Always	79%	79%
P-value	0.11	
In the last 12 months, how often did this provider seem to know the important information about your medical history?		
Never	2%	2%
Sometime	6%	6%
Usually	22%	22%
Always	71%	70%
P-value	0.12	
In the last 12 months, how often did this provider show respect for what you had to say?		
Never	1%	1%
Sometime	4%	4%
Usually	13%	13%
Always	82%	82%

Question and Response Options	2018	2019
P-value	0.46	
In the last 12 months, how often did this provider spend enough time with you?		
Never	2%	2%
Sometime	5%	6%
Usually	20%	20%
Always	73%	72%
P-value	0.38	
How would you rate this provider's knowledge of you as a person, including values and beliefs that are important to you?		
Very poor	1%	1%
Poor	2%	2%
Fair	6%	6%
Good	16%	15%
Very good	28%	28%
Excellent	48%	47%
P-value	0.33	
Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and other doctors who specialize in one area of care. In the last 12 months, did you see a specialist for a particular health problem?		
No	32%	34%
Yes	68%	66%
P-value	0.00	
In the last 12 months, how often did the provider named in Question 1 seem informed and up-to-date about the care you got from specialists?		
Never	3%	3%
Sometime	8%	9%
Usually	25%	25%
Always	64%	63%

Question and Response Options	2018	2019
P-value	0.35	
In the last 12 months, did the provider named in Question 1 order a blood test, x-ray, or other test for your?		
No	12%	14%
Yes	88%	86%
P-value	<0.001	
In the last 12 months, when this provider ordered a blood test, x-ray, or other test for you, how often did someone from this provider's office follow up to give you these results?		
Never	5%	5%
Sometime	7%	8%
Usually	19%	19%
Always	69%	69%
P-value	0.31	
Using any number from 0 to 10, where 0 is the worst provider possible and 10 is the best provider possible, what number would you use to rate this provider?		
0 Worst provider possible	1%	1%
1	0%	0%
2	0%	0%
3	1%	1%
4	1%	1%
5	2%	3%
6	2%	2%
7	5%	5%
8	15%	14%
9	20%	20%
10 Best provider possible	53%	52%
P-value	0.13	
Would you recommend this provider to your family and friends?		

Question and Response Options	2018	2019
Definitely not	3%	3%
Probably not	2%	2%
Not sure	6%	6%
Probably yes	20%	20%
Definitely yes	69%	69%
P-value	0.93	
In the last 12 months, did you and anyone in this provider's office talk about specific goals for your health?		
No	25%	25%
Yes	75%	75%
P-value	0.60	
In the last 12 months, did anyone in this provider's office ask you if there are things that make it hard for you to take care of your health?		
No	45%	45%
Yes	55%	55%
P-value	0.33	
In the last 12 months, did you take any prescription medicine?		
No	9%	10%
Yes	91%	90%
P-value	<0.01	
In the last 12 months, how often did you and someone from this provider's office talk about all the prescription medicines you were taking?		
Never	5%	5%
Sometime	11%	12%
Usually	23%	22%
Always	61%	61%
P-value	0.30	

Question and Response Options	2018	2019
In the last 12 months, did you get care from more than one kind of health care provider or use more than one kind of health care service?		
No	42%	42%
Yes	58%	58%
P-value	0.58	
In the last 12 months, did you need help from anyone in this provider's office to manage your care among these different providers and services?		
No	48%	50%
Yes	52%	50%
P-value	0.12	
In the last 12 months, did you get the help you needed from this provider's office to manage your care among these different providers and services?		
No	4%	5%
Yes, somewhat	17%	16%
Yes, definitely	79%	79%
P-value	0.45	
In the last 12 months, did anyone in this provider's office ask you if there was a period of time when you felt sad, empty, or depressed?		
No	31%	27%
Yes	69%	73%
P-value	<0.001	
In the last 12 months, did you and anyone in this provider's office talk about things in your life that worry you or cause you stress?		
No	39%	36%
Yes	61%	64%
P-value	<0.01	
In the last 12 months, how often were the front office staff at this provider's office as helpful as you thought they should be?		
Never	2%	2%

Question and Response Options	2018	2019
Sometime	8%	8%
Usually	25%	25%
Always	65%	65%
P-value	0.54	
In the last 12 months, how often did the front office staff at this provider's office treat you with courtesy and respect?		
Never	1%	1%
Sometime	4%	4%
Usually	16%	16%
Always	78%	78%
P-value	0.95	
In general, how would you rate your overall health?		
Excellent	11%	11%
Very good	25%	26%
Good	37%	37%
Fair	22%	21%
Poor	5%	5%
P-value	0.09	
In general, how would you rate your overall mental or emotional health?		
Excellent	19%	19%
Very good	27%	26%
Good	31%	31%
Fair	18%	19%
Poor	4%	5%
P-value	0.16	

Pediatric Member Experience: Behavioral Health (BH), ACO Members

Question and Response Options	Child, 2018	Child, 2019
Number of Respondents	***987***	***903***
In the last 12 months, did your child need mental health services?		
No	14%	17%
Yes	86%	83%
P-value	0.06	
How well were your child's needs for mental health services met?		
Not at all	5%	3%
Somewhat	38%	22%
Very well	57%	75%
P-value	<0.001	
In the last 12 months, did your child need substance use treatment services for problems with alcohol or drugs?		
No	97%	98%
Yes	3%	2%
P-value	0.21	
In the last 12 months, did your child need behavioral health prescription medications?		
No	34%	44%
Yes	66%	56%
P-value	0.00	
How well were your child's needs for behavioral health prescription medications met?		
Not at all	4%	4%
Somewhat	33%	17%
Very well	63%	79%

Question and Response Options	Child, 2018	Child, 2019
P-value	<0.001	
In the last 12 months, did someone from your child's care team meet with you, in person or by telephone, to assess your child's behavioral health needs?		
Yes	80%	73%
No	16%	23%
Don't know/Not sure	4%	4%
P-value	0.00	
To what extent do you feel that your child's behavioral health needs were identified and discussed during the assessment?		
Not at all	2%	6%
Somewhat	32%	20%
Complete	66%	74%
P-value	<0.001	
Do your child have a care plan?		
Yes	57%	53%
No	27%	29%
Don't know/Not sure	16%	17%
P-value	0.31	
Did you and/or your child have a choice of services and providers during the care planning process?		
No	0.09	13%
Yes, somewhat	0.33	25%
Yes, completely	0.58	62%
P-value	0.00	
Did anyone in your child's care team explain to you and/or your child who was responsible for the different parts of your child's care plan?		

Question and Response Options	Child, 2018	Child, 2019
No	0.14	15%
Yes, somewhat	0.26	22%
Yes, completely	0.59	64%
P-value	0.24	
Do your child feel that your child's care plan includes all of the services that your child needs?		
No	0.15	11%
Yes, somewhat	0.33	23%
Yes, completely	0.52	66%
P-value	0.00	
Did your child's care team discuss with you and/or your child ways to change your child's care plan, if needed?		
No	29%	19%
Yes	71%	81%
P-value	0.00	
Do you feel that your child needs a care coordinator?		
Yes	26%	24%
No	49%	52%
Don't know/Not sure	25%	23%
P-value	0.48	
Do your child have a care coordinator?		
Yes, my child has one care coordinator	15%	14%
Yes, my child has more than one care coordinator	5%	4%
No	69%	64%
Don't know/Not sure	12%	17%
P-value	0.01	

Question and Response Options	Child, 2018	Child, 2019
In the last 12 months, did you have contact with your child's care coordinator?		
No	2%	8%
Yes	98%	92%
P-value	0.01	
In the last 12 months, did your child need services in the community, such as support groups, day programs or clubhouse?		
No	49%	49%
Yes	51%	51%
P-value	1.00	
Did your child's care coordinator help your child obtain these services in the community?		
No	28%	13%
Yes	72%	87%
P-value	0.02	
Specialists are providers like psychiatrists, surgeons, heart doctors, allergy doctors, and other doctors who specialize in one area of health care. In the last 12 months, did your child need any referrals to a specialist?		
No	31%	29%
Yes	69%	71%
P-value	0.62	
Did your child's care coordinator assist your child with any referrals to a specialist?		
No	26%	29%
Yes	74%	71%
P-value	0.64	
In the last 12 months, how often did your child's care coordinator seem to know the important information about your child's medical history?		

Question and Response Options	Child, 2018	Child, 2019
Never	2%	3%
Sometime	21%	10%
Usually	24%	26%
Always	53%	61%
P-value	0.12	
How would you rate your child's care coordinator's knowledge about your child as a person, including special abilities, concerns and fears?		
Very poor	0%	2%
Poor	2%	1%
Fair	14%	3%
Good	21%	19%
Very good	27%	37%
Excellent	35%	37%
P-value	0.00	
In the last 12 months, did your child see a behavioral health provider?		
Yes, my child saw one behavioral health provider	0.5	46%
Yes, my child saw more than one behavioral health provider	0.4	33%
No	0.1	22%
P-value	<0.001	
In the last 12 months, how often did your child's behavioral health provider explain things in a way that was easy to understand?		
Never	3%	4%
Sometime	15%	10%
Usually	27%	29%
Always	55%	58%
P-value	0.10	

Question and Response Options	Child, 2018	Child, 2019
In the last 12 months, how often did your child's behavioral health provider listen carefully to you and/or your child?		
Never	1%	1%
Sometime	10%	8%
Usually	23%	21%
Always	66%	70%
P-value	0.45	
In the last 12 months, how often did your child's behavioral health provider show respect for what you and/or your child had to say?		
Never	1%	1%
Sometime	5%	6%
Usually	17%	13%
Always	77%	79%
P-value	0.30	
In the last 12 months, how often did your child's behavioral health provider spend enough time with you and/or your child?		
Never	2%	2%
Sometime	10%	9%
Usually	26%	26%
Always	62%	63%
P-value	0.99	
In the last 12 months, how often did your child's behavioral health provider show respect for your child's cultural/ethnic background?		
Never	1%	1%
Sometime	2%	3%
Usually	9%	11%

Question and Response Options	Child, 2018	Child, 2019
Always	87%	86%
P-value	0.33	
In the last 12 months, how often did your child's behavioral health provider show respect for your child's sexual orientation, gender expression and gender identity?		
Never	2%	1%
Sometime	1%	2%
Usually	7%	10%
Always	90%	87%
P-value	0.02	
Behavioral health services were available at times that were convenient for me and my child.		
Strongly disagree	4%	3%
Disagree	6%	4%
Neither disagree nor agree	11%	13%
Agree	43%	39%
Strongly agree	36%	41%
P-value	0.07	
Behavioral health providers were able to see my child as often as I felt was necessary.		
Strongly disagree	4%	4%
Disagree	11%	7%
Neither disagree nor agree	13%	13%
Agree	38%	39%
Strongly agree	34%	37%
P-value	0.20	

Question and Response Options	Child, 2018	Child, 2019
In the last 12 months, how often did your child's behavioral health provider(s) and primary care provider work together as a team to provide your child's care?		
Never	31%	28%
Sometimes	17%	18%
Usually	17%	16%
Always	29%	33%
Not applicable, my child did not see a primary care provider in the last 12 months.	6%	4%
P-value	0.28	
Sometimes several providers are involved in an individual's behavioral health care. For example, a member might see both a psychiatrist and a psychologist. In the last 12 months, how often did all of your child's behavioral health providers work together as a team to provide your child with the behavioral health services your child needed?		
Never	16%	16%
Sometimes	16%	16%
Usually	18%	18%
Always	29%	31%
Not applicable, my child did not see multiple behavioral health providers in the last 12 months	21%	19%
P-value	0.89	
Would your child recommend your child's behavioral health provider(s) to your family and friends if they needed similar behavioral health services?		
Definitely not	4%	3%
Probably not	5%	4%
Not sure	10%	12%
Probably yes	34%	27%

Question and Response Options	Child, 2018	Child, 2019
Definitely yes	48%	54%
P-value	0.07	
In the last 12 months, did your child contact anyone from your child's care team about your child's behavioral health services to get help or advice?		
Yes	62%	55%
No	35%	40%
Don't know/Not sure	3%	6%
P-value	0.00	
In the last 12 months, when your child contacted someone from your child's care team about your child's behavioral health services, did your child get the help or advice child needed?		
No	11%	20%
Yes	89%	80%
P-value	0.00	
In the last 12 months, did someone from your child’s care team talk with you about whether your child may need to change to a new provider who treats mostly adults?		
Yes	4%	4%
No	81%	79%
Don't know/Not sure	3%	3%
Not Applicable, my child is not old enough for these discussions	11%	13%
Not Applicable, my child already sees a provider treats mostly adults	1%	1%
P-value	0.80	
In the last 12 months, was your child hospitalized overnight?		
No	82%	85%
Yes	18%	15%

Question and Response Options	Child, 2018	Child, 2019
P-value	0.15	
Following your child's last hospitalization did anyone from your child's care team contact you to ask about your child's condition?		
No	26%	29%
Yes	74%	71%
P-value	0.54	
As a result of behavioral health services, my child has better coping skills.		
Strongly disagree	4%	4%
Disagree	8%	6%
Neither disagree nor agree	25%	27%
Agree	45%	41%
Strongly agree	18%	22%
P-value	0.09	
As a result of behavioral health services, my child does better in school, work and/or other activities.		
Strongly disagree	5%	5%
Disagree	10%	9%
Neither disagree nor agree	26%	24%
Agree	41%	41%
Strongly agree	18%	21%
P-value	0.69	
As a result of behavioral health services, my child is better able to do the things he or she wants to do.		
Strongly disagree	4%	4%
Disagree	7%	10%
Neither disagree nor agree	30%	27%

Question and Response Options	Child, 2018	Child, 2019
Agree	43%	41%
Strongly agree	16%	19%
P-value	0.12	
As a result of behavioral health services, my child does better in social situations.		
Strongly disagree	4%	5%
Disagree	12%	8%
Neither disagree nor agree	32%	32%
Agree	39%	39%
Strongly agree	14%	16%
P-value	0.10	
As a result of behavioral health services, the quality of our family life has improved.		
Strongly disagree	5%	4%
Disagree	8%	8%
Neither disagree nor agree	29%	28%
Agree	41%	40%
Strongly agree	17%	20%
P-value	0.58	
Using any number from 0 to 10, where 0 is the worst behavioral health services possible and 10 is the best behavioral health services possible, what number would you use to rate your child's behavioral health services in the last 12 months?		
0 Worst behavioral health services possible	1%	2%
1	1%	1%
2	2%	1%
3	3%	2%

Question and Response Options	Child, 2018	Child, 2019
4	2%	3%
5	12%	9%
6	6%	6%
7	12%	13%
8	22%	19%
9	14%	17%
10 Best behavioral health services possible	25%	27%
P-value	0.17	
In general, how would you rate your child's overall health now?		
Excellent	15%	19%
Very good	30%	31%
Good	39%	34%
Fair	13%	14%
Poor	2%	2%
P-value	0.11	
In general, how would you rate your child's overall **mental or emotional** health now?		
Excellent	4%	7%
Very good	16%	19%
Good	37%	35%
Fair	33%	33%
Poor	10%	6%
P-value	0.00	
As your child’s caregiver, do you have adequate support and resources to meet your and your child’s needs?		
Definitely not	6%	5%

Question and Response Options	Child, 2018	Child, 2019
Probably not	11%	9%
Not sure	16%	16%
Probably yes	37%	36%
Definitely yes	30%	34%
P-value	0.26	
In the last 12 months, was your family ever homeless?		
No	98%	97%
Yes	2%	3%
P-value	0.68	
In the last 12 months, how often were you worried or stressed about having enough money to pay your rent/mortgage?		
Never	39%	44%
Sometime	33%	34%
Usually	11%	12%
Always	17%	11%
P-value	0.01	
In the last 12 months, how often were you worried or stressed about having enough money to buy nutritious meals?		
Never	50%	55%
Sometime	29%	33%
Usually	10%	6%
Always	11%	7%
P-value	0.00	

Adult Member Experience: Behavioral Health (BH), ACO Members Overall and by CP Enrollment Status

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Number of Respondents	**2,545**	**2,052**	**1,637**	**1,339**	**4,182**	**3,391**
In the last 12 months, did you need mental health services?						
No	15%	21%	14%	20%	15%	20%
Yes	85%	79%	86%	80%	85%	80%
P-value	<0.0001		<0.001		<0.0001	
How well were your needs for mental health services met?						
Not at all	3%	4%	5%	5%	4%	5%
Somewhat	26%	17%	31%	24%	28%	20%
Very well	70%	79%	63%	71%	68%	76%
P-value	<0.0001		<0.001		<0.0001	
In the last 12 months, did you need substance use treatment services for problems with alcohol or drugs?						
No	82%	82%	55%	65%	71%	75%
Yes	18%	18%	45%	35%	29%	25%
P-value	0.63		<0.0001		<0.01	
How well were your needs for substance use treatment services for problems with alcohol or drugs met?						
Not at all	4%	5%	5%	4%	4%	5%
Somewhat	19%	14%	26%	17%	24%	16%
Very well	78%	81%	69%	78%	72%	79%
P-value	0.11		<0.01		<0.001	
In the last 12 months, did you need behavioral health prescription medications?						

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
No	19%	29%	17%	22%	18%	26%
Yes	81%	71%	83%	78%	82%	74%
P-value	<0.0001		<0.01		<0.0001	
How well were your needs for behavioral health prescription medications met?						
Not at all	3%	4%	6%	6%	4%	5%
Somewhat	25%	15%	27%	20%	26%	17%
Very well	72%	81%	67%	74%	70%	78%
P-value	<0.0001		<0.001		<0.0001	
In the last 12 months, did someone from your care team meet with you, in person or by telephone, to assess your behavioral health needs?						
Yes	73%	66%	74%	75%	73%	69%
No	21%	25%	19%	18%	20%	22%
Don't know/Not sure	6%	9%	7%	7%	6%	8%
P-value	<0.0001		0.93		<0.001	
To what extent do you feel that your behavioral health needs were identified and discussed during the assessment?						
Not at all	2%	6%	3%	11%	2%	8%
Somewhat	30%	17%	35%	21%	32%	19%
Complete	69%	77%	62%	68%	66%	73%
P-value	<0.0001		<0.0001		<0.0001	
Do you have a care plan?						
Yes	58%	51%	64%	63%	60%	56%
No	22%	25%	19%	18%	21%	22%
Don't know/Not sure	20%	24%	16%	20%	19%	22%
P-value	<0.001		0.10		<0.001	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Did you have a choice of services and providers during the care planning process?						
No	9%	10%	9%	14%	9%	12%
Yes, somewhat	33%	23%	34%	22%	33%	23%
Yes, completely	59%	66%	57%	64%	58%	65%
P-value	<0.0001		<0.0001		<0.0001	
Did anyone in your care team explain to you who was responsible for the different parts of your care plan?						
No	20%	17%	20%	18%	20%	17%
Yes, somewhat	27%	20%	27%	23%	27%	21%
Yes, completely	53%	63%	53%	59%	53%	61%
P-value	<0.0001		0.05		<0.0001	
Do you feel that your care plan includes all of the services that you need?						
No	7%	7%	11%	13%	9%	10%
Yes, somewhat	28%	18%	31%	21%	29%	20%
Yes, completely	65%	74%	58%	66%	62%	70%
P-value	<0.0001		<0.001		<0.0001	
Did your care team discuss with you ways to change your care plan, if needed?						
No	35%	27%	32%	27%	34%	27%
Yes	65%	73%	68%	73%	66%	73%
P-value	<0.001		<0.05		<0.0001	
Do you feel that you need a care coordinator?						
Yes	23%	22%	41%	43%	30%	30%
No	52%	55%	37%	34%	46%	46%
Don't know/Not sure	25%	24%	22%	23%	24%	23%
P-value	0.21		0.20		0.95	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Do you have a care coordinator?						
Yes, I have one care coordinator	15%	12%	29%	39%	21%	23%
Yes, I have more than one care coordinator	6%	3%	9%	8%	7%	5%
No	58%	62%	44%	33%	52%	51%
Don't know/Not sure	21%	22%	18%	20%	19%	21%
P-value	<0.001		<0.0001		<0.01	
In the last 12 months, did you have contact with your care coordinator?						
No	6%	7%	5%	3%	5%	5%
Yes	94%	93%	95%	97%	95%	95%
P-value	0.60		0.32		0.55	
In the last 12 months, did you need services in the community, such as support groups, day programs, or clubhouse?						
No	64%	68%	53%	57%	58%	61%
Yes	36%	32%	47%	43%	42%	39%
P-value	0.36		0.20		0.24	
Did your care coordinator help you obtain these services in the community?						
No	18%	24%	22%	31%	20%	29%
Yes	82%	76%	78%	69%	80%	71%
P-value	0.29		<0.05		<0.05	
Specialists are providers like psychiatrists, surgeons, heart doctors, allergy doctors, and other doctors who specialize in one area of health care. In the last 12 months, did you need a referral to a specialist?						
No	31%	28%	29%	28%	30%	28%
Yes	69%	72%	71%	72%	70%	72%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
P-value	0.35		0.70		0.34	
Did your care coordinator assist you with any referrals to a specialist?						
No	24%	27%	36%	38%	30%	34%
Yes	76%	73%	64%	62%	70%	66%
P-value	0.43		0.63		0.19	
In the last 12 months, how often did your care coordinator seem to know the important information about your medical history?						
Never	3%	3%	6%	6%	5%	5%
Sometime	14%	13%	22%	18%	18%	16%
Usually	31%	25%	27%	30%	29%	29%
Always	52%	59%	46%	46%	49%	50%
P-value	0.41		0.43		0.83	
How would you rate your care coordinator's knowledge of you as a person, including values and beliefs that are important to you?						
Very poor	2%	0%	2%	2%	2%	2%
Poor	2%	2%	2%	4%	2%	3%
Fair	9%	11%	14%	13%	12%	12%
Good	24%	20%	22%	20%	23%	20%
Very good	30%	23%	29%	30%	29%	27%
Excellent	33%	44%	31%	32%	32%	36%
P-value	<0.05		0.69		0.31	
In the last 12 months, did you see a behavioral health provider?						
Yes, I saw one behavioral health provider	53%	47%	50%	50%	52%	48%
Yes, I saw more than one behavioral health provider	33%	28%	36%	31%	34%	29%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
No	14%	25%	15%	19%	14%	23%
P-value	<0.0001		<0.01		<0.0001	
In the last 12 months, how often did your behavioral health provider explain things in a way that was easy to understand?						
Never	2%	2%	3%	3%	2%	3%
Sometime	9%	9%	14%	14%	11%	11%
Usually	26%	25%	31%	30%	28%	27%
Always	63%	64%	53%	52%	59%	59%
P-value	0.92		0.73		0.78	
In the last 12 months, how often did your behavioral health provider listen carefully to you?						
Never	2%	2%	2%	2%	2%	2%
Sometime	6%	7%	11%	12%	8%	9%
Usually	17%	19%	21%	23%	19%	21%
Always	75%	72%	66%	63%	71%	68%
P-value	0.21		0.46		<0.05	
In the last 12 months, how often did your behavioral health provider show respect for what you had to say?						
Never	1%	2%	2%	2%	2%	2%
Sometime	6%	5%	8%	8%	6%	6%
Usually	12%	15%	17%	18%	14%	17%
Always	81%	78%	73%	71%	78%	75%
P-value	<0.05		0.82		<0.05	
In the last 12 months, how often did your behavioral health provider spend enough time with you?						
Never	2%	3%	5%	4%	3%	3%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Sometime	7%	8%	12%	13%	9%	10%
Usually	22%	23%	23%	26%	22%	25%
Always	69%	66%	60%	57%	66%	62%
P-value	<0.05		0.28		0.07	
In the last 12 months, how often did your behavioral health provider show respect for your cultural/ethnic background?						
Never	1%	2%	3%	2%	2%	2%
Sometime	2%	3%	3%	6%	2%	4%
Usually	9%	9%	11%	12%	10%	10%
Always	88%	87%	83%	80%	86%	84%
P-value	0.66		<0.001		<0.05	
In the last 12 months, how often did your behavioral health provider show respect for your sexual orientation, gender expression and gender identity?						
Never	3%	3%	4%	5%	3%	4%
Sometime	2%	2%	2%	4%	2%	3%
Usually	7%	7%	7%	10%	7%	8%
Always	89%	89%	87%	81%	88%	86%
P-value	0.99		<0.001		0.07	
Behavioral health services were available at times that were convenient for me.						
Strongly disagree	3%	3%	3%	5%	3%	4%
Disagree	4%	4%	5%	5%	4%	4%
Neither disagree nor agree	9%	10%	11%	12%	10%	11%
Agree	42%	43%	46%	44%	44%	43%
Strongly agree	42%	40%	34%	36%	39%	38%
P-value	0.69		0.50		0.62	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Behavioral health providers were able to see me as often as I felt was necessary.						
Strongly disagree	3%	4%	4%	5%	3%	4%
Disagree	5%	7%	7%	7%	6%	7%
Neither disagree nor agree	11%	11%	12%	13%	11%	12%
Agree	40%	41%	43%	40%	42%	40%
Strongly agree	40%	38%	34%	35%	38%	37%
P-value	0.34		0.58		0.26	
In the last 12 months, how often did your behavioral health provider(s) and primary care provider work together as a team to provide your care?						
Never	28%	26%	24%	22%	26%	24%
Sometimes	16%	17%	18%	18%	17%	17%
Usually	18%	18%	18%	18%	18%	18%
Always	32%	31%	36%	38%	34%	34%
Not applicable, I did not see a primary care provider in the last 12 months.	7%	8%	4%	5%	6%	7%
P-value	0.81		0.77		0.59	
Sometimes several providers are involved in providing an individual with behavioral health. For example, a member might see both a psychiatrist and a psychologist. In the last 12 months, how often did all of your behavioral health providers work together as a team to provide you with the behavioral health services you needed?						
Never	15%	16%	16%	16%	15%	16%
Sometimes	12%	11%	15%	13%	13%	12%
Usually	16%	16%	16%	18%	16%	17%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Always	35%	34%	39%	38%	37%	36%
Not applicable, I did not have multiple behavioral health providers in the last 12 months	22%	23%	13%	15%	19%	19%
P-value	0.73		0.67		0.53	
Would you recommend your behavioral health provider(s) to your family and friends if they needed similar behavioral health?						
Definitely not	3%	4%	4%	6%	3%	5%
Probably not	4%	5%	4%	5%	4%	5%
Not sure	9%	10%	12%	11%	10%	10%
Probably yes	27%	25%	30%	28%	28%	26%
Definitely yes	58%	56%	50%	50%	55%	54%
P-value	0.32		0.21		<0.05	
In the last 12 months, did you contact anyone from your care team about your behavioral health services to get help or advice?						
Yes	44%	40%	53%	54%	47%	46%
No	46%	49%	37%	38%	42%	45%
Don't know/Not sure	10%	10%	11%	8%	10%	10%
P-value	0.09		0.12		0.19	
In the last 12 months, when you contacted someone from your care team about your behavioral health services, did you get the help or advice you needed?						
No	11%	19%	14%	28%	12%	23%
Yes	89%	81%	86%	72%	88%	77%
P-value	<0.0001		<0.0001		<0.0001	
In the last 12 months, were you hospitalized overnight?						

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
No	84%	83%	61%	68%	75%	77%
Yes	16%	17%	39%	32%	25%	24%
P-value	0.42		<0.001		0.10	
Following your last hospitalization, did anyone from your care team contact you to ask about your condition?						
No	37%	35%	39%	31%	38%	33%
Yes	63%	65%	61%	69%	62%	67%
P-value	0.69		<0.05		<0.05	
As a result of behavioral health services, I am better able to take care of my needs.						
Strongly disagree	4%	4%	6%	7%	5%	5%
Disagree	5%	6%	8%	7%	6%	6%
Neither disagree nor agree	24%	23%	24%	27%	24%	25%
Agree	41%	41%	41%	39%	41%	40%
Strongly agree	26%	26%	21%	20%	24%	24%
P-value	0.95		0.33		0.88	
As a result of behavioral health services, I am better able to manage my money and pay my bills.						
Strongly disagree	5%	5%	7%	7%	6%	6%
Disagree	7%	7%	9%	8%	8%	7%
Neither disagree nor agree	28%	26%	26%	24%	27%	25%
Agree	27%	25%	30%	27%	28%	26%
Strongly agree	17%	16%	16%	21%	17%	18%
Not applicable	17%	20%	11%	13%	15%	17%
P-value	0.22		<0.05		<0.05	
As a result of behavioral health services, I am better able to work or go to school.						

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Strongly disagree	8%	7%	12%	13%	9%	9%
Disagree	11%	9%	12%	12%	12%	10%
Neither disagree nor agree	19%	23%	19%	21%	19%	22%
Agree	17%	20%	14%	12%	16%	17%
Strongly agree	12%	14%	8%	9%	10%	12%
I do not work or go to school	33%	28%	35%	34%	34%	30%
P-value	<0.0001		0.64		<0.001	
As a result of behavioral health services, my housing situation has improved.						
Strongly disagree	8%	6%	12%	12%	10%	9%
Disagree	11%	9%	13%	15%	12%	12%
Neither disagree nor agree	49%	50%	39%	38%	45%	45%
Agree	24%	25%	26%	24%	25%	25%
Strongly agree	8%	10%	10%	10%	9%	10%
P-value	<0.05				0.48	
As a result of behavioral health services, I do better in social situations.						
Strongly disagree	6%	6%	8%	9%	7%	7%
Disagree	12%	8%	14%	12%	13%	10%
Neither disagree nor agree	33%	37%	32%	34%	33%	36%
Agree	38%	37%	34%	34%	36%	36%
Strongly agree	11%	12%	11%	10%	11%	11%
P-value	<0.01		0.51		<0.01	
As a result of behavioral health services, I have people with whom I can do enjoyable things, such as talk on the phone or get together.						
Strongly disagree	6%	5%	8%	9%	7%	7%
Disagree	12%	8%	12%	11%	12%	9%
Neither disagree nor agree	33%	37%	29%	32%	31%	35%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Agree	37%	37%	39%	36%	38%	37%
Strongly agree	12%	13%	13%	12%	12%	13%
P-value	<0.001		0.58		<0.01	
Using any number from 0 to 10, where 0 is the worst behavioral health services possible and 10 is the best behavioral health services possible, what number would you use to rate your behavioral health services in the last 12 months?						
0 Worst behavioral health services possible	1%	3%	3%	3%	2%	3%
1	1%	2%	2%	2%	1%	2%
2	1%	1%	2%	3%	1%	2%
3	2%	3%	3%	3%	2%	3%
4	2%	2%	3%	3%	3%	3%
5	8%	9%	10%	10%	8%	9%
6	6%	5%	7%	8%	7%	6%
7	11%	10%	12%	13%	11%	11%
8	18%	18%	19%	17%	18%	18%
9	15%	14%	12%	12%	14%	14%
10 Best behavioral health services possible	34%	33%	28%	26%	31%	30%
P-value	<0.05		0.83		0.28	
In general, how would you rate your overall health now?						
Excellent	6%	7%	4%	3%	5%	6%
Very good	16%	17%	12%	12%	14%	15%
Good	33%	35%	30%	29%	32%	32%
Fair	34%	33%	40%	40%	37%	36%
Poor	11%	9%	15%	15%	12%	11%
P-value	0.12		0.95		0.41	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
In general, how would you rate your overall mental or emotional health now?						
Excellent	5%	6%	4%	4%	5%	5%
Very good	12%	14%	11%	10%	11%	13%
Good	33%	32%	27%	27%	30%	30%
Fair	38%	35%	41%	41%	39%	37%
Poor	12%	12%	17%	17%	14%	14%
P-value	0.07		0.99		0.39	
In the last 12 months, were you ever homeless?						
No	91%	90%	79%	79%	87%	85%
Yes	9%	10%	21%	21%	13%	15%
P-value	0.09		0.98		0.22	
In the last 12 months, how often were you worried or stressed about having enough money to pay your rent/mortgage?						
Never	24%	27%	20%	20%	22%	24%
Sometime	29%	29%	28%	26%	29%	28%
Usually	17%	16%	17%	14%	17%	15%
Always	31%	29%	34%	39%	32%	33%
P-value	0.17		<0.05		0.11	
In the last 12 months, how often were you worried or stressed about having enough money to buy nutritious meals?						
Never	30%	34%	21%	23%	26%	29%
Sometime	34%	32%	37%	35%	35%	33%
Usually	16%	15%	17%	15%	16%	15%
Always	20%	19%	25%	27%	22%	23%
P-value	0.08		0.28		0.05	

Pediatric Member Experience: Long-Term Services and Supports (LTSS), ACO Enrollees Overall and by CP Enrollment Status

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Number of Respondents	***637***	***1,181***	***177***	***166***	***814***	***1,347***
In the last 12 months, did your child need physical, occupational or speech therapy services?						
No	30%	57%	16%	20%	27%	51%
Yes	70%	44%	84%	80%	73%	49%
P-Value	<0.0001		0.37		<0.001	
How well were your child's needs for physical, occupational or speech therapy services met?						
Not at all	3%	4%	8%	14%	4%	6%
Somewhat	27%	17%	22%	22%	25%	18%
Very well	70%	79%	70%	65%	70%	76%
P-Value	<0.01		0.44		<0.05	
In the last 12 months, did your child need skilled nursing?						
No	88%	94%	74%	82%	85%	92%
Yes	12%	6%	26%	18%	15%	8%
P-Value	<0.001		0.07		<0.001	
How well were your child's needs for skilled nursing met?						
Not at all	4%	5%	9%	15%	6%	8%
Somewhat	19%	10%	20%	19%	19%	12%
Very well	77%	86%	71%	66%	74%	80%
P-Value	0.25		0.76		0.40	
In the last 12 months, did your child need help with personal care or everyday tasks?						

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
No	60%	77%	18%	31%	50%	70%
Yes	40%	23%	82%	69%	50%	30%
P-Value	<0.0001		<0.05		<0.001	
How well were your child's needs for personal care or everyday tasks met?						
Not at all	6%	6%	3%	11%	5%	7%
Somewhat	33%	18%	26%	27%	30%	21%
Very well	61%	76%	71%	63%	65%	72%
P-Value	<0.01		<0.05		<0.05	
In the last 12 months, did your child need medical equipment, such as a wheelchair or a walker, or medical supplies, such as catheters or syringes?						
No	85%	83%	55%	60%	78%	80%
Yes	15%	17%	45%	40%	22%	20%
P-Value	0.34		0.35		0.31	
How well were your child's needs for medical equipment or medical supplies met?						
Not at all	3%	2%	5%	3%	4%	2%
Somewhat	21%	10%	23%	15%	22%	11%
Very well	75%	88%	72%	83%	74%	87%
P-Value	<0.05		0.28		<0.01	
In the last 12 months, did your child need assistive technology, such as special software or keyboards?						
No	88%	93%	72%	67%	85%	89%
Yes	12%	7%	28%	33%	15%	11%
P-Value	<0.01		0.42		<0.01	

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
How well were your child's needs for assistive technology met?						
Not at all	16%	20%	23%	24%	19%	22%
Somewhat	35%	20%	36%	34%	36%	26%
Very well	49%	60%	40%	42%	46%	52%
P-Value	0.12		0.97		0.25	
Specialty care services are services or care provided by a specialist doctor like a psychiatrist, surgeon, heart doctor, allergy doctor, and other doctors who specialize in one area of health care. In the last 12 months, did your child need specialty care services?						
No	47%	46%	24%	23%	42%	43%
Yes	53%	54%	76%	77%	58%	57%
P-Value	0.73		0.79		0.60	
How well were your child's needs for specialty care services met?						
Not at all	5%	2%	0%	2%	3%	2%
Somewhat	22%	11%	11%	14%	19%	12%
Very well	73%	87%	88%	84%	78%	86%
P-Value	<0.0001		0.44		<0.01	
In the last 12 months, did your child need mental health services?						
No	74%	73%	69%	63%	73%	72%
Yes	26%	27%	31%	37%	27%	28%
P-Value	0.71		0.22		0.55	
How well were your child's needs for mental health services met?						
Not at all	10%	8%	8%	5%	9%	8%

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Somewhat	32%	18%	24%	20%	30%	18%
Very well	58%	74%	68%	75%	61%	74%
P-Value	<0.01		0.75		<0.01	
In the last 12 months, did your child need substance use treatment services for problems with alcohol or drugs?						
No	100%	99%	100%	99%	100%	99%
Yes	0%	1%	0%	1%	0%	1%
P-Value	0.60		0.31		0.34	
In the last 12 months, did your child need transportation services to get to medical appointments?						
No	84%	92%	73%	72%	81%	89%
Yes	16%	8%	27%	28%	19%	11%
P-Value	<0.0001		0.97		<0.001	
How well were your child's needs for transportation services to get to medical appointments met?						
Not at all	13%	22%	20%	26%	15%	23%
Somewhat	32%	13%	26%	26%	30%	18%
Very well	55%	64%	55%	49%	55%	59%
P-Value	<0.01		0.79		<0.05	
In the last 12 months, did your child need prescription medications?						
No	36%	31%	19%	9%	32%	28%
Yes	64%	69%	81%	91%	68%	72%
P-Value	0.06				0.07	
How well were your child's needs for prescription medications met?						

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Not at all	2%	1%	1%	2%	2%	1%
Somewhat	15%	7%	17%	8%	16%	7%
Very well	83%	92%	81%	89%	82%	91%
P-Value	<0.0001		<0.01		<0.001	
In the last 12 months, did someone from your child's care team meet with you, in person or by telephone, to assess your child's long term services and supports needs?						
Yes	46%	33%	73%	71%	52%	39%
No	36%	55%	16%	19%	31%	50%
Don't know/Not sure	18%	12%	12%	10%	16%	12%
P-Value	<0.0001		0.77		<0.001	
To what extent do you feel that your child's long term services and supports needs were identified and discussed during the assessment?						
Not at all	2%	3%	4%	10%	2%	5%
Somewhat	18%	20%	34%	25%	23%	21%
Completely	81%	77%	62%	65%	75%	74%
P-Value	0.37		0.11		0.17	
Do your child have a care plan?						
Yes	45%	36%	56%	54%	47%	38%
No	29%	46%	18%	24%	26%	43%
Don't know/Not sure	27%	19%	25%	22%	26%	19%
P-Value	<0.0001		0.44		<0.001	
Did you and/or your child have a choice of services and providers during the care planning process?						
No	13%	12%	8%	15%	11%	12%

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Yes, somewhat	27%	21%	41%	20%	31%	21%
Yes, completely	61%	67%	51%	65%	58%	67%
P-Value	0.27		<0.05		<0.05	
Did anyone in your child's care team explain to you and/or your child who was responsible for the different parts of your child's care plan?						
No	22%	20%	21%	16%	22%	19%
Yes, somewhat	19%	23%	29%	25%	22%	24%
Yes, completely	59%	57%	51%	59%	56%	57%
P-Value	0.42		0.55		0.58	
Do you feel that your child's care plan includes all of the services that your child needs?						
No	8%	10%	7%	16%	8%	11%
Yes, somewhat	25%	23%	33%	27%	28%	24%
Yes, completely	66%	67%	59%	57%	64%	65%
P-Value	0.66		0.15		0.19	
Did your child's care team discuss with you and/or your child ways to change your child's care plan, if needed?						
No	30%	25%	27%	27%	30%	25%
Yes	70%	75%	73%	73%	70%	75%
P-Value	0.15		0.98		0.22	
Do you feel that your child needs a care coordinator?						
Yes	28%	17%	46%	58%	32%	23%
No	44%	65%	29%	19%	40%	59%
Don't know/Not sure	28%	18%	25%	23%	28%	18%
P-Value	<0.0001		0.09		<0.001	
Do your child have a care coordinator?						

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Yes, my child has one care coordinator	11%	8%	28%	35%	15%	11%
Yes, my child has more than one care coordinator	8%	3%	11%	6%	8%	3%
No	56%	74%	39%	36%	52%	69%
Don't know/Not sure	25%	16%	23%	23%	25%	17%
P-Value	<0.0001		0.33		<0.001	
In the last 12 months, did you have contact with your child's care coordinator?						
No	8%	15%	5%	6%	7%	11%
Yes	92%	85%	95%	94%	93%	89%
P-Value	0.13		0.87		0.18	
In the last 12 months, did your child need services in the community, such as support groups or day programs?						
No	57%	55%	52%	64%	55%	59%
Yes	43%	45%	48%	36%	45%	41%
P-Value	0.77		0.17		0.52	
Did your child's care coordinator help your child obtain services in the community?						
No	15%	25%	24%	67%	19%	40%
Yes	85%	75%	76%	33%	81%	60%
P-Value	0.25		<0.01		<0.01	
Specialists are providers like psychiatrists, surgeons, heart doctors, allergy doctors, and other doctors who specialize in one area of health care. In the last 12 months, did your child need any referrals to a specialist?						
No	25%	38%	33%	21%	28%	31%
Yes	75%	62%	67%	79%	72%	69%

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
P-Value	<0.05		0.14		0.49	
Did your child's care coordinator assist your child with any referrals to a specialist?						
No	19%	31%	37%	63%	25%	46%
Yes	81%	69%	63%	37%	75%	54%
P-Value	0.08		<0.01		<0.01	
In the last 12 months, how often did your child's care coordinator seem to know the important information about your child's medical history?						
Never	5%	7%	3%	9%	4%	8%
Sometime	19%	17%	20%	29%	19%	22%
Usually	22%	38%	30%	26%	25%	33%
Always	54%	37%	47%	37%	51%	37%
P-Value	<0.05		0.26		0.06	
How would you rate your child's care coordinator's knowledge of your child as a person, including special abilities, concerns and fears?						
Very poor	1%	2%	1%	5%	1%	3%
Poor	2%	2%	2%	8%	2%	4%
Fair	7%	11%	11%	17%	9%	14%
Good	24%	35%	30%	30%	26%	33%
Very good	24%	21%	24%	20%	24%	20%
Excellent	42%	29%	32%	21%	38%	26%
P-Value	0.28		0.28		0.06	
In the last 12 months, did your child get care or services from an LTSS provider?						
Yes, from one LTSS provider	19%	11%	32%	33%	22%	14%
Yes, from more than one LTSS provider	17%	4%	17%	12%	17%	5%

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
No	64%	85%	52%	55%	61%	81%
P-Value	<0.0001		0.59		<0.001	
In the last 12 months, how often did your child's LTSS provider explain things in a way that was easy to understand?						
Never	2%	1%	0%	7%	1%	3%
Sometimes	16%	10%	23%	17%	18%	13%
Usually	19%	26%	26%	39%	21%	30%
Always	64%	63%	51%	37%	60%	54%
P-Value	0.29		<0.05		<0.05	
In the last 12 months, how often did your child's LTSS provider listen carefully to you and/or your child?						
Never	1%	2%	0%	4%	1%	2%
Sometime	13%	11%	17%	10%	14%	10%
Usually	17%	18%	22%	33%	19%	23%
Always	69%	70%	60%	54%	66%	64%
P-Value	0.84		0.12		0.15	
In the last 12 months, how often did your child's LTSS provider show respect for what you and/or your child had to say?						
Never	2%	2%	0%	3%	1%	2%
Sometime	8%	5%	5%	8%	7%	6%
Usually	12%	18%	19%	30%	14%	22%
Always	78%	75%	76%	60%	78%	70%
P-Value	0.38		0.17		0.13	
In the last 12 months, how often did your child's LTSS provider spend enough time with your child?						

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Never	2%	3%	3%	5%	2%	3%
Sometime	11%	10%	21%	10%	14%	10%
Usually	18%	25%	22%	34%	19%	28%
Always	70%	62%	53%	51%	65%	59%
P-Value	0.37		0.24		0.10	
In the last 12 months, how often did your child's LTSS provider show respect for your child's cultural/ethnic background?						
Never	4%	2%	5%	5%	4%	3%
Sometime	5%	3%	4%	2%	5%	3%
Usually	8%	12%	6%	23%	7%	15%
Always	83%	84%	85%	70%	84%	79%
P-Value	0.38		<0.05		<0.05	
In the last 12 months, how often did your child's LTSS provider show respect for your child's sexual orientation, gender expression and gender identity?						
Never	4%	2%	10%	7%	6%	4%
Sometime	4%	1%	2%	3%	3%	2%
Usually	4%	11%	2%	15%	3%	12%
Always	88%	86%	86%	75%	87%	82%
P-Value	<0.05		0.12		<0.05	
Long term services and supports were scheduled at times that were convenient for me and my child.						
Strongly disagree	1%	0%	4%	2%	2%	1%
Disagree	3%	2%	4%	2%	3%	2%
Neither disagree nor agree	6%	12%	6%	9%	6%	11%
Agree	51%	45%	43%	54%	48%	48%

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Strongly agree	40%	40%	44%	32%	41%	38%
P-Value	0.31		0.57		0.37	
Long term services and support provider(s) saw my child as scheduled and on time.						
Strongly disagree	1%	2%	0%	1%	0%	2%
Disagree	2%	3%	4%	0%	2%	2%
Neither disagree nor agree	3%	6%	7%	10%	4%	7%
Agree	50%	47%	41%	49%	48%	48%
Strongly agree	44%	41%	48%	39%	45%	41%
P-Value	0.42		0.28		0.35	
Long term services and support provider(s) were able to see my child as often as I felt was necessary.						
Strongly disagree	1%	4%	5%	6%	3%	5%
Disagree	4%	5%	9%	9%	6%	6%
Neither disagree nor agree	4%	9%	11%	10%	7%	9%
Agree	51%	40%	35%	46%	46%	42%
Strongly agree	39%	42%	40%	29%	39%	38%
P-Value	0.13		0.66		0.54	
In the last 12 months, how often did your child's LTSS provider(s) and primary care provider work together as a team to provide your child's care?						
Never	5%	21%	19%	23%	9%	22%
Sometimes	18%	19%	19%	19%	18%	19%
Usually	11%	18%	17%	20%	13%	18%
Always	62%	41%	43%	30%	56%	37%
Not applicable, I did not see a primary care provider in the last 12 months.	4%	2%	2%	8%	3%	4%

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
P-Value	<0.0001		0.40		<0.001	
Sometimes several providers are involved in providing an individual with long term services and supports. For example, an individual may have more than one personal care assistant, a therapist and/or a nurse. In the last 12 months, how often did all of your child's LTSS providers work together as a team to provide your child with the long term services and supports needed?						
Never	3%	18%	19%	16%	8%	17%
Sometimes	20%	13%	18%	11%	19%	12%
Usually	11%	17%	18%	23%	13%	19%
Always	47%	39%	37%	30%	44%	36%
Not applicable, my child did not have multiple LTSS providers in the last 12 months	20%	13%	7%	20%	16%	15%
P-Value	<0.0001		0.19		<0.01	
Would you recommend your child's LTSS provider(s) to your family and friends if they needed similar long term services and supports?						
Definitely not	1%	3%	1%	2%	1%	3%
Probably not	1%	2%	2%	5%	1%	3%
Not sure	11%	6%	9%	12%	10%	8%
Probably yes	25%	34%	30%	39%	27%	36%
Definitely yes	62%	55%	57%	42%	60%	50%
P-Value	0.11		0.44		0.07	

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
In the last 12 months, did you contact anyone from your child's care team about your child's long term services and supports to get help or advice?						
Yes	48%	23%	53%	50%	50%	27%
No	38%	68%	33%	43%	36%	65%
Don't know/Not sure	14%	8%	14%	8%	14%	8%
P-Value	<0.0001		0.14		<0.001	
In the last 12 months, when you contacted someone from your child's care team about your child's long term services and supports, did you get the help or advice you needed?						
No	10%	27%	15%	37%	12%	29%
Yes	90%	73%	85%	63%	88%	71%
P-Value	<0.0001		<0.01		<0.001	
In the last 12 months, did someone from your child's care team talk with you about whether your child may need to change to a new provider who treats mostly adults?						
Yes	4%	3%	4%	5%	4%	3%
No	52%	82%	57%	75%	53%	81%
Don't know/Not sure	8%	3%	8%	4%	8%	3%
Not Applicable, my child is not old enough for these discussions	35%	12%	30%	17%	34%	12%
Not Applicable, my child already sees a provider who treats mostly adults	1%	0%	1%	0%	1%	0%
P-Value	<0.0001		<0.05		<0.001	
Did they discuss a specific plan for changing to a new provider who treats mostly adults?						

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Yes	27%	47%	52%	51%	34%	48%
No	50%	44%	20%	49%	41%	45%
Don't know/Not sure	23%	9%	29%	0%	25%	7%
P-Value	0.20		0.17		0.11	
In the last 12 months, was your child hospitalized overnight?						
No	89%	88%	78%	82%	86%	87%
Yes	11%	12%	22%	18%	14%	13%
P-Value	0.69		0.35		0.46	
Following your child's last hospitalization, did anyone from your child's care team contact you to ask about your child's condition?						
No	35%	27%	37%	48%	36%	31%
Yes	65%	73%	63%	52%	64%	69%
P-Value	0.26		0.42		0.47	
As a result of long term services and supports, my child has better coping skills.						
Strongly disagree	3%	5%	4%	9%	3%	5%
Disagree	6%	7%	9%	8%	7%	7%
Neither disagree nor agree	18%	41%	28%	36%	21%	40%
Agree	49%	33%	37%	37%	45%	34%
Strongly agree	24%	15%	22%	10%	23%	14%
P-Value	<0.0001		<0.05		<0.001	
As a result of long term services and supports, my child does better in school, work and/or other activities.						
Strongly disagree	3%	4%	4%	6%	3%	4%
Disagree	8%	6%	8%	12%	8%	7%
Neither disagree nor agree	17%	36%	18%	32%	17%	35%

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Agree	46%	36%	40%	39%	44%	37%
Strongly agree	26%	18%	29%	12%	27%	17%
P-Value	<0.0001		<0.01		<0.001	
As a result of long term services and supports, my child is better able to do the things he or she wants to do.						
Strongly disagree	3%	3%	8%	9%	4%	4%
Disagree	8%	7%	10%	11%	8%	8%
Neither disagree nor agree	15%	37%	19%	30%	16%	36%
Agree	52%	36%	45%	38%	50%	37%
Strongly agree	23%	16%	18%	13%	22%	15%
P-Value	<0.0001		0.28		<0.001	
As a result of long term services and supports, my child does better in social situations.						
Strongly disagree	3%	4%	5%	8%	3%	5%
Disagree	11%	7%	17%	11%	13%	7%
Neither disagree nor agree	17%	43%	30%	34%	20%	41%
Agree	48%	33%	32%	39%	43%	34%
Strongly agree	21%	13%	16%	8%	20%	12%
P-Value	<0.0001		0.08		<0.001	
As a result of long term services and supports, the quality of our family life has improved.						
Strongly disagree	3%	3%	5%	7%	4%	4%
Disagree	4%	6%	9%	8%	6%	6%
Neither disagree nor agree	16%	39%	16%	30%	16%	38%
Agree	53%	37%	50%	41%	52%	38%
Strongly agree	24%	15%	20%	15%	23%	15%
P-Value	<0.0001		0.08		<0.001	

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
Using any number from 0 to 10, where 0 is the worst long term services and supports possible and 10 is the best long term services and supports possible, what number would you use to rate your child's long term services and supports in the last 12 months?						
0 Worst long term services and supports possible	2%	3%	3%	3%	3%	3%
1	1%	2%	2%	2%	1%	2%
2	1%	1%	0%	4%	1%	2%
3	0%	2%	3%	5%	1%	2%
4	2%	1%	0%	3%	1%	2%
5	7%	11%	12%	10%	9%	11%
6	6%	6%	7%	10%	6%	7%
7	9%	13%	16%	13%	11%	13%
8	21%	21%	21%	17%	21%	21%
9	18%	12%	13%	13%	17%	12%
10 Best long term services and supports possible	33%	28%	23%	19%	30%	26%
P-Value	<0.01		0.24		0.13	
In general, how would you rate your child's overall health now?						
Excellent	24%	24%	14%	11%	21%	22%
Very good	27%	35%	20%	27%	25%	34%
Good	35%	31%	41%	48%	37%	33%
Fair	12%	9%	19%	13%	14%	9%
Poor	2%	1%	6%	2%	3%	1%
P-Value	<0.01		0.10		<0.001	

Question and Response Options	Child non-CP, 2018	Child non-CP, 2019	Child CP, 2018	Child CP, 2019	Child, 2018	Child, 2019
In general, how would your child rate your child's overall mental or emotional health now?						
Excellent	23%	26%	14%	10%	20%	23%
Very good	18%	23%	14%	20%	17%	23%
Good	37%	30%	37%	32%	37%	30%
Fair	19%	18%	26%	30%	20%	20%
Poor	4%	3%	9%	9%	5%	4%
P-Value	<0.05		0.57		<0.05	

Adult Member Experience: LTSS, ACO Respondents Overall and by CP Enrollment Status

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Number of Respondents	***1,017***	***1,794***	***632***	***629***	***1,649***	***2,423***
In the last 12 months, did you need physical, occupational or speech therapy services?						
No	52%	59%	52%	56%	52%	58%
Yes	48%	41%	48%	44%	48%	42%
P-value	<0.01		0.19		<0.001	
How well were your needs for physical, occupational or speech therapy services met?						
Not at all	6%	4%	10%	10%	7%	5%
Somewhat	33%	17%	30%	23%	32%	18%
Very well	61%	80%	59%	68%	60%	76%
P-value	<0.0001		0.12		<0.0001	
In the last 12 months, did you need skilled nursing?						
No	61%	79%	49%	64%	56%	75%
Yes	39%	21%	51%	36%	44%	25%
P-value	<0.0001		<0.0001		<0.0001	
How well were your needs for skilled nursing met?						
Not at all	4%	5%	3%	4%	4%	4%
Somewhat	16%	9%	20%	16%	18%	11%
Very well	80%	86%	77%	81%	79%	84%
P-value	<0.05		0.50		<0.05	
In the last 12 months, did you need help with personal care or everyday tasks?						
No	50%	71%	19%	29%	39%	60%
Yes	50%	29%	81%	71%	61%	40%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
P-value	<0.0001		<0.001		<0.0001	
How well were your needs for personal care or everyday tasks met?						
Not at all	9%	7%	3%	4%	6%	5%
Somewhat	24%	19%	17%	12%	21%	16%
Very well	67%	75%	80%	84%	73%	79%
P-value	<0.05		0.21		<0.05	
In the last 12 months, did you need medical equipment, such as a wheelchair or a walker, or medical supplies, such as catheters or syringes?						
No	50%	68%	43%	45%	47%	62%
Yes	50%	32%	57%	55%	53%	38%
P-value	<0.0001		0.42		<0.0001	
How well were your needs for medical equipment or medical supplies met?						
Not at all	5%	6%	6%	7%	5%	7%
Somewhat	24%	12%	24%	18%	24%	14%
Very well	71%	82%	70%	74%	71%	79%
P-value	<0.0001		0.17		<0.0001	
In the last 12 months, when you visited your doctor's or other health provider's office, did you need special assistance or accommodations, for example to sit on the examination table?						
No	71%	82%	51%	60%	64%	76%
Yes	29%	18%	49%	40%	36%	24%
P-value	<0.0001		<0.01		<0.0001	
How well were your needs for special assistance or accommodations met?						

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Not at all	5%	5%	5%	3%	5%	5%
Somewhat	26%	14%	26%	13%	26%	13%
Very well	69%	81%	69%	84%	69%	82%
P-value	<0.01		<0.001		<0.0001	
In the last 12 months, did you need an interpreter to help you speak with your doctors or other health providers?						
No	77%	86%	60%	69%	71%	82%
Yes	23%	14%	40%	31%	29%	18%
P-value	<0.0001		<0.01		<0.0001	
How well were your needs for an interpreter met?						
Not at all	6%	9%	3%	6%	4%	7%
Somewhat	21%	10%	11%	10%	16%	10%
Very well	74%	82%	86%	84%	80%	83%
P-value	<0.01		0.42		<0.05	
In the last 12 months, did you need assistive technology, such as special software or keyboards?						
No	93%	97%	89%	93%	91%	96%
Yes	7%	3%	11%	7%	9%	4%
P-value	<0.0001		<0.05		<0.0001	
How well were your needs for assistive technology met?						
Not at all	10%	22%	15%	21%	13%	21%
Somewhat	33%	19%	29%	22%	31%	21%
Very well	56%	59%	55%	57%	56%	58%
P-value	0.07		0.63		0.07	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
In the last 12 months, did you need day programs, such as Day Habilitation or Adult Day Health?						
No	77%	91%	72%	76%	75%	87%
Yes	23%	9%	28%	24%	25%	13%
P-value	<0.0001		0.16		<0.0001	
How well were your needs for day programs met?						
Not at all	7%	0.0829	6%	0.0651	7%	7%
Somewhat	24%	11%	22%	12%	23%	11%
Very well	69%	81%	72%	81%	70%	81%
P-value	<0.01		0.06		<0.001	
Specialty care services are services or care provided by a specialist doctor like a psychiatrist, surgeon, heart doctor, allergy doctor, and other doctors who specialize in one area of health care. In the last 12 months, did you need specialty care services?						
No	24%	30%	24%	24%	24%	28%
Yes	76%	70%	76%	76%	76%	72%
P-value	<0.01		0.79		<0.01	
How well were your needs for specialty care services met?						
Not at all	4%	2%	3%	3%	4%	3%
Somewhat	20%	11%	21%	11%	20%	11%
Very well	76%	87%	76%	87%	76%	87%
P-value	<0.0001		<0.001		<0.0001	
In the last 12 months, did you need mental health services?						
No	51%	62%	60%	58%	54%	61%
Yes	49%	38%	40%	42%	46%	39%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
P-value	<0.0001		0.54		<0.0001	
How well were your needs for mental health services met?						
Not at all	5%	7%	7%	3%	5%	6%
Somewhat	24%	13%	26%	10%	24%	12%
Very well	72%	81%	67%	87%	70%	82%
P-value	<0.0001		<0.0001		<0.0001	
In the last 12 months, did you need substance use treatment services for problems with alcohol or drugs?						
No	94%	95%	98%	98%	95%	95%
Yes	6%	5%	2%	3%	5%	5%
P-value	0.31		0.94		0.71	
How well were your needs for substance use treatment services for problems with alcohol or drugs met?						
Not at all	6%	13%	22%	11%	9%	13%
Somewhat	23%	13%	0%	14%	19%	13%
Very well	71%	74%	78%	76%	72%	74%
P-value	0.17		0.36		0.53	
In the last 12 months, did you need transportation services to get to medical appointments?						
No	55%	69%	43%	39%	51%	61%
Yes	45%	31%	57%	61%	49%	39%
P-value	<0.0001		0.14		<0.0001	
How well were your needs for transportation services to get to medical appointments met?						
Not at all	11%	15%	11%	14%	11%	15%
Somewhat	28%	17%	25%	18%	27%	17%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Very well	60%	68%	64%	69%	62%	68%
P-value	<0.001		0.10		<0.0001	
In the last 12 months, did you need transportation services to get to places in the community, for example to visit friends, go shopping or go to work?						
No	70%	81%	57%	58%	65%	75%
Yes	30%	19%	43%	42%	35%	25%
P-value	<0.0001		0.73		<0.0001	
How well were your needs for transportation services to get to places in the community met?						
Not at all	25%	23%	21%	21%	23%	22%
Somewhat	25%	17%	20%	18%	23%	18%
Very well	50%	60%	59%	61%	54%	60%
P-value	<0.05		0.85		0.07	
In the last 12 months, did you need prescription medications?						
No	6%	6%	4%	4%	5%	6%
Yes	94%	94%	96%	96%	95%	94%
P-value	0.43		0.79		0.26	
How well were your needs for prescription medications met?						
Not at all	2%	1%	2%	1%	2%	1%
Somewhat	17%	9%	12%	7%	15%	9%
Very well	81%	90%	86%	92%	83%	90%
P-value	<0.0001		<0.05		<0.0001	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
In the last 12 months, did someone from your care team meet with you, in person or by telephone, to assess your long term services and supports needs?						
Yes	54%	38%	71%	73%	60%	47%
No	32%	48%	17%	17%	26%	40%
Don't know/Not sure	14%	14%	13%	10%	14%	13%
P-value	<0.0001		0.34		<0.0001	
To what extent do you feel that your long term services and supports needs were identified and discussed during the assessment?						
Not at all	5%	6%	3%	8%	4%	7%
Somewhat	27%	17%	24%	18%	26%	17%
Very well	68%	78%	73%	74%	70%	76%
P-value	<0.001		<0.05		<0.0001	
Do you have a care plan?						
Yes	49%	38%	61%	64%	53%	45%
No	27%	41%	15%	17%	22%	35%
Don't know/Not sure	25%	21%	24%	19%	24%	21%
P-value	<0.0001		0.11		<0.0001	
Did you have a choice of services and providers during the care planning process?						
No	9%	11%	10%	9%	10%	11%
Yes, somewhat	33%	20%	29%	21%	31%	20%
Yes, completely	58%	68%	62%	70%	60%	69%
P-value	<0.001		<0.05		<0.0001	
Did anyone in your care team explain to you who was responsible for the different parts of your care plan?						
No	16%	20%	13%	17%	15%	19%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Yes, somewhat	28%	23%	24%	18%	27%	21%
Yes, completely	56%	57%	62%	65%	59%	60%
P-value	0.07		0.08		<0.01	
Do you feel that your care plan includes all of the services that you need?						
No	8%	8%	10%	11%	9%	9%
Yes, somewhat	32%	21%	28%	19%	30%	20%
Yes, completely	59%	71%	63%	70%	61%	71%
P-value	<0.001		<0.05		<0.0001	
Did your care team discuss with you ways to change your care plan, if needed?						
No	36%	32%	28%	25%	33%	29%
Yes	64%	68%	72%	75%	67%	71%
P-value	0.18		0.38		0.15	
Do you feel that you need a care coordinator?						
Yes	34%	19%	40%	47%	37%	27%
No	43%	61%	32%	30%	39%	53%
Don't know/Not sure	23%	20%	27%	23%	24%	21%
P-value	<0.0001		0.08		<0.0001	
Do you have a care coordinator?						
Yes, I have one care coordinator	26%	12%	40%	42%	31%	20%
Yes, I have more than one care coordinator	11%	4%	11%	8%	11%	5%
No	53%	67%	34%	27%	46%	57%
Don't know/Not sure	11%	16%	14%	22%	12%	18%
P-value	<0.0001		<0.01		<0.0001	
In the last 12 months, did you have contact with your care coordinator?						

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
No	8%	16%	6%	5%	7%	10%
Yes	92%	84%	94%	95%	93%	90%
P-value	<0.01		0.59		<0.05	
In the last 12 months, did you need services in the community, such as support groups or day programs?						
No	61%	71%	70%	67%	66%	69%
Yes	39%	29%	30%	33%	34%	31%
P-value	<0.05		0.49		0.20	
Did your care coordinator help you obtain services in the community?						
No	14%	25%	17%	30%	15%	27%
Yes	86%	75%	83%	70%	85%	73%
P-value	0.06		<0.05		<0.01	
Specialists are providers like psychiatrists, surgeons, heart doctors, allergy doctors, and other doctors who specialize in one area of health care. In the last 12 months, did you need a referral to a specialist?						
No	24%	28%	23%	31%	24%	29%
Yes	76%	72%	77%	69%	76%	71%
P-value	0.33		0.06		<0.05	
Did your care coordinator assist you with any referrals to a specialist?						
No	24%	32%	27%	43%	25%	38%
Yes	76%	68%	73%	57%	75%	62%
P-value	0.08		<0.01		<0.001	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
In the last 12 months, how often did your care coordinator seem to know the important information about your medical history?						
Never	4%	3%	2%	5%	3%	4%
Sometime	15%	13%	18%	14%	16%	14%
Usually	27%	24%	24%	30%	26%	27%
Always	55%	59%	55%	51%	55%	55%
P-value	0.85		0.16		0.53	
How would you rate your care coordinator's knowledge of you as a person, including values and beliefs that are important to you?						
Very poor	0%	1%	2%	2%	1%	2%
Poor	1%	2%	2%	3%	1%	2%
Fair	12%	8%	9%	8%	10%	8%
Good	27%	18%	22%	22%	25%	20%
Very good	27%	25%	29%	28%	28%	27%
Excellent	32%	46%	36%	36%	34%	41%
P-value	<0.05		0.95		0.08	
In the last 12 months, did you get care or services from an LTSS provider?						
Yes, from one LTSS provider	23%	14%	37%	36%	28%	19%
Yes, from more than one LTSS provider	14%	7%	15%	14%	14%	9%
No	63%	79%	48%	51%	58%	72%
P-value	<0.0001		0.68		<0.0001	
In the last 12 months, how often did your LTSS provider explain things in a way that was easy to understand?						
Never	4%	4%	2%	4%	3%	4%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Sometime	13%	12%	11%	11%	12%	11%
Usually	25%	21%	22%	27%	24%	24%
Always	58%	63%	65%	58%	61%	61%
P-value	0.57		0.27		0.77	
In the last 12 months, how often did your LTSS provider listen carefully to you?						
Never	1%	3%	2%	2%	2%	2%
Sometime	10%	7%	9%	9%	9%	8%
Usually	23%	22%	17%	19%	20%	21%
Always	66%	68%	72%	70%	69%	69%
P-value	0.50		0.92		0.81	
In the last 12 months, how often did your LTSS provider show respect for what you had to say?						
Never	1%	2%	1%	2%	1%	2%
Sometime	6%	6%	7%	5%	6%	6%
Usually	21%	15%	13%	16%	17%	16%
Always	72%	76%	78%	77%	75%	76%
P-value	0.19		0.75		0.50	
In the last 12 months, how often did your LTSS provider spend enough time with you?						
Never	2%	2%	2%	3%	2%	3%
Sometime	13%	8%	11%	9%	12%	9%
Usually	21%	25%	19%	25%	20%	25%
Always	64%	64%	68%	63%	66%	64%
P-value	0.22		0.45		0.10	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
In the last 12 months, how often did your LTSS provider show respect for your cultural/ethnic background?						
Never	3%	3%	3%	3%	3%	3%
Sometime	7%	3%	5%	5%	6%	4%
Usually	12%	15%	7%	11%	10%	13%
Always	78%	79%	85%	81%	81%	80%
P-value	0.21		0.49		0.18	
In the last 12 months, how often did your LTSS provider show respect for your sexual orientation, gender expression and gender identity?						
Never	7%	5%	5%	5%	6%	5%
Sometime	4%	2%	6%	5%	5%	3%
Usually	10%	9%	4%	8%	7%	8%
Always	79%	84%	85%	82%	82%	83%
P-value	0.51		0.30		0.55	
Long term services and supports were scheduled at times that were convenient for me.						
Strongly disagree	2%	1%	1%	1%	1%	1%
Disagree	4%	3%	2%	3%	3%	3%
Neither disagree nor agree	8%	7%	5%	8%	6%	7%
Agree	46%	45%	43%	46%	45%	45%
Strongly agree	41%	44%	50%	41%	45%	43%
P-value	0.84		0.10		0.92	
Long term services and support provider(s) saw me as scheduled and on time.						
Strongly disagree	2%	1%	0%	1%	1%	1%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Disagree	3%	1%	2%	3%	3%	2%
Neither disagree nor agree	6%	6%	5%	7%	5%	6%
Agree	48%	45%	41%	46%	45%	46%
Strongly agree	41%	46%	51%	44%	46%	45%
P-value	0.41		0.32		0.95	
Long term services and support provider(s) were able to see me as often as I felt was necessary.						
Strongly disagree	1%	2%	2%	3%	2%	2%
Disagree	5%	5%	3%	3%	4%	4%
Neither disagree nor agree	9%	8%	7%	11%	8%	9%
Agree	45%	46%	48%	42%	46%	44%
Strongly agree	39%	40%	40%	40%	40%	40%
P-value	0.95		0.52		0.90	
In the last 12 months, how often did your LTSS provider(s) and primary care provider work together as a team to provide your care?						
Never	8%	10%	6%	11%	7%	11%
Sometimes	16%	12%	15%	13%	16%	12%
Usually	23%	20%	19%	14%	21%	18%
Always	53%	55%	57%	59%	55%	57%
Not applicable, I did not see a primary care provider in the last 12 months.	2%	3%	3%	3%	2%	3%
P-value	0.19		0.19		<0.05	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Sometimes several providers are involved in providing an individual with long term services and supports. For example, an individual may have more than one personal care assistant, a therapist and/or a nurse. In the last 12 months, how often did all of your LTSS providers work together as a team to provide you with the long term services and supports you needed?						
Never	5%	9%	5%	8%	5%	8%
Sometimes	13%	11%	11%	13%	12%	12%
Usually	21%	16%	15%	13%	18%	15%
Always	47%	44%	52%	48%	50%	46%
Not applicable, I did not have multiple LTSS providers in the last 12 months	13%	20%	16%	17%	15%	19%
P-value	<0.05		0.63		<0.05	
Would you recommend your LTSS provider(s) to your family and friends if they needed similar long term services and supports?						
Definitely not	1%	1%	2%	1%	2%	1%
Probably not	2%	3%	1%	3%	2%	3%
Not sure	9%	8%	9%	10%	9%	9%
Probably yes	31%	34%	21%	28%	26%	31%
Definitely yes	56%	55%	67%	59%	61%	57%
P-value	0.91		0.25		0.36	
In the last 12 months, did you contact anyone from your care team about your long term services and supports to get help or advice?						
Yes	46%	22%	45%	44%	45%	28%
No	38%	68%	36%	44%	37%	61%

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Don't know/Not sure	16%	10%	19%	12%	18%	11%
P-value	<0.0001		<0.01		<0.0001	
In the last 12 months, when you contacted someone from your care team about long term services and supports, did you get the help or advice you needed?						
No	12%	21%	13%	23%	12%	22%
Yes	88%	79%	87%	77%	88%	78%
P-value	<0.01		<0.01		<0.001	
In the last 12 months, were you hospitalized overnight?						
No	61%	70%	68%	70%	63%	70%
Yes	39%	30%	32%	30%	37%	30%
P-value	<0.0001		0.50		<0.0001	
Following your last hospitalization, did anyone from your care team contact you to ask about your condition?						
No	30%	33%	28%	25%	29%	31%
Yes	70%	67%	72%	75%	71%	69%
P-value	0.37		0.54		0.59	
As a result of long term services and supports, I am better able to take care of my needs.						
Strongly disagree	7%	5%	12%	10%	9%	7%
Disagree	12%	6%	13%	12%	12%	7%
Neither disagree nor agree	20%	34%	14%	23%	18%	31%
Agree	37%	34%	36%	33%	37%	34%
Strongly agree	24%	21%	25%	22%	24%	21%
P-value	<0.0001		<0.05		<0.0001	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
As a result of long term services and supports, I am better able to work or go to school.						
Strongly disagree	12%	9%	12%	17%	12%	11%
Disagree	11%	10%	11%	12%	11%	11%
Neither disagree nor agree	12%	26%	9%	15%	11%	23%
Agree	11%	14%	12%	9%	12%	13%
Strongly agree	7%	9%	5%	6%	6%	8%
I do not work or go to school	47%	32%	51%	42%	49%	34%
P-value	<0.0001		<0.01		<0.0001	
As a result of long term services and supports, my housing situation has improved.						
Strongly disagree	11%	9%	9%	9%	10%	9%
Disagree	13%	10%	12%	10%	12%	10%
Neither disagree nor agree	31%	48%	26%	35%	29%	44%
Agree	31%	24%	35%	31%	32%	26%
Strongly agree	15%	9%	18%	14%	16%	10%
P-value	<0.0001		<0.05		<0.0001	
As a result of long term services and supports, I do better in social situations.						
Strongly disagree	6%	6%	5%	9%	6%	7%
Disagree	17%	10%	16%	11%	16%	10%
Neither disagree nor agree	33%	49%	30%	37%	32%	46%
Agree	32%	27%	37%	30%	34%	28%
Strongly agree	12%	8%	13%	13%	12%	10%
P-value	<0.0001		<0.01		<0.0001	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
As a result of long term services and supports, I have people with whom I can do enjoyable things, such as talk on the phone or get together.						
Strongly disagree	6%	4%	6%	9%	6%	6%
Disagree	16%	9%	11%	9%	14%	9%
Neither disagree nor agree	26%	42%	20%	30%	23%	38%
Agree	36%	33%	43%	36%	39%	34%
Strongly agree	16%	12%	20%	16%	18%	13%
P-value	<0.0001		<0.001		<0.0001	
Using any number from 0 to 10, where 0 is the worst long term services and supports possible and 10 is the best long term services and supports possible, what number would you use to rate your long term services and supports in the last 12 months?						
0 Worst long term services and supports possible	3%	4%	2%	4%	3%	4%
1	1%	1%	1%	2%	1%	1%
2	1%	2%	1%	2%	1%	2%
3	1%	1%	2%	2%	1%	1%
4	3%	2%	3%	3%	3%	3%
5	10%	14%	6%	8%	8%	12%
6	6%	5%	5%	4%	6%	5%
7	10%	10%	8%	14%	10%	11%
8	20%	17%	19%	15%	20%	17%
9	15%	12%	15%	13%	15%	12%
10 Best long term services and supports possible	31%	31%	36%	34%	33%	32%
P-value	0.16		0.30		<0.05	
In general, how would you rate your overall health now?						

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
Excellent	5%	7%	4%	4%	5%	6%
Very good	11%	14%	10%	9%	11%	13%
Good	26%	33%	25%	28%	25%	32%
Fair	37%	35%	41%	41%	39%	36%
Poor	20%	12%	20%	18%	20%	13%
P-value	<0.0001		0.78		<0.0001	
In general, how would you rate your overall mental or emotional health now?						
Excellent	10%	13%	8%	8%	9%	11%
Very good	13%	18%	11%	10%	12%	16%
Good	28%	31%	32%	31%	30%	31%
Fair	35%	31%	35%	37%	35%	32%
Poor	13%	8%	14%	14%	14%	10%
P-value	<0.0001		0.93		<0.0001	
In the last 12 months, were you ever homeless?						
No	94%	94%	95%	94%	94%	94%
Yes	6%	6%	5%	6%	6%	6%
P-value	0.99		0.42		0.63	
In the last 12 months, how often were you worried or stressed about having enough money to pay your rent/mortgage?						
Never	28%	28%	38%	34%	32%	30%
Sometimes	28%	33%	29%	31%	29%	32%
Usually	14%	13%	13%	12%	13%	13%
Always	30%	26%	19%	23%	26%	26%
P-value	0.12		0.34		0.18	

Question and Response Options	Adult non-CP, 2018	Adult non-CP, 2019	Adult CP, 2018	Adult CP, 2019	Adult, 2018	Adult, 2019
In the last 12 months, how often were you worried or stressed about having enough money to buy nutritious meals?						
Never	34%	36%	39%	37%	36%	36%
Sometime	34%	34%	35%	34%	34%	34%
Usually	12%	13%	11%	11%	12%	13%
Always	20%	17%	15%	19%	19%	17%
P-value	0.12		0.57		0.65	

H. Appendix H. Weighted Results[134] from the ACO Primary Care Provider Survey and the CP Staff Survey

This appendix covers the results of the ACO Primary Care Provider Survey and the CP Staff Survey collected by UMass Chan to understand how providers and staff experience delivery of care within the ACO model. The surveys were fielded between August and December 2020. The methods used to conduct and analyze this survey are covered in Section **II.C.c.** Sampling and inverse probability of response weights were applied to obtain results that were adjusted for the multi-stage sampling approach and observed sources of non-response bias. Total answering presented in Domains 2 and 3, and in this appendix does not include those who skipped the question or responded "don't know".

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Thinking of the time just before the pandemic, to what extent do you agree or disagree with each of the following statements about the MassHealth Accountable Care Organization (ACO) Program?									
I had a clear understanding of the purpose and goals of the MassHealth ACO program									
Total Answering[1] (Weighted)[135]	827	409	168	218	33	448	354	70	24
Strongly Agree / Agree	52%	57%	43%	50%	68%	78%	77%	86%	70%
Neither Disagree nor Agree	27%	26%	28%	32%	17%	12%	14%	4%	19%
Disagree / Strongly Disagree	20%	18%	30%	18%	15%	10%	9%	10%	12%
I believe this practice site was performing well under the MassHealth ACO program									
Total Answering (Weighted)	744	370	148	198	27	441	348	69	24
Strongly Agree / Agree	71%	75%	64%	70%	75%	81%	80%	84%	92%
Neither Disagree nor Agree	27%	22%	35%	30%	25%	14%	16%	10%	4%
Disagree / Strongly Disagree	2%	4%	2%	1%	0%	5%	4%	6%	4%

[134] Total answering does not include those who skipped the question or responded "don't know"
[2] Sampling and inverse probability of response weights were applied to obtain results that were adjusted for the multi-stage sampling approach and observed sources of non-response bias.

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
I believe the MassHealth ACO program helped improve quality of care for our patients									
Total Answering (Weighted)	752	373	155	196	28	443	349	70	24
Strongly Agree / Agree	57%	54%	52%	66%	66%	79%	78%	81%	85%
Neither Disagree nor Agree	35%	32%	42%	33%	32%	16%	16%	13%	11%
Disagree / Strongly Disagree	8%	14%	5%	1%	1%	5%	5%	5%	4%
I believe the MassHealth Community Partners program helped us better support our patients' needs									
Total Answering (Weighted)	695	340	137	190	27				
Strongly Agree / Agree	56%	52%	56%	64%	54%				
Neither Disagree nor Agree	35%	37%	36%	32%	38%				
Disagree / Strongly Disagree	8%	11%	8%	4%	7%				
Thinking of the time just before the pandemic, did you receive financial incentives (e.g., bonuses or adjustments to your salary) based on your performance on quality measures?									
Total Answering (Weighted)	767	369	157	211	30	406	326	61	19
Yes	35%	53%	31%	11%	4%	32%	29%	49%	31%
No	65%	47%	69%	89%	96%	68%	71%	51%	69%
Thinking of the time just before the pandemic, to what extent do you agree or disagree with each of the following statements?									
Patient care was well coordinated among providers, nurses, and clinical staff									
Total Answering (Weighted)	968	478	194	256	40	463	367	73	24
Strongly Agree / Agree	88%	88%	87%	90%	92%	90%	89%	91%	92%
Neither Disagree nor Agree	7%	7%	6%	8%	6%	5%	6%	4%	0%
Disagree / Strongly Disagree	5%	5%	7%	2%	2%	5%	5%	5%	8%
Providers and staff met frequently (e.g., team huddles) to plan for patient visits									

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Total Answering (Weighted)	953	472	190	254	37	461	364	73	24
Strongly Agree / Agree	63%	63%	46%	74%	72%	88%	88%	86%	96%
Neither Disagree nor Agree	14%	14%	18%	13%	13%	6%	6%	6%	0%
Disagree / Strongly Disagree	22%	23%	36%	13%	14%	6%	5%	8%	4%
Candid and open communication existed between providers and other staff									
Total Answering (Weighted)	971	477	191	262	41	461	365	72	24
Strongly Agree / Agree	88%	89%	88%	86%	95%	90%	90%	88%	92%
Neither Disagree nor Agree	8%	7%	8%	9%	4%	6%	6%	5%	4%
Disagree / Strongly Disagree	4%	5%	4%	5%	1%	5%	4%	6%	4%
Providers and staff were well informed at the time of each patient visit (initial member encounter) about patients' medical history and current treatments									
Total Answering (Weighted)	954	478	191	248	37	458	361	73	24
Strongly Agree / Agree	81%	82%	76%	80%	90%	42%	41%	45%	51%
Neither Disagree nor Agree	11%	11%	12%	10%	9%	19%	20%	12%	15%
Disagree / Strongly Disagree	8%	7%	12%	9%	1%	39%	39%	43%	34%
Staff were well informed at the time of each subsequent member encounter about members' medical history and current treatments									
Total Answering (Weighted)						460	364	73	23
Strongly Agree / Agree						62%	62%	53%	84%
Neither Disagree nor Agree						19%	18%	24%	8%
Disagree / Strongly Disagree						20%	20%	23%	8%
Providers and staff were well informed about patients' current social needs (e.g., housing, transportation)									
Total Answering (Weighted)	960	475	193	251	40	458	362	73	23
Strongly Agree / Agree	65%	61%	57%	74%	85%	71%	71%	63%	88%
Neither Disagree nor Agree	21%	22%	25%	16%	13%	12%	12%	14%	4%

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Disagree / Strongly Disagree	15%	17%	18%	10%	2%	17%	17%	23%	8%
Patients saw the same care team or provider for routine clinic visits									
Total Answering (Weighted)	971	478	194	264	35	450	355	72	23
Strongly Agree / Agree	80%	81%	77%	78%	85%	85%	86%	84%	75%
Neither Disagree nor Agree	11%	10%	11%	13%	10%	9%	8%	10%	17%
Disagree / Strongly Disagree	10%	9%	12%	10%	5%	6%	6%	6%	8%
Patient/Member care was well coordinated with external health care providers (e.g., specialists, hospitals/Primary care providers)									
Total Answering (Weighted)	940	467	187	252	34	455	360	71	24
Strongly Agree / Agree	69%	67%	62%	78%	68%	73%	73%	69%	90%
Neither Disagree nor Agree	16%	16%	18%	13%	21%	15%	15%	14%	6%
Disagree / Strongly Disagree	15%	17%	20%	9%	10%	12%	12%	16%	4%
We had good systems in place to track referrals to external providers									
Total Answering (Weighted)	917	462	186	236	33	437	348	66	23
Strongly Agree / Agree	65%	67%	58%	69%	62%	56%	57%	54%	55%
Neither Disagree nor Agree	16%	14%	15%	18%	24%	24%	24%	28%	14%
Disagree / Strongly Disagree	19%	19%	27%	13%	14%	20%	19%	18%	31%
We routinely received discharge summaries after our patients were hospitalized									
Total Answering (Weighted)	933	469	185	246	33	448	353	72	23
Strongly Agree / Agree	75%	79%	71%	73%	48%	40%	39%	46%	47%
Neither Disagree nor Agree	14%	10%	18%	16%	34%	14%	15%	13%	4%
Disagree / Strongly Disagree	11%	11%	10%	11%	18%	46%	46%	41%	49%
We routinely received event notification system alerts about our patients' healthcare encounters (e.g., inpatient and emergency department admissions)									
Total Answering (Weighted)	929	468	181	245	35	459	362	73	24

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Strongly Agree / Agree	77%	79%	71%	77%	70%	88%	87%	92%	92%
Neither Disagree nor Agree	14%	10%	18%	18%	20%	6%	8%	2%	0%
Disagree / Strongly Disagree	9%	11%	11%	4%	10%	5%	5%	6%	8%
Member care was well coordinated with external care management programs									
Total Answering (Weighted)						444	354	67	23
Strongly Agree / Agree						69%	69%	63%	78%
Neither Disagree nor Agree						20%	20%	24%	10%
Disagree / Strongly Disagree						11%	11%	13%	12%
Providers and staff were well informed about available community resources for patients									
Total Answering (Weighted)	919	452	187	244	36	456	359	73	24
Strongly Agree / Agree	60%	59%	51%	68%	71%	82%	82%	79%	85%
Neither Disagree nor Agree	21%	19%	21%	24%	18%	11%	11%	12%	0%
Disagree / Strongly Disagree	19%	22%	28%	8%	11%	7%	7%	9%	15%
Patient care was well coordinated with community resources (e.g., support groups, food pantries, shelters)									
Total Answering (Weighted)	899	449	184	231	35	456	361	72	23
Strongly Agree / Agree	55%	50%	46%	68%	82%	87%	87%	88%	88%
Neither Disagree nor Agree	26%	25%	31%	24%	12%	8%	9%	5%	0%
Disagree / Strongly Disagree	19%	24%	22%	8%	6%	5%	4%	6%	12%
We had established relationships with our MassHealth Community Partners to facilitate our referrals to them									
Total Answering (Weighted)	815	415	158	209	33				
Strongly Agree / Agree	56%	54%	51%	63%	65%				
Neither Disagree nor Agree	26%	25%	28%	28%	20%				
Disagree / Strongly Disagree	18%	21%	22%	9%	15%				
We had established relationships with other community agencies to facilitate our referrals to them									

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Total Answering (Weighted)	842	423	168	218	33	453	359	71	23
Strongly Agree / Agree	60%	58%	54%	66%	74%	79%	76%	91%	84%
Neither Disagree nor Agree	24%	25%	22%	25%	18%	14%	16%	5%	4%
Disagree / Strongly Disagree	16%	18%	24%	9%	8%	8%	8%	4%	12%
Our referrals to community-based organizations were effective in addressing the patient's health-related social needs (e.g., housing, nutrition)									
Total Answering (Weighted)	840	423	169	212	36	452	358	72	23
Strongly Agree / Agree	56%	52%	51%	65%	71%	79%	78%	86%	84%
Neither Disagree nor Agree	28%	29%	29%	29%	16%	15%	17%	9%	4%
Disagree / Strongly Disagree	16%	20%	20%	6%	13%	5%	5%	6%	12%
We communicated with patients in a way that they understood (e.g., appropriate language and literacy)									
Total Answering (Weighted)	883	428	181	241	34	450	355	71	24
Strongly Agree / Agree	94%	95%	94%	94%	92%	97%	97%	98%	88%
Neither Disagree nor Agree	5%	5%	4%	5%	8%	2%	2%	0%	7%
Disagree / Strongly Disagree	1%	0%	2%	2%	0%	1%	1%	2%	4%
We routinely contacted patients to remind them of regular preventive or follow-up visits (e.g., flu vaccine or routine lab tests)									
Total Answering (Weighted)	867	425	180	238	24	443	354	65	24
Strongly Agree / Agree	83%	78%	80%	93%	78%	88%	90%	79%	92%
Neither Disagree nor Agree	10%	12%	10%	5%	20%	8%	8%	14%	0%
Disagree / Strongly Disagree	7%	9%	11%	2%	3%	3%	3%	7%	8%
We routinely contacted patients to inform them of abnormal laboratory results									
Total Answering (Weighted)	864	423	181	239	20				
Strongly Agree / Agree	97%	97%	98%	97%	77%				
Neither Disagree nor Agree	2%	3%	2%	1%	18%				

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Disagree / Strongly Disagree	1%	1%	0%	2%	5%				
We routinely contacted patients with chronic conditions to help them manage their conditions									
Total Answering (Weighted)	847	419	179	228	21	443	351	69	23
Strongly Agree / Agree	81%	78%	78%	88%	89%	90%	90%	87%	92%
Neither Disagree nor Agree	14%	15%	18%	9%	11%	8%	8%	12%	4%
Disagree / Strongly Disagree	5%	6%	4%	3%	0%	2%	2%	1%	4%
Providers and staff viewed patients as equal partners in their care									
Total Answering (Weighted)	881	427	182	240	33	444	352	69	24
Strongly Agree / Agree	90%	90%	88%	92%	85%	94%	93%	99%	88%
Neither Disagree nor Agree	8%	8%	10%	6%	15%	4%	5%	1%	7%
Disagree / Strongly Disagree	2%	2%	3%	2%	0%	2%	2%	0%	4%
Care was designed to meet the preferences of patients and their families									
Total Answering (Weighted)	868	424	182	229	33	449	354	71	24
Strongly Agree / Agree	88%	83%	90%	95%	94%	93%	92%	96%	96%
Neither Disagree nor Agree	10%	14%	9%	5%	5%	5%	6%	3%	0%
Disagree / Strongly Disagree	2%	3%	1%	1%	1%	2%	2%	1%	4%
When developing a treatment plan, providers and staff routinely encouraged patients to actively participate in setting goals									
Total Answering (Weighted)	862	422	181	226	33	446	355	69	23
Strongly Agree / Agree	89%	88%	90%	91%	96%	97%	97%	99%	96%
Neither Disagree nor Agree	9%	10%	8%	8%	4%	2%	2%	0%	0%
Disagree / Strongly Disagree	2%	2%	2%	0%	0%	1%	1%	1%	4%
Providers and staff routinely worked with patients to develop self-management skills for managing their health conditions									
Total Answering (Weighted)	858	425	178	224	31	445	352	69	24

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Strongly Agree / Agree	85%	81%	88%	88%	93%	93%	93%	96%	92%
Neither Disagree nor Agree	12%	13%	10%	10%	7%	5%	5%	2%	4%
Disagree / Strongly Disagree	4%	6%	2%	2%	0%	2%	2%	2%	4%
We regularly used feedback from patients and families to improve services									
Total Answering (Weighted)	830	416	174	212	28	440	347	70	23
Strongly Agree / Agree	70%	68%	61%	82%	81%	85%	85%	89%	74%
Neither Disagree nor Agree	21%	21%	28%	14%	13%	9%	9%	9%	13%
Disagree / Strongly Disagree	9%	11%	11%	4%	6%	6%	6%	2%	12%
Most of our members took responsibility for managing their health									
Total Answering (Weighted)						443	350	69	24
Strongly Agree / Agree						49%	48%	62%	39%
Neither Disagree nor Agree						29%	29%	27%	31%
Disagree / Strongly Disagree						21%	23%	10%	30%
Most of our patients with chronic conditions took responsibility for managing their health									
Total Answering (Weighted)	823	408	167	224	24				
Strongly Agree / Agree	44%	47%	37%	43%	48%				
Neither Disagree nor Agree	35%	33%	40%	36%	39%				
Disagree / Strongly Disagree	20%	19%	23%	21%	13%				
Most of our patients with behavioral health needs took responsibility for managing their health									
Total Answering (Weighted)	837	412	170	220	34				
Strongly Agree / Agree	32%	32%	19%	38%	60%				
Neither Disagree nor Agree	38%	39%	42%	34%	29%				
Disagree / Strongly Disagree	30%	29%	39%	28%	10%				
Most of our patients with long-term services and supports needs took responsibility for managing their health									

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Total Answering (Weighted)	811	409	162	213	26				
Strongly Agree / Agree	44%	45%	36%	47%	43%				
Neither Disagree nor Agree	37%	38%	44%	28%	44%				
Disagree / Strongly Disagree	19%	17%	20%	25%	12%				
In the 12 months just before the pandemic, how often did you use the following types of telehealth and community-based care for your patients from this practice site?									
Live audio-visual interactive telehealth visits									
Total Answering (Weighted)	822	410	168	212	33	437	343	71	23
More Frequent (Every day or more often, two to six times a week)	1%	1%	1%	1%	0%	2%	3%	1%	0%
Less Frequent (Once a week or less than once a week)	9%	9%	6%	11%	16%	13%	13%	15%	14%
Never	90%	90%	93%	88%	84%	84%	84%	84%	86%
Live telephone (audio-only) telehealth visits									
Total Answering (Weighted)	816	410	168	204	34	438	344	71	24
More Frequent (Every day or more often, two to six times a week)	6%	7%	3%	4%	17%	47%	48%	41%	45%
Less Frequent (Once a week or less than once a week)	10%	11%	5%	12%	10%	20%	19%	22%	25%
Never	84%	82%	92%	84%	73%	33%	32%	37%	30%
Remote monitoring of a patient (e.g., blood pressure or O2 monitoring)									
Total Answering (Weighted)	818	410	166	209	32				
More Frequent (Every day or more often, two to six times a week)	6%	4%	10%	7%	1%				
Less Frequent (Once a week or less than once a week)	23%	26%	26%	18%	3%				
Never	71%	71%	64%	75%	97%				
Communication with a patient through email, patient portal, or text messaging									

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Total Answering (Weighted)	821	410	166	212	34	437	342	71	24
More Frequent (Every day or more often, two to six times a week)	64%	62%	68%	65%	53%	60%	59%	63%	62%
Less Frequent (Once a week or less than once a week)	24%	28%	23%	16%	32%	35%	35%	33%	34%
Never	12%	10%	9%	19%	16%	5%	6%	4%	4%
Care at a community site (e.g., senior center, cultural center)									
Total Answering (Weighted)	811	405	165	208	33	438	344	70	24
More Frequent (Every day or more often, two to six times a week)	6%	4%	8%	8%	2%	41%	41%	33%	62%
Less Frequent (Once a week or less than once a week)	12%	12%	11%	15%	9%	42%	42%	44%	33%
Never	82%	84%	82%	78%	88%	17%	17%	22%	4%
Home visits									
Total Answering (Weighted)	820	410	166	212	33	438	343	71	24
More Frequent (Every day or more often, two to six times a week)	5%	3%	2%	12%	0%	63%	61%	61%	92%
Less Frequent (Once a week or less than once a week)	18%	21%	18%	12%	18%	32%	33%	30%	8%
Never	77%	76%	80%	76%	82%	6%	5%	9%	0%
Home testing or lab services									
Total Answering (Weighted)	818	410	165	211	32				
More Frequent (Every day or more often, two to six times a week)	8%	7%	7%	13%	0%				
Less Frequent (Once a week or less than once a week)	28%	36%	30%	16%	4%				
Never	63%	57%	64%	71%	96%				
Other									
Total Answering (Weighted)	276	132	44	84	16	92	78	12	2
More Frequent (Every day or more often, two to six times a week)	3%	4%	0%	1%	0%	23%	25%	14%	0%

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Less Frequent (Once a week or less than once a week)	3%	3%	2%	5%	3%	39%	36%	54%	58%
Never	94%	93%	98%	94%	97%	39%	40%	31%	42%
Thinking of the time just before the pandemic, which of the following, if any, were barriers or challenges to your use of telehealth at this practice site?									
Total Answering (Weighted)	804	408	163	202	32	436	342	70	24
Lack of telehealth-specific workflows	56%	60%	55%	47%	55%	27%	28%	22%	21%
Inadequate reimbursement	51%	66%	58%	19%	33%	9%	9%	6%	19%
Technology challenges for your patient population (i.e., access to smart phone, WiFi, internet connection, etc.) (Thinking of the time just before the pandemic, which of the following, if any, were barriers or challenges to your use of telehealth at this	47%	47%	51%	45%	44%	63%	63%	61%	67%
Lack of technology infrastructure	44%	49%	50%	31%	36%	27%	28%	19%	32%
Lack of technical support	36%	43%	37%	23%	25%	18%	19%	11%	18%
Lack of integration with the electronic health record (EHR)	30%	38%	33%	16%	14%	12%	12%	10%	18%
Low patient interest	28%	26%	30%	29%	33%	41%	42%	36%	45%
State or federal policies	22%	28%	24%	8%	29%	14%	15%	8%	19%
Lack of translation services compatible with telehealth platforms	17%	15%	25%	13%	15%	13%	12%	15%	12%
Patient concerns regarding privacy and security	11%	11%	12%	9%	15%	21%	20%	24%	34%
Other	6%	7%	5%	4%	9%	10%	11%	11%	0%
None of the above	9%	5%	8%	19%	16%	14%	14%	16%	14%
If the temporary regulatory and reimbursement environment for telehealth services were to continue after the pandemic has ended, to what extent do you expect to use telehealth to deliver the following types of care to your established patients when clinically appropriate?									

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Acute Care									
Total Answering (Weighted)	693	398	155	127	13				
For all/most of my patients	24%	25%	20%	26%	23%				
For some of my patients	44%	44%	47%	46%	16%				
For a few/none of my patients	32%	32%	33%	28%	61%				
Routine chronic disease management									
Total Answering (Weighted)	703	402	150	141	10				
For all/most of my patients	36%	35%	36%	36%	48%				
For some of my patients	47%	45%	50%	49%	24%				
For a few/none of my patients	18%	20%	14%	15%	28%				
Exacerbations of chronic conditions									
Total Answering (Weighted)	704	406	150	139	9				
For all/most of my patients	25%	28%	15%	25%	49%				
For some of my patients	42%	39%	48%	44%	19%				
For a few/none of my patients	34%	33%	37%	32%	33%				
Preventative care									
Total Answering (Weighted)	696	400	145	138	13				
For all/most of my patients	28%	26%	23%	34%	51%				
For some of my patients	36%	31%	43%	42%	21%				
For a few/none of my patients	37%	43%	34%	23%	28%				
Hospital or ED follow-up care									
Total Answering (Weighted)	707	404	151	137	14				
For all/most of my patients	32%	33%	28%	31%	69%				
For some of my patients	40%	38%	42%	47%	5%				
For a few/none of my patients	28%	29%	30%	22%	26%				
Care coordination									

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Total Answering (Weighted)	688	385	142	138	23				
For all/most of my patients	43%	45%	40%	37%	66%				
For some of my patients	40%	37%	43%	52%	9%				
For a few/none of my patients	16%	18%	17%	11%	25%				
Mental/behavioral health									
Total Answering (Weighted)	703	394	148	130	32				
For all/most of my patients	45%	49%	38%	39%	59%				
For some of my patients	44%	39%	53%	53%	31%				
For a few/none of my patients	11%	12%	9%	8%	10%				
Other type of care									
Total Answering (Weighted)	80	42	15	19	4				
For all/most of my patients	33%	33%	29%	38%	11%				
For some of my patients	23%	13%	43%	33%	0%				
For a few/none of my patients	45%	54%	28%	29%	89%				
ACO providers: Since the start of the pandemic, has it become easier or harder for you to provide equitable access to care for the following types of patients? CP Staff: Since the start of the pandemic, has it become easier or harder for you to provide equitable care coordination supports for the following types of members with behavioral health needs?									
Total Answering (Weighted)	780	402	159	192	27	348	325	0	23
Patients with chronic conditions									
Much / Somewhat easier	21%	20%	26%	18%	41%	18%	18%		12%
No change	25%	25%	19%	33%	15%	27%	27%		23%
Somewhat / Much harder	53%	55%	55%	50%	44%	56%	55%		66%
Patients without chronic conditions									

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
Much / Somewhat easier	26%	24%	30%	23%	44%	21%	21%		16%
No change	40%	43%	33%	43%	27%	42%	44%		23%
Somewhat / Much harder	34%	33%	37%	35%	29%	37%	35%		62%
Patients with behavioral health needs									
Much / Somewhat easier	28%	27%	38%	19%	48%				
No change	17%	18%	14%	18%	8%				
Somewhat / Much harder	55%	56%	48%	63%	44%				
Patients needing long-term services and supports									
Much / Somewhat easier	13%	11%	18%	13%	24%	12%	12%		4%
No change	28%	30%	17%	36%	19%	33%	34%		22%
Somewhat / Much harder	59%	60%	65%	52%	56%	55%	54%		74%
Patients with unmet health-related social needs (e.g., housing problems)									
Much / Somewhat easier	7%	6%	3%	11%	22%	11%	12%		0%
No change	26%	25%	30%	29%	17%	17%	17%		22%
Somewhat / Much harder	66%	69%	67%	61%	61%	72%	71%		78%
Children and adolescents									
Much / Somewhat easier	12%	9%	14%	13%	21%				
No change	41%	42%	41%	44%	18%				
Somewhat / Much harder	47%	49%	45%	43%	61%				
Black patients									
Much / Somewhat easier	9%	6%	10%	12%	24%	6%	6%		5%
No change	68%	69%	70%	68%	51%	79%	79%		77%
Somewhat / Much harder	23%	25%	20%	20%	25%	15%	15%		18%
Hispanic patients									
Much / Somewhat easier	9%	6%	9%	13%	25%	6%	6%		5%

	ACO, Total	ACO, Physicians	ACO, NPs/PAs	ACO, Nurses	ACO, Social Workers	CP, Total	CP, BH Only	CP, LTSS Only	CP, BH & LTSS
No change	66%	68%	63%	67%	46%	77%	77%		80%
Somewhat / Much harder	25%	26%	27%	20%	29%	17%	17%		15%
Asian and Pacific Islander patients									
Much / Somewhat easier	8%	5%	9%	13%	21%	6%	6%		5%
No change	72%	76%	73%	68%	51%	79%	79%		84%
Somewhat / Much harder	19%	19%	18%	20%	28%	15%	15%		11%
Indigenous patients									
Much / Somewhat easier	8%	6%	4%	13%	15%	5%	5%		5%
No change	73%	76%	73%	67%	53%	81%	82%		80%
Somewhat / Much harder	20%	18%	23%	19%	33%	14%	13%		15%
Patients whose preferred language is other than English									
Much / Somewhat easier	7%	5%	5%	12%	11%	6%	6%		9%
No change	51%	50%	45%	61%	28%	56%	56%		68%
Somewhat / Much harder	42%	45%	50%	27%	61%	37%	38%		23%

I. Appendix I: Cambridge Health Alliance PHTII Measure Descriptions and Results

This Appendix contains all measures used to evaluate CHA's PHTII performance. CHA provides to MassHealth tri-annual Reports for Payment, detailing key accomplishments in the reporting period towards associated metrics. PHTII quality measure performance is reported annually in July for each fiscal year and is measured on four slates totaling 50 outcome and improvement measures. About 40% of the measure specifications were drawn from the National Quality Forum (NQF); Other sources of measures included CMS' Inpatient Psychiatric Facility Quality Reporting (IPFQR), NCQA Medical Home, and Meaningful Use measures (federal incentives to promote certified Electronic Health Record technology use). CHA utilized benchmarks as available with these measures to set achievement targets. The remaining measures, about one-third, were customized by CHA. Each measure has specific annual targets that need to be achieved by either increasing or reducing its result in comparison to the target, as appropriate for the measure. For measures without existing available benchmarks, CHA developed its achievement targets based on internal data.

Measure Slate 1: Behavioral Health and Primary Care Integration

Measure Name	Measure Steward, Benchmark, and Baseline/Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Depression Response at 6 Months - Progress Towards Remission (across all core primary care sites)	Measure Steward: NQF 1884 Benchmark: No external benchmark; hospital-specific improvement target = 45% Baseline or Prior Period Result: 17.42%	20.18%	16.56%	No	19.40%	17.75%	No	20.48 %	15.91%	No
Depression Response at 12 Months - Progress Towards Remission (across all core primary care sites)	Measure Steward: NQF 1885 Benchmark: No external benchmark; hospital-specific improvement target = 45% Baseline or Prior Period Result: N/A	N/A-Baseline Report	26.24%	N/A	28.12%	25.21%	No	27.19 %	24.25%	No

Measure Name	Measure Steward, Benchmark, and Baseline/Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Primary Care Provider confidence in management of depression, measured through annual survey	Measure Steward: PCMH Benchmark: No external benchmark; hospital-specific improvement target = 90% Baseline or Prior Period Result: N/A	N/A-Baseline Report	56.63%	N/A	59.97%	55.10%	No	58.59 %	N/A - unable to report due to COVID	N/A
Primary Care Provider confidence in management of substance use disorders, measured through annual survey	Measure Steward: PCMH Benchmark: No external benchmark; hospital specific improvement target = 70% Baseline or Prior Period Result: N/A	N/A-Baseline Report	31.33%	N/A	35.20%	25.51%	No	29.96%	N/A - unable to report due to COVID	N/A
Screening and Brief Intervention for Alcohol Use for adults (across all core primary care sites)	Measure Steward: NQF 2152 Benchmark: No external benchmark; hospital specific improvement target = 65% Baseline or Prior Period Result:70.00%	65.00%	73.06%	Yes	65.00%	70.81%	Yes	65.00%	70.65%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Screening and Brief Intervention for Drug Use for adults (across all core primary care sites)	Measure Steward: NQF 2152, adapted to include substance use Benchmark: No external benchmark; hospital specific improvement target = 65% Baseline or Prior Period Result:	N/A-Baseline Report	85.12%	N/A	65.00%	82.14%	Yes	65.00%	81.85%	Yes
Patients on Chronic Opioid Therapy with a Controlled Substance Agreement (across all core primary care sites)	Measure Steward: NA Benchmark: No external benchmark; hospital-specific improvement target = 80% Baseline or Prior Period Result: 36.71%	41.04%	52.48%	Yes	55.23%	61.84%	Yes	63.66%	71.28%	Yes
Patients on Chronic Opioid Therapy with urine drug screening (across all core primary care sites)	Measure Steward: NA Benchmark: No external benchmark; hospital-specific improvement target = 80% Baseline or Prior Period Result: 34.48%	39.03%	42.91%	Yes	46.62%	44.88%	Yes	48.39%	55.95%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Patients with chronic pain who had functional assessment (across all core primary care sites)	Measure Steward: NQF 0050, adapted to include all chronic pain conditions Benchmark: No external benchmark; hospital specific improvement target = 50% Baseline or Prior Period Result: N/A	N/A-Baseline Report	1.95%	N/A	6.76%	13.21%	Yes	16.89%	32.72%	Yes
Screening and Brief Intervention for Alcohol and Drug Use for adolescents (across all core primary care sites)	Measure Steward: NQF 2152, adapted to expand to new age range for adolescents Benchmark: No external benchmark; hospital specific improvement target = 50% Baseline or Prior Period Result: N/A	N/A-Baseline Report	3.35%	N/A	8.02%	13.42%	Yes	17.08%	15.43%	No
Maternal Depression Screening (across all core primary care sites)	Measure Steward: NQF 1401 Benchmark: No external benchmark; hospital specific improvement target = 75% Baseline or Prior Period Result: N/A	N/A-Baseline Report	30.37%	N/A	34.83%	57.34%	Yes	59.11%	57.96%	No

* Improvement methodology for all goals: Gap to Goal (10%) or attainment at target

Measure Slate 2: Comprehensive Systems for Treating Mental Health and Substance Use Conditions

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Controlling high blood pressure for people with serious mental illness (for BH Home population)	Measure Steward: NQF 2602 Benchmark: MA Medicaid (HEDIS) 2015 75th percentile: 65.09% (proxy benchmark from NQF 0018 for overall population) Baseline or Prior Period Result: 75.28%	65.09%	75.86%	Yes	65.09%	74.71%	Yes	65.09%	71.99%	Yes
Proportion of patients with identified opioid use disorder accessing medication-assisted treatment (MAT)	Measure Steward: N/A Benchmark: No external benchmark; Hospital target = 50.00% Baseline or Prior Period Result: N/A	NA-Baseline Report	30.81%	N/A	32.73%	37.70%	Yes	38.93%	37.44%	N/A
Hospitalized patients screened within 72 hours of admission using a validated screening tool for unhealthy alcohol use (all public	Measure Steward: NQF 1661 SUB-1 Benchmark: Joint Commission (2014) 75th percentile = 94.20% Baseline or Prior Period Result: 63.1%	66.21%	70.93%	Yes	73.26%	70.98%	No	73.30%	73.48%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
hospital system inpatient psychiatric discharges, age 18 and above)										
Alcohol use brief intervention provided or offered (during public hospital system psychiatric hospitalization, age 18 and above)	Measure Steward: NQF 1663 SUB-2 Benchmark: Joint Commission (2014) average = 48.20% Baseline or Prior Period Result: N/A	NA-Baseline Report	93.08%	N/A	48.20%	93.75%	Yes	48.20%	97.76%	Yes
Follow-up after hospitalization for mental illness (for BH Home population) – 7 days for public hospital system hospitalizations	Measure Steward: NQF 0576 (7-day) Benchmark: National (HEDIS) Medicaid 2015 90th percentile = 63.85% Baseline or Prior Period Result: 53.01%	54.09%	54.37%	Yes	55.32%	46.61%	No	48.33%	56.44%	Yes
Transition record with specified elements received by	Measure Steward: NQF 0647 Benchmark: MA IPFQR-HBIPS 2014 average = 83.27%	NA-Baseline Report	0	N/A	8.33%	21.41%	Yes	27.60%	67.46%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
discharged patients(for public hospital system psychiatric hospitalizations)	Baseline or Prior Period Result: N/A									
Access to public hospital system ambulatory mental health care: Scheduled intakes within 14 days of referral (for in-network referrals)	Measure Steward: N/A Benchmark: National Medicaid (HEDIS) 2015 90th percentile = 48.10% Baseline or Prior Period Result: N/A	NA-Baseline Report	24.33%	N/A	26.71%	22.07%	No	24.67%	59.45%	No
Increase number of synchronous and asynchronous tele-consultations with psychiatrists	Measure Steward: N/A Benchmark: No external benchmark; Hospital target = 400 per year Baseline or Prior Period Result: 219	237	391	Yes	391.90	743	Yes	400	1873	Yes
Diabetes screening for people with Schizophrenia or	Measure Steward: NQF 1932 Benchmark: MA Medicaid (HEDIS)	NA-Baseline Report	77.89%	N/A	78.80%	75.02%	No	76.21%	77.93%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Bipolar Disorder who are using antipsychotic medications (for active primary care patients and BH home patients)	2015 90th percentile = 86.96% Baseline or Prior Period Result: N/A									
Cardiovascular health screening for people with Schizophrenia or Bipolar Disorder who are prescribed antipsychotic medications (for active primary care patients	Measure Steward: NQF 1927 Benchmark: No external benchmark; hospital-specific target = 75.00% Baseline or Prior Period Result: N/A	NA-Baseline Report	55.48%	N/A	57.43%	54.21%	No	56.29%	55.56%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
and BH home patients)										
Diabetes Monitoring for People with Diabetes and Schizophrenia (for active primary care patients and BH home patients)	Measure Steward: NQF 1934 Benchmark: National (HEDIS) Medicaid 2014 90th percentile = 76.67% Baseline or Prior Period Result: N/A	NA-Baseline Report	73.55%	N/A	73.86%	75.95%	Yes	76.02%	71.58%	No
Screening for metabolic disorders (psychiatric inpatient discharges on routinely-scheduled antipsychotic screened	Measure Steward: CMS IPFQR Benchmark: No external benchmark Baseline or Prior Period Result: N/A	NA-Baseline Report	64.26%	N/A	65.55%	66.01%	Yes	67.47%	69.98%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
during/before stay)**										
Increase the percentage of BH Home target population patients who have a care plan (care plans may include CHA coordinated care plan and/or ACO behavioral health community partner care plan)	Measure Steward: NCQA Medical Home Benchmark: NCQA 2014 Medical Home Standard = 75% Baseline or Prior Period Result: 36.33%	40.20%	52.00%	Yes	54.30%	38.89%	No	42.50%	56.00%	No

*Improvement methodology is Gap to Goal (10%) or attainment at target except where indicated
**Improvement methodology: Improvement over CY 2017 baseline

Measure Slate 3: Referral Management and Integrated Care Management*

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Overall Reduce proportion of Emergency Department Outmigration to Non-Public Hospital System Facilities within specific payer	Measure Steward: Customized Measure: Claims based (units of service) Benchmark: No external benchmark; hospital specific improvement target = 25% Baseline or Prior Period Result: N/A	NA-Baseline Report	31.27%	N/A	30.64%	33.46%	No	32.61%	38.01%	No
Overall Reduce proportion of Inpatient Outmigration to Non-Public Hospital System Facilities within specific payer contracts	Measure Steward: Customized Measure: Claims based (units of service) Benchmark: No external benchmark; hospital specific improvement target = 50%	NA-Baseline Report	69.24%	N/A	67.32%	61.56%	Yes	60.40%	66.41%	No

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
	Baseline or Prior Period Result: N/A									
Overall Reduce proportion of out-of-network Medical & Surgical specialty referrals (outpatient)	Measure Steward: Customized Measure Benchmark: No external benchmark; hospital specific improvement target = 10% Baseline or Prior Period Result: 10.99%	10.89 %	11.23%	Yes	11.11%	10.01%	Yes	10.01%	9.85%	Yes
Selected Public Hospital Primary Care Practice(s) Initiative: Primary care reduce	Measure Steward: Customized Measure: Benchmark: No external benchmark; hospital specific	NA-Baseline Report	13.17%	N/A	12.85%	11.44%	Yes	11.30%	10.16%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
proportion of out-of-network Medical & Surgical specialty referrals (outpatient) referrals	improvement target = 10% Baseline or Prior Period Result: N/A									
Reduce the proportion of out-of-network referrals for selected specialty care areas within the public hospital system: (SFY 2018 will continue Gastroenterology; (SFY2019 – 2020 will be a 2nd Specialty Area; SFY2021 – 2022 will be a 3rd	Measure Steward: Customized Measure: Benchmark: No external benchmark; hospital specific improvement target (Gastroenterology = 6%; Applicable to SFY 2018) New Specialty Target will be submitted with baseline data for each new specialty Baseline or Prior Period Result: 4.97%	6.00 %	5.55%	?	Baseline	12.67%	?	12.40%	13.10%	?

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Specialty Area)										
Completed appointments per FTE or total number of completed appointments for selected specialties within the public hospital system: (SFY2018 will continue Gastroenterology;	Measure Steward: Customized Measure: Benchmark: No external benchmark; hospital specific improvement target (Gastroenterology = 1300 appointments per FTE; Applicable to SFY 2018) New Specialty Target will be	1,300.00	1567.27	Yes	Baseline	1,265.33	?	1,268.80	1222.74 (Propose using the March 2020 measurement period ending result of 1333.62) **COVID	?

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
SFY2019 – 2020 will be a 2nd Specialty Area; SFY2021 – 2022 will be a 3rd Specialty Area)	submitted with baseline data for each new specialty Baseline or Prior Period Result: 1,516.60									
Time to first appointment: percentage of referrals schedule within 60 days for selected specialties within the public hospital system: (SFY2018 will continue Gastroenterology;	Measure Steward: Customized Measure: Benchmark: No external benchmark; hospital specific improvement target (Gastroenterology=50%; Applicable to SFY 2018) New Specialty Target will be submitted with baseline data	50.00 %	64.69%	Yes	Baseline	36.71%	?	37.04%	26.55%	No

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
SFY2019 – 2020 will be a 2nd Specialty Area; SFY2021 – 2022 will be a 3rd Specialty Area)	for each new specialty Baseline or Prior Period Result: 53.42%									
Increase the # of E-Consults referrals made by public hospital primary care providers to defined public hospital specialists**	Measure Steward: Customized Measure: Benchmark: No external benchmark; hospital specific improvement over SFY 2018 baseline Defined improvement over SFY 2018 baseline	NA-Baseline Report	590	N/A	649	1,265	Yes	708	1963	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
	Baseline or Prior Period Result: N/A									
Demonstrate improvement in colorectal cancer screening rates (for active pubic hospital primary care patients)	Measure Steward: NQF 0034 Benchmark: National (HEDIS) Commercial 2014 90th percentile = 72% Baseline or Prior Period Result: 71.31%	71.38 %	73.91%	Yes	72.00%	74.13%	Yes	72.00%	72.14%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Improvement in inpatient discharge referral rate to in-network skilled nursing facilities for Medical/Surgical inpatients discharged from the public hospital system	Measure Steward: Numerator: Discharges to In- Network SNFs; Denominator: Medical/ Surgical Inpatient Discharges from the Public Hospital System to all SNFs Benchmark: No external benchmark; hospital specific improvement target= 75% Baseline or Prior Period Result: N/A	NA-Baseline Report	59.30%	N/A	60.87%	66.83%	Yes	67.65%	68.93%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Improvement in inpatient discharge referral rate to in network Visiting Nurse Association (VNAs) Medical/Surgical inpatients discharged from the public hospital system	Measure Steward: Numerator: Discharges to In- Network VNAs Denominator: Medical/ Surgical Inpatient Discharges from the Public Hospital System to all VNAs Benchmark: No external benchmark; hospital specific improvement target = 80% Baseline or Prior Period Result: N/A	NA-Baseline Report	72.58%	N/A	73.32%	76.24%	Yes	76.62%	77.13%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
% of patient appointments at which the AVS was printed for the patient at the conclusion of their medical specialty appointment at the public hospital system***	Measure Steward: MU P220 Benchmark: No external benchmark; hospital specific improvement Baseline or Prior Period Result: N/A	NA-Baseline Report	91.38%	N/A	90.00%	90.88%	Yes	90.00%	89.58%	No
% of patient appointments at which the AVS was printed for the patient at the conclusion of their surgical appointment at the public	Measure Steward: MU P220 Benchmark: No external benchmark; hospital specific improvement Baseline or Prior Period Result: N/A	NA-Baseline Report	87.40%	N/A	87.66%	90.22%	Yes	90.00%	89.57%	No

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
hospital system***										

*Improvement methodology is Gap to Goal (10%) or attainment at target except where indicated
**Improvement methodology: Defined improvement over SFY 2018 baseline
*** Improvement methodology: Gap to Goal (10%) or attainment at target: Target 90%

Measure Slate 4: Evidence-Based Practices for Medical Management of Chronic Conditions*

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
The percentage of active primary care patients 40 years of age and older with a new diagnosis of COPD or newly active COPD, who received appropriate spirometry testing to confirm the diagnosis	Measure Steward: NQF 0577 Benchmark: 2015 90th percentile National Medicaid = 47.0% Baseline or Prior Period Result: N/A	NA-Baseline Report	34.37%	N/A	35.63%	39.72%	Yes	40.45%	34.50%	No
Percentage of active primary care patients aged 18 years and older with a diagnosis of COPD and who have an FEV1/FVC < 60% and have symptoms who were prescribed an inhaled bronchodilator.	Measure Steward: NQF 102 Benchmark: 2015 90th percentile National Medicaid= 90.0% Baseline or Prior Period Result: N/A	NA-Baseline Report	91.97%	N/A	90.00%	90.34%	Yes	90.00%	92.31%	Yes
Improve the percentage of patients with COPD who received patient education for COPD by a member of their inpatient care team prior to discharge (across public hospital's inpatient hospital campuses)	Measure Steward: Customized Measure Benchmark: 74.53% No external benchmark; hospital specific improvement target = 85% Baseline or Prior Period Result: 74.53%	75.58%	88.18%	Yes	85.00%	86.70%	Yes	85.00%	87.76%	Yes

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Improve the percentage of patients with CHF who received patient education for CHF by a member of their inpatient care team prior to discharge (across public hospital's inpatient hospital campuses)	Measure Steward: Customized Measure Benchmark: No external benchmark; hospital specific improvement target = 85% Baseline or Prior Period Result: 86.62%	85.00%	94.66%	Yes	85.00%	91.50%	Yes	85.00%	88.99%	Yes
Diabetes: HbA1c Control- % of active primary care patients ages 18 to 75 with diabetes whose most recent HbA1c control is <8.0%	Measure Steward: NQF 0575 Benchmark: 2015 90th percentile National Medicaid: 59.0% Baseline or Prior Period Result: N/A	NA-Baseline Report	63.10%	N/A	59.00%	62.55%	Yes	59.00%	66.79%	Yes
Comprehensive Diabetes Care: Eye Exam (retinal) performed (for active primary care patients)	Measure Steward: NQF 0055 Benchmark: 2015 90th percentile National Medicaid: 68.0% Baseline or Prior Period Result: N/A	NA-Baseline Report	52.19%	N/A	53.77%	53.43%	No	54.89%	56.19%	Yes
Improve the proportion of active primary care patients 18-75 years of age with diabetes with poorly controlled Hemoglobin HbA1C (most recent >=8.0%) who have a care plan	Measure Steward: NCQA Benchmark: No external benchmark; hospital specific improvement. Target = 75% Baseline or Prior Period Result: 8.31%	50.98%	57.57%	Yes	59.31%	53.76%	No	55.88%	53.17%	No

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
Percentage of high risk diabetic primary care patients receiving enhanced diabetes management services, including nursing-led patient education and self-management coaching, pharmacist-led medication management services, or other care team member support.**	Measure Steward: Customized Measure (denominator linked to NQF 0575) Benchmark: No external benchmark; hospital specific improvement target. Improvement over SFY 2018 baseline; SFY 19: Improve 2% over SFY 2018 baseline; SFY 20: Improve 4% over SFY 2018 baseline; SFY 21: Improve 6% over SFY 2018 baseline; SFY 22: Improve 8% over SFY 2018 baseline Baseline or Prior Period Result: N/A	NA-Baseline Report	4.66%	N/A	4.75%	27.28%	Yes	4.85%	28.67%	Yes
Percentage of high risk hypertensive primary care patients receiving enhanced hypertension management services, including nursing-led patient education and self-management coaching, pharmacist-led medication management services, or other care team member support.**	Measure Steward: Customized Measure Benchmark: No external benchmark; hospital specific improvement target. Improvement over SFY 2018 baseline SFY 19: Improve 2% over SFY 2018 baseline; SFY 20: Improve 4% over SFY 2018 baseline; SFY 21: Improve 6% over SFY 2018 baseline; SFY 22: Improve 8% over SFY 2018 baseline Baseline or Prior Period Result: N/A	NA-Baseline Report	7.69%	N/A	7.84%	10.16%	Yes	8.00%	12.51%	Yes
Hospitalization Follow-up: The percentage of	Measure Steward: Customized Measure	NA-Baseline Report	72.96%	N/A	73.66%	72.62%	No	73.36%	55.88%	No

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
discharges for patients 18 years of age and older (with any of the following conditions Diabetes, Hypertension, COPD, and/or CHF) who were discharged to home from public hospital's medical/surgical inpatient services and who had an outpatient visit within 7 days or contact within 2 days with a care team member documented in EMR	Benchmark: No external benchmark; hospital specific improvement target = 80% Baseline or Prior Period Result: N/A									
% of active primary care patients 3 years and older with the following conditions: Diabetes, Pediatric Asthma, Hypertension, COPD, and CHF, for whom a public hospital follow-up contact or visit is completed within seven calendar days post ED discharge	Measure Steward: Customized Measure Benchmark: No external benchmark; hospital specific improvement target = 50% Baseline or Prior Period Result: N/A	NA-Baseline Report	49.89%	N/A	49.90%	53.02%	Yes	50.00%	46.08%	No
Screening for Depression in active primary care patients 18 years and older with Diabetes, HTN, CHF, and/or COPD	Measure Steward: Approximate Match- NQF 0418 (Adjusted for Chronic Conditions at high risk) Benchmark: No external benchmark; hospital specific improvement target = 80%	NA-Baseline Report	64.37%	N/A	65.93%	64.65%	No	66.19%	62.97%	No

Measure Name	Measure Steward, Benchmark, and Baseline/ Prior Period Results	FY18 Target	FY18 Result	Measure Achieved?	FY19 Target	FY19 Result	Measure Achieved?	FY20 Target	FY20 Result	Measure Achieved?
	Baseline or Prior Period Result: N/A									
Co-morbid Conditions: Depression Follow-Up in active primary care patients with Diabetes, HTN, CHF, and/or COPD	Measure Steward: Customized Measure Benchmark: No external benchmark; hospital specific improvement target = 60% Baseline or Prior Period Result: N/A	NA-Baseline Report	12.34%	N/A	17.11%	10.98%	No	15.88%	10.01%	No

*Improvement methodology is Gap to Goal (10%) or attainment at target except where indicated
**Improvement methodology: Improvement over SFY 2018 baseline; SFY 19; Improve 2% over SFY 2018 baseline; SFY 20; Improve 4% over SFY 2018 baseline; SFY 21: Improve 6% over SFY 2018 baseline; SFY 22: Improve 8% over SFY 2018 baseline

J. Appendix J: Measure Details

Appendix J provides specific ICD-9 and ICD-10 codes for all measures used in the Goal 5 evaluation. Additionally, measure specifications are provided for NQF measures.

Within this document:

- A5.1.1: SUD Definition and ICD Codes
- A5.1.2: OUD Definition and ICD Codes
- A5.1.4: NQF Measure Specification Tables
- A5.1.5: SUD Services
- A5.1.6: Overdose ICD Codes

Base case definition: For each calendar quarter, identify all members in the specified age range who had two or more outpatient or ED visits or one or more inpatient visits, with one of the following codes at any time from one year prior to the first day in the calendar quarter through one year after the first day of the calendar quarter. ICD 9 codes will appear on claims/encounters prior to October 2015, and ICD-10 codes will appear on claims after that date:

A 5.1.1 SUD Definition

SUD ICD-9 codes

2910	30303	5710	30482	30540	30572	30463	29289	30590
2911	30390	5711	30483	30541	30573	5712	2929	30591
2912	30391	30402	30490	30542	30433	5713	30400	30592
2913	30392	30403	30491	30543	30440	76071	30401	30593
2914	30393	30410	30492	30550	30441	9800	30420	64830
2915	30500	30411	30493	30551	30442	2920	30421	64831
2918	30501	30412	30520	30552	30443	29211	30422	64832
29181	30502	30413	30521	30553	30450	29212	30423	64833
29182	30503	30470	30522	30560	30451	2922	30430	64834
29189	3575	30471	30523	30561	30452	29281	30431	65550
2919	4255	30472	30530	30562	30453	29282	30432	65551

30300	5353	30473	30531	30563	30460	29283	30581	65553
30301	53530	30480	30532	30570	30461	29284	30582	76072
30302	53531	30481	30533	30571	30462	29285	30583	76073
76075	7795	96500	96501	96502	96509	V6542	30580	

SUD ICD-10 codes

F1010	F1229	F15251	F19282	F10281	F13229	O355XX1	O99310
F1011	F1290	F15259	F19288	F10282	F13230	O355XX2	O99311
F10120	F12920	F15280	F1929	F10288	F13231	O355XX3	O99312
F10121	F12921	F15281	F1990	F1029	F13232	O355XX4	O99313
F10129	F12922	F15282	F19920	F10920	F13239	O355XX5	O99314
F1014	F12929	F15288	F19921	F10921	F1324	O355XX9	O99315
F10150	F12950	F1529	F19922	F10929	F13250	O99320	P043
F10151	F12951	F1590	F19929	F1094	F13251	O99321	Q860
F10159	F12959	F15920	F19930	F10950	F13259	O99322	F1110
F10180	F12980	F15921	F19931	F10951	F1326	O99323	F1111
F10181	F12988	F15922	F19932	F10959	F1327	O99324	F11120
F10182	F1299	F15929	F19939	F1096	F13280	O99325	F11121
F10188	F1310	F1593	F1994	F1097	F13281	P0441	F11122
F1019	F1311	F1594	F19950	F10980	F13282	P0449	T408X1A
F1020	F13120	F15950	F19951	F10981	F13288	P961	T408X1D
F1021	F13121	F15951	F19959	F10982	F1329	P962	T408X1S
F10220	F13129	F15959	F1996	F10988	F1390	T400X1A	T408X3A
F10221	F1314	F15980	F1997	F1099	F13920	T400X1D	T408X3D
F10229	F13150	F15981	F19980	G621	F13921	T400X1S	T408X3S
F10230	F13151	F15982	F19981	I426	F13929	T400X3A	T408X4A
F10231	F13159	F15988	F19982	K2920	F13930	T400X3D	T408X4D
F10232	F13180	F1599	F19988	K2921	F13931	T400X3S	T408X4S
F10239	F13181	F1610	F1999	K700	F13932	T400X4A	T408X5A
F1024	F13182	F1611	F550	K7010	F13939	T400X4D	T408X5D
F10250	F13188	F16120	F551	K7011	F1394	T400X4S	T408X5S
F10251	F1319	F16121	F552	K702	F13950	T400X5A	T40901A
F10259	F1320	F16122	F553	K7030	F13951	T400X5D	T40901D

F1026	F1321	F16129	F554	K7031	F13959	T400X5S	T40901S
F1027	F13220	F1614	F558	K7040	F1396	T400X6A	T40903A
F10280	F11959	F1424	F1829	F1397	O355XX0	F1624	T40903D
F18121	F11981	F14250	F1890	F1514	T400X6D	F16250	T40903S
F18129	F11982	F14251	F18920	F15150	T400X6S	F16251	T40904A
F1814	F11988	F14259	F18921	F15151	T401X1A	F16151	T40904D
F18150	F1199	F14280	F18929	F15159	T401X1D	F16159	T40995A
F18151	F1210	F14281	F1894	F15180	T401X1S	F16180	T40995D
F18159	F1211	F14282	F18950	F15181	T401X3A	F16183	T40995S
F1817	F12120	F14288	F18951	F15182	T401X3D	F16188	T40996A
F18180	F12121	F1429	F18959	F15188	T401X3S	F1619	T40996D
F18188	F12122	F1490	F1897	F1519	T401X4A	F1620	T40996S
F11129	F12129	F14920	F18980	F1520	T401X4D	F1621	T40993D
F1114	F12150	F14921	F18988	F1521	T401X4S	F14121	T40993S
F11150	F12151	F14922	F1899	F15220	T401X5A	F14122	T40994A
F11151	F12159	F14929	F1910	F15221	T401X5D	F14129	T40994D
F11159	F12180	F1494	F1911	F15222	T401X5S	F1414	T40994S
F11181	F12188	F14950	F19120	F15229	T405X1A	F14150	T407X6S
F11182	F1219	F14951	F19121	F1523	T405X1D	F1699	T407X6D
F11188	F1220	F14959	F19122	F1524	T405X1S	F1810	F11951
F1119	F1221	F14980	F19129	F15250	T405X3A	F1811	F1423
F1120	F12220	F14981	F1914	F16988	T405X3D	F13980	F18288
F1121	F12221	F14982	F19150	F1920	T405X3S	F13981	F16259
F11220	F12222	F14988	F19151	F1921	T405X4A	F13982	F16229
F11221	F12229	F1499	F19159	F19220	T405X4D	F13988	T407X6A
F11222	F12250	F1510	F1916	F19221	T405X4S	F1399	T407X6D
F11229	F12251	F1511	F1917	F19222	T405X5A	F1410	F11950
F1123	F12259	F15120	F19180	F15129	T405X5D	F1411	F14229

F1124	F12280	F15121	F19181	F16280	T405X5S	F14120	F18280
F11250	F12288	F15122	F19182	F16283	T405X6A	O99310	K709
F11251	F13221	F16150	F19229	F16288	T405X6D	O99311	F16221
F11259	F14151	F18120	F19230	F1629	T405X6S	O99312	T407X5S
F11281	F14159	F1819	F19231	F1690	T407X1A	O99313	T407X6D
F11282	F14180	F1820	F19232	F16920	T407X1D	O99314	F1194
F11288	F14181	F1821	F19239	F16921	T407X1S	O99315	F14222
F1129	F14182	F18220	F1924	F16929	T407X3A	P043	F1827
F1190	F14188	F18221	F19250	F1694	T407X3D	Q860	F19281
F11920	F1419	F18229	F19251	F16950	T407X3S	F1110	F16220
F11921	F1420	F1824	F19259	F16951	T407X4A	F1111	T407X5D
F11922	F1421	F18250	F1926	F16959	T407X4D	F11120	T407X6S
F11929	F14220	F18251	F1927	F16980	T407X4S	F11121	
F1193	F14221	F18259	F19280	F16983	T407X5A	F11122	

A.5.1.2 OUD Definition

Base case definition: For each calendar quarter, identify all members in the specified age range who had two or more outpatient or ED visits*, or one or more inpatient visits,** with one of the following codes at any time from one year prior to the first day in the calendar quarter through one year after the first day of the calendar quarter. ICD 9 codes will appear on claims/encounters prior to October 2015, and ICD-10 codes will appear on claims after that date:

OUD ICD-9 codes

304.00	304.01	304.02	304.03	304.7	304.71
304.72	304.73	305.00	305.01	305.02	305.03

OUD ICD-10 codes

F1110	F1111	F11120	F11121	F11122	F11129	F1114	F11150
F11151	F11159	F11181	F11182	F11188	F1119	F1120	F1121
F11220	F11221	F11222	F11229	F11922	F11929	F1193	F1194
F11950	F11951	F11959	F11981	F11982	F11988	F1199	F1123
F1124	F11250	F11251	F11259	F11281	F11282	F11288	F1129
F1190	F11920	F11921					

A.5.1.4 NQF Measures	
Measure Name	NQF 3175:Continuity of Pharmacotherapy for OUD
Measure Summary	
Description	Percentage of adults 18-64 years of age with pharmacotherapy for opioid use disorder (OUD) who have at least 180 days of continuous treatment
Numerator	Individuals in the denominator who have at least 180 days of continuous pharmacotherapy with a medication (buprenorphine, naltrexone (oral), methadone, buprenorphine and naloxone, and naltrexone (injectable) prescribed for OUD without a gap of more than seven days
Denominator	Individuals 18-64 years of age who had a diagnosis of OUD and at least one claim for an OUD medication
Measure Overview	
Measure Name	NQF 0004:Initiation and engagement of Alcohol and Other Drug Dependence Treatment
Measure Summary	
Description	The percentage of adolescent and adult members with a new episode of alcohol or other drug (AOD) dependence who received the following: a. Initiation of AOD Treatment. The percentage of members who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter, or partial hospitalization within 14 days of the diagnosis. b. Engagement of AOD Treatment. The percentage of members who initiated treatment and who had two or more additional services with a diagnosis of AOD within 30 days of the initiation visit.
Numerator	a) Initiation of AOD Dependence Treatment: Initiation of AOD treatment through an inpatient admission, outpatient visit, intensive outpatient encounter, or partial hospitalization within 14 days of diagnosis. If the Index Episode was an inpatient discharge, the inpatient stay is considered initiation of treatment and the member is compliant If the Index Episode was an outpatient, intensive outpatient, partial hospitalization, detoxification or ED visit, the member must have an inpatient admission, outpatient visit, intensive outpatient encounter or partial hospitalization (Table IET-B) with an AOD diagnosis (Table IET-A) within 14 days of the IESD (inclusive) If the initiation encounter is an inpatient admission, the admission date (not the discharge date) must be within 14 days of the IESD (inclusive) Do not count Index Episodes that include detoxification codes (including inpatient detoxification) as being initiation of treatment b) Engagement of AOD Treatment: Initiation of AOD treatment

	and two or more inpatient admissions, outpatient visits, intensive outpatient encounters or partial hospitalizations (Table IET-B) with any AOD diagnosis (Table IET-A) within 30 days after the date of the Initiation encounter (inclusive). Multiple engagement visits may occur on the same day, but they must be with different providers in order to be counted. For members who initiated treatment via an inpatient stay, use the discharge date as the start of the 30-day engagement period. If the engagement encounter is an inpatient admission, the admission date (not the discharge date) must be within 30 days of the Initiation encounter (inclusive). Do not count engagement encounters that include detoxification codes (including inpatient detoxification)
Denominator	Members age 13 years of age and older with a medical and chemical dependency benefit who were diagnosed with a new episode of alcohol and drug dependency (AOD) during the intake period of January 1-November 15 of the measurement year. The Intake Period is used to capture new episodes of AOD.

Measure Name	**NQF 2940: Use of Opioids at High Dosage in Persons Without Cancer**
Measure Summary	
Description	The proportion (XX out of 1,000) of MassHealth Members ages 18 – 64 years without cancer receiving prescriptions for opioids with a daily dosage greater than 120mg morphine equivalent dose (MED) for 90 consecutive days or longer
Numerator	Any member in the denominator with opioid prescription claims where the MED is greater than 120mg for 90 consecutive days or longer
Denominator	Any member with two or more prescription claims for opioids filled on at least two separate days, for which the sum of the days' supply is greater than or equal to 15.
Measure Overview	
Measure Name	NQF 2605: Follow up After Discharge from the ED for Mental Health or Alcohol or Other Drug Use Dependence
Measure Summary	
Description	The percentage of discharges for patients 18 – 64 years of age who had a visit to the emergency department with a primary diagnosis of mental health or alcohol or other drug dependence during the measurement year AND who had a follow-up visit with any provider with a corresponding primary diagnosis of mental health or alcohol or other drug dependence within 7- and 30-days of discharge. Two rates are reported: - The percentage of emergency department visits for alcohol or other drug dependence for which the patient received follow-up within seven days of discharge. - The percentage of emergency department visits for alcohol or other drug dependence for which the patient received follow-up within 30 days of discharge.
Numerator	The numerator for consists of two rates: Alcohol or Other Drug Dependence - Rate 1: An outpatient visit, intensive outpatient encounter, or partial hospitalization with any provider with a primary diagnosis of alcohol or other drug dependence within seven days after emergency department discharge - Rate 2: An outpatient visit, intensive outpatient encounter, or partial hospitalization with any provider with a primary diagnosis of alcohol or other drug dependence within 30 days after emergency department discharge

Denominator	Patients who were treated and discharged from an emergency department with a primary diagnosis of mental health or alcohol or other drug dependence on or between Jan 1 and Dec 1 of the measurement year.

A.5.1.5 SUD services

CPT/HCPCS/Revenue Codes for ASAM 3.7 Acute Treatment Services, by plan

MCE	REV CODE	HCPCS
AllWays Health Partners	136, 128	H0011 (Modifiers TF, HD, HH, HO, TH) H0018
HNE	EATS - (1002)	
MBHP	EATS - (1002)	
UHC SCO	128, 136	H0011/13 H0018
FALLON/ BMCHP (Beacon)	1002	H0011;H0011 - HE (Pregnancy Enhanced)
SWH	1002	H0011
TUFTS	1001; 1002	H0011, H0011 (MODIFIERS HH AND HD); H0037 (HH)
CCA	1002	H0011, H0011-HD

CPT/HCPCS/Revenue Codes for ASAM 3.5 Clinical stabilization services, by plan

MCE	REV CODE	HCPCS
AllWays Health Partners	1002	H0010
HNE	907	
MBHP	907	
UHC SCO	1002	H0019/H2036

FALLON/ BMCHP (Beacon)	1002	H0010; H0011 -TF (Youth)
SWH	1002	H0010
TUFTS	1002	H0010
CCA	0907	H0010

CPT/HCPCS/Revenue Codes for ASAM 3.1 residential rehabilitation services, by plan

MCE	REV CODE	HCPCS
AllWays Health Partners	N/A	H2034; H0019
HNE		H0019; H0019 - HF (Transitional Age Young Adults); H0019 -HA (Youth); H0019 - HR (Families); H0019-TH (Pregnant & Post-Partum); H0019-HH (Co-occurring Enhanced)
MBHP		H0019; H0019 - HF (Transitional Age Young Adults); H0019 -HA (Youth); H0019 - HR (Families); H0019-TH (Pregnant & Post-Partum); H0019-HH (Co-occurring Enhanced)
UHC SCO	1003/1004	H2034
FALLON/ BMCHP (Beacon)		H0019; H0019 - HF (Transitional Age Young Adults); H0019 -HA (Youth); H0019 - HR (Families); H0019-TH (Pregnant & Post-Partum); H0019-HH (Co-occurring Enhanced)
SWH		
TUFTS		H0019; H0019 - HF (Transitional Age Young Adults); H0019 -HA (Youth); H0019 - HR (Families); H0019-TH (Pregnant & Post-Partum); H0019-HH (Co-occurring Enhanced)
CCA		H0019-TH, H0019-HR, H0019-HF, H0019-HA, H0019-HD

CPT/HCPCS/Revenue Codes for ASAM 2.1 Structured Outpatient Addiction Program services, by plan

MCE	REV CODE	HCPCS
AllWays Health Partners	906	H0015

HNE		SOAP - Half Day w/ MI (H0015 TF) SOAP - Half Day Homeless (H0015 TG) SOAP - SOAP -W/O MI- Half Day (H0015)
MBHP		SOAP - Half Day w/ MI (H0015 TF) SOAP - Half Day Homeless (H0015 TG) SOAP - SOAP -W/O MI- Half Day (H0015)
UHC SCO	906	H0015
FALLON/ BMCHP (Beacon)		
SWH		
TUFTS	905; 906	H0015
CCA	0907	H0010

CPT/HCPCS/Revenue Codes for SUD outpatient visit, by plan

MCE	HCPCS
AllWays Health Partners	H0005; H0033; H0047
HNE	(H0014)
MBHP	(H0014); VBP Code: Intake-Routine (T1015 TF); VBP Code: Phase One (T1012 TG); VBP Code: Phase Two (T1012 TF); VBP Code: Phase Three (T1012 HF)
UHC SCO	H0004, H0005, H0020, H0033
FALLON/ BMCHP (Beacon)	90791,90792, 90832, 90834,90837, 90839, 90840,99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 90833(Add-On), 90836(Add-On), 90853, 90847
SWH	Any OP service with SUD diagnosis
TUFTS	90785; 90791; 90792; 90832; 90833; 90834; 90836; 90837; 90839; 90840; 90846; 90847; 90849; 90853; 90882; 90887; 99201; 99203; 99204; 99205; 99211; 99212; 99213; 99214; 99215
CCA	99201-99205, 99211-99215, 99241-99245, 99412 90833-90838, G0469, G0470, S9484, 90791, 90792, 90832, 90834, 90837, 90846, 90847, 90887, 90882, 90839, 90840, 90849 90853, H0032, 96372, H0004, H0004-HD, H0005, H0005-HD, T1006, T1006-HD, H0038-HF, H0006-HD, H1005, H1005-HQ

CPT/HCPCS codes for recovery support navigator, by plan

MCE	HCPCS
AllWays Health Partners	H2015-HF
HNE	(H2015 HF)

MBHP	(H2015 HF)
UHC SCO	2015HF
FALLON/ BMCHP (Beacon)	H2015 -HF
SWH	H2015-HF
TUFTS	H2015-HF
CCA	H2015-HF H2015-HG

CPT/HCPCS codes for recovery coach, by plan

MCE	HCPCS
AllWays Health Partners	H2016-HM
HNE	(H2016 HM)
MBHP	(H2016 HM)
UHC SCO	H0038HF
FALLON/ BMCHP (Beacon)	H2016 - HM
SWH	H2016-HM
TUFTS	H2016-HM
CCA	H2016-HM

HCPCS/CPT codes for outpatient withdrawal management, by plan

MCE	HCPCS
AllWays Health Partners	H0014
HNE	initial 15 minutes (97810 HF) each additional 15 minutes (97811 HF)
MBHP	initial 15 minutes (97810 HF) each additional 15 minutes (97811 HF)
UHC SCO	97810 HF and 97811 HF H0014
FALLON/ BMCHP (Beacon)	97810 - HF; 97811 -HF H0014
SWH	(97810HF, 97811HF) H0014
TUFTS	H0014; 97810; 97811 H0014
CCA	97810, 97811 H0014

A.5.1.6 Overdose

Any overdose

ICD9 codes:

960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, E850, E851, E852, E853, E854, E855, E856, E857, E858, 9600, 9601, 9602, 9603, 9604, 9605, 9606, 9607, 9608,9609,9610, 9611, 9612, 9613, 9614, 9615, 9616, 9617, 9618, 9619, 9620, 9621, 9622, 9623, 9624, 9625, 9626, 9627, 9628, 9629, 9630, 9631, 9632, 9633, 9634, 9635, 9636, 9637, 9638, 9639, 9640, 9641, 9642, 9643, 9644, 9645, 9646, 9647, 9648, 9649, 9650, 9651, 9652, 9653, 9654, 9655, 9656, 9657, 9658, 9659, 9660, 9661, 9662, 9663, 9664, 9665, 9666, 9667, 9668, 9669, 9670, 9671, 9672, 9673, 9674, 9675, 9676, 9677, 9678, 9679, 9680, 9681, 9682, 9683, 9684, 9685, 9686, 9687, 9688, 9689, 9690, 9691, 9692, 9693, 9694, 9695, 9696, 9697, 9698, 9699, 9700, 9701, 9702, 9703, 9704, 9705, 9706, 9707, 9708, 9709, 9710, 9711, 9712, 9713, 9714, 9715, 9716, 9717, 9718, 9719, 9720, 9721, 9722, 9723, 9724, 9725, 9726, 9727, 9728, 9729, 9730, 9731, 9732, 9733, 9734, 9735, 9736, 9737, 9738, 9739, 9740, 9741, 9742, 9743, 9744, 9745, 9746, 9747, 9748, 9749, 9750, 9751, 9752, 9753, 9754, 9755, 9756, 9757, 9758, 9759, 9760, 9761, 9762, 9763, 9764, 9765, 9766, 9767, 9768, 9769, 9770, 9771, 9772, 9773, 9774, 9775, 9776, 9777, 9778, 9779, 9780, 9781, 9782, 9783, 9784, 9785, 9786, 9787, 9788, 9789, 9790, 9791, 9792, 9793, 9794, 9795, 9796, 9797, 9798, 9799, E8500, E8501, E8502, E8503, E8504, E8505, E8506, E8507, E8508, E8509, E8510, E8511, E8512, E8513, E8514, E8515, E8516, E8517, E8518, E8519, E8520, E8521, E8522, E8523, E8524, E8525, E8526, E8527, E8528, E8529, E8530, E8531, E8532, E8533, E8534, E8535, E8536, E8537, E8538, E8539, E8540, E8541, E8542, E8543, E8544, E8545, E8546, E8547,E8548, E8549, E8550, E8551, E8552, E8553, E8554, E8555, E8556, E8557, E8558, E8559, E8560,E8561, E8562, E8563, E8564, E8565, E8566, E8567, E8568, E8569, E8570, E8571, E8572, E8573,E8574, E8575, E8576, E8577, E8578, E8579, E8580, E8581, E8582, E8583, E8584, E8585, E8586, E8587, E8588, E8589,

ICD 10 codes:

T4271XA, T4272XA, T4273XA, T4274XA, T458X1A, T458X2A, T458X3A, T458X4A, T4591XA, T4592XA,T4593XA, T4594XA, T460X1A, T460X2A, T460X3A, T460X4A, T461X1A, T461X2A, T461X3A, T461X4A, T462X1A, T462X2A, T462X3A, T462X4A, T463X1A, T463X2A, T463X3A, T463X4A, T464X1A, T464X2A, T464X3A, T464X4A,T465X1A, T465X2A, T465X3A, T465X4A, T466X1A, T466X2A, T466X3A, T466X4A, T467X1A, T467X2A, T467X3A,T467X4A, T476X1A, T476X2A, T476X3A, T476X4A, T477X1A, T477X2A, T477X3A, T477X4A, T478X1A,T478X2A,T478X3A,

T478X4A, T4791XA, T4792XA, T4793XA, T4794XA, T480X1A, T480X2A, T480X3A, T480X4A, T481X1A,T481X2A, T481X3A, T481X4A, T48201A, T48202A, T48203A,

T48204A, T48291A, T48292A, T48293A, T48294A,T483X1A, T483X2A, T483X3A, T483X4A, T484X1A, T484X2A, T484X3A, T484X4A, T485X1A, T485X2A, T485X3A,T485X4A, T48991A, T48992A, T48993A, T48994A, T50901A, T50902A, T50903A, T50904A, T50B11A, T50B12A,

T50B13A, T50B14A

Opioid overdose

ICD9: 96500,96501,96502,96509,E8500,E8501,E8502,

ICD 10: T400X1A,T400X1A, T400X1D, T400X1S, T400X2A, T400X2D, T400X2S, T400X3A,T400X3D,T400X3S, T400X4A, T400X4D, T400X4S, T401X1A, T401X1D, T401X1S, T401X2A,T401X2D, T401X2S, T401X3A, T401X3D, T401X3S, T401X4A, T401X4D, ,T402X1A, T402X1D, T402X1S, T402X2A, T402X2D, T402X2S, T402X3A, T402X3D,T402X3S, T402X4A, T402X4D, T402X4S, T403X1A, T403X1D, T403X1S, T403X2A,T403X2D, T403X2S, T403X3A, T403X3D, T403X3S, T403X4A, T403X4D, T403X4S,T404X1A, T404X1D, T404X1S, T404X2A, T404X2D, T404X2S, T404X3A, T404X3D,T404X3S, T404X4A, T404X4D, T404X4S, T40601A, T40601D, T40601S, T40602A,T40602D, T40602S, T40603A, T40603D, T40603S, T40604A, T40604D, T40604S

<u>Overdose deaths</u>

Any overdose

Underlying cause of death = X40, X41, X42, X43, X44, X60, X61, X62, X63, X64, X85, Y10, Y11, Y12, Y13, Y14
Opioid overdose

Underlying cause of death = X40, X41, X42, X43, X44, X60, X61, X62, X63, X64, X85, Y10, Y11, Y12, Y13, Y14

and any of contributing cause of death = T40.0, T40.1, T40.2, T40.4, T40.6)

K. Appendix K: Interrupted Time Series Analysis Specifications

The tables in this appendix detail the results of the quasi-experimental interrupted time series (ITS) approach that was employed to compare trends in care quality measures, healthcare utilization, and outcomes pre- to post-implementation of expanded SUD services for Goal 5. The estimate for the parameter *time (quarter)* represents the trend during the baseline period. The estimate for the parameter *Jul-Sep 2018* represents the change in the estimate during this calendar quarter relative to the previous period, and the estimate *time (quarter) post Jul-Sep 2018* represents the change in trend in the post-implementation period relative to the pre-implementation period. A p value < 0.05 associated with this estimate indicates that the post-implementation trend is statistically different from the trend in the pre-implementation period.

Table 1: ITS, Follow-up within seven days and within 30 days after discharge from the ED for AOD

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-Value, ChiSq
FU 7 days					
time (quarter)	0.001	0.0031	-0.005.	0.0069	0.7556
Jul-Sep 2018	0.119	0.047	0.0268	0.2112	0.0114
time (quarter) post Jul-Sep 2018	-0.0239	0.0115	- 0.0464	0.0014	0.0377
OUD					
time (months)	0.0008	0.0026	-0.0043	0.0059	0.7532
Jul-Sep 2018	0.0651	0.0404	-0.0141	0.1442	0.1073
time (quarter) post Jul-Sep 2018	-0.0061	0.0098	-0.0252	0.0131	0.5352

Table 2: ITS, SUD outpatient visit among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-Value, ChiSq
SUD					
time (quarter)	0.0167	0.0003	0.016	0.0173	<.0001
Jul-Sep 2018	0.0728	0.0049	0.0631	0.0824	<.0001
time (quarter) post Jul-Sep 2018	-0.0231	0.0011	-0.0253	-0.0208	<.0001
OUD					
time (months)	0.0242	0.0004	0.0234	0.025	<.0001
Jul-Sep 2018	0.0365	0.0063	0.0242	0.0488	<.0001
time (quarter) post Jul-Sep 2018	-0.0334	0.0015	-0.0363	-0.0305	<.0001

Table 3: SOAP utilization among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
SUD					
time (quarter)	-0.0109	0.0016	-0.014	-0.0079	<.0001
Jul-Sep 2018	-0.1566	0.0274	-0.2102	-0.1029	<.0001
time (quarter) post Jul-Sep 2018	-0.0024	0.0066	-0.0152	0.0105	0.7181
OUD					
time (months)	-0.003	0.0018	-0.0065	0.0006	0.1014
Jul-Sep 2018	-0.171	0.0336	-0.2368	-0.1052	<.0001
time (quarter) post Jul-Sep 2018	-0.012	0.0081	-0.0278	0.0039	0.1384

Table.4: ITS, CSS utilization among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
SUD					
time (quarter)	-0.0733	0.0021	-	-0.0692	<.0001
Jul-Sep 2018	0.6239	0.0345	0.5562	0.6915	<.0001
time (quarter) post-Jul-Sep 2018	0.0026	0.0082	-	0.0187	0.7531
OUD					
time (quarter)	-0.0629	0.0022	-	-0.0585	<.0001
Jul-Sep 2018	0.6067	0.0381	0.5321	0.6814	<.0001
time (quarter) post-Jul-Sep 2018	-0.01	0.0091	-	0.0079	0.2739

Table 5: ITS, ATS utilization among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
SUD					
time (quarter)	0.0094	0.0008	0.0078	0.011	<.0001
Jul-Sep 2018	0.1124	0.0123	0.0883	0.1365	<.0001
time (quarter) post Jul-Sep 2018	-0.012	0.0029	-0.018	-0.006	<.0001
OUD					
time (quarter)	0.0228	0.0009	0.021	0.0245	<.0001
Jul-Sep 2018	0.0748	0.0135	0.0484	0.1011	<.0001
time (quarter) post Jul-Sep 2018	-0.026	0.0031	-0.032	-0.02	<.0001

Table 6: ITS, Outpatient withdrawal management utilization among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
SUD					
time (quarter)	0.1565	0.0305	0.0967	0.2164	<.0001
Jul-Sep 2018	0.2009	0.2747	-0.3375	0.7392	0.4646
time (quarter) post Jul-Sep 2018	-0.1209	0.0628	-0.244	0.0022	0.0543
OUD					
time (quarter)	0.0963	0.0449	0.0084	0.1843	0.0318
Jul-Sep 2018	0.0191	0.5467	-1.0523	1.0906	0.9721
time (quarter) post Jul-Sep 2018	-0.0512	0.1233	-0.2929	0.1905	0.678

Table 7: ITS, Any overdose and opioid overdose among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
Any overdose					
time (quarter)	0.0416	0.0009	0.0399	0.0434	<.0001
Jul-Sep 2018	-0.1295	0.0119	-0.1528	-0.1063	<.0001
time (quarter) post Jul-Sep 2018	-0.0678	0.0025	-0.0727	-0.0629	<.0001
Opioid overdose					
time (quarter)	0.012	0.0011	0.0098	0.0142	<.0001
Jul-Sep 2018	-0.0274	0.0156	-0.058	0.0031	0.0778
time (quarter) post Jul-Sep 2018	-0.0387	0.0033	-0.0451	-0.0324	<.0001

Table 8: ITS, Fatal overdose and opioid overdose among MassHealth members

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
Any fatal OD					
time (quarter)	0.0279	0.0033	0.0214	0.0344	<.0001
Jul-Sep 2018	-0.0373	0.0516	-0.1383	0.0638	0.4696
time (quarter) post Jul-Sep 2018	-0.0176	0.012	-0.0411	0.0058	0.1408
Fatal Opioid OD					
time (quarter)	0.0279	0.0035	0.021	0.0347	<.0001
Jul-Sep 2018	-0.0507	0.0545	-0.1576	0.0561	0.352
time (quarter) post Jul-Sep 2018	-0.0148	0.0126	-0.0396	0.01	0.2416

Table 9: ITS, MOUD prescribers/MassHealth members with SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
SUD					
time (quarter)	0.0403	0.0014	0.0376	0.043	<.0001
Jul-Sep 2018	-0.0833	0.0187	-0.1199	-0.0468	<.0001
time (quarter) post Jul-Sep 2018	0.0286	0.0042	0.0205	0.0368	<.0001
OUD					
time (quarter)	0.063	0.0013	0.0604	0.0657	<.0001
Jul-Sep 2018	-0.1358	0.0186	-0.1722	-0.0993	<.0001
time (quarter) post Jul-Sep 2018	0.0089	0.0042	0.0007	0.017	0.0331

Table 10: ITS, Inpatient visits per 1000 m-q among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
SUD					
time (quarter)	0.0065	0.0008	0.0049	0.0081	<.0001
Jul-Sep 2018	0.0061	0.0097	-0.0128	0.0251	0.5264
time (quarter) post Jul-Sep 2018	-0.0058	0.0025	-0.0106	-0.0010	0.0182
OUD					
time (quarter)	0.0024	0.0009	0.0006	0.0041	0.0101
Jul-Sep 2018	0.0263	0.0117	0.0032	0.0493	0.0254
time (quarter) post Jul-Sep 2018	-0.0029	0.0029	-0.0086	0.0029	0.3284

Table 11: ITS, Emergency Department visits/1000 m-q among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
SUD					
time (quarter)	-0.0056	0.0006	-0.0068	-0.0044	<0.0001
Jul-Sep 2018	0.0185	0.0066	0.0056	0.0315	<0.0001
time (quarter) post Jul-Sep 2018	-0.0001	0.0185	-0.0031	0.0041	0.7926
OUD					
time (quarter)	0.0024	0.0009	0.0006	0.0041	0.0101
Jul-Sep 2018	0.0263	0.0117	0.0032	0.0493	0.0254
time (quarter) post Jul-Sep 2018	-0.0029	0.0029	-0.0086	0.0029	0.3284

Table 12: ITS, Outpatient visits/1000 m-q among MassHealth members with any SUD and OUD diagnoses

Parameter	Estimate	Standard Error	Wald 95% Confidence Limits		P-value, ChiSq
SUD					
time (quarter)	0.0068	0.0004	0.0060	0.0076	<.0001
Jul-Sep 2018	-0.0293	0.0036	-0.0364	-0.0222	<.0001
time (quarter) post Jul-Sep 2018	-0.0029	0.0010	-0.0049	-0.0009	0.0037
OUD					
time (quarter)	0.0114	0.0005	0.0105	0.0123	<.0001
Jul-Sep 2018	-0.0374	0.0047	-0.0465	-0.0283	<.0001
time (quarter) post Jul-Sep 2018	-0.0087	0.0013	-0.0111	-0.0062	<.0001

L. Appendix L: MassHealth Comments on IEIR Goals 1 & 2: Payment/Delivery Reform and Integration of Care

MassHealth thanks the Massachusetts 1115 Waiver Independent Evaluator, the University of Massachusetts Medical School, for its thorough and careful evaluation of the MassHealth DSRIP Program. MassHealth provides the following responses and progress updates to the recommendations made by the IE, organized according to the Policy Implications and Recommendation categories set by the IE.

Policy Implications and Recommendations

1. **The DSRIP program has enabled payment and delivery system reforms.** The interim evaluation confirms that Massachusetts stakeholders have taken significant action and made progress in transforming the delivery system for MassHealth members.
   - DSRIP funding has promoted substantial changes in the healthcare delivery system for MassHealth members and enabled new health care and community-based organizations to take part in system transformation**.** DSRIP funds increased care coordination and Flexible Services supports designed to help address the full continuum of needs among MassHealth members. The required partnerships within and between ACOs and CPs were unlikely to have formed in the absence of DSRIP funding, except where there were pre-existing relationships. Several ACOs and CPs expressed concerns about the continuation of programs and ongoing participation of practice sites in the absence of DSRIP funding.
     - **Recommendation:** This finding confirms the value of DSRIP funding in promoting organizational transformation. Our findings also suggest a need for ongoing funding to continue and sustain improvements in the delivery system.
       - ***State response:*** MassHealth agrees with the IE's observations and recommendation. In addition to continuing to support organizational transformation with DSRIP funding for the remainder of the current demonstration period, MassHealth seeks to continue sustainably supporting this work as part of its proposed 1115 extension through transitioning ~80% of DSRIP funding to ongoing base funding for whole person primary care and care coordination.
   - Organizations entered Medicaid delivery system reform from different starting points in the life-cycle of population-based health care capacity development and served demographically, medically, socially, and geographically

varied populations. Several ACOs had earlier experience with value-based contracts, population health management, and quality initiatives with other payers. These organizations often had the staffing and technology to collect, analyze, report, and act on data from the outset of the DSRIP program, while others had to build such capabilities. Size, prior experience with value-based and alternative payment models, and other characteristics influenced the ability of organizations to implement program requirements. Recognizing differences in populations served and in organizational capacity and mission, MassHealth allocated larger amounts of DSRIP funds to ACOs serving larger volumes of safety-net patients and implemented a first in the nation risk adjustment formula to adjust ACO capitation payments and total cost of care benchmarks based on the medical and social risk of their member populations.

- **Recommendation:** MassHealth should continue to target resources, such as funding and technical assistance, to entities with the greatest need for support (or at least experience) in order to successfully operate under an integrated and accountable care model and impact delivery system change.
    - ***State Response:*** MassHealth agrees with the IE's observations and recommendation. Within the current demonstration, MassHealth will continue a range of efforts that target resources towards safety net providers and other entities in need of support. For example, MassHealth increases DSRIP payments for ACOs that serve populations with higher Medicaid/un-insured payer mix. MassHealth also increases capitation payments and total cost of care benchmarks for ACOs with enrollees that have greater medical and social risk. In its proposed 1115 extension, MassHealth is seeking to continue targeting a range of investments towards safety net providers and towards historically under-funded parts of the delivery system such as primary care and behavioral health.

2. DSRIP funds have promoted coordination and integration of physical, behavioral, and long-term services.

- Coordination was enhanced by prior relationships among staff members and between organizations, suggesting that new partnerships will improve their abilities to coordinate over time. Narrowing and deepening ACO and CP relationships have evolved over the early years of the DSRIP program. This process was facilitated by MassHealth's decision to relax requirements for the number of partnerships ACOs had to maintain with CPs. This allowed ACOs to be selective with the CPs with which they chose to work.
    - **Recommendation:** MassHealth should continue its less restrictive requirements (i.e., allowing ACOs and CPs to have fewer contractual relationships) regarding ACO and CP partnerships while monitoring the effects of this policy on access to CP care coordination supports for ACO members.

- ***State Response:*** MassHealth agrees with the IE's observations and recommendation. To-date, MassHealth has received significant positive feedback from ACOs and CPs in response to the increased flexibility, and has seen member referrals and engagement in the CP program continue to increase. MassHealth intends to continue these policies in the current demonstration. In its proposed 1115 extension, MassHealth intends to evolve the CP program in ways that will further build on the flexibility ACOs and CPs have to ensure they and their members are getting value from the program.

- Integrated information sharing plans, regular meetings, shared access to electronic records, and co-location of providers and staff facilitated successful relationships. A minimum threshold of shared members may be necessary to ensure that the benefits of information sharing outweigh the fixed costs so that effective working relationships between ACOs and CPs are formed and sustained.
  - **Recommendation:** MH should continue to identify and encourage the use of best practices for coordination and information sharing between providers within ACOs and between ACOs and CPs, including those highlighted in earlier sections of this report, such as:
    - Co-locating BH providers and CP staff in ACO primary care practice sites.
    - Scheduling joint CP-ACO case conferences to discuss shared members, including challenging cases and members who are hard to reach.
    - Increasing the frequency and timeliness of communication to build provider and staff relationships within and across ACOs and CPs.
    - Identifying a central point of contact within each ACO and CP organization.
  - ***State Response:*** MassHealth agrees with the IE's observations and recommendation. MassHealth has regularly convened ACOs and CPs to discuss best practices since the launch of the program, including those listed by the IE, and intends to continue doing so within this demonstration period. Some of these best practices have been incorporated as contract requirements in the current program; for example, ACOs and CPs are required to have key contacts and Care Team Points of Contact, and have requirements around timeliness of communication and member coordination.
  - **Recommendation**: MassHealth should consider implications of changes to the CP program that may disadvantage smaller CPs that may face challenges continuing to operate in the face of even small revenue reductions. For example, program design features that promote (or require) higher volume ACO-CP

relationships or more expansive services and supports offerings by CPs may also encourage organizational consolidation or exit from the program of smaller CPs.

- ***State Response:*** MassHealth appreciates the topic the IE is raising. MassHealth notes that, to-date within the current demonstration, the CP program's minimum volume requirements and flexibility for ACOs and CPs to prefer higher-volume relationships have not yet led to consolidation among CP entities. MassHealth also notes that ACOs and CPs have provided consistent feedback that higher-scale relationships tend to be more effective and foster greater clinical integration, and that the current program has more entities and relationships than would be ideal. In its anticipated procurement for the evolved CP program within the proposed 1115 extension period, MassHealth intends to continue to consider scale as an important facet of the program and contributor to CPs' success, while being mindful of the benefits of having a robust selection of CPs with whom ACOs can partner.

3. **Health information technology use and data sharing continue to pose a challenge for ACO efforts to coordinate care with Community Partners.**
    - Inadequate real-time member contact information, clinical information, and event notification posed challenges for organizations during early implementation. Limited access to member data was especially problematic for CPs, contributing to low rates of engagement and follow-up with CP-enrolled members, particularly during the first few months after program launch (i.e., Q2 and Q3 2018). Year-over-year improvements in CP performance on these CP quality measures from 2018 to 2019 suggest that early infrastructure investments and changes in processes were beginning to produce effects, most notably evidenced by the large increases in engagement with CPs reported by MassHealth (6% of those ever enrolled were engaged as of 12/31/2018 versus 20% of all members ever enrolled were engaged as of 12/31/2019).[136] In addition, data sharing between ACOs and CPs regarding individual members' care coordination was essential but often limited by incompatible data platforms and organizational capacity. Improved data sharing about members between organizations, including contact, clinical, and hospital admissions data, is needed to support population health management and care coordination.

[136] See MassHealth 2019 DSRIP Annual Report: https://www.mass.gov/info-details/massachusetts-delivery-system-reform-incentive-payment-program#dsrip-annual-report-and-public-meeting-

- **Recommendation:** Requirements for data sharing from participating organizations to MassHealth should balance the administrative burden of data submission by participating organizations with the imperatives of using such data for timely monitoring of programs and rigorous evaluations of program effects, including among diverse subgroups of interest. MassHealth should continue to share enrollment, claims, and encounter data with ACOs and CPs to support their care coordination and program evaluation activities.
    - ***State Response:*** MassHealth agrees with the IE's observations, and with the general spirit of the IE's recommendation. MassHealth notes that limited quality of member contact information, particularly for the at-risk and sometimes transient population served by the CP program, was not unexpected, and is part of the reason engaging this population in care coordination and other supports is so difficult, and therefore why the CP program was created and funded within the current demonstration. CPs are paid for several months of outreach work for each member they are assigned, to account for the fact that some members are relatively easy to reach while others might take weeks or even months of active effort due to the limited availability of up-to-date contact information and other factors. Similarly, overcoming communication barriers between different IT systems and workflows was an expected challenge for ACOs and CPs, and one of the reasons the program has been supported by such significant infrastructure and technical assistance funding in the current demonstration. MassHealth intends to continue providing CPs with infrastructure, outreach, and technical assistance funding within the current demonstration, as well as to continue sharing member enrollment and claims information with ACOs and CPs.
- **Recommendation:** MassHealth should identify and provide resources and expectations for technology infrastructure – e.g., common data-sharing platforms - to support improved care coordination and data sharing between organizations. Requirements and guidance regarding data-sharing between organizations should immediately prioritize timely and effective care coordination and population health management. In the longer term, MassHealth should seek opportunities to standardize health and social information exchange and promote interoperability.
- ***State Response:*** MassHealth agrees with the IE's recommendation, and has a number of important initiatives underway in this space. Specifically, ACOs and CPs have access to and are required to participate in the Mass HIway, the state's health information exchange program that supports interoperability across the Commonwealth, and which allows for secure data-sharing between participating providers. In addition, the Mass HIway recently certified two Event Notification Service (ENS) vendors to participate in the

Statewide ENS Framework. Certification requires the vendors to share notifications with each other, among other things, which allows organizations subscribed to one vendor to access notifications from the other vendor without additional cost. This certification framework facilitates timely data sharing, and will benefit the ACOs, their providers, and CPs that have subscribed to these vendors. MassHealth will continue to explore other opportunities to facilitate more timely and effective data sharing, including for social health information exchange. MassHealth notes that the long-term vision of true standardization across platforms, while ideal, comes with significant policy and implementation challenges, and MassHealth has therefore prioritized these other, more targeted efforts in order to have the greatest impact within the demonstration and extension timeframes.

4. **Workforce development and enhancement resources have supported coordinated and integrated care.**
    - Significant resources and effort were invested in recruiting and training the workforce to provide integrated and coordinated care. ACOs and CPs used DSRIP funds to develop or expand their training programs and enhance staff capacity to engage with members and deliver services. SWI programs, such as student loan repayment and recruitment incentives, were important for recruitment and retention. Despite these investments, some ACOs faced challenges when filling positions in clinical areas due to shortages in applicants. Many ACO providers and CP staff perceived members to not be taking responsibility for managing their own health, which may represent a target for future member-and-provider-focused programs.
        - **Recommendation:** MassHealth should continue investments in SWI programs like student loan repayment, residency training programs, special projects funding, competency-based training programs for front line staff, and training opportunities for CHWs, CHW supervisors, and recovery coaches to support the expansion of the community-based workforce and recruitment and retention of staff by ACOs and CPs. MassHealth should also consider targeting programs and policies that facilitate building the supply of providers in workforce areas facing the greatest need.
            - ***State Response:*** MassHealth agrees with the IE's observations, and its recommendation both to continue investing in workforce and to specifically target those investments to areas that need them most. Within the current demonstration, MassHealth intends to continue its SWI workforce investments for the remainder of the DSRIP program. Additionally, as part of its next Section 1115 extension, MassHealth intends to continue and further target its student loan repayment programs, as well as continue supporting the family nurse practitioner residency grant program.

- **Recommendation:** MassHealth should continue to engage staff and leadership at community-based organizations to thoroughly understand their implementation efforts and needs, especially for newer programs like Flexible Services.
    - ***State Response:*** MassHealth will continue to work closely with ACOs and the community-based organizations they are partnering with to better understand their implementation needs and efforts.
- **Recommendation:** MassHealth should continue to support the training of providers and staff in best practices specifically for member engagement, especially regarding treatment decision-making and managing their health.
    - ***State Response:*** MassHealth has hosted a series of "SWI Pop-up" events focused specifically on member engagement, and has developed a toolkit based on the events (https://www.ma-dsrip-ta.com/shared-learning/pop-up/swi-member-engagement-toolkit-page/). MassHealth has also made available free trainings on the MA DSRIP TA Marketplace website to support staff in strengthening their knowledge and understanding of healthcare reform topics and to improve care coordination skills, such as learning best practices for person-centered planning, care plan writing, motivational interviewing, health and wellness coaching, and engaging members in wellness planning (https://www.ma-dsrip-ta.com/).

5. **State operations, specifically DSRIP program design features, stakeholder engagement efforts, and staffing, effectively supported delivery system transformation efforts.**
    - DSRIP funding was essential, and effectiveness was enhanced by well-designed programs and responsive Medicaid staff. The ACOs and CPs have found access to MassHealth staff and proactive responses to questions and issues to be useful and supportive. MassHealth staff responsiveness to barriers that ACOs and CPs faced during early implementation was seen as essential to their ability to resolve challenges and make progress. MassHealth used guidance, incentives, and requirements to foster organizational changes by participating entities.
        - **Recommendation:** MassHealth should maintain its technical capacity for engagement and responsiveness to issues and barriers confronted by DSRIP stakeholders.
        - **Recommendation:** MassHealth should balance the advantages and disadvantages of standardization versus flexibility for each program element. We encourage MassHealth to continue to remain open to

modifying the program as challenges arise and to provide opportunities for organizations to share feedback and engage in problem resolution.

- ***State Response to Previous Two Recommendations:*** MassHealth intends to continue engaging with and being responsive to feedback from ACOs, CPs, and other DSRIP stakeholders for the duration of the current and future demonstration periods.

6. **The incentives associated with value-based and alternative payment models have begun to shift the focus of health systems.**

   - MassHealth's risk-sharing arrangements and value-based payment incentives with ACOs and CPs have begun to shift the focus of health systems and their partners away from fee-for-service and towards integrated care, population health management, member experience, quality benchmarks, and cost moderation.
   - Many ACOs invested DSRIP funds in technology and staffing for care management and care coordination programs that seek to improve health outcomes for complex members while reducing costs from acute care utilization. Early signs of improvement in clinical quality measures, reductions in ED boarding of members with BH conditions, and declines in ACSC admissions rates suggest better outpatient management of conditions. Increases in primary care utilization and declines in institutional post-acute care utilization appear to be early signals of favorable utilization shifts to higher-value care settings.
     - **Recommendation:** MassHealth should continue to support ACOs and their partners in fulfilling the goals of the DSRIP program while monitoring their progress.
       - ***State Response:*** MassHealth agrees with the IE's observations and recommendation. In the current demonstration, MassHealth intends to continue supporting ACOs and their partners by providing them various reports to help monitor their performance on key metrics, as well as engage with ACOs on areas of improvement. Additionally, as part of its 1115 extension, MassHealth intends to further support ACOs and their providers in moving away from fee-for-service by implementing a primary care sub-capitation payment model.
   - Healthcare is delivered and coordinated between providers, staff, and patients; therefore, it is important that organizational changes are accompanied by changes in behavior by frontline providers and staff. A sizable minority of ACO primary care providers were unfamiliar with the MassHealth ACO and CP programs, and fee-for-service remains the standard payment mechanism for primary care and specialist providers. Fee-for-service architecture

continues to promote volume-based rather than value-based care by frontline providers. This suggests new payment arrangements and further engagement of providers is needed to align their actions and incentives with DSRIP program goals. Only about half of the ACO primary care providers reported receiving financial incentives when surveyed in 2020. Some ACO leaders reported successfully engaging providers using other non-financial levers, but quantitative data on such approaches were absent.

- **Recommendation:** Expanded financial and non-financial incentives for providers and associated training and information-sharing could build broader awareness of, and shift behavior towards, alignment with delivery system reform goals. To increase the potency of incentives and avoid dilution effects of conflicting arrangements, MassHealth should coordinate with other payers to align payment, quality measurement, and delivery system reform efforts.
    - ***State Response:*** MassHealth agrees with this recommendation and has a number of important efforts currently underway. MassHealth regularly engages with the Massachusetts Health Policy Commission about its ACO Certification Program to promote cross-payer alignment for ACO expectations in the Commonwealth. Additionally, the Executive Office of Health and Human Services convenes a statewide Quality Measure Alignment Taskforce which has the primary goal of building consensus on an aligned measure set for voluntary adoption by private and public payers and by providers in global budget-based risk contracts. MassHealth intends to continue these efforts to support multi-payer alignment throughout the current and future demonstration time periods.
- **Recommendation:** MassHealth should consider new program elements that shift providers away from fee-for-service payment and towards alternative payment models that align provider incentives (financial and non-financial) and capacities for population health management with ACO incentives for quality improvement and total cost of care moderation.
- **Recommendation:** MH should continue prioritizing primary care provider engagement and should consider payments to primary care providers that are not exclusively tied to specific services delivered under a fee-for-service model (e.g., primary care capitation or sub-capitation).
    - ***State Response to Previous Two Recommendations:*** MassHealth agrees with these recommendations. As detailed above, as part of its proposed 1115extension, MassHealth intends to further shift the delivery system away from fee-for-service payment models by implementing a primary care capitation payment for the ACO program.

- **Recommendation:** Although primary care provider engagement should remain a priority, MassHealth should consider parallel approaches (e.g., value-based patient-centered specialty care models, bundled payments for episodes of care) to increasing engagement from other providers, including specialists. Promoting the transition to value-based care through programs like the APM Preparation Fund (SWI 6) might help.
    - ***State Response:*** MassHealth agrees with the spirit of this recommendation. MassHealth notes that the total cost of care accountability structure of the ACO program, and the ACO program's inclusion of most of the Commonwealth's hospitals and many other non-primary care providers, has created material value-based incentives for a wide range of providers, including hospitals and hospital-based specialists. Additionally, Model A ACOs have the flexibility and are expected to implement value-based incentives with providers beyond what MassHealth directs. Collectively, these value-based incentives will continue to increase in successive performance years of the current demonstration, and in MassHealth's proposed 1115 extension they will increase further, with particular focus on health equity and disparities. MassHealth also notes that many of the proposed investments and reforms as part of the Commonwealth's Roadmap for Behavioral Health Reform will further the goals of value-based and integrated care in the behavioral health delivery system in particular. MassHealth is therefore not currently proposing an additional state-directed specialist-based APM or planning to continue SWI 6 after the current demonstration period. MassHealth intends to continue exploring further opportunities to partner with ACOs, MCOs, and other parts of the delivery system to further the goals of value-based and integrated care.

7. **The Flexible Services (FS) program launched successfully in 2020 but health-related social needs screening remains an area where improvement is needed.**
    - MassHealth successfully implemented a new ACO quality measure (and new contractual requirements) for HRSN screening in 2018 and launched the FS program, which relies on the assessment of HRSNs, in 2020. The ACOs formed partnerships with more than 30 SSOs, and the FS program enrolled more than 3,000 patients in the first three quarters after it launched. Despite these successes, preliminary data from 2018 and 2019 suggests substantial room for improvement in HRSN screening. Inadequate HRSN screening may impede access to FS and other social services programs for members whose HRSNs remain unidentified. A lack of member-specific social risk factor data available to MassHealth is a barrier to understanding the extent of unmet needs for social supports and to evaluating the effects of Flexible Services on health and social outcomes. Nutritional FS supports were in

higher demand than may have otherwise been the case in 2020 due to the pandemic, and MH facilitated the adaptation of FS program rules to promote the availability of nutritional supports to members. MassHealth's experience suggests that states with existing Medicaid programs addressing member HRSNs may be better able to respond quickly to meet increases in HRSNs during emergencies.

- **Recommendation:** MassHealth should establish best practices for collecting HRSN data informed by member, provider, and organizational perspectives and should consider issuing guidance and funding to support ACO efforts to better collect and monitor HRSNs among their members.
    - ***State Response:*** MassHealth agrees with the importance of HRSN data. MassHealth notes that annual HRSN screening is a contract requirement and quality measure (with associated financial accountability) in the current demonstration. MassHealth intends to continue requiring ACOs and their providers to meet established standards on HRSN screening and to explore ways to support their continued improvement, both in the current demonstration and in MassHealth's proposed 1115 extension.
- **Recommendation:** MassHealth should augment the collection of key FS program-related data elements (e.g., specific types of FS received by individual members, social risk factors, clinical and social outcomes, and dates of services) to support program improvement efforts and more informative evaluations. Expanded FS data collection over multiple years and an adequate number of recipients will be necessary to evaluate which programs are working well for which members.
    - ***State Response:*** MassHealth agrees with this recommendation, and has already augmented the collection of key FS program-related data elements in CY2021 (e.g., collecting information about a comparison group of members who were screened as eligible for Flexible Services but did not receive Flexible Services) to better support program improvement efforts and more informative evaluations, and will continue to consider other ways to improve data collection in future years.
- **Recommendation:** MassHealth should monitor the types of HRSNs identified by ACOs and consider supporting or developing new or expanded programs to address widespread unmet HRSNs, while also monitoring whether new and existing programs are at or exceeding capacity.
    - ***State Response:*** MassHealth agrees with this recommendation. In the next set of ACO contracts during MassHealth's proposed 1115 extension, MassHealth intends to consider requiring ACOs to

report aggregate HRSN screening results and referrals, as well as to use Z-codes to document HRSN screening results.

- **Recommendation:** MassHealth should monitor and support efforts by ACOs and CPs to build and maintain robust and up-to-date directories of programs in their geographic areas, to ensure better access to existing programs that address unmet HRSNs.
    - ***State Response:*** MassHealth agrees with this recommendation. MassHealth has supported efforts by ACOs and SSOs to implement electronic referral systems through the Flexible Services Social Services Organization Preparation Fund administered by the Department of Public Health on behalf of MassHealth. In the next set of ACO contracts during MassHealth's proposed 1115 extension, MassHealth intends to require ACOs to make available to relevant providers, staff, and Community Partners an up-to-date electronic community resource database that can be used to identify providers and supports that can address identified HRSNs.

8. **COVID-19 pandemic led to new care adaptations by DSRIP stakeholders.**
    - Practices and providers adapted to expand access to telehealth, the state instituted payment parity and made billing for telehealth easier, and its use increased dramatically during the pandemic. Members reported more frequent and satisfying telehealth experiences after access expanded during the public health emergency, especially in the area of behavioral health. The majority of ACO providers and CP staff used these care delivery modalities routinely during the pandemic, and most expressed willingness to continue doing so after it ends. Continued use of telehealth could be undermined when the pandemic regulatory and reimbursement environment ends.
        - **Recommendation:** The state should consider extending telehealth-related policy changes that were made during the pandemic and continue to study the effects of such policies, including on disparities in access to care. Early evidence suggests members and providers generally had positive views of expanded telehealth use and would support its continued use post-pandemic.
            - ***State Response:*** MassHealth appreciates this recommendation, and is currently carefully considering which of its COVID-related telehealth flexibilities it will continue as part of its permanent telehealth policy. MassHealth anticipates that its telehealth policies will be significantly broader under its permanent policy than had been in place prior to the pandemic.

- Changes to care delivery and daily activities more broadly caused by COVID-19 shifted organizational priorities and likely delayed progress towards DSRIP program goals.
    - **Recommendation:** MassHealth should account for potential COVID-related delays or temporary reversals of progress towards Demonstration goals when evaluating DSRIP programs and making policy decisions regarding the future of such programs. A longer post-pandemic observation period will support more conclusive inferences regarding DSRIP program effects but may require postponing policy decisions.
        - ***State Response:*** MassHealth agrees that the COVID-19 pandemic may have negatively impacted the implementation and success of the DSRIP program, and will consider this when making various policy decisions. MassHealth has also actively partnered with CMS and continues to do so, to ensure that quality scores and other accountability measures in the program account for the pandemic's impact on data and clinical practice where appropriate.
    - **Recommendation:** MassHealth should continue to monitor the effects of COVID-19 and public health policy responses to COVID-19 (e.g., expanded access to telehealth) on quality measure and financial performance and should consider revising specifications and benchmarks as appropriate to reflect changes to care delivery.
        - ***State Response:*** MassHealth agrees, and intends to analyze quality and cost data from CY2020 and CY2021 to monitor the effects of COVID-19 and the Commonwealth's responses. Additionally, MassHealth has had extensive conversations with CMS regarding adjustment of financial and quality accountability during CY2020 in light of the pandemic, and has provided guidance to ACOs and CPs accordingly. MassHealth is actively monitoring financial and utilization trends in collaboration with its ACOs and MCOs through regular workgroup meetings, to support overall management of the program and to inform rate development and reconciliation.
- The COVID-19 pandemic laid bare health inequities nationwide, with populations from minority racial and ethnic groups experiencing higher age-adjusted morbidity and mortality rates.
    - **Recommendation:** MassHealth should continue to improve its efforts to collect race, ethnicity, language, and disability data from MassHealth members, to better understand and monitor how payment and delivery system reform affects these populations.

- ***State Response:*** MassHealth agrees with this recommendation, and intends for RELD and other member demographic data to be a key priority in MassHealth's proposed 1115 extension, as part of a broader effort to measure and address health disparities. MassHealth has already undertaken steps to improve its collection of race, ethnicity, and language (REL) data, such as through the creation and dissemination of a training for Certified Application Counselors about the importance of REL data collection, and best practices for how to engage with members about this topic.