

THE OFFICE OF ATTORNEY  
GENERAL MAURA HEALEY

# EXAMINATION OF HEALTH CARE COST TRENDS AND COST DRIVERS

*Pursuant to G.L. c. 12C, § 17*

# 2022



OFFICE OF ATTORNEY GENERAL MAURA HEALEY

**EXAMINATION OF HEALTH  
CARE COST TRENDS AND  
COST DRIVERS**

**2022**



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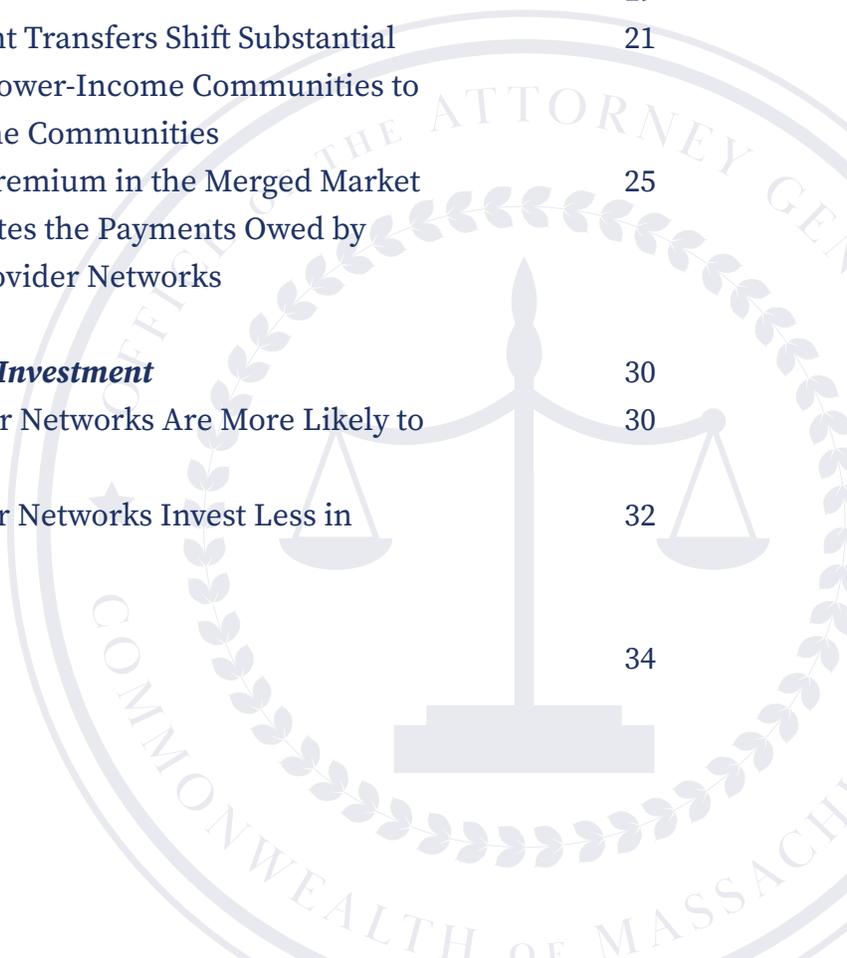
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# TABLE OF CONTENTS

<b><i>Executive Summary</i></b>	1
<b><i>Introduction</i></b>	5
<b><i>1. Risk Adjustment in the Massachusetts Merged Market</i></b>	9
A. Insurers with Lower Individual Market Risk Scores Serve Members with Higher Neighborhood Stress Scores, Worse Self-Reported Health Scores, More Access Barriers, and Lower Rates of Preventive Care	12
1. Neighborhood Stress Score	14
2. Self-Reported Health Burden Score	15
3. Neighborhood Access Barrier Score	16
4. Missed Preventative Care Score	18
5. Implications	19
B. Merged Market Risk Adjustment Transfers Shift Substantial Funds from Insurers Serving Lower-Income Communities to Insurers Serving Higher Income Communities	21
C. Use of the Statewide Average Premium in the Merged Market Risk Adjustment Formula Inflates the Payments Owed by Insurers with Lower-Priced Provider Networks	25
<b><i>2. Hospital Service Closures and Capital Investment</i></b>	30
A. Hospitals in Lower Cost Insurer Networks Are More Likely to Close Necessary Services	30
B. Hospitals in Lower Cost Insurer Networks Invest Less in Substantial Capital Projects	32
<b><i>Conclusion and Recommendations</i></b>	34



# EXECUTIVE SUMMARY

In this report, the Attorney General’s Office (“AGO”) examines how a commonly-used calculation for determining health care payments fails to accurately measure health needs and causes funding to be moved away from low-income communities in Massachusetts. We use confidential insurance company data and public data from the Massachusetts Department of Public Health (“DPH”) to examine four topics: (1) how population health risk scores compare with community-level indicators of health and health care access, (2) how the Centers for Medicare & Medicaid Services (“CMS”) risk adjustment program shifts funds across insurers serving different populations, (3) how changes to the CMS risk adjustment formula could address the unintended consequences of these transfers, and (4) how service closures and lack of capital investment by hospitals in low-cost networks risk further limiting access to care in the same low-income communities where utilization is already lower than social determinants of health would predict.

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*Communities who face barriers that depress their use of health care — like difficulties accessing transportation, housing, childcare, or broadband — are coded as “healthier,” contributing to a cycle of underfunding for their health care services.*

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First, we find that health risk scores based upon a population’s history of health care utilization entrench resource disparities and health care access barriers. Communities who face barriers that depress their use of health care — like difficulties accessing transportation, housing, childcare, or broadband — are coded as “healthier,” contributing to a cycle of underfunding for their health care services. In the Massachusetts merged market (where individuals and small businesses buy insurance coverage), insurers that serve populations coded by CMS as “lower risk” actually serve communities with higher neighborhood stress scores, worse self-reported health scores, more barriers to accessing health care services, and lower rates of preventive care.

Second, we find that the CMS risk adjustment program in the Massachusetts merged market shifts resources away from safety net providers and lower-income communities. Since the program’s implementation in 2014, these transfers have shifted hundreds of millions of dollars from insurers serving lower-income communities to insurers serving higher-income communities.

Third, we note that the transfer of funds away from insurers with low-priced provider networks is amplified because the formula for calculating transfers owed across insurers uses the statewide average premium, rather than a lower multiplier. This feature of the formula means that lower-cost insurers subsidize the higher prices of the providers in higher-cost insurer networks.

Finally, we examine how the risk adjustment system’s redistribution of dollars away from insurers that contract with low-cost hospitals correlates with — and may compound — access challenges that low-income communities face because of essential health service closures and lack of capital investment by hospitals that serve those communities. Using DPH data, we find that hospitals in lower-cost insurer networks are both (a) more likely to close services deemed by DPH to be necessary for preserving access and health status and (b) less likely to make significant capital investments in their own facilities.

The inequitable distribution of health care resources — that is, the distribution of health care dollars in ways that do not align with health need and health burden — is itself a driver of aggregate health care cost increases. Communities and populations that use more health care services receive more resources and, in turn, have the means to further increase their utilization. Those without ready access to services, often despite community health need and health burden, are classified as “low need” or “low risk” because their past usage has been low. As a result, these so-called “low need” communities are allocated fewer health care dollars. The large sums paid by Massachusetts insurers with low-income members to other insurers could have funded provider network development, targeted outreach, and population health management for low-income members of these plans in ways designed to address and overcome longstanding barriers to accessing needed care. Instead, these funds were redirected to other Massachusetts insurers with members from communities with higher average income and fewer social and economic barriers to accessing health care services. That misalignment of resources compounds the already low level of resources for hospitals in the lowest-cost insurance networks that serve the same burdened populations and communities. The result of this distribution of resources is consistent underfunding of the health care of individuals in low-income communities and the hospitals that serve them. Risk adjustment, and other programs designed to redistribute health care resources to align with needs, presents an opportunity to rectify this inequity by incorporating data on a patient and community’s social determinants of health when estimating health needs.

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# BASED ON THESE FINDINGS, WE RECOMMEND:

- 1** Payers and providers should incorporate social determinants of health, such as access to transportation, housing, childcare, and broadband, into approaches to health status adjustment, as MassHealth has done in its Accountable Care Organization program.
- 2** Payers and providers that benefit from these new approaches suggested in the first recommendation should use the additional resources they receive to implement new initiatives or expand existing initiatives to help patients facing social and economic barriers to accessing health care services overcome these barriers.
- 3** Massachusetts state agencies should partner with CMS to scrutinize equity implications of the CMS risk adjustment methodology, including by examining opportunities to include social determinants of health and modify the use of the statewide average premium.
- 4** Massachusetts policymakers should pursue fundamental changes to health care cost containment policy with the goal of preserving safety net providers, such as flexible commercial price growth benchmarks that allow lower-priced providers more room for price growth than higher-priced providers.

Our findings demonstrate the importance of health equity considerations in how government agencies and health care market participants measure population health, and how they use that information to distribute health care resources. Health status adjustment formulas should be scrutinized to ensure that tools used to assess the health needs of different groups do not perpetuate longstanding resource disparities.



Medical form with various fields and text, including a header section with the text "MEDI-QUEST/CA/CM/PLAS-PROV" and "INSP-201-85525". The form contains several rows of data, some with checkboxes and numerical values. The text is partially obscured by the doctor's hands and the patient's mask.

# INTRODUCTION

In 2020, the AGO released a report on health disparities facing communities of color in Massachusetts and included a range of policy recommendations to promote health equity.<sup>1</sup> The key recommendations from that report included a call for more equitable distribution of health care resources and greater attention to social determinants of health and root causes of health inequities. These themes continue to guide Massachusetts health policy discussions. Here, we build on these two themes from our 2020 health equity report with an analysis of how available data on community-level social determinants of health can help guide a more equitable distribution of health care resources. We focus in this report on social determinants of health known to negatively impact access to health care services, such as lack of transportation and childcare, and examine how data on these barriers could be used to increase access to needed health care resources for low-income communities. Through this work, we identify an existing CMS mechanism designed to transfer health care dollars to payers, providers, and communities who need them, and we make recommendations for how to improve the transfer program.

This report examines four questions: (1) how population health risk scores compare with community-level indicators of health and health care access, (2) how the CMS risk adjustment program moves money across insurers serving populations with different health risk scores, (3) how changes to the CMS risk adjustment formula could address the unintended consequences of these transfers, and (4) how service closures and lack of capital investment by hospitals in low-cost networks risk further limiting access to care in the same low-income communities where utilization is already lower than social determinants of health would predict. We address the first three questions in Section 1 and the final question in Section 2.

Health status adjustment, also called risk adjustment, is a calculation that is widely used by governments, payers, and providers to allow for comparisons across different groups of patients that account for the fact that patients start at different levels of health or sickness. Health status adjustment is an important tool for setting budgets for the care of a population or evaluating provider or payer performance. As our investigation has demonstrated, however, this strategy has led to a shift in health care resources away from low-income communities as a result of how population health status estimates are calculated.

Health status adjustment begins with assessing the relative health of a population and developing a health risk score. There are many algorithms that exist today to develop this health risk score. Most algorithms rely on a patient's historical use of health care services (such as information taken from health insurance claims or patient medical records) and demographic profile (such as age and gender). A higher score is intended to reflect a sicker population, described as "riskier" in insurance parlance because these patients are expected to incur more medical expenses that must be paid by insurance.

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<sup>1</sup> Massachusetts Attorney General's Office, Building Toward Racial Justice and Equity in Health: A Call to Action (Nov. 2020), <https://www.mass.gov/doc/building-toward-racial-justice-and-equity-in-health-a-call-to-action/download>.

Health status adjustment is used in many contexts, including setting budgets available to health insurers to pay for a population's health care services. The federal government uses health status adjustment in Medicare Advantage to increase or decrease the amount an insurer receives per patient per month based on the patient's documented diagnoses.<sup>2</sup> The federal government also employs a health status adjustment in its redistribution of money among insurers in the Affordable Care Act ("ACA") risk adjustment program in the individual and small group markets (examined in more detail below). The government uses health status adjustment in these programs to distribute payments more equitably and to disincentivize insurers from favoring healthier patients.

Payments to providers under alternative payment methods (i.e., methods other than traditional fee-for-service payment), such as risk contracts, are often adjusted to reflect the estimated health status of the provider's patients. For example, MassHealth (the Massachusetts Medicaid and Children's Health Insurance Program) adjusts the budgets for its Accountable Care Organizations to reflect a population risk score that incorporates member claims history and community-level social determinants of health.<sup>3</sup> Commercial insurers also use health status adjustment tools in their alternative payment contracts with providers. In the Massachusetts market, some contracts between commercial insurers and provider organizations are based on a global budget that is adjusted annually for health status and inflation. If provider spending remains within the adjusted budget, the providers share in the savings. Likewise, providers share in the costs if they exceed the adjusted budget.

Beyond its applications in setting payment rates, health status adjustment also plays a role in the regulation of insurers and providers. Massachusetts measures the cost-effective delivery of health care services in Massachusetts using health-status adjusted Total Medical Expenditures ("TME"). TME reflects the total cost of care for a patient population whose care is managed by a particular provider group and insurer, adjusted for the patient population's relative risk score. The Center for Health Information and Analysis ("CHIA") reviews insurer and provider spending growth annually and makes referrals to the Health Policy Commission ("HPC") when an entity's health-status adjusted TME growth exceeds certain thresholds. The HPC may then assign the entity a Performance Improvement Plan to address its spending growth.<sup>4</sup> Health status adjusted TME is also one of the statutory criteria for the HPC to refer a provider or provider organization to the AGO when the HPC makes certain findings after conducting a Cost and Market Impact Review of a proposed material change in the health care market.<sup>5</sup>

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<sup>2</sup> See Centers for Medicare & Medicaid Services. Report to Congress: Medicare Advantage Risk Adjustment Model (Dec. 2021), <https://www.cms.gov/files/document/report-congress-risk-adjustment-medicare-advantage-december-2021.pdf>.

<sup>3</sup> See, e.g., Houston, Lloyd, Crumley, Matulis, Keehn, & Cozier, The MassHealth Accountable Care Organization Program: Uncovering Opportunities to Drive Future Success at 11 (updated May 2021), [https://www.bluecrossmafoundation.org/sites/g/files/csphws2101/files/2021-05/ACO\\_Qual-Assess\\_FullReport\\_Final\\_0.pdf](https://www.bluecrossmafoundation.org/sites/g/files/csphws2101/files/2021-05/ACO_Qual-Assess_FullReport_Final_0.pdf); FAQs for MassHealth's 2017 Payment Model (last visited Mar. 16, 2022), <https://www.mass.gov/doc/social-determinants-of-health-sdh-faq-1/download>. MassHealth's ACO budgets incorporate a risk score with factors such as percent of families below the federal poverty level and percent of adults who are unemployed in the neighborhood to better account for variations in spending across populations.

<sup>4</sup> See Massachusetts Health Policy Commission, Performance Improvement Plan Process Overview at 1 (Jan. 2022), <https://www.mass.gov/doc/performance-improvement-plan-process-overview/download>.

<sup>5</sup> GL c. 6D § 13(e).

As we show in this report using confidential insurer data, risk scores used in health status adjustment that rely on patients' prior health care claims and diagnostic history reflect patients' *access* to health care services in addition to their actual health status.<sup>6</sup> It is well documented that health care utilization varies across different populations.<sup>7</sup> The HPC has illustrated that low-income patients are more likely than other patients to have zero medical spending in the commercial market.<sup>8</sup> The HPC found that 15.7% of individuals in the lowest income communities in Massachusetts had no medical spending in 2018, as compared to 8.8% of individuals in the highest income communities.<sup>9</sup> Low-income communities disproportionately face barriers in accessing care, such as lack of transportation,<sup>10</sup> inability to take time off from work,<sup>11</sup> unaffordable cost sharing,<sup>12</sup> language barriers,<sup>13</sup> lack of childcare,<sup>14</sup> lack of broadband access,<sup>15</sup> and housing instability.<sup>16</sup> When people living in low-income communities are unable to access needed health care services, they have fewer health insurance claims submitted on their behalf and have fewer diagnoses recorded in their medical records. Where health status adjustment formulas rely on patients' prior health care claims and diagnostic history to predict and fund future health care utilization, this adjustment may draw resources away from low-income communities and further exacerbate existing health care resource distribution disparities.

This connection between risk scores and access barriers has significant implications for the equitable distribution of health care resources. In the Massachusetts merged market, the ACA risk adjustment program has transferred over \$500 million since 2014 from Massachusetts insurers that enroll members with lower risk scores to Massachusetts insurers that enroll

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<sup>6</sup> Increased intensity in diagnostic coding has been cited as another way that health status adjustment is skewed. See Massachusetts Health Policy Commission, HPC 2021 Policy Recommendation #1 at 11 (Oct. 2021), <https://www.mass.gov/doc/deep-dive-policy-recommendation-1-strengthen-accountability-for-excessive-spending/download>.

<sup>7</sup> See Mahajan, Caraballo, Lu, Valero-Elizondo, Massey, Annapureddy, Roy, Riley, Murugiah, Onuma, Nunez-Smith, Forman, Nasir, Herrin & Krumholz, Trends in Differences in Health Status and Health Care Access and Affordability by Race and Ethnicity in the United States, 1999-2018, *J. of the Am. Med. Assoc.* at 639 (Aug. 2021), <https://pubmed.ncbi.nlm.nih.gov/34402830/>.

<sup>8</sup> Massachusetts Health Policy Commission, 2021 Annual Health Care Cost Trends Report at 15 (Sept. 2021), <https://www.mass.gov/doc/2021-health-care-cost-trends-report/download>.

<sup>9</sup> *Id.* at 15.

<sup>10</sup> See Wolfe, McDonald & Holmes, Transportation Barriers to Health Care in the United States: Findings from the National Health Insurance Survey, 1997-2017, *Am. J. of Pub. Health* (June 2020), <https://ajph.aphapublications.org/doi/10.2105/AJPH.2020.305579>.

<sup>11</sup> See DeRigne, Stoddard-Dare & Quinn, Workers Without Paid Sick Leave Less Likely to Take Time Off for Illness or Injury Compared to Those with Paid Sick Leave, *Health Affairs* Vol. 35, No. 3, (Mar. 2016), <https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0965>.

<sup>12</sup> See Young, Rae, Claxton, Wager & Amin, Many households do not have enough money to pay cost-sharing typical in private health plans, (Mar. 2022), <https://www.kff.org/health-costs/issue-brief/many-households-do-not-have-enough-money-to-pay-cost-sharing-typical-in-private-health-plans/>.

<sup>13</sup> See Healthy People 2030, Social Determinants of Health (last visited Apr. 2022), <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>.

<sup>14</sup> See *id.*

<sup>15</sup> Bauerly, McCord, Hulkower & Pepin, Broadband Access as a Public Health Issue: The Role of Law in Expanding Broadband Access and Connecting Underserved Communities for Better Health Outcomes. *J. Law Med. Ethics* Vol. 47 at 39-42 (June 2019), <https://pubmed.ncbi.nlm.nih.gov/31298126/>.

<sup>16</sup> See Healthy People 2030, Housing Instability (last visited Sept. 30, 2022), <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/housing-instability>.

members with higher risk scores. Beyond the merged market, health status adjusted redistribution of dollars affects many other Massachusetts residents. In the commercial market in 2020, 80.7% of managed member months for the top ten managing physician groups were under a full or partial global budget arrangement,<sup>17</sup> a payment model that typically incorporates a population health status adjustment. Thus, it is critical that health status measurement systems rely on sound assumptions and accurate data to assure an equitable distribution of health care resources.

Our examination of the assumptions and data begins by studying the use of health risk scores in the ACA's risk adjustment program.

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*When people living in low-income communities are unable to access needed health care services, they have fewer health insurance claims submitted on their behalf and have fewer diagnoses recorded in their medical records.*

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<sup>17</sup> CHIA, Performance of the Massachusetts Health Care System Annual Report Slide at 82 (Mar. 2022), <https://www.chiamass.gov/assets/2022-annual-report/2022-Annual-Report-Rev-2.pdf>.

# 1. RISK ADJUSTMENT IN THE MASSACHUSETTS MERGED MARKET

In this section, we examine the use of health status adjustment in the ACA merged market risk adjustment program and explore its consequences. First, we summarize demographic data on merged market members. Second, we use confidential data on insurer risk scores and public community-level survey data to analyze the relationship between insurer risk scores and social determinants of health in the communities from which the insurer draws its members. Third, we analyze risk adjustment payments since 2014 by average income of the communities served by each insurer. Finally, we examine how the use of the statewide average premium in the merged market risk adjustment formula contributes to funds flowing from low-income communities to higher-income communities.

We selected the merged market for this analysis of health status adjustment for two reasons. First, the insurers that offer plans in the Massachusetts merged market target and attract different populations based on their plan offerings. Two insurers, Boston Medical Center HealthNet Plan (“BMCHP”)<sup>18</sup> and Tufts Health Public Plans (“THPP”), dominate the market for members with household incomes below 300% of the federal poverty level (“FPL”) who receive state subsidies for insurance coverage through the ConnectorCare program.<sup>19</sup> This concentration of low-income members with two insurers allows us to look at social determinants of health by an insurer’s member population’s zip codes and examine how community-level social and economic factors relate to the insurer’s risk score. Second, CMS requires all insurers to submit standardized member risk scores to CMS for purposes of calculating risk adjustment transfers. These reports allow us to look at a standard measure of health risk across insurers, which is not possible in the rest of the Massachusetts commercial insurance market, where insurers use many different utilization-based health status adjustment tools in their contracts and when they submit data to the state.

Ten insurers participate in the Massachusetts merged market. This analysis focuses on the eight insurers with the highest merged market enrollment, representing over 95% of the Massachusetts merged market: Health New England (“HNE”), BMCHP, Fallon Health<sup>20</sup> (“FCHP”), THPP, AllWays Health Partners<sup>21</sup> (“AllWays”), Tufts Health Plan<sup>22</sup> (“THP”), Blue

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<sup>18</sup> In spring of 2022, BMCHP changed its name to WellSense.

<sup>19</sup> CHIA, Enrollment in Health Insurance (updated Aug. 2022), <https://www.chiamass.gov/enrollment-in-health-insurance/>. THPP serves 53% and BMCHP serves 35% of the ConnectorCare market, with no other insurer serving more than 5% of ConnectorCare members.

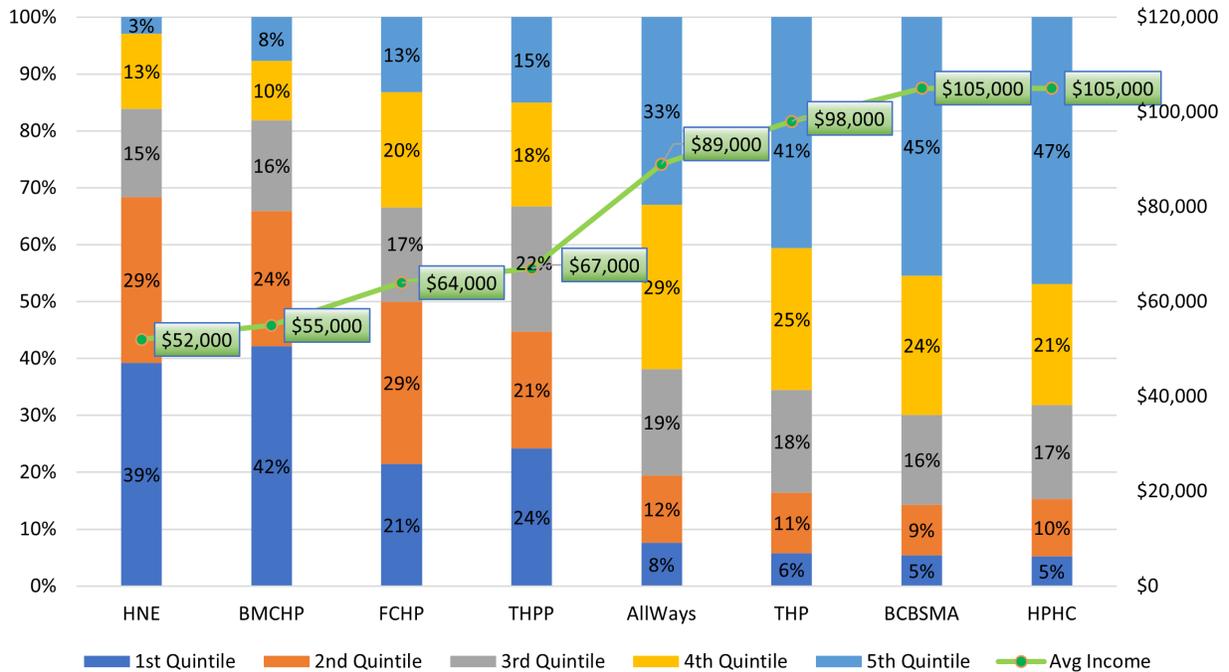
<sup>20</sup> Fallon Health also includes Fallon Life Insurance Company. Tufts Health Plan includes Tufts Insurance Company.

<sup>21</sup> In summer of 2022, AllWays changed its name to Mass General Brigham Health Plan.

<sup>22</sup> Harvard Pilgrim Health Care and Tufts Health Plan merged in January of 2021 to create Point32Health.

Cross Blue Shield of Massachusetts (“BCBSMA”), and Harvard Pilgrim Health Care<sup>23</sup> (“HPHC”). Insurers do not collect member income information, so we imputed an income level for each enrolled member using average income from that member’s zip code.<sup>24</sup> Figures 1 and 2 show the enrollment distribution by income quintile for the major insurers in the individual and small group markets, respectively.

Figure 1: Enrollment Distribution by Income Quintile by Insurer  
Massachusetts Individual Market

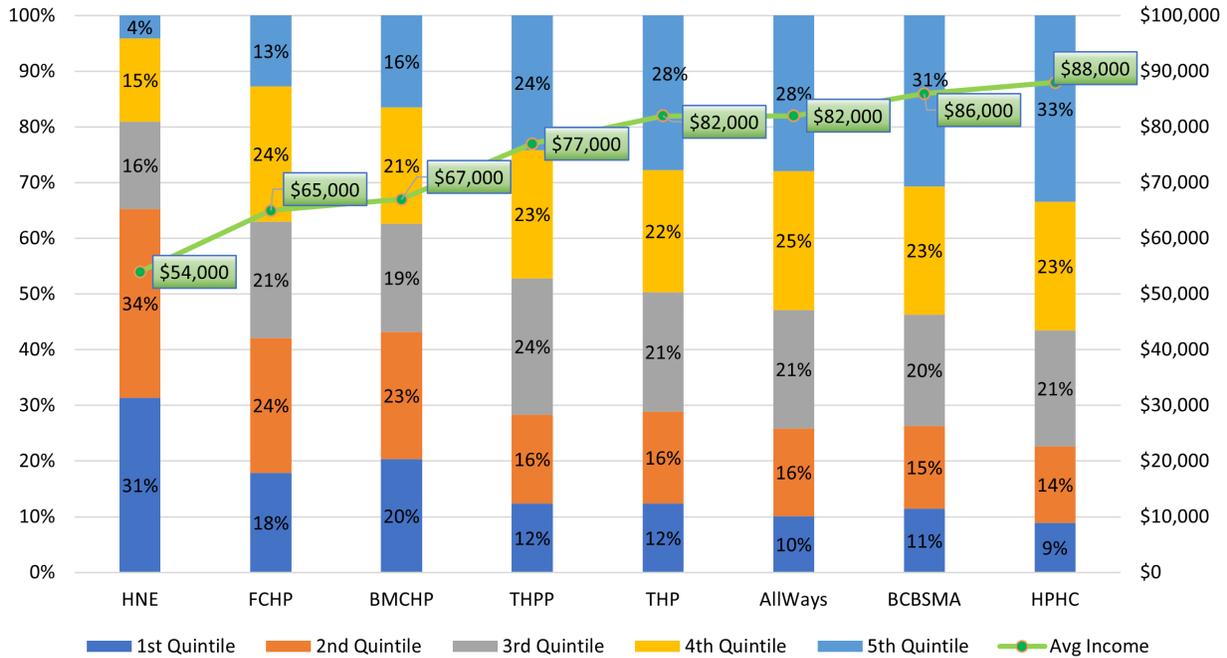


Both brands and their products currently remain available to consumers. Point32Health Launches to Guide a New Health Care Journey for Communities Across New England, Tufts Health Plan, (June 16, 2021)

<sup>23</sup> This analysis, which uses IRS reported data, is intended to provide approximate information on the income distribution of each insurer’s enrolled merged market members.

<sup>24</sup> Over 90% of the subsidized individual market members are served by just two insurers: BMCHP and THPP.

Figure 2: Enrollment Distribution by Income Quintile by Insurer  
Massachusetts Small Group Market



**NOTES:**

- i. We calculated average income by insurer using average income by tax filer sourced from the 2018 IRS Individual Income Tax Zip Code Data and insurer submitted enrollment data by zip code as of December 2020. First, we calculated the average income per tax filer for each zip code by taking reported Adjusted Gross Income for all returns in the 5-digit zip code divided by the total of the reported number of single and head of household tax returns plus 2 times the number of joint tax returns in that zip code. We arrayed the zip codes in order of their average tax filer reported income, eliminated the ten highest and ten lowest, and divided the remaining zip codes into quintiles. We then aligned the remaining zip codes with each insurer’s merged market enrollment by zip code. Through this alignment process, we eliminated a small portion of insurer enrollment that fell into zip codes where the tax return data was not reported separately by zip code. By matching enrollment zip codes to reported tax data zip codes and eliminating the ten highest and ten lowest zip codes, we excluded 2% to 8% of each insurer’s individual and small group market membership. We calculated the weighted average income by insurer by market segment (individual and small group) by weighting average income per tax filer for each zip code by insurer enrollment by zip code. Then we calculated an enrollment distribution percentage for each quintile for each insurer.
- ii. The IRS later released 2019 income data which we used to perform high-level analytics. Because the results were not materially different, we did not update our analyses.

Figures 1 and 2 above group zip codes by income levels, with the first quintile representing the lowest income zip codes and the fifth quintile representing the highest income zip codes. The line graphs indicate the average imputed income for each insurer’s individual and small group market members based on the zip codes where the members reside.

Figure 1 shows that insurers serve populations in the individual market with varying average incomes. While the average imputed income for an HNE individual market member is \$52,000 per year, the average for an HPHC individual market member is \$105,000 per year. Figure 1 shows that 42% of BMCHP and 24% of THPP individual market members reside in low-

income areas of the state, compared to 6% for THP and 5% for each of BCBSMA and HPHC. The small group market, reflected in Figure 2, shows a similar pattern but the income variation is more compressed. We see more income variation across insurers in the individual market than in the small group market because over 65% of the individual market comprises members who receive subsidized insurance based on their income status.<sup>25</sup>

In the analysis that follows, we show community-level metrics of health risk and social determinants of health, arrayed in accordance with each insurer's enrollment of members from high-burden communities, and we compare those metrics with risk score assignments from the CMS risk adjustment program.

### ***A. Insurers with Lower Individual Market Risk Scores Serve Members with Higher Neighborhood Stress Scores, Worse Self-Reported Health Scores, More Access Barriers, and Lower Rates of Preventive Care***

The CMS risk adjustment model includes a risk score ("CMS Risk Score") for each insurer that measures the average actuarial risk of the insurer's population.<sup>26</sup> The CMS Risk Score is intended to reflect the insurer's expected cost for covering services related to its enrollees' medical conditions or health status. It is calculated based on claims data and includes factors to account for severe cases, age, enrollment duration, prescription drug use, and induced demand attributable to the receipt of cost sharing reduction ("CSR") subsidies.<sup>27</sup> A higher CMS Risk Score is intended to reflect a sicker and riskier population (i.e., a population that is more costly for the insurer to insure).

Using public survey data on social determinants of health, we determined that insurers with lower CMS Risk Scores in the individual market serve members from communities with higher neighborhood stress scores, worse self-reported health scores, more access barriers, and lower rates of preventive care. We used public survey data on social determinants of health to examine whether insurers' CMS Risk Scores in the individual market correlate to members' reported access to health care services and self-reported health. We used four indices for this analysis: Neighborhood Stress Score, Neighborhood Access Barrier Score,<sup>28</sup> Self-Reported

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<sup>25</sup> See note 17, *supra*.

<sup>26</sup> The CMS Risk Score is referred to as the "Plan Liability Risk Score" in the ACA risk adjustment program.

<sup>27</sup> The Plan Liability Risk Score as reported by insurers to CMS includes a 12% adjustment to account for induced demand in CSR variants available for lower-income enrollees. To remove this impact and compare the insurers' reported health risk only, we adjusted the Plan Liability Risk Score to remove the CSR factor using estimated CSR membership for each insurer obtained from the Massachusetts Health Connector and removing the additional 12% load based on the proportion of CSR membership for each insurer. The resulting adjusted Plan Liability Risk Score is referenced as the CMS Risk Score throughout this report. The adjustment applies only to insurers that participate in the ConnectorCare Market. The reductions in CMS Risk Score scores resulting from this adjustment range from 2% to 7%.

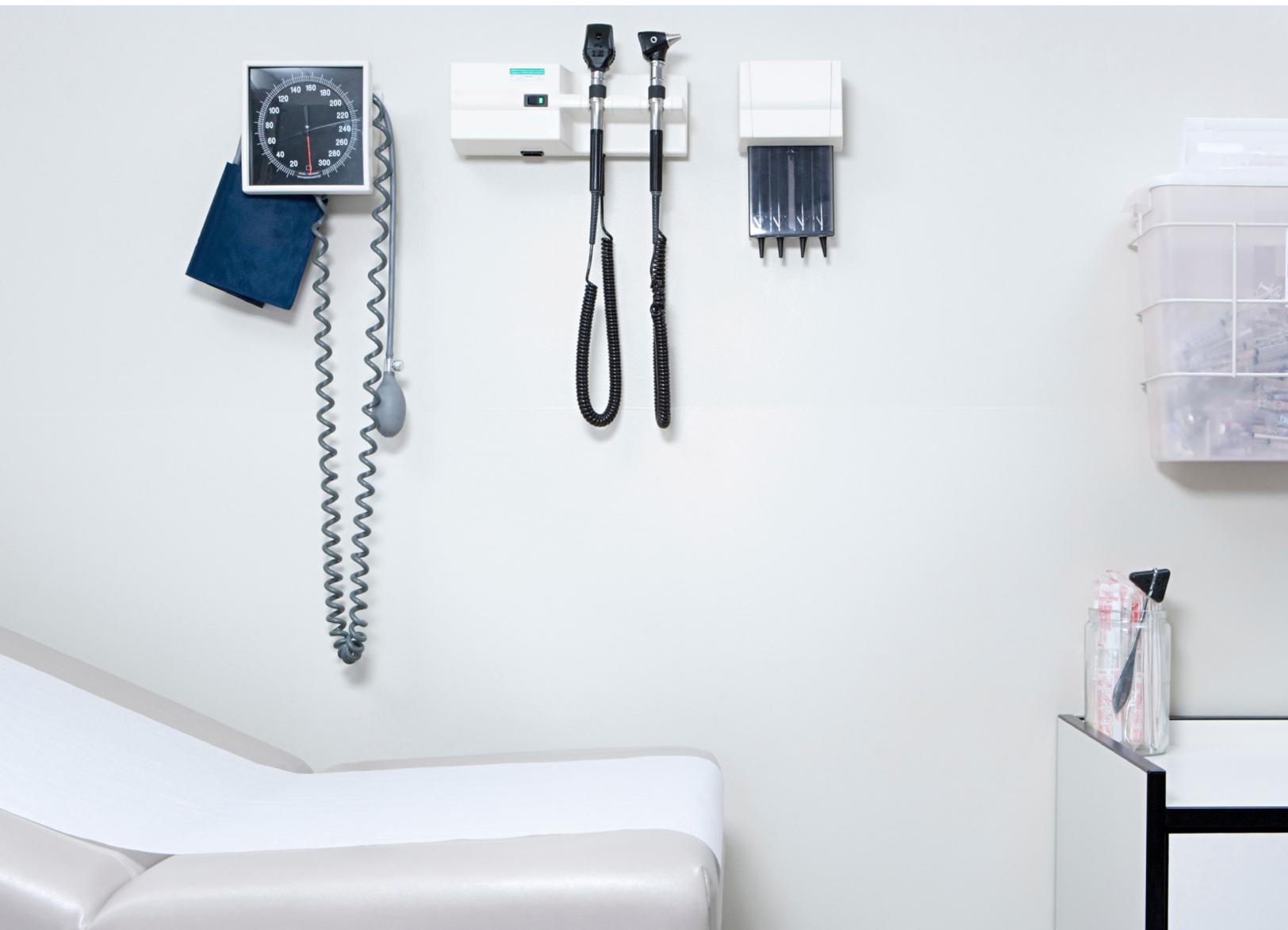
<sup>28</sup> Data for the Neighborhood Stress Score and the Neighborhood Access Barrier Score come from the

Health Burden Score, and Missed Preventive Care Score.<sup>29</sup> We created the Neighborhood Access Barrier Score, Self-Reported Health Burden Score, and Missed Preventive Care Scores for this analysis using a similar methodology to the Neighborhood Stress Score, which MassHealth uses in the payment model for Accountable Care Organizations.

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American Community Survey (“ACS”) 5-year estimates (2015-2019). The ACS is administered annually to a sample of the US population by the US Census Bureau to provide critical demographic and other information on an ongoing basis to supplement the decennial census. Data is available at small areas and estimates based on the annual samples are provided by the Census Bureau. ACS data is used extensively across all industries and is considered one of the most reliable sources of population data outside of the decennial census. For this analysis, estimates for Zip Code Tabulation Areas (“ZCTAs”) were used, which are close approximates to US Postal Service 5-digit zip codes. There are 550 ZCTAs in Massachusetts.

<sup>29</sup> Data for the Self-Reported Health Burden Score and the Missed Preventive Care Score come from the Centers for Disease Control & Prevention’s (“CDC”) Behavioral Risk Factor Surveillance System (BRFSS), via the CDC PLACES project. BRFSS is an annual telephone-based survey that has collected information about people’s health behaviors and health status since 1984. All 50 states participate in BRFSS and since 2020, small area estimates have been provided through the PLACES project. BRFSS data is commonly used for public health planning, community health assessment, and ecological epidemiologic studies. This analysis used estimates for ZCTAs as well.

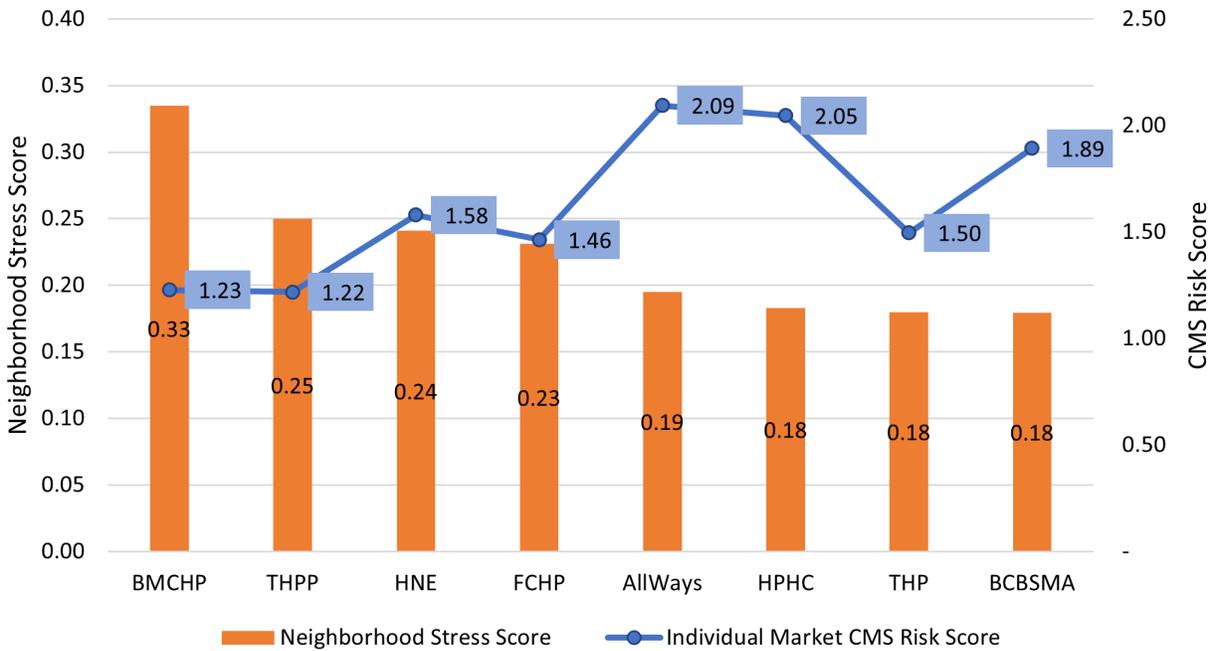


# 1. NEIGHBORHOOD STRESS SCORE

We first assigned a Neighborhood Stress Score to each insurer based on the residential zip codes of the insurer’s individual market members. The Neighborhood Stress Score is created by MassHealth using American Community Survey data and includes demographic information like rates of high school graduation, unemployment, poverty, public assistance, single parenthood, and access to a vehicle. A high Neighborhood Stress Score identifies communities facing social determinants likely to lead to adverse health outcomes. The Neighborhood Stress Score has been shown to predict health care needs more accurately than prediction models that rely only on patient claims and diagnoses.<sup>30</sup>

We then compared each insurer’s individual market Neighborhood Stress Score to the insurer’s individual market CMS Risk Score in Figure 3.

Figure 3: Neighborhood Stress Score vs. Individual Market CMS Risk Score



## NOTES:

- i. The Neighborhood Stress Score reflects the percentage of adults age 25+ without a high school diploma; the percentage of the civilian labor force that is unemployed; the percentage of families below 100% of the federal poverty limit; the percentage of people below 200% of the federal poverty limit; the percentage of households receiving some form of public assistance; the percentage of households

<sup>30</sup> Ash, Mick, Ellis, Kiefe, Allison & Clark, Social Determinants of Health in Managed Care Payment Formulas, *JAMA Internal Med.* at 1424–1430 (Oct. 2017), <https://doi.org/10.1001/jamainternmed.2017.3317>. See also Mick, E. O., et al., Complex Patients Have More Emergency Visits: Don’t Punish the Systems That Serve Them, *Medical Care* (2021), 362-367, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7954887/>.

consisting of a single householder with children; and the percentage of households with no access to a vehicle. We sourced this data from the ACS 5-year estimates for 2015-2019 and calculated Neighborhood Stress Scores for each zip code.

- ii. We aligned the zip code and enrollment data from Figure 1 to the Neighborhood Stress Scores by zip code.
- iii. We calculated a weighted average Neighborhood Stress Score for each insurer for the individual market segment.
- iv. We used the insurers' 2019 Transfer Payment Issuer Reports ("TPIRs") and insurer-submitted market segment indicators to develop a weighted average CMS Risk Score by segment by insurer. We used billable member months for each HIOS plan from each insurer's TPIR report to weigh the associated CMS Risk Score resulting in average CMS Risk Score by insurer by market segment (individual and small group).
- v. The Plan Liability Risk Score as reported by insurers to CMS includes a 12% adjustment to account for induced demand in CSR variants available for lower-income enrollees. To remove this impact and compare the insurers' reported health risk only, we adjusted the Plan Liability Risk Score to remove the CSR factor using estimated CSR membership for each insurer obtained from the Massachusetts Health Connector and removing the additional 12% load based on the proportion of CSR membership for each insurer. The resulting adjusted Plan Liability Risk Score is referenced as the CMS Risk Score throughout this report. The adjustment applies only to insurers that participate in the ConnectorCare Market. The reductions in CMS Risk Score scores resulting from this adjustment range from 2% to 7%.

We found that the insurers with the highest Neighborhood Stress Scores had the lowest CMS Risk Score and insurers with the lowest Neighborhood Stress Scores had average to high CMS Risk Scores. This means that in the individual market, insurers that serve people from communities facing social conditions known to negatively impact health (such as unemployment, poverty, and lack of access to a vehicle) also report lower average health risk among the members they serve — a misleading indicator of actual health.

## **2. SELF-REPORTED HEALTH BURDEN SCORE**

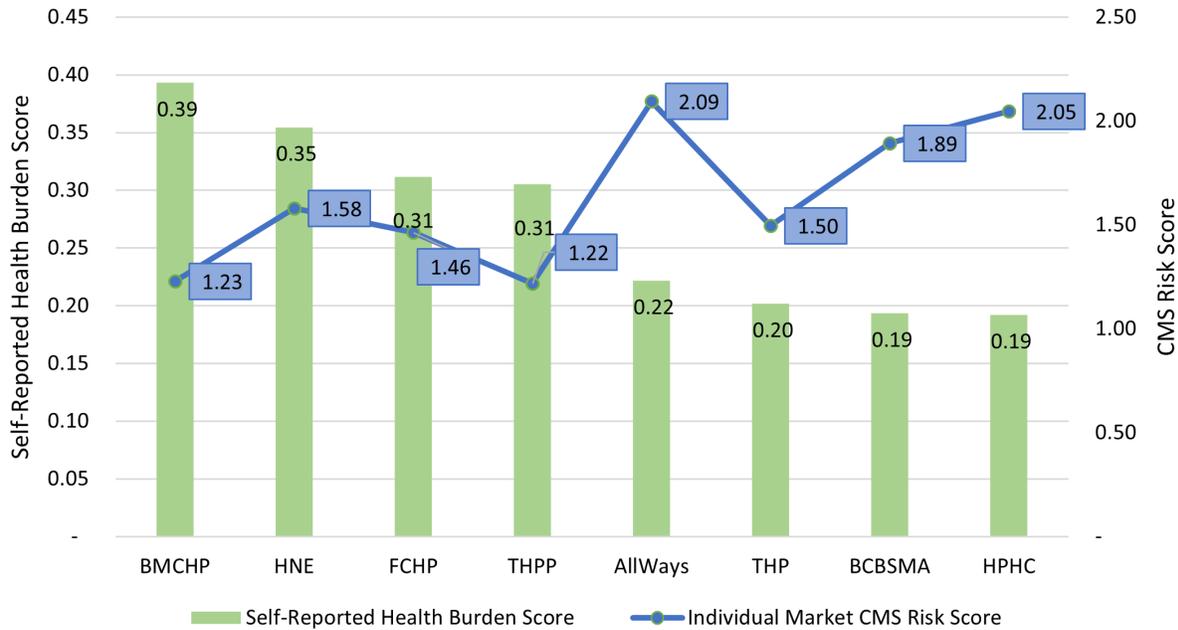
We next looked at community self-reported health scores. We calculated a Self-Reported Health Burden Score using data from the Behavioral Risk Factor Surveillance System ("BRFSS") health-related telephone surveys and the Centers for Disease Control and Prevention ("CDC") PLACES small area estimates. The health burden score reflected below in Figure 4 is a composite score that includes the number of adults who report their mental or physical health being not good in the previous 14 days.

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*...insurers that serve people from communities facing social conditions known to negatively impact health (such as unemployment, poverty, and lack of access to a vehicle) also report lower average health risk among the members they serve — a misleading indicator of actual health.*

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Figure 4: Self-Reported Health Burden Score vs. Individual Market CMS Risk Score



**NOTES:**

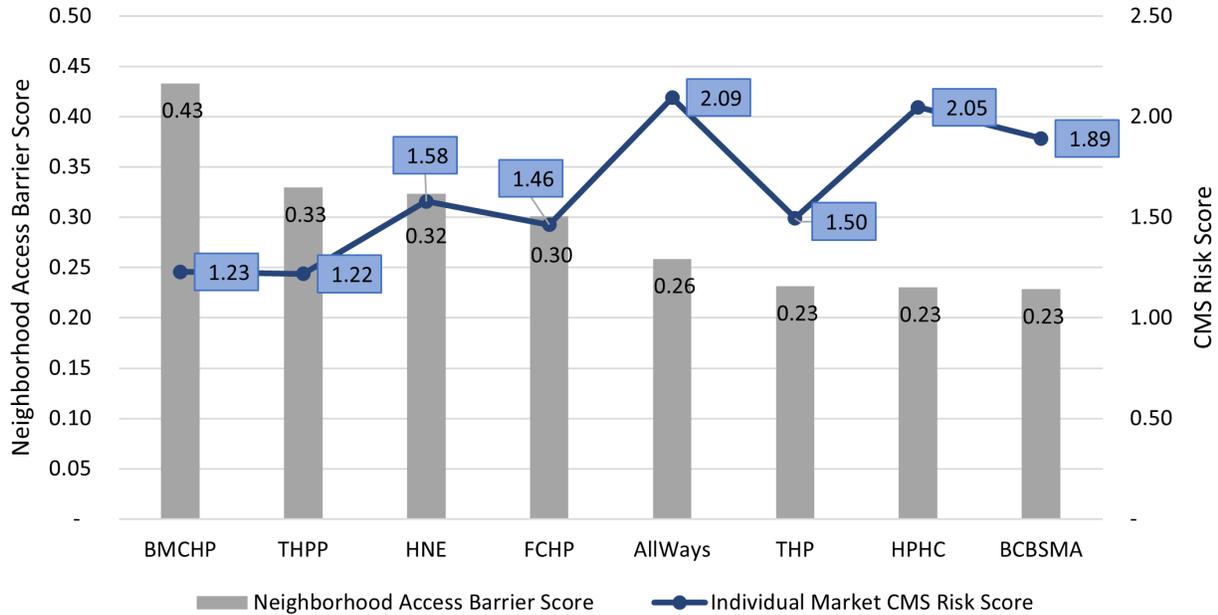
- i. The Self-Reported Health Burden Score reflects the percentage of residents age 18+ who report their mental and/or physical health being not good during the previous 14 days. We sourced this data from the 2018 Behavioral Risk Factor Surveillance System (“BRFSS”) health-related telephone surveys and the Centers for Disease Control and Prevention (“CDC”) PLACES small area estimates. We calculated a Self-Reported Health Burden Score for each zip code.
- ii. We aligned zip code and enrollment data from Figure 1 with the Self-Reported Health Burden Score by zip code
- iii. We calculated a weighted average Self-Reported Health Burden Score for each insurer for the individual market segment.
- iv. We developed each insurer’s average 2019 CMS Risk Scores adjusted for CSR as described above with respect to Figure 3.

We see in Figure 4 that insurers with individual market membership from communities with higher self-reported health burden scores have the lowest CMS Risk Score.

**3. NEIGHBORHOOD ACCESS BARRIER SCORE**

After finding that insurers with lower individual market risk scores served people from communities with higher Neighborhood Stress Scores and higher self-reported health burdens, we next sought to test whether these counterintuitive findings could be explained in part by certain communities disproportionately facing barriers to accessing needed health care services. To study this question, we created a composite community score using social and economic factors known to impact access to health care services. Our Neighborhood Access Barrier Score includes the community rates of high school graduation, access to a computer and broadband internet, carpooling, single parenthood, and employment in white collar jobs.

Figure 5: Neighborhood Access Barrier Score vs. Individual Market CMS Risk Score



**NOTES:**

- i. The Neighborhood Access Barrier Score reflects the percentage of residents age 16+ who work in management, business, science, and arts occupations; the percentage of households who carpool; the percentage of households consisting of a single householder with children; the percentage of households without access to a computer and broadband internet; and the percentage of adults age 25+ without a high school diploma. We sourced this data from the ACS 5-year estimates for 2015-19. We calculated a Neighborhood Access Barrier Score for each zip code.
- ii. We aligned zip code and enrollment data from Figure 1 with the Neighborhood Access Barrier Score by zip code.
- iii. We calculated a weighted average Neighborhood Access Barrier Score for each insurer for the individual market segment.
- iv. We developed each insurer’s average 2019 CMS Risk Scores adjusted for CSR as described above with respect to Figure 3.

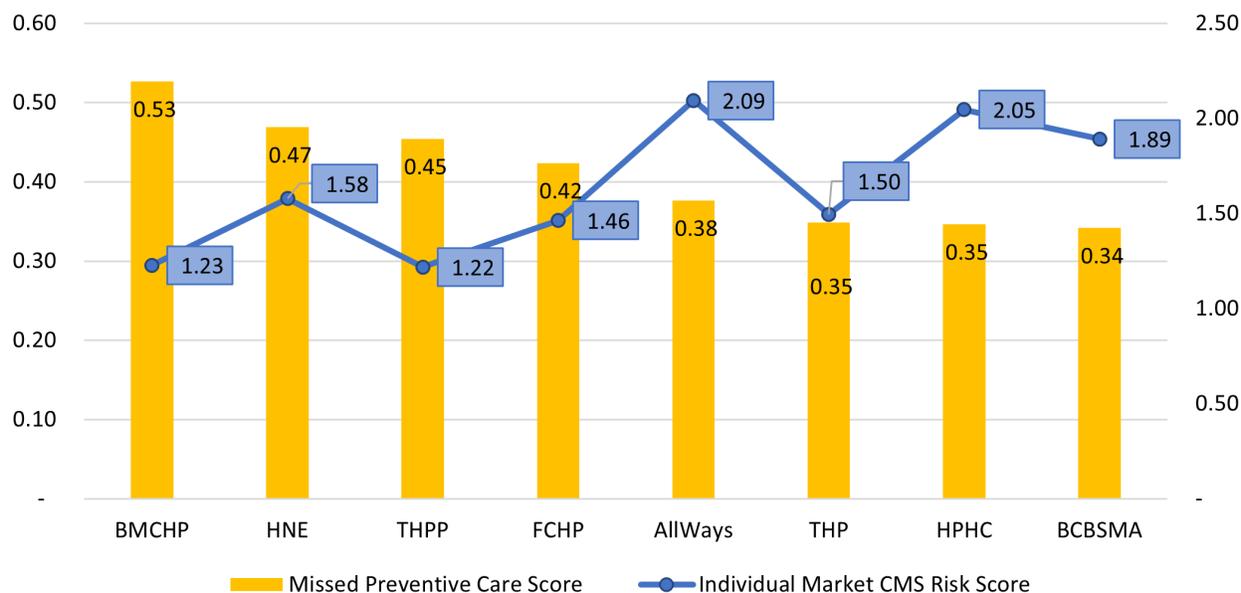
As shown in Figure 5, insurers with individual market membership from communities with higher neighborhood access barrier score have the lowest CMS Risk Score. For example, members of BMCHP live in communities with an average Neighborhood Access Barrier score of .43 – the highest among all individual market insurers – and yet BMCHP has the second lowest CMS Risk Score: 1.23. Conversely, members of HPHC live in communities with an average Neighborhood Access Barrier score of .23 – tied for the lowest among individual market insurers – although HPHC has the second highest CMS Risk Score at 2.05. This shows that insurers enrolling a high percentage of members from communities with more barriers to health care access have lower CMS risk scores, while those that enrolled a higher percentage of members from communities with fewer barriers have higher CMS risk scores. Put another way, the CMS risk scores aligned closely with the absence of barriers to accessing health care services. Access barriers can reduce services and claims because patients experiencing such

barriers are less likely to get medical care when needed.<sup>31</sup> Without health insurance claims or diagnoses recorded on their electronic health record, members of communities impacted by access barriers get assigned lower risk scores.

#### 4. MISSED PREVENTIVE CARE SCORE

We next examined whether community rates of accessing routine preventive health care services correlated with insurer’s CMS Risk Scores. We calculated a Missed Preventive Care Score based on whether survey respondents reported accessing a set of recommended screenings and other preventive services in their responses to BRFSS health-related telephone surveys and the CDC PLACES small area estimates. In Figure 6, we mapped the Missed Preventive Care Score against insurers’ individual market CMS Risk Score.

Figure 6: Missed Preventive Care Score vs. Individual Market CMS Risk Score (2019)



#### NOTES:

- i. The Missed Preventive Care Score reflects visits to the doctor for a routine checkup within the past year among adults age 18+; cholesterol screenings among adults age 18+; fecal occult blood test, sigmoidoscopy, and colonoscopy rates among adults age 50-75; mammography use among women age 50-74; all teeth lost among adults age 65+; men age 65+ who are up to date on a core set of clinical preventive services; and women age 65+ who are up to date on a core set of clinical preventive services. We sourced this data from the 2018 BRFSS health-related telephone surveys and the CDC PLACES small area estimates. We calculated a Missed Preventive Care Score for each zip code.
- ii. We aligned zip code and enrollment data from Figure 1 with the Missed Preventive Care Score by zip code.

<sup>31</sup> Taber, Leyva, & Persoskie, Why do People Avoid Medical Care? A Qualitative Study Using National Data, J. Gen. Internal Med. (Mar. 2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4351276/>.

- iii. We calculated a weighted average Missed Preventative Care Score for each insurer for the individual market segment.
- iv. We developed each insurer’s average 2019 CMS Risk Scores adjusted for CSR as described above with respect to Figure 3.

Consistent with our previous findings, we found that insurers that served communities where people were more likely to report missing preventive care tended to have the lowest CMS Risk Scores. These analyses show that insurers with lower CMS Risk Scores serve members from communities with higher neighborhood stress, worse reported health, more social and economic barriers to accessing health care, and more missed preventive health care services.

## IMPLICATIONS

These findings point to an important dynamic that warrants further exploration and policy action. The purpose of risk adjustment is to even the playing field across insurers given that healthy members are likely to select the least expensive plans (knowing that they are unlikely to need health care). However, we have documented stark differences in social determinants of health that affect access to health care services across the communities served by different insurers. One explanation for our findings is that low-income members of all health statuses are likely to select the least expensive plans. Then, if they do need health care services, they are more likely to face access barriers due to issues related to housing, transportation, work, or broadband access — and therefore may not get the care they need. That need goes unaccounted for in the data that risk adjustment programs use. When risk adjustment is calculated based on members’ health care utilization history, the formula rewards populations with the greatest access to care, without accounting for unaddressed health need. The figures above show that the risk score assigned to a community’s insurer goes up when communities have better access to health care services.

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*However, when risk adjustment is calculated based on members’ health care utilization history, the formula rewards populations with the greatest access to care, without accounting for unaddressed health need.*

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# HEALTH STATUS AND ACCESS BARRIERS:

## *An Illustration*



**Rachel** is a single mother of two living in Taunton. She works two jobs and uses her sick time to bring her children in for annual physical exams. Rachel has been having cold-like symptoms along with recurrent fevers but has not seen a doctor due to limited childcare and her work schedules. Recently, she noticed a lump under her arm. She decided to wait to see if her symptoms resolve or worsen before making a doctor's appointment.



**Susan**, a lawyer and mother in Newton, notices some changes in her health that concern her. With help from her childcare provider, she takes the day off work and drives to her doctor for an appointment the second week after her symptoms start. At her appointment, Susan's provider runs blood tests, records several diagnoses on her chart, and schedules follow-up appointments for an MRI and further diagnostic tests, which Susan confirms work for her.

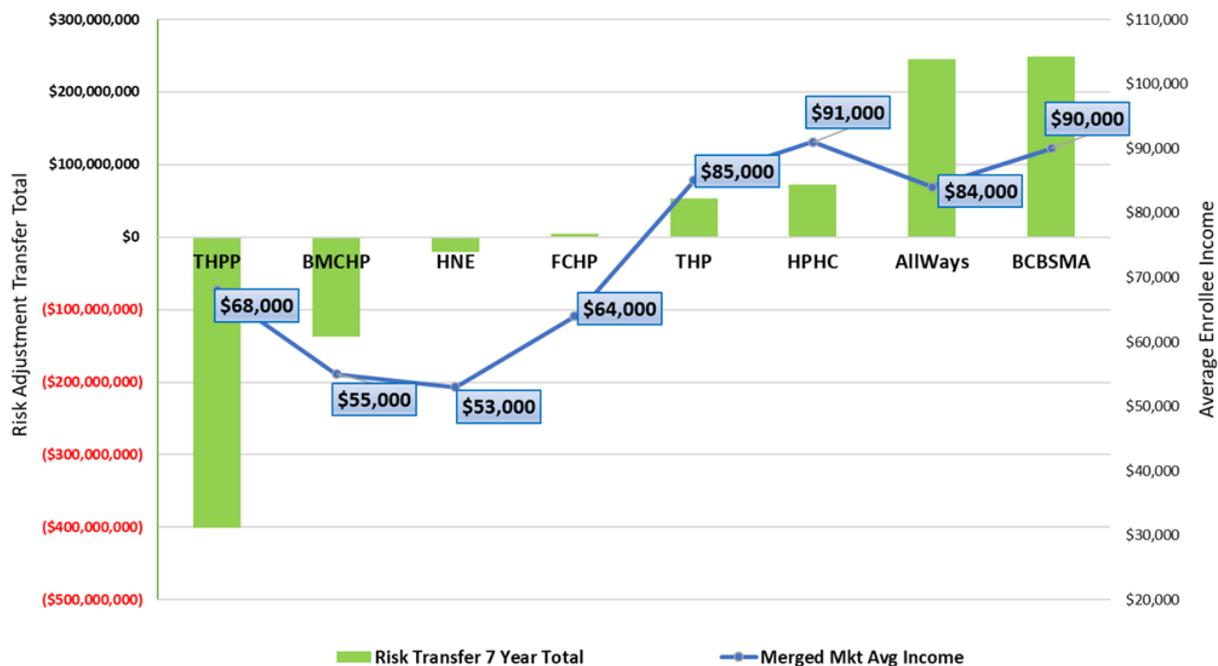
A health status calculation that relies on a patient's history of health care utilization would show that Rachel, with no insurance claims or diagnoses in her recent medical record, is in better health than Susan. In reality, it is hard to compare how healthy Rachel and Susan really are, because Rachel's social and economic circumstances prevent her from accessing non-emergency health care.

## B. Merged Market Risk Adjustment Transfers Shift Substantial Funds from Insurers Serving Lower-Income Communities to Insurers Serving Higher-Income Communities

The stakes of the ACA risk adjustment program are high. This program operates in the Massachusetts merged market, where approximately 650,000 individuals and small businesses employees buy insurance. Between 2014 and 2020, the program transferred over \$500 million from Massachusetts insurers that enroll lower-income members to Massachusetts insurers that enroll higher-income members, from Massachusetts insurers with narrower provider networks to Massachusetts insurers with broader provider networks, and from Massachusetts insurers with weaker financial performance to Massachusetts insurers with stronger financial performance.

As shown below in Figure 7, THPP and BMCHP made the bulk of the ACA risk adjustment transfer payments, while Tufts, Harvard Pilgrim, AllWays, and BCBSMA received almost all of the risk adjustment payments due to their higher CMS Risk Scores. Also, for reference, the chart estimates the average income for each insurer’s merged market membership (combining data on the insurer’s individual and small group membership from Figures 1 and 2).

Figure 7: Historic Risk Transfer (2014-2020) vs. Average Enrollee Income by Insurer (Merged Market)



### NOTES:

- i. We calculated average merged market income for each insurer from the data in Figures 1 and 2.
- ii. Risk transfer dollars shown are seven-year accumulation of transfers from historic risk adjustment

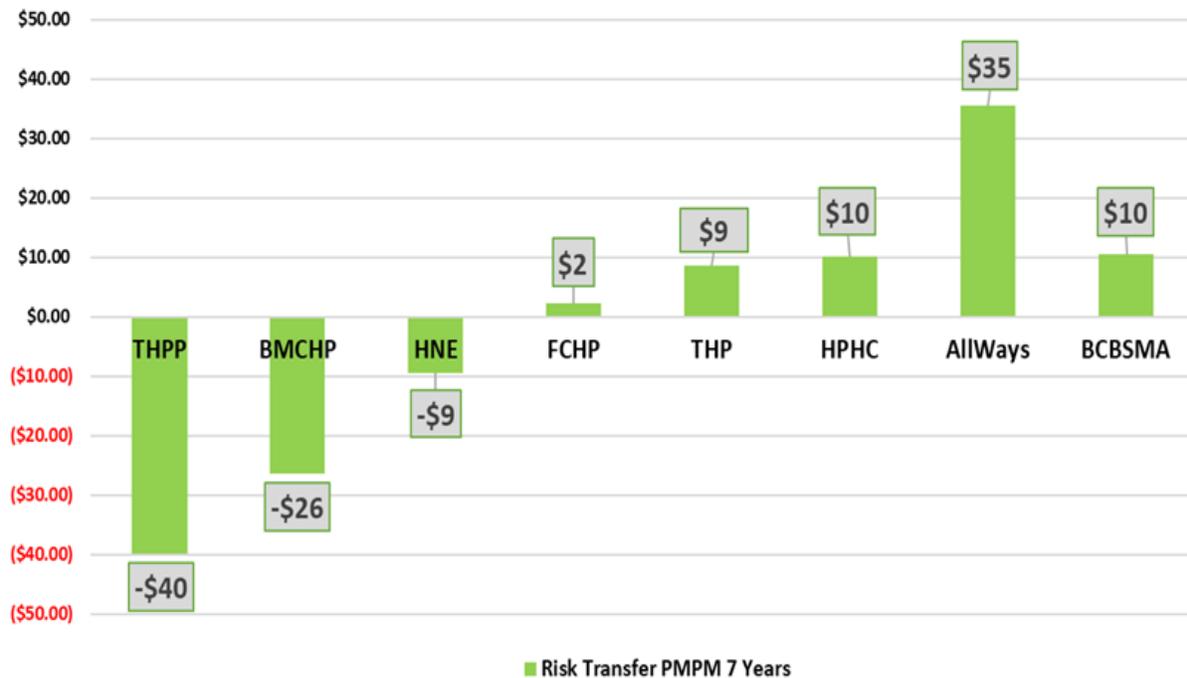
reports (specific reports varied over 7 years 2014-2020). Data through 2019 was information was presented at the MA Merged Market Advisory Council meeting. We sourced data for CY 2020 from publicly available reports published by CMS.

iii. This chart excludes payments from Celticare, Minuteman, and United.

We also examined the correlation between each insurer’s risk adjustment transfer from 2014-2020 as reflected in Figure 7 and its 2020 risk-based capital ratio.<sup>32</sup> This ratio is a measure of an insurer’s financial strength.<sup>33</sup> We found that insurers that pay into risk adjustment have risk-based capital ratios that range from 349% to 427% while insurers that receive payments from the risk adjustment program have much higher risk-based capital ratios, ranging from 553% to 810%.

While Figure 7 shows total risk adjustment transfers, it does not consider the relative size of each insurer’s merged market enrollment. Figure 8 shows the cumulative risk adjustment payments in per member per month (“PMPM”) terms during the same period.

Figure 8: Historic Risk Transfer Per Member Per Month (2014-2020)



**NOTES:**

i. We calculated risk transfer PMPM using membership from rate filings from 2014-2020, including some estimations where necessary.

Through the risk adjustment program, from 2014-2020, THPP paid out more than \$400 million (about \$40 PMPM), and BMCHP paid out more than \$100 million (about \$25 PMPM).

<sup>32</sup> Risk-based capital ratio data is from 2020 insurer financial reports. For insurers with multiple entities, we used the RBC from the primary entity supporting the merged market for this analysis.

<sup>33</sup> See 211 Code Mass. Regs. § 25.00.

Meanwhile, AllWays and BCBSMA each received more than \$200 million (\$35 PMPM for AllWays and \$10 PMPM for BCBSMA).

Small changes to the CMS risk adjustment model could result in a more equitable resource distribution among insurers.<sup>34</sup> In 2019, for example, THPP and BMCHP had the lowest CMS Risk Scores within the individual market. THPP's individual market CMS Risk Score was 1.22 and BMCHP's was 1.23. No other plan in the Massachusetts merged market had an individual market adjusted CMS Risk Score lower than 1.46. We have documented in this report that members of THPP and BMCHP disproportionately face social and economic barriers to accessing health care services and indeed report the lowest rates of preventive care services, resulting in fewer opportunities to have diagnoses recorded or referrals to specialists made. If we posit that the social determinants of health and health care access barriers for THPP and BMCHP members artificially deflated those insurers' CMS Risk Scores, we can model what the impact would be on the risk adjustment transfers if these insurers had individual market risk scores more in line with other insurers. If we assume that the true risk score for THPP and BMCHP's 2019 individual market had instead been 1.26 (the lowest CMS Risk Score in the small group market for any insurer with significant small group membership)<sup>35</sup>, and all other inputs to the CMS risk adjustment model were unchanged, we modeled that THPP and BMCHP's risk adjustment payments would have decreased roughly 20% (~\$6 million) and 40% (~\$17 million), respectively, compared to what they actually paid in 2019.<sup>36</sup>

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<sup>34</sup> CMS has recently finalized changes to its risk adjustment formula, including changes to improve the current models' predictive accuracy for the lowest-risk enrollees, *see* Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2023, 45 C.F.R. § 144, 147, 153, 155, 156, & 158 (May 6, 2022), but the effect of these changes is expected to be limited.

<sup>35</sup> The lowest credible reported CMS Risk Score (excluding insurers with only a few hundred small group members) is BCBSMA's small group Market risk score at 1.26.

<sup>36</sup> The AGO received each insurer's federal risk adjustment reports which includes all the variables required to calculate the risk adjustment distributions by plan offering (HIOS ID). We developed a model using the information from the federal risk adjustment reports to calculate the 2019 risk adjustment distributions by plan offering. Then, we increased the CMS Risk Score for THPP and BMCHP to 1.26 in the model and calculated revised risk adjustment distributions. Since actual 2019 risk adjustment distributions are calculated by enrollee and not by plan offering, the output of the model does not exactly replicate actual distributions.

# HEALTH STATUS AND ACCESS BARRIERS:

## *An Illustration*



**Rachel**, the single mother living in Taunton, gets health insurance from one of her two jobs working in retail. Her employer runs a small store and offers employees insurance through THPP. Because her employer has fewer than 50 employees, her employer buys insurance in the small group market. Rachel rarely goes to the doctor regardless of how she is feeling because she does not have childcare.



**Susan**, the lawyer in Newton, works for a small law firm with 30 employees. She has health insurance through her employer, a small group plan from BCBSMA. Susan regularly visits her primary care provider and specialists whenever she has concerns about her health.

The merged market risk adjustment program transfers \$40 per member per month away from Rachel's insurer and gives an extra \$10 per member per month to Susan's insurer because of the differences in "risk" between these insurers' enrollees. If Rachel and Susan continue their current patterns, this transfer accounts for the fact that Susan indeed is likely to incur more health care claims that her insurer will need to pay. But if Rachel's insurance company and health care provider had additional resources and incentives to help her overcome her barriers to accessing care, Rachel may receive significantly more health care (and associated insurance claims) than she is currently receiving to help her live a healthy life.

### *C. Use of the Statewide Average Premium in the Merged Market Risk Adjustment Formula Inflates the Payments Owed by Insurers with Lower-Priced Provider Networks*

We next examined that the use of the statewide average premium in the federal risk adjustment formula and found that it worsens inequities that the program is designed to address.<sup>37</sup>

As discussed above, the merged market risk adjustment program transfers funds from plans that enroll lower risk members to plans that enroll higher-risk members. CMS calculates a risk transfer percentage for each enrollee using the CMS Risk Score and other actuarial factors. If the risk transfer percentage is positive, the insurer pays money into the risk adjustment pool. If the risk transfer percentage is negative, the insurer collects from the pool. This risk transfer percentage is multiplied by the statewide average premium (across all plans offered by all insurers in the merged market) on a per-member per-month basis to calculate the risk transfers to be paid or received.<sup>38</sup>

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<sup>37</sup> We have previously identified the use of the statewide average premium in the risk adjustment formula as a disincentive for smaller plans and new entrants to the merged market to offer plans with low premiums. Massachusetts Attorney General's Office, Examination of Health Care Cost Trends and Cost Drivers at 16-17 (Oct. 13, 2016), <https://www.mass.gov/doc/2016-examination-of-market-health-care-cost-trends-and-cost-drivers/download>.

<sup>38</sup> Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2023, 45 C.F.R. § 144, 147, 153, 155, 156, & 158 (May 6, 2022), <https://www.govinfo.gov/content/pkg/FR-2022-05-06/>



To illustrate how the risk adjustment program incorporates the statewide average premium, consider four insurers, Insurers A-D, in a hypothetical market. Insurers A and B enroll high-risk individuals (with the same risk profile and other rating factors), and Insurers C and D enroll low-risk individuals (with the same risk profile and other rating factors). Insurers A and C offer low-premium plans with low-priced networks. The risk adjustment algorithm calculates a percentage receipt which is the same for Insurers A and B and a percentage payment which is the same for Insurers C and D. These percentages are applied to the statewide average premium to calculate the actual receivables and payables.

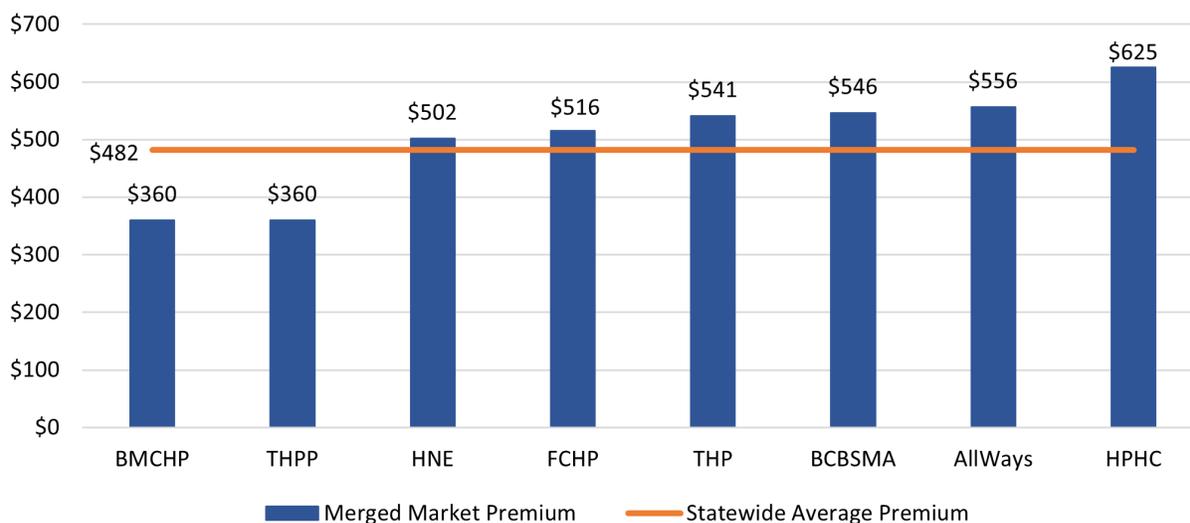
### An Illustration of Risk Adjustment Payments in a Hypothetical Market

	Insurer A	Insurer B	Insurer C	Insurer D	Statewide
Risk Score Based on Claims	High Risk	High Risk	Low Risk	Low Risk	
Membership	10,000	10,000	10,000	10,000	40,000
Monthly Premium	\$350	\$550	\$350	\$550	\$450
Monthly Premium Received	\$3,500,000	\$5,500,000	\$3,500,000	\$5,500,000	\$18,000,000
<b>Risk Adjustment Results</b>					
Percentage Receipt	20%	20%			
Percentage Payment			20%	20%	
<b>Payment Transfer Calculation</b>					
Statewide Average Monthly Premium	\$450.00				
	20% x \$450	20% x \$450			
Risk Adjustment Receivables PMPM	\$90	\$90			
Total Receipts	\$900,000.00	\$900,000.00			\$1,800,000
			20% x \$450	20% x \$450	
Risk Adjustment Payable PMPM			\$90	\$90	
Total Payable			\$900,000	\$900,000	\$1,800,000
Risk Adjustment Transfer PMPM	\$90	\$90	-\$90	-\$90	
Monthly Premium	\$350	\$550	\$350	\$550	
Risk Adjustment Transfer as a % of Insurer's Own Premium	25.7%	16.4%	-25.7%	-16.4%	

When we compare these receivables and payables to each insurer’s own premium, we observe that a low-risk insurer with a low-premium plan like Insurer C pays a significant amount of its own premium into the risk adjustment program, (for Insurer C in this model, approximately 26% of its premium revenue). A low-risk insurer with a high-premium plan like Insurer D pays a smaller percentage of its own premium into the risk adjustment program (for Insurer D in this model, approximately 16% of its premium revenue). In the analysis that follows, we explore how the use of the statewide average premium in this formula socializes insurer network price in the Massachusetts merged market.

As shown below in Figure 9, BMCHP and THPP had the lowest average premiums in the merged market in 2019, at \$360 per member per month. Theirs was 40% lower than the highest average premium of \$625 per member per month, offered by HPHC. And BMC and Tufts Public were 25% lower than the statewide average premium of \$482 per member per month.

Figure 9: Merged Market Insurance Premiums (2019)



**NOTES:**

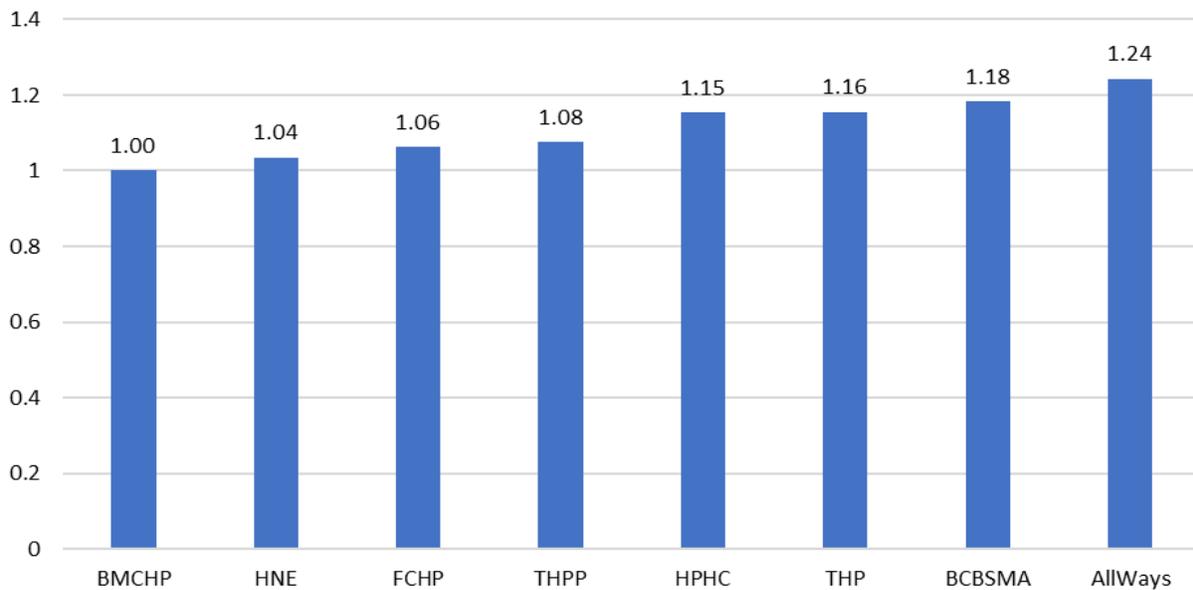
- i. We sourced the merged market premium from insurers 2019 Transfer Payment Issuer Reports (“TPIRs”).
- ii. For insurers with multiple issuer IDs, we calculated a blended merged market premium using TPIR billable member months.
- iii. The merged market premium for each insurer reflects the average premium for that insurer’s plan offerings, age demographics, and geography demographics.
- iv. We calculated the statewide average premium based on the insurers included on this analysis. The actual statewide average premium in the 2019 TPIRs was \$483.10, based on inclusion of additional carriers with very small MA merged market membership.

An insurer’s premium reflects both the expected utilization of health services by an insurer’s members and the price of the carrier’s provider network.<sup>39</sup> Some insurers exclude high-priced providers from their network, resulting in a lower premium for members. Other insurers offer broader networks with higher-priced providers, resulting in a higher premium and driving up the statewide average premium.

<sup>39</sup> An insurer’s premium will also reflect other factors including provider practice patterns, a mix of services and providers, administrative costs, profit, taxes, and fees.

To illustrate the provider price component of premiums, we estimated a price index for each insurer’s hospital network, based on the network offered in the insurer’s merged market plan. Figure 10 below shows our approximation using publicly available sources. Figure 10 displays each insurer’s estimated price index relative to BMCHP, which has the lowest priced hospital network in the merged market. The insurer with the highest priced hospital network in the merged market, AllWays, has an estimated hospital network price that is 24% higher than BMCHP’s. As observed in Figure 9, AllWays’ average merged market premiums are 54% higher than BMCHP’s, suggesting that almost half of the premium difference is due to price differences.

**Figure 10: Estimated Network Price Index  
For Illustrative Purposes  
(Relative to BMCHP)**



**NOTES:**

- i. We estimated network price by relying on CHIA reported hospital relative price. Center for Health Information and Analysis, Relative Price and Provider Price Variation, <https://www.chiamass.gov/relative-price-and-provider-price-variation/>. For this modeling exercise, we have assumed that hospital relative price is representative of all medical services including professional and ancillary services. We also assumed that there are no price differences for pharmacy and have assumed that 80% of total claims costs are medical and 20% are pharmacy (consistent with the approximate share of pharmacy and medical claims reported annually by CHIA as part of its monitoring of state Total Health Care Expenditures). We have assumed retention charges (administrative charges and other charges built into premiums) are variable (calculated as a percentage of claims). Since hospital relative price published by CHIA are relativities within each insurer, we cannot use each insurer’s own relative price to calculate a network price that we can compare across insurers. CHIA does publish a statewide relative price (S-RP). S-RP blends relative price across insurers using insurer payment distributions. Since relative price is calculated within each insurer, a blending of relative prices will not account for absolute price differences across insurers. For this reason, it is not advisable to use S-RP to understand absolute price differences between one provider and another.<sup>40</sup>
- ii. We chose to measure price of each insurer’s network by analyzing relative price for the three largest

<sup>40</sup> Consider Hospital A with an outpatient RP of 1.05 for Insurer X and an outpatient RP of 1.10 for Insurer

insurers. The first used BCBSMA's All Product 2019 Hospital Relative Price weighted against each insurer's hospital claims distribution. The second used HPHC's All Product 2019 Hospital Relative Price weighted against each insurer's hospital claims distribution, and the third way was using THP's All Product 2019 Hospital Relative Price weighted against each insurer's hospital claims distribution. We then calculated the straight average relative price among the three methods for each insurer's network. If an insurer had more than one network, we blended the relative prices based on enrollment distribution. If we did not have this information, we took a straight average of the relative prices across networks. We have assumed that the resulting averaged hospital relative price represents differences in provider prices for all medical (non-pharmacy) benefits (including professional and ancillary). We sourced the hospital claims distribution for each insurer from CHIA's relative price data book.

We then used our estimated network price index to model how risk adjustment transfers would change if the statewide average premium (a key component of the payment formula) were not inflated by some insurers' higher-priced provider networks. We adjusted each insurer's premium for the price difference between its own network price and BMCHP. For example, BCBSMA has an estimated network price index of 1.18, so its premium was reduced 18%. After the insurer premiums were adjusted to the lowest provider price, we recalculated a new statewide average premium. In this model, the statewide average premium decreased 12%, which would result in lowering all payments and receivables within the risk adjustment program by 12%.

This analysis shows that the use of the statewide average premium in the CMS risk adjustment formula results in low-cost narrow network plans having to pay large sums to higher-cost plans, in part to subsidize the higher prices of the higher-cost plans' provider networks. This transfer of funds limits the funds available to insurers with low-cost plans to reimburse low-priced providers. Meanwhile, insurers with high-cost plans generally receive higher risk adjustment payments that provide them the means to pay higher rates to high-priced providers. In other words, the current approach rewards those generally higher-income enrollees who use high-cost providers at the expense of lower-income enrollees using lower-cost providers.

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***In other words, the current approach rewards those generally higher-income enrollees who use high-cost providers at the expense of lower-income enrollees using lower-cost providers.***

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Y. The S-RP calculation would blend the outpatient RP using Insurer X and Y payments. However, the calculation does not consider whether Insurer X's prices are higher or lower than Insurer Y's prices. CHIA does not collect this information and therefore cannot incorporate the RP differences among insurers into the S-RP calculation. Due to this limitation, we developed our own approach.

## 2. HOSPITAL SERVICE CLOSURES AND CAPITAL INVESTMENT

In this section, we examine additional access challenges facing people in low-income communities. In the previous section, we analyzed whether current approaches to measuring population health risk understate the health burdens of low-income communities. We followed this analysis through the merged market risk adjustment program to show how underestimations of community health burden affect insurer financing. In this section, we draw comparisons between the hospitals included in the lower-cost insurance networks and those included only in the broadest and most expensive insurance networks. Using data from DPH, we examine closures of essential services and capital investment at these hospitals — aspects of operations that are directly related to financial resources — as an additional indicator of access barriers that affect communities.

### *A. Hospitals in Lower-Cost Insurer Networks Are More Likely to Close Necessary Services*

We gathered data from insurers to create a list of hospitals in a lower-cost insurance network and a list of hospitals in a higher-cost insurance network. For the lower-cost network, we selected BMCHP’s Silver Network — the broadest hospital network offered by BMCHP in the merged market. This network includes 42 Massachusetts hospitals. For the higher-cost network, we selected BCBSMA’s HMO Blue hospital network, which includes all 61 Massachusetts hospitals. For this analysis, we refer to the 19 hospitals in BCBSMA’s HMO Blue network (and excluded from BMCHP’s Silver Network) as hospitals included only in the higher-cost insurance network. In this section we analyze how frequently hospitals in these two sets closed services that were deemed necessary to the health of their communities by DPH.

Massachusetts hospitals are required to report closures of certain services to DPH. These services, termed “essential services,” include ambulatory care services, pediatric services, intensive care units, maternal and newborn services, and are enumerated in DPH regulations.<sup>41</sup> After a hospital provides notice to DPH of its intent to close an essential service, DPH determines whether the service is necessary for preserving access and health status in the hospital’s service area.<sup>42</sup>

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<sup>41</sup> See 105 Code Mass. Regs. § 130.020.

<sup>42</sup> See 105 Code Mass. Regs. § 130.122.

We reviewed all essential service closures from 2017 through May 2022 and identified those closures where DPH determined that the service in question was necessary for preserving access and health status within the hospital’s service area. These closures of necessary services included the termination of maternity services, inpatient pediatric services, substance-use disorder rehabilitation programs, and emergency services. We found that 31% of the hospitals in the lower-cost insurance network had closed necessary services, compared to 9% of the hospitals in only the higher-cost insurance network.

We next analyzed the hospitals that closed a necessary service during this time by relative commercial price and payer mix. As displayed below in Figure 11, we found that hospitals that closed services deemed to be necessary to the community had lower average relative prices from the three largest commercial insurers<sup>43</sup> and higher Safety Net Payer Mix (defined as the share of revenue from MassHealth, ConnectorCare, and Health Safety Net<sup>44</sup>). Hospitals that closed necessary services<sup>45</sup> had an average Safety Net Payer Mix of 27.2%, while hospitals that did not close such services had an average Safety Net Payer Mix of 18.3%. Hospitals with closures of necessary services had an average relative price of 0.89 compared to an average relative price of 1.04 for hospitals without such closures.

**Figure 11: Average Relative Price and Safety Net Payer Mix of Hospitals With and Without Closures of Necessary Services (2017-2022)**

	Average Relative Price Across Top Three Commercial Insurers	Safety Net Payer Mix
<i>Hospitals with closures of essential services deemed necessary for promoting access and health status</i>	0.89	27.2%
<i>Hospitals without such closures</i>	1.04	18.3%

<sup>43</sup> We analyzed statewide relative price using a weighted average of BCBS, HPHC, and THP Relative Price per hospital.

<sup>44</sup> We created this safety net payer mix using FY20 hospital Gross Patient Service Revenue (“GPSR”) data from CHIA. We included the following payers in our definition of “safety net” for purposes of this payer mix analysis: Medicaid Managed GPSR, Medicaid Non-Managed GPSR, Other Government GPSR, ConnectorCare GPSR, and Health Safety Net GPSR.

<sup>45</sup> These hospitals included: Anna Jaques Hospital, Baystate Noble Hospital, Baystate Wing Hospital, Cambridge Health Alliance, Falmouth Hospital, Health-Alliance Clinton Hospital, Holyoke Medical Center, Mercy Medical Center, MetroWest Medical Center, Morton Hospital, Shriners’ Hospital for Children – Springfield, Southcoast Hospital, Steward Carney Hospital, Steward Good Samaritan Medical Center, and Steward Norwood Hospital.

## ***B. Hospitals in Lower-Cost Insurer Networks Invest Less in Substantial Capital Projects***

We next examined hospital investment in significant capital projects and high-margin service lines (that is, services where the hospital's commercial insurer reimbursement is likely to exceed the cost of providing the service) that require substantial upfront spending, like high-end imaging and ambulatory surgery. Massachusetts requires hospitals to submit a Determination of Need ("DoN") application to DPH to receive approval for qualifying projects.<sup>46</sup> We reviewed DoN applications approved by DPH for all hospitals in Massachusetts from 2016 through May 2022 to examine whether hospitals in higher-cost insurance networks were more likely to make substantial capital investments.

The 42 hospitals in the lower-cost insurance network were approved to spend a total of \$1.4 billion on significant capital investments, ambulatory surgery infrastructure, and high-end imaging.<sup>47</sup> The 19 hospitals in only the higher-cost insurance network were approved to spend a total of \$4 billion in the same categories.

In Section 1, we found that lower-cost insurers in the merged market disproportionately enrolled lower-income members from communities with higher Neighborhood Stress Scores, lower self-reported health scores, more access barriers, and lower rates of preventive care — and that CMS's redistributive mechanism in the merged market transfers funds away from these lower-cost insurers. That misalignment of resources documented in Section 1 compounds the already low level of resources for hospitals in the lowest-cost insurance networks that serve the same burdened populations and communities. In Section 2, we showed that the hospitals in these lower-cost insurance networks are more likely to close necessary services and make fewer investments in their infrastructure and facilities — a product of consistent underfunding of the health care of individuals in low-income communities and the hospitals that serve them.

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<sup>46</sup> DoNs are required for any Substantial Capital Expenditure or Substantial Change in Service including DoN-Required Services, DoN-Required Equipment, Ambulatory Surgery, or any combination of these projects, or any Original License or Transfer of Ownership. A "Substantial Capital Expenditure" is defined by regulation as a project with a capital expenditure that exceeds the expenditure minimum set by DPH. *See* Annual Adjustments to Determination of Need (DoN) Expenditure Minimums (Jan. 25, 2022), <https://www.mass.gov/doc/expenditure-minimums-for-applying-for-a-don-2021-2022-pdf/download>.

<sup>47</sup> This analysis includes all DoN applications with a hospital as applicant or co-applicant filed from 2016 to April 2022 in the following categories (as defined in 105 CMR 100.000 et. seq.): Substantial Capital Expenditure, DoN-Required Equipment, Ambulatory Surgery, Conservation Project, or an amendment to a previously filed DoN in one of these categories.

# HEALTH STATUS AND ACCESS BARRIERS:

## *An Illustration*



**Rachel** is a pregnant mother living in Taunton. With the 2018 closure of maternity services at her local hospital, Rachel must figure out how she will arrange to get herself to a more distant hospital for her prenatal appointments and when she goes into labor. Public transportation and ride shares are inconvenient or costly. Rachel is worried that she might have a large copay if she takes an ambulance to the hospital when she goes into labor. Being farther from home for her maternity care also makes it harder for Rachel to arrange for childcare for her two older children during her appointments and labor, delivery, and post-partum recovery at the hospital.



**Susan** is a pregnant mother living in Newton. She plans to deliver her baby at her local community hospital. Susan has ample sick time to use and owns a car to get herself to her prenatal appointments ten minutes away. Susan's friend and neighbor owns a car and has agreed to help her get to appointments and to the hospital when the time comes. Susan's nanny takes care of her older children while Susan goes to her prenatal appointments and will take care of them when she is hospitalized for delivery of her new baby.

# CONCLUSION AND RECOMMENDATIONS

This report explored how risk scores that are based on patients' prior use of health care services fail to account for health access barriers and other measures of health burden, and how the risk adjustment program in the merged market may entrench and exacerbate resource disparities adversely affecting low-income communities. It also showed a correlation between hospitals' participation in lower-cost insurance networks and their closure of necessary services and failure to make significant capital investment as reported in the Determination of Need program. We found:

- FINDING 1:** Insurers with lower individual market risk scores serve members from communities with higher neighborhood stress scores, worse self-reported health scores, more barriers to accessing health care services, and lower rates of preventive care.
- FINDING 2:** Merged market risk adjustment transfers shift substantial funds from insurers serving lower-income communities to insurers serving higher-income communities.
- FINDING 3:** Use of the statewide average premium in the merged market risk adjustment formula inflates the payments owed by low-premium insurers, which tend to have lower-priced provider networks with a larger percentage of safety net hospitals.
- FINDING 4:** Hospitals in lower-cost insurer networks are more likely to close necessary services and are less likely to invest in substantial capital projects.

Based on these findings that current approaches to health status measurement are worsening inequities in the distribution of health care resources, we make the following recommendations:

**First, payers and providers should incorporate social determinants of health, such as access to transportation, housing, childcare, and broadband, into approaches to health status adjustment.** Unless the social determinants of health are incorporated into measures of population health need, the system will continue to shift money away from communities facing barriers to accessing care and move money toward communities with historically higher health care utilization. MassHealth is a national leader in the incorporation of neighborhood stress into its Accountable Care Organization payment formulas, and all insurers and providers should work, as MassHealth has done, to incorporate social determinants of health into their health status adjustment methodologies. This updated approach to health status adjustment would provide additional funding to insurers and providers serving low-income populations, allowing them to reduce access barriers through targeted outreach and population health management

programs, as well as to provide more clinical services to remedy underutilization. Insurers and providers should evaluate their risk contracts to assess whether population health adjustments may be entrenching disparities in health and access to care and immediately fix any unintended consequences.

**Second, payers and providers that benefit from these new approaches suggested in the first recommendation should use the additional resources they receive to implement new initiatives or expand existing initiatives to help patients facing social and economic barriers to accessing health care services overcome these barriers.** A more equitable distribution of funds, as suggested in our first recommendation, should fund increased outreach from insurers and providers targeted to improve access for these patients who would otherwise have foregone needed health care. These outreach initiatives should involve partnership with community-based organizations with expertise in supporting patients who face barriers like lack of childcare or transportation, language access, and broadband access. These initiatives could also be supported with Community Benefits funding, building on models from existing hospital Community Benefits programs that, for example, provide medical appointment transportation to low-income patients or provide technology supports to seniors to facilitate telehealth access.

**Third, Massachusetts state agencies should partner with CMS to scrutinize the health equity implications of the individual and small group risk adjustment methodology, including by examining opportunities to include social determinants of health and modify the use of the statewide average premium.** This work would support CMS's health equity priority of identifying and addressing inequities within CMS programs<sup>48</sup> and further the Commonwealth's own commitment to health equity. The Commonwealth should welcome the opportunity to work with CMS in support of our shared goals. In particular, MassHealth's successful creation of a population risk score that incorporates community-level social determinants of health could serve as a model for future CMS changes.

**Fourth, Massachusetts policymakers should pursue fundamental changes to cost containment policy with the goal of preserving safety net providers which are so critical to lower-income residents in high-stress communities.** These changes could include, for example, flexible commercial price growth benchmarks that allow lower-priced providers more room for price growth than higher-priced providers. As the state pursues its cost containment goals, the state should protect the continued viability of Massachusetts safety net hospitals and community health centers by ensuring that their state financial support allows them to pursue their health equity missions.

These recommendations provide a roadmap to advancing a priority at the intersection of health care cost containment and health equity: the alignment of health care resources to need. We must use all available data to understand the health needs and health care access barriers faced by different communities and use this information to ensure that resources are distributed fairly. The AGO looks forward to continued collaboration with the Legislature, other agencies, health care market participants, and all stakeholders in promoting the affordability and accessibility of health care for all Massachusetts residents.

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<sup>48</sup> Centers for Medicare & Medicaid Services, CMS Framework for Health Equity 2022-2032 (Apr. 2022), <https://www.cms.gov/files/document/cms-framework-health-equity.pdf>.



MEDICINE ROOM

**Brockton Neighborhood Health Center**  
Mission Statement  
The Brockton Neighborhood Health Center is committed to providing high-quality, patient-centered care to the community. Our mission is to promote health, prevent disease, and provide care for the underserved. We are dedicated to building a strong, healthy community through collaboration and partnership.

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Examination and Report by Attorney General Healey's Health  
Care Division:

Deputy Division Chief Sandra Wolitzky  
Assistant Attorney General Chloe Cable  
Assistant Attorney General Ethan Marks  
Health Care Analyst Maeva Veillard

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