2022 **HEALTH CARE COST TRENDS** HEARING

DATA PRESENTATION

Impact of Price and Spending
Trends on Health Care Affordability
and Equity in Massachusetts

Dr. David Auerbach



Outline





CURRENT HEALTH CARE LANDSCAPE

- Utilization and Workforce
- Prices and Spending

Trends Over the Past Decade

Implications for Affordability, Access, and Equity

Outline



Current Health Care Landscape



Prices and Spending

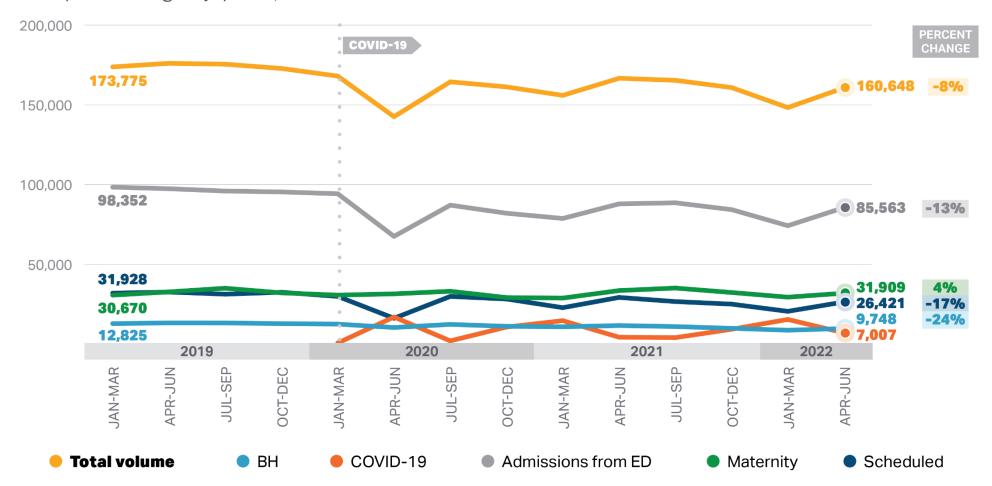
Trends Over the Past Decade

Implications for Affordability, Access, and Equity

Through June 2022, the total number of hospital stays in Massachusetts remained 8% below pre-pandemic volume. Scheduled admissions are down 17%.



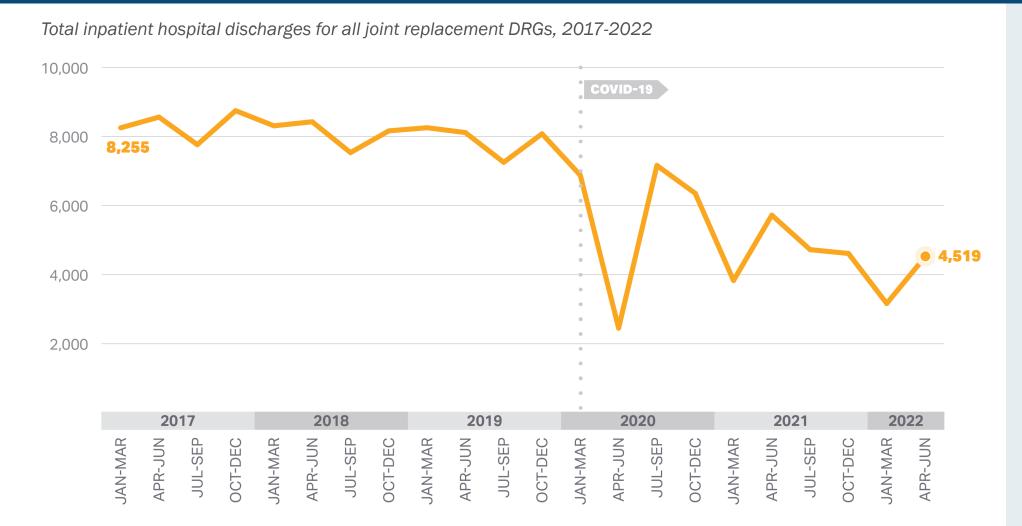
Total inpatient hospital discharges by quarter, 2019-2022



Notes: COVID-19 discharges include those with a primary or secondary diagnosis of COVID-19. The following hospitals were excluded for the entire study period due to missing data for one or more quarters: Melrose Wakefield Healthcare (Melrose-Wakefield Campus and Lawrence Memorial Hospital Campus), Lowell General Hospitals (Main Campus and Saints Campus), Tufts-New England Medical Center, and Sturdy Memorial Hospital. In calendar year 2019, these hospitals accounted for 7% of all hospital inpatient discharges. Discharges were excluded if they were transfers, had a length of stay greater than 180 days, rehabilitation, or out-of-state residents.

Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, January 2019 to September 2021, preliminary data October 2021 through June 2022

Hospital visits for hip and knee replacements are 45% below pre-pandemic levels.



Outpatient hip replacement surgeries increased in 2020, offsetting much of the inpatient decline among privately-insured patients.

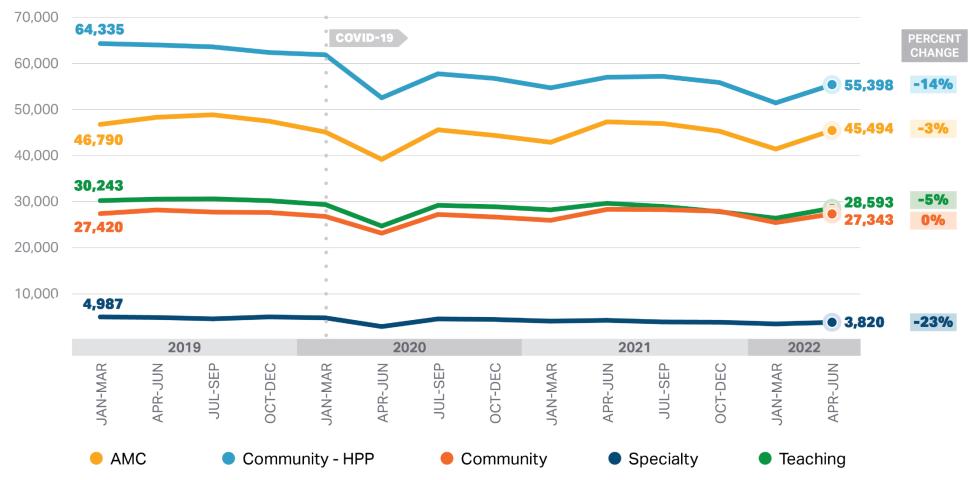
This offset did not occur for knee surgeries.

Notes: Joint replacement DRGs include DRG range 466-470 for original and revision major joint with and w/o complications, and newly introduced DRGs 521 and 522. Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, preliminary data October 2021 through June 2022; HPC analysis of the Center for Health Information and Analysis (CHIA) All-Payer Claims Database, 2020, V 10.0

The reduction in hospital volume has been greatest for high-public payer community hospitals.



Total inpatient hospital discharges by cohort and quarter, 2019-2022



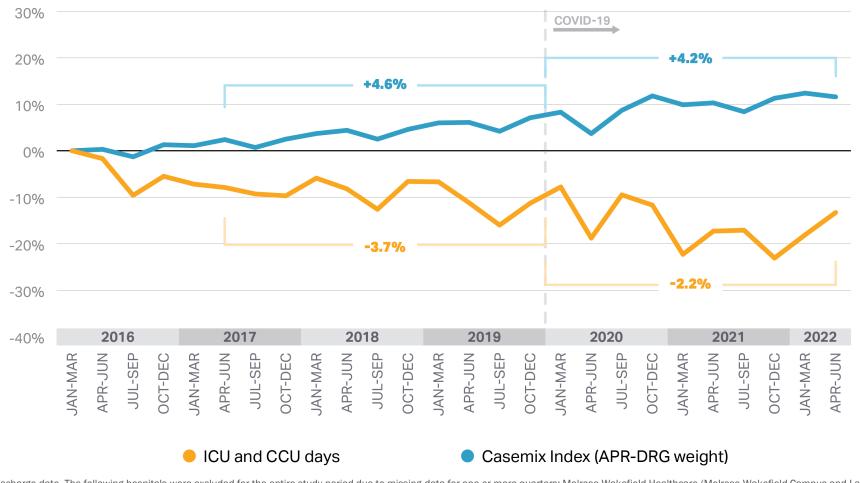
Notes: The following hospitals were excluded for the entire study period due to missing data for one or more quarters: Melrose Wakefield Healthcare (Melrose-Wakefield Campus and Lawrence Memorial Hospital Campus), Lowell General Hospital (Main Campus and Saints Campus), Tufts-New England Medical Center, and Sturdy Memorial Hospital. In calendar year 2019, these hospitals accounted for 7% of all hospital inpatient discharges. Discharges were excluded if they were transfers, had a length of stay greater than 180 days, rehabilitation, or out-of-state residents.

Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, January 2019 to September 2021, preliminary data October 2021 through June 2022

Indicators of patient acuity remain similar to pre-pandemic trends.



Change in total ICU/CCU days per discharge and average "casemix index" (APR-DRG weight) for non-COVID patients by quarter: 2016-2022

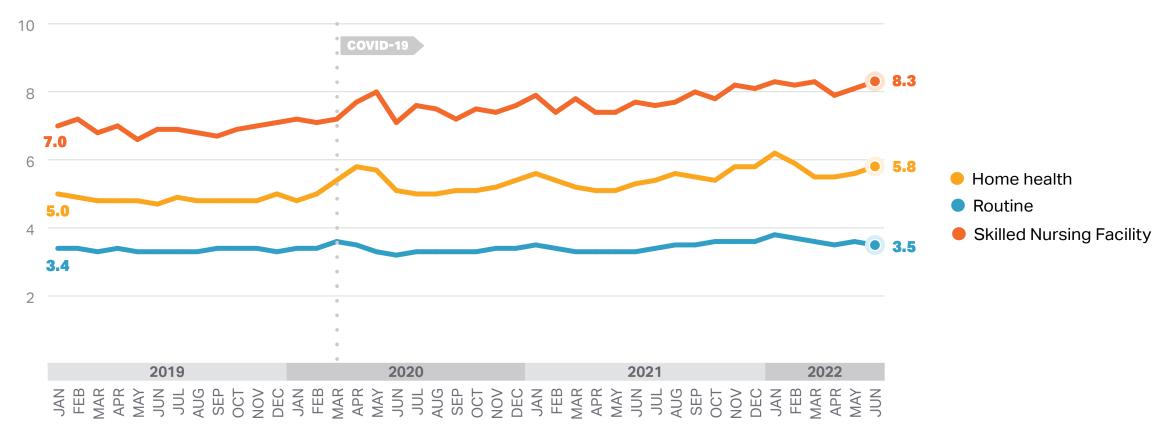


Notes: Based on patient discharge date. The following hospitals were excluded for the entire study period due to missing data for one or more quarters: Melrose Wakefield Healthcare (Melrose-Wakefield Campus and Lawrence Memorial Hospital Campus), Lowell General Hospital (Main Campus and Saints Campus), Tufts-New England Medical Center, and Sturdy Memorial Hospital. In calendar year 2019, these hospitals accounted for 7% of all hospital inpatient discharges. Excludes behavioral health stays and extremely long length of stay because these cases are usually not paid based on DRGs. Other exclusions include COVID-related discharges, rehabilitation, transfers, patients that died, patients who went to Shriners Hospital for Children (Springfield and Boston), and discharges with some APR coding restrictions based on discrepancies with CMS major diagnostic categories.

At the same time, average length of stay has increased for patients discharged to skilled nursing and home health settings.



Average length of stay (days) for scheduled admissions and admissions from the ED (combined) by discharge disposition, 2019-2022



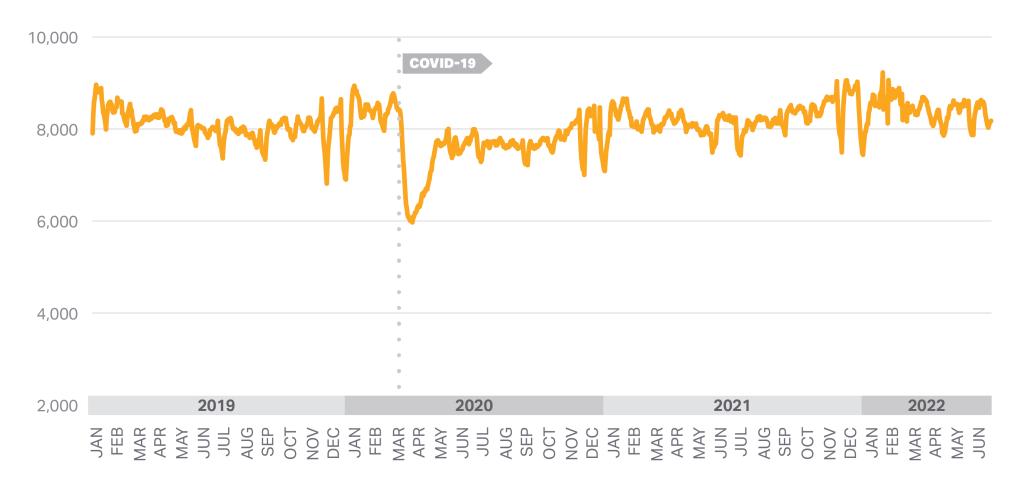
Notes: Based on patient discharge date and includes only admissions from the emergency department and scheduled admissions. COVID-related discharges are excluded. Excludes pediatric, maternity, BH, and rehabilitation admissions and admissions with length of stay greater than 180 days. The following hospitals were excluded for the entire study period due to missing data for one or more quarters: Melrose Wakefield Healthcare (Melrose-Wakefield Campus and Lawrence Memorial Hospital Campus), Lowell General Hospital (Main Campus and Saints Campus), Tufts-New England Medical Center, and Sturdy Memorial Hospital. In calendar year 2019, these hospitals accounted for 7% of all hospital inpatient discharges.

Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, January 2019 to September 2021, preliminary data October 2021 through June 2022

Total hospital census (bed-days) is similar to the pre-pandemic level. Longer length of stay has offset the decline in discharges.



Estimated daily census for Massachusetts hospitals, 7-day rolling average, 2019-2022

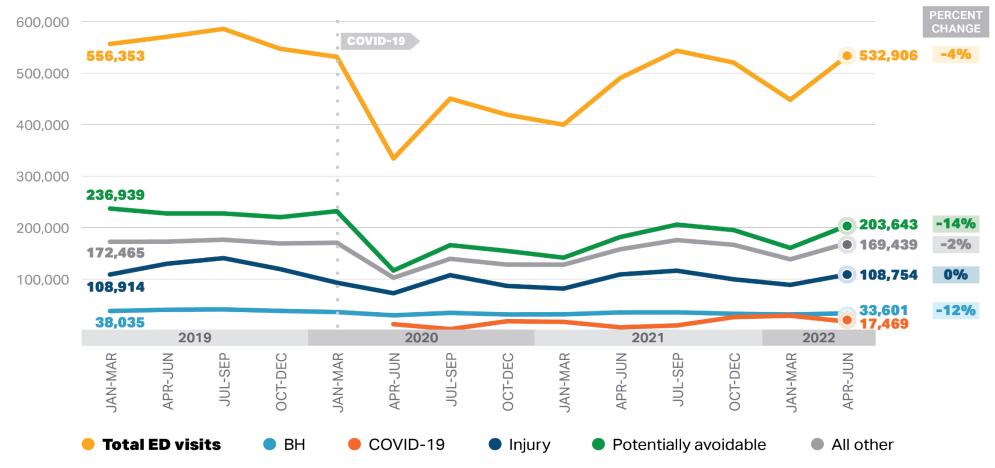


Notes: Based on patient discharge date. Includes admissions from the ED and scheduled and maternity admissions. The following hospitals were excluded for the entire study period due to missing data for one or more quarters: Melrose Wakefield Healthcare (Melrose-Wakefield Campus and Lawrence Memorial Hospital Campus), Lowell General Hospital (Main Campus and Saints Campus), Tufts-New England Medical Center, and Sturdy Memorial Hospital. In calendar year 2019, these hospitals accounted for 7% of all hospital inpatient discharges. Discharges were excluded if they were transfers, had a length of stay greater than 180 days, rehabilitation, behavioral health, or out-of-state residents. Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, January 2019 to September 2021, preliminary data October 2021 through June 2022

Through June 2022, emergency department visits also remain below pre-pandemic levels (-4%). Potentially avoidable visits are down 14% since 2019.



Number of ED visits by category and quarter, 2019-2022



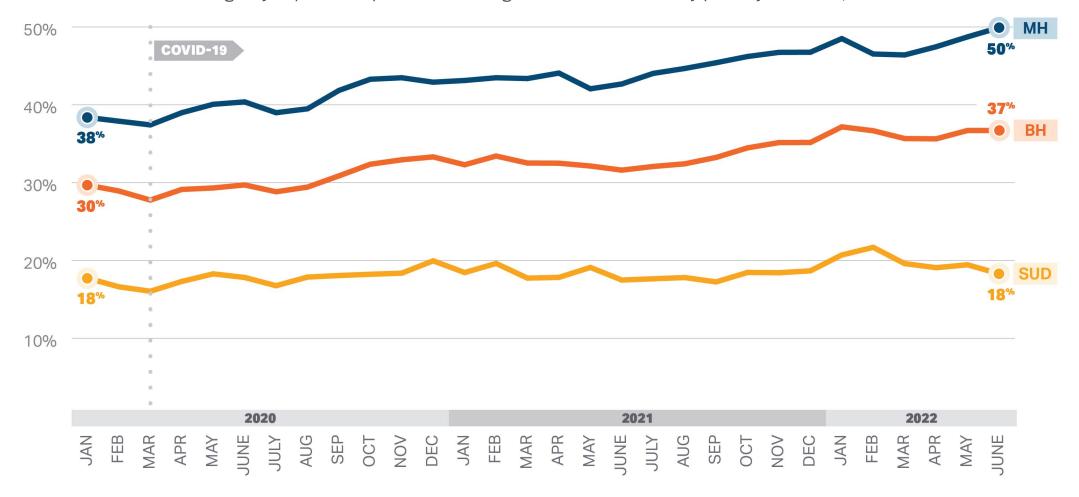
Notes: Behavioral health (BH) visits were defined using AHRQ CCSR MBD001-MBD034. Injury and potentially avoidable ED visits are based on the Billings algorithm, which classifies an ED visit into multiple categories. "Potentially avoidable" is defined as primary care treatable or non-emergent. All other are the total sum of ED visits minus potentially avoidable, BH, COVID-19, and injury visits. The following emergency departments were excluded for the entire study period due to missing data for one or more quarters: Lowell General Hospital (Main Campus and Saints Campus), Tufts New England Medical Center, and Sturdy Memorial Hospital. In calendar year 2019, these emergency departments accounted for 6% of all emergency department visits.

Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Emergency Department Discharge Database, January 2019 to September 2021, preliminary data October 2021 through June 2022

Behavioral health emergency department boarding has continued to increase since 2020, driven by boarding for patients with mental health conditions.



Percent of behavioral health emergency department patients boarding for at least 12 hours by primary condition, 2020-2022

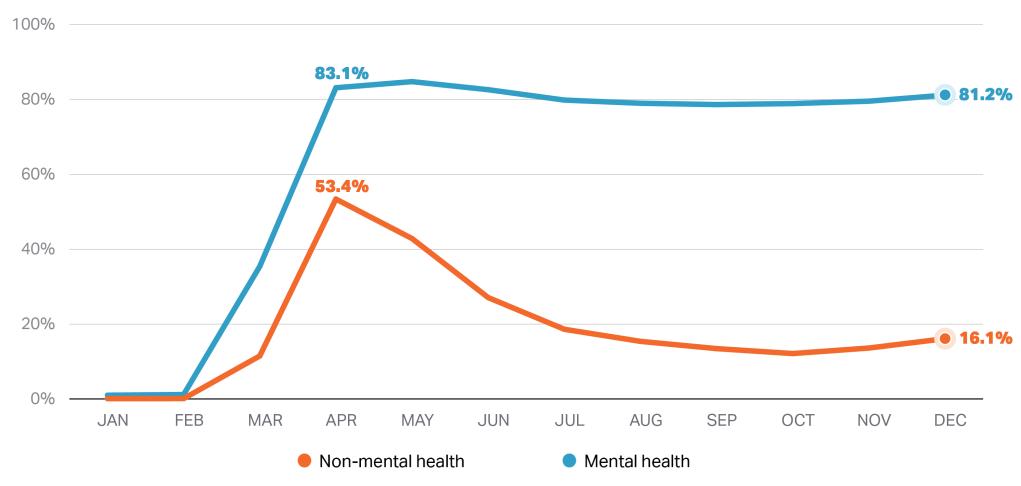


Notes: MH = Mental Health. BH = Behavioral Health. SUD = Substance Use Disorder. The HPC defines ED boarding as greater than or equal to 12 hours in the hospital ED. ED visits where patients were admitted to the same hospital were excluded. Behavioral health visits were identified using AHRQ's CCSR for the primary diagnosis (BH: MBD001-MBD034, Mental Health: MBD001-MBD034, Substance Use: MBD17-MBD34). The following EDs were excluded due to missing data or missing/irregular hours spent in the ED: Lowell General Hospital (Main and Saints campus), Tufts New England Medical Center, Sturdy Memorial, Metrowest (Framingham and Leonard Morse campuses) and Saint Vincent Hospital. Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Emergency Department Discharge Database, January 2020 to September 2021, preliminary data October 2021 to June 2022

High rates of telehealth use persisted through 2020.



Percent of ambulatory visits that were delivered via telehealth by month and type of condition, 2020



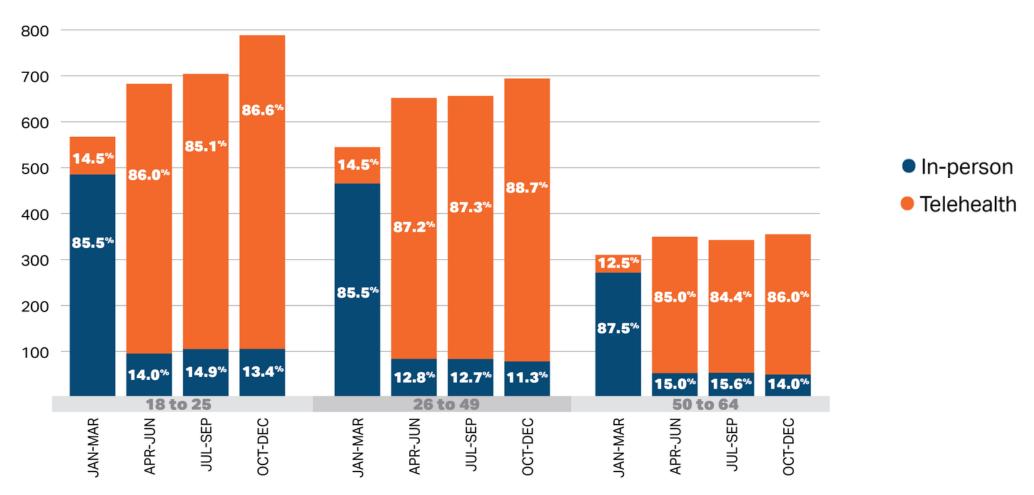
Notes: Claim lines on the same day at the same patient were combined into one visit. Telehealth claims identified through place of service code 02, procedure modifiers and a set of telehealth specific procedure codes. Health conditions were categorized based on Clinical Classification System (CCS).

Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) All-Payer Claims Database, 2020, V 10.0.

Unlike most types of care, mental health visits increased in 2020, especially for young adults, with the vast majority delivered via telehealth.



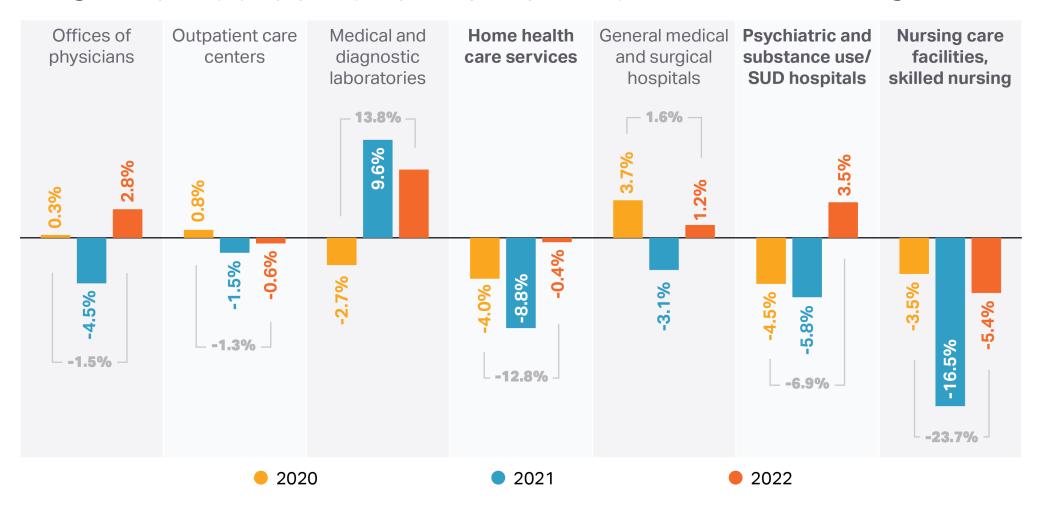
Total psychotherapy visits per 1,000 members by age group and quarter, 2020



Total workforce size (including contract labor) remains far below pre-pandemic levels in home health, nursing facility, and psychiatric hospital settings.



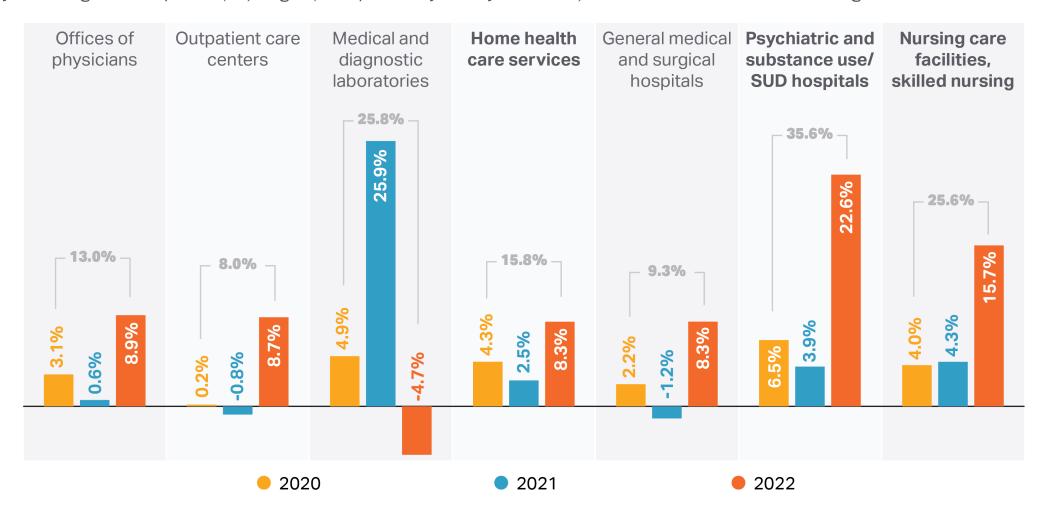
Year to year change in first quarter (CY) employment (from previous year to year shown) with 2019-2022 cumulative change in brackets



Average wages have also risen markedly in these three sectors. Average wages in psych/SUD hospitals grew 36% between Q1 2019 and Q1 2022.



Year to year change in first quarter (CY) wages (from previous year to year shown) with 2019-2022 cumulative change in brackets



Outline



Current Health Care Landscape

Utilization and Workforce



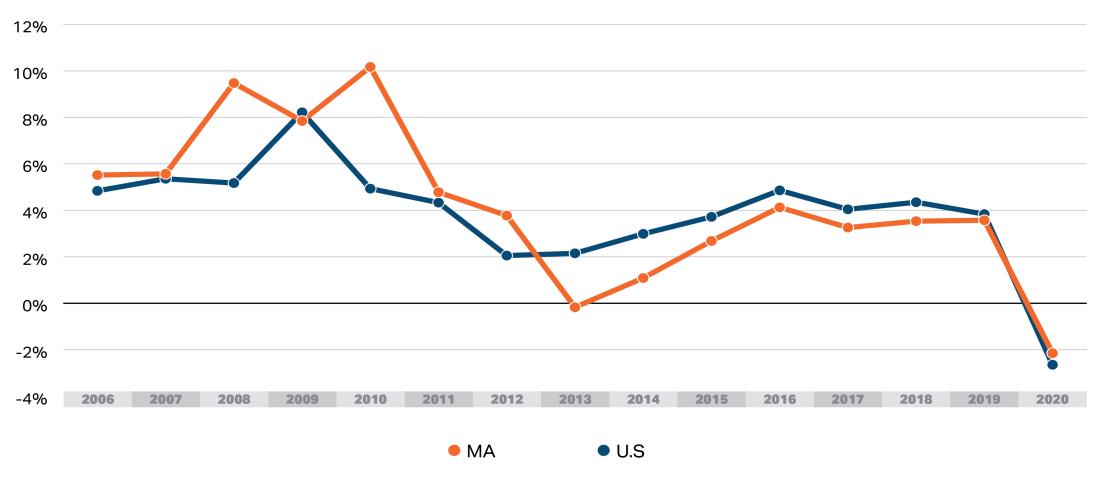
Trends Over the Past Decade

Implications for Affordability, Access, and Equity

Massachusetts' commercial spending is no longer growing more slowly than the U.S. rate.



Annual growth in per capita commercial health care spending, Massachusetts and the U.S., 2006-2020



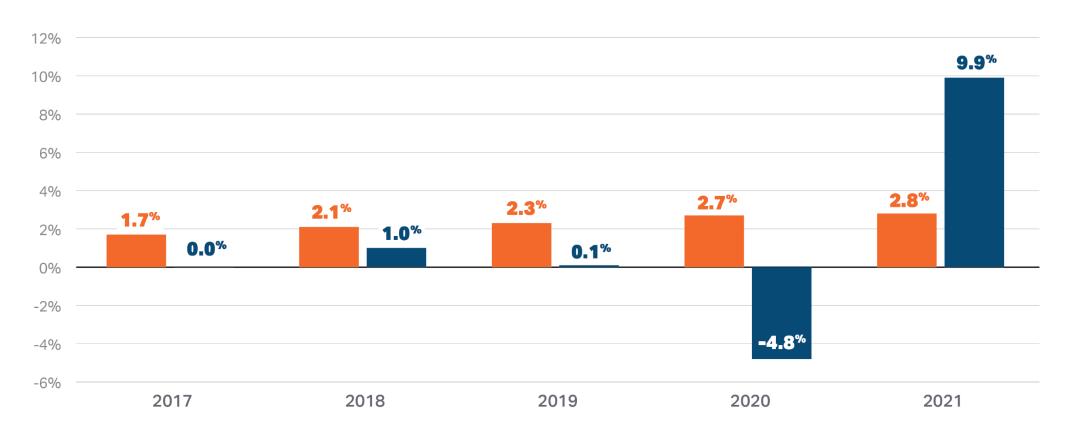
Notes: Massachusetts data include full-claims members only. Commercial spending is net of prescription drug rebates and excludes net cost of private health insurance.

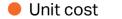
Sources: Centers for Medicare and Medicaid Services, National Healthcare Expenditure Accounts Personal Health Care Expenditures, 2014-2019 and State Healthcare Expenditure Accounts 2005-2014; Center for Health Information and Analysis, Total Health Care Expenditures, 2014-2020

One large Massachusetts health plan reported that commercial prices accelerated further in 2021, coupled with a rebound in utilization.



Payer-reported percent change in commercial unit costs (prices) and utilization for a large Massachusetts insurer from previous year to the year shown

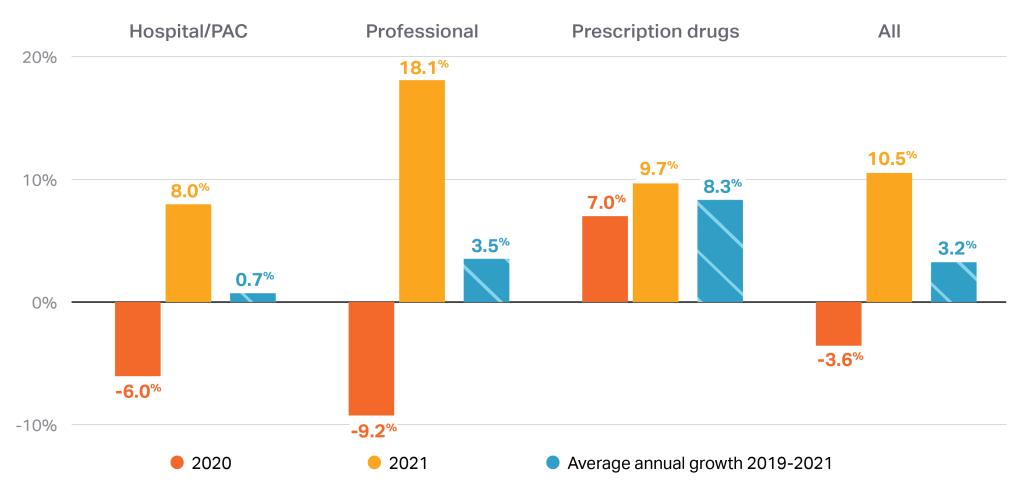




Medicare spending increased 10.5% in 2021 driven by prescription drug spending and a rebound in professional spending. Average annual spending growth was 3.2% from 2019 to 2021.



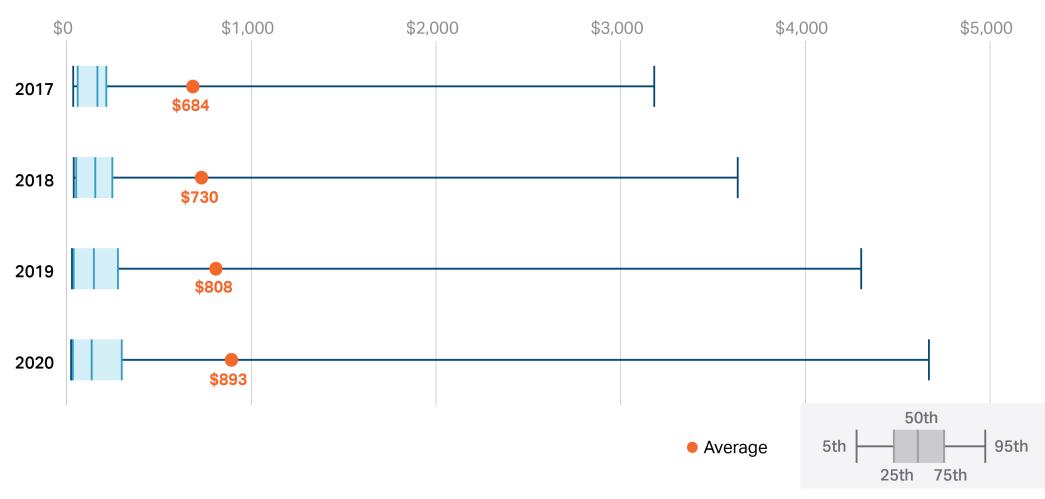
Spending growth from previous year per Massachusetts Medicare FFS enrollee



Average gross commercial spending per branded prescription increased 11% in 2020, faster than in prior years.



Gross spending distribution per branded prescription, 2017-2020



Average out of pocket spending for a 30-day supply of prescription drugs for common chronic conditions grew approximately 50% from 2017 to 2020.



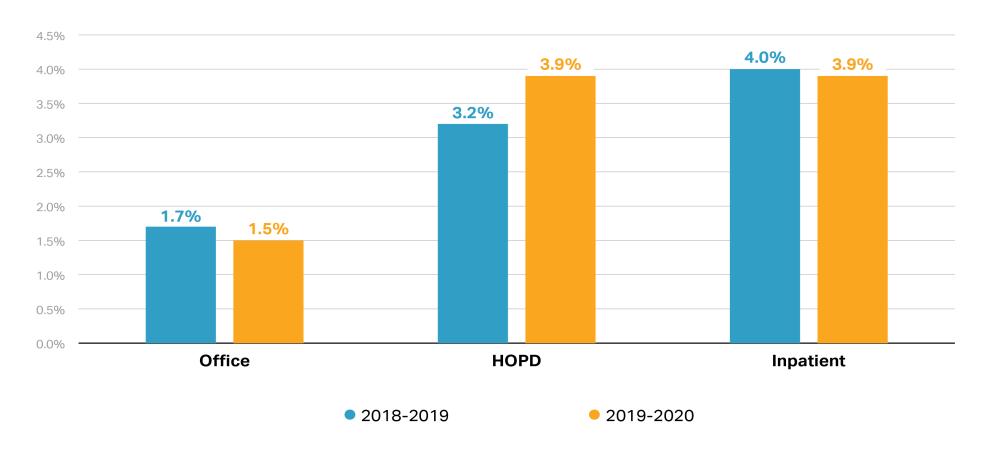
Average cost sharing per prescription (30-day supply) for selected classes of drugs, 2017-2020



Commercial spending per encounter (prices) increased nearly 4% in both hospital inpatient and outpatient settings in 2020.



Increase in spending per encounter by setting, 2018-2019 and 2019-2020

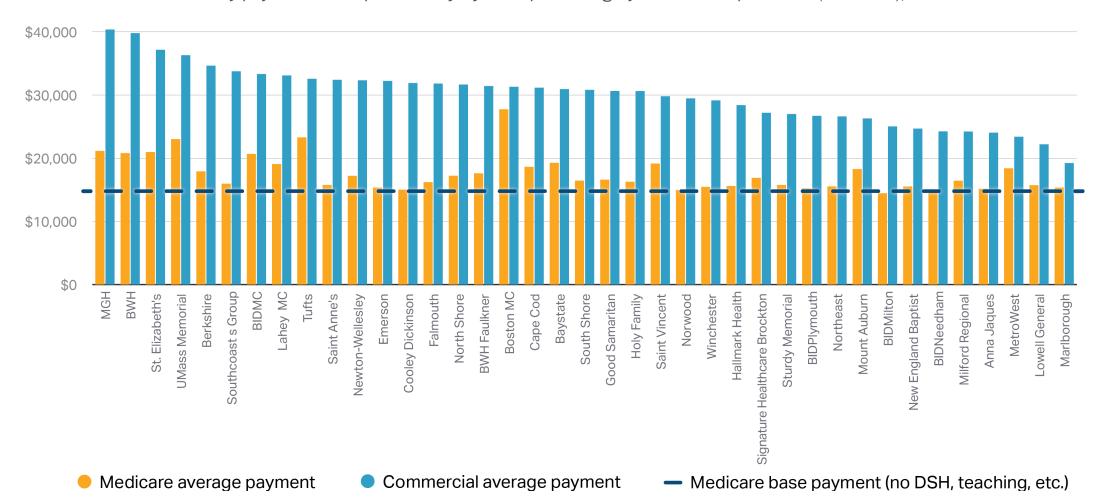


Notes: Price growth includes both facility and professional spending. Price growth is computed at the level of a procedure code encounter. Procedure code encounters are defined as the same person, same date of service, same procedure code to capture the potential for both facility and professional claims billed on the same day for the same service based on the setting. Payment growth for inpatient stays include all services provided during the hospital stay. Only procedure codes that were billed in both 2018 and 2020 were included. Procedures codes with < 20 services or < \$1,000 in aggregate spending in 2018 and 2020 were excluded. Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) All-Payer Claims Database, 2018-2020, V 10.0

Commercial payments to hospitals for joint replacement surgeries vary 2:1 across hospitals and are often twice what Medicare would pay.



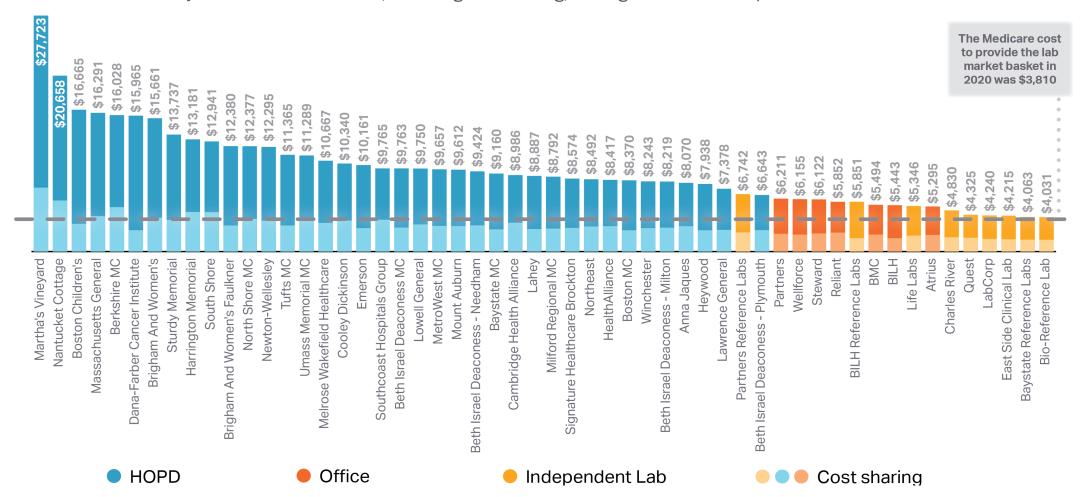
Commercial and Medicare facility payments for inpatient major joint replace surgery without complications (DRG 470), 2019



The prices of the same common laboratory tests varied more than 5:1, with the highest prices in hospital outpatient departments. Higher prices translated to higher consumer cost-sharing.



Total cost of a fixed laboratory services market basket, including cost-sharing, among Massachusetts providers in 2020



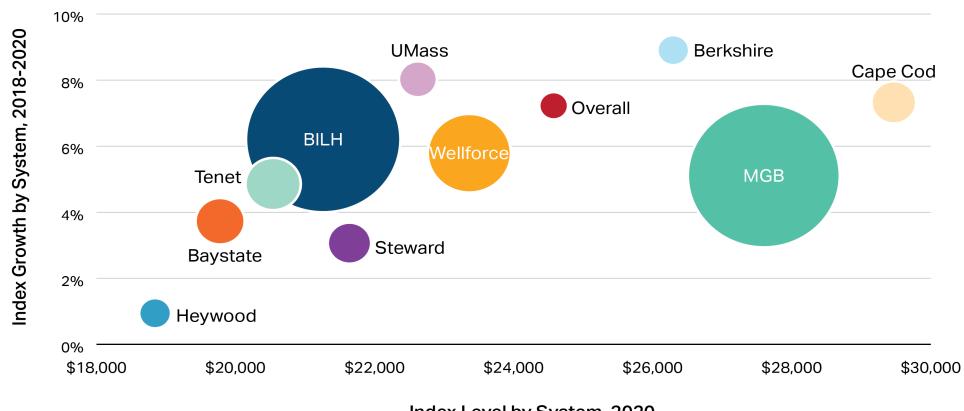
Notes: The index represents the cost of the same 50 labs in each hospital or provider shown, weighted by total statewide spending on each lab in 2018 and using the average price of each lab for each provider in 2020. Providers with fewer than 20 service encounters for any individual procedure code have imputed values (statewide mean price) for that procedure code and are not included if more than 20 procedure codes would need to be imputed.

Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) All-Payer Claims Database, 2018-2020, V 10.0; HPC analysis of information from the Centers for Medicare and Medicaid Services, Clinical Laboratory Fee Schedule (2020)

Hospital systems with higher outpatient prices in 2018 also tended to have higher price growth from 2018-2020.



Total price of a 50-item HOPD market basket in 2020 and price growth from 2018-2020 by hospital system



Index Level by System, 2020

Summary of Current Health Care Landscape



- Hospital inpatient and emergency department stays remain below pre-pandemic levels, particularly scheduled inpatient admissions and avoidable ED visits.
 - However, staffing shortages in discharge settings, among other factors, are likely contributing to longer stays in the hospital and the ED.
- The routine use of telehealth expanded significantly during the pandemic, particularly for mental health visits.
- Continued price increases and rebounds in utilization have led to a likely double-digit increase in health care spending in 2021.
- Commercial prices for common services such as lab tests vary more than two-fold across hospitals, are higher than when provided in office settings, and are typically more than double what Medicare would pay. These high prices result in higher patient out of pocket spending and higher premiums.

Outline



Current Health Care Landscape

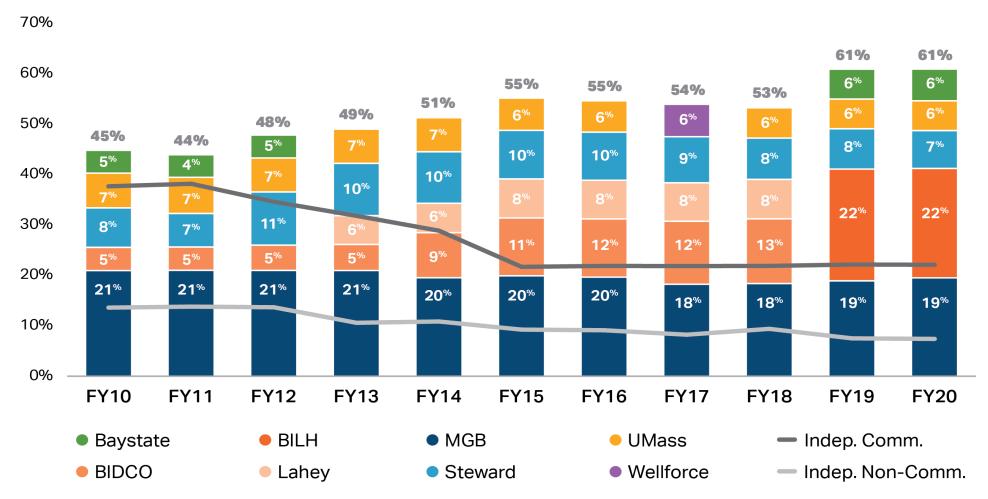
TRENDS OVER THE PAST DECADE

Implications for Affordability, Access, and Equity

The proportion of hospital care provided within the largest five systems has increased from 45% to 61%, driven primarily by consolidation.



Share of inpatient and outpatient hospital care provided in the five largest hospital systems and independent hospitals, FY2010-FY2020



Notes: Partners HealthCare changed its name to Mass General Brigham (MGB) in 2019. Inpatient care is measured in hospital discharges for general acute care services. Hospital outpatient care is measured in outpatient discharge equivalents with the quantity of outpatient services expressed in inpatient stay equivalents. See technical appendix to the HPC 2022 Annual Cost Trends Report for details.

Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Cost Reports, FY2010-2020

Market Consolidation Trends





SHIFT TOWARD HIGHER-COST SITES OF CARE

The proportion of Massachusetts hospital outpatient visits occurring at high-priced hospitals **increased** from 2016 to 2020 (27.6% to 30.2%).¹



SHIFT IN MATERNITY CARE AWAY FROM COMMUNITY HOSPITALS

The percentage of **births taking place in community hospitals declined** from 2010 to 2020 (54% to 50%) while the percentage taking place in AMCs increased (34% to 37%).²



MORE PHYSICIANS EMPLOYED BY HOSPITALS

The percentage of physicians employed by hospitals in the Northeast region of the U.S. grew from 22% to 49% from 2012 to 2021.³



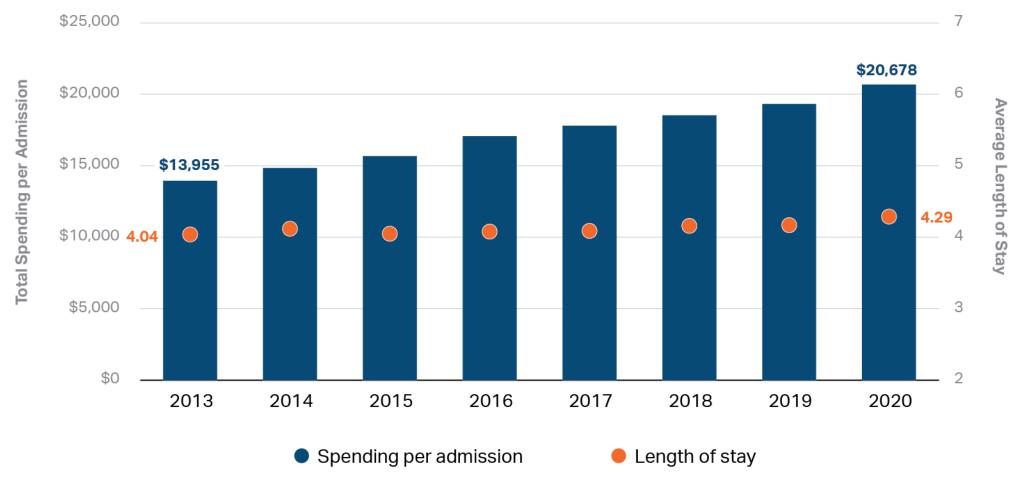
HOSPITAL SERVICE CLOSURES

Hospitals were more likely to close services if they had low commercial prices, high public payer mix, and were located in less urban areas. Most closures involved either pediatric or maternity services.⁴

Total commercial spending per hospital discharge increased 48% from 2013 to 2020.



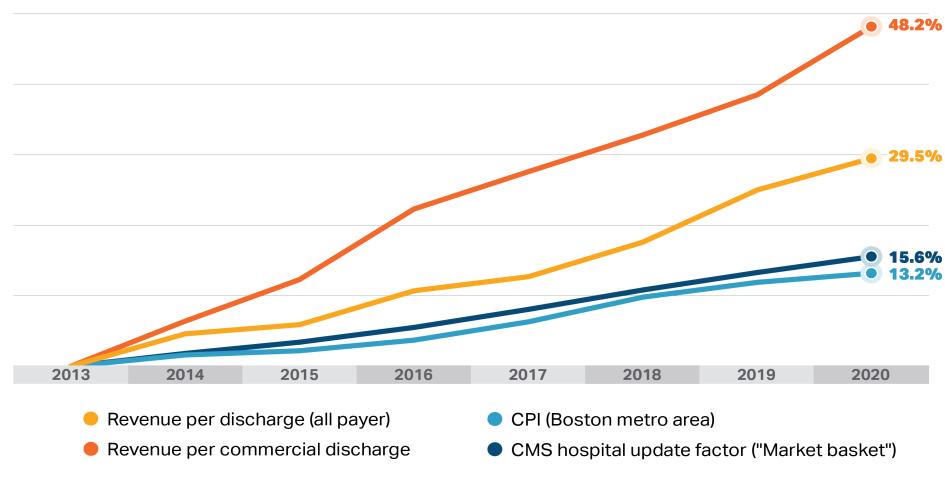
Total inpatient spending per commercial discharge and average length of stay for commercial hospital stays, 2013-2020



The growth in hospital revenue per discharge exceeded measures of inflation from 2013 to 2020.



Growth in aggregate acute hospital revenue per discharge (commercial and all-payer) and in two measures of price inflation, 2013-2020



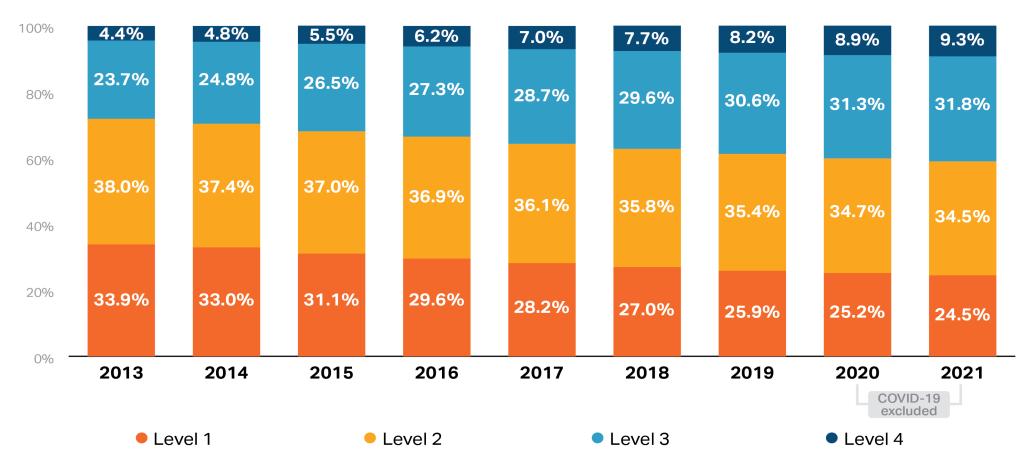
Notes: Estimate of revenue per commercial discharge described in HPC Annual Cost Trends Report, 2022 (Technical Appendix) and on previous slide.

Sources: Revenue per discharge: Total Medical Expenditures, Hospital Discharge Data and Acute hospital profiles from Center for Health Information and Analysis. CMS hospital update factor: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/MarketBasketData. CPI-U Boston/Cambridge/Newton from the BLS.

Coded severity of inpatient stays increased steadily from 2013 to 2021, resulting in higher spending.



Proportional Composition of Inpatient Discharges by Patient Severity of Illness without COVID-19 Cases, 2013-2021



Notes: Data from the Massachusetts Hospital Inpatient Discharge Database (HIDD) from 2013-2021. Severity groups were defined using MassHealth (Medicaid) all-payer refined diagnosis related groups (APR-DRG) and patient severity of illness (SOI) on a four-level severity scale, with 4 being the highest acuity. The data comprised of all medical inpatient stays at acute care hospitals for Massachusetts residents, excluding behavioral health stays and extremely long length of stay because these cases are usually not paid based on DRGs. Other exclusions include transfers, patients that died, patients who went to Shriners Hospital for Children (Springfield and Boston), and discharges with some APR coding restrictions based on discrepancies with CMS major diagnostic categories. COVID-19 cases were defined as any inpatient stay with U071 for the primary or secondary diagnosis code. Years shown are fiscal years (Oct 1 – Sept 30).

Source: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospitals Inpatient Discharge Database, FY2013-2019, preliminary FY2021

Prescription Drug Trends





GROWING SPENDING ON PRESCRIPTION DRUGS

Retail prescription drug spending net of rebates grew from **14.5% to 18.6%** of per-capita commercial health care spending in Massachusetts between 2013 and 2020. Growth in retail prescription drug spending has remained above the benchmark in most years.



SPENDING DRIVEN BY A SMALL NUMBER OF HIGH-COST PRODUCTS

Between 2016 and 2021, the number of specialty prescriptions filled in the U.S. increased 0.5% but gross spending on these medications in retail and non-retail settings increased 42.5% and accounted for 50% of total drug spending in 2021.²



LAUNCH PRICES CONTINUE TO RISE

The median prescription drug launch price grew from \$2,000 to \$180,000 between 2008 and 2021.3



PRICE INCREASES ALSO DRIVE SPENDING GROWTH

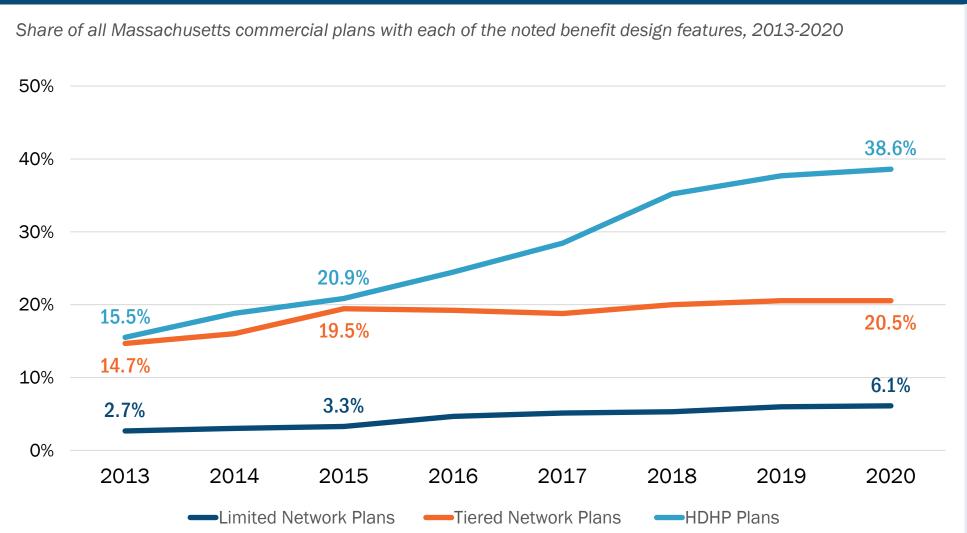
CBO found that net prices for branded drugs increased by an average of **6.3% per year** from 2010 to 2017 in the Medicare Part D program, after removing the effects of general inflation.⁴

Sources: 1. HPC analysis of Center for Health Information and Analysis Total Medical Expenditure (TME) Data, which include commercial full claims only.

- 2. The Assistant Secretary for Planning and Evaluation. Sep 2022. "Trends in Prescription Drug Spending, 2016-2021."
- 3. Rome, Benjamin N., Alexander C. Egilman, and Aaron S. Kesselheim. "Trends in Prescription Drug Launch Prices, 2008-2021." JAMA 327.21 (2022): 2145-2147.
- 4. Congressional Budget Office. Jan 19, 2022. "Prescription Drugs: Spending, Use, and Prices."

High-deductible plans have become far more common while tiered and limited networks have remained a small share of all health plans.





68% of small group plans in 2020 were high-deductible plans.

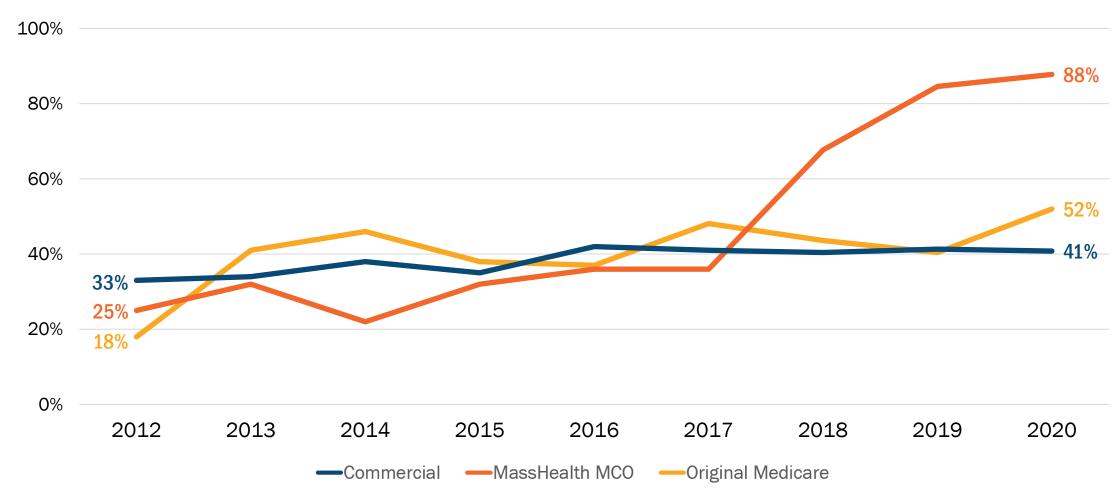
Notes: High deductible plans are defined federally as a plan having a single/family deductible of \$1,250/\$2,500 in 2013-2014; \$1,300/\$2,600 in 2015-7; \$1,350/\$2,700 in 2018-9 and \$1,400/\$2,800 for 2020. GIC plans all include tiered networks and do not allow high deductible plans. Excluding the GIC the 2020 percentages would be 41.5%, 14.7% and 5.8% for HDHP, Tiered, and Limited, respectively.

Source: Center for Health Information and Analysis Annual Reports, 2013-2022. Data include the Group Insurance Commission.

Adoption of alternative payment models has plateaued in the commercial market.



APM adoption in Massachusetts in the commercial, MassHealth managed care, and Original Medicare markets, 2012-2020



Summary of Trends Over the Past Decade



- Health care providers have increasingly consolidated, including hospitals into larger systems and physician groups into hospitals and health systems.
- Commercial payments per hospital stay have increased steadily, reflecting higher prices for the same care and higher coded acuity.
- The growth in hospital revenue per discharge exceeded measures of inflation from 2013 to 2020.
- Prescription drug spending has increased, driven by high-cost specialty drugs and price increases.
- The percentage of health plans that have high deductibles has dramatically increased while tiered and limited network plans remain a small share of plans.
- The percentage of health plans using alternatives to fee-for-service reimbursement has plateaued at 40% in the commercial market but these payment arrangements now cover most who receive care through MassHealth.

Outline



Current Health Care Landscape

Trends Over the Past Decade



Family health insurance premiums in Massachusetts have increased 202% since 2000 while the price of a new compact car increased 9%.



Average Massachusetts family health insurance premium (employer and employee contribution combined) and national cost of a new compact car, 2000-2021



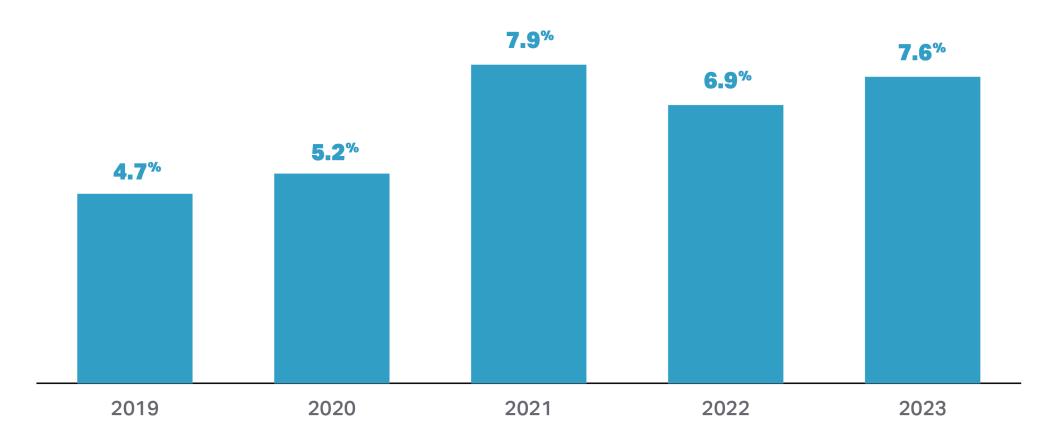
Notes. Data are in nominal dollars of the year shown.

Sources: Family Health Insurance premiums are for Massachusetts from the Agency for Health Care Quality – Medical Expenditure Panel Survey, Insurance Component. Car cost information is based on car-specific inflation from the BLS and the compact car price index from Kelly Blue Book. https://www.prnewswire.com/news-releases/average-new-car-prices-up-nearly-4-percent-year-over-year-for-may-2019-according-to-kelley-blue-book-300860710.html

Premiums in the Massachusetts merged market grew in 2020, despite lower overall spending, and are continuing to grow faster in recent years.



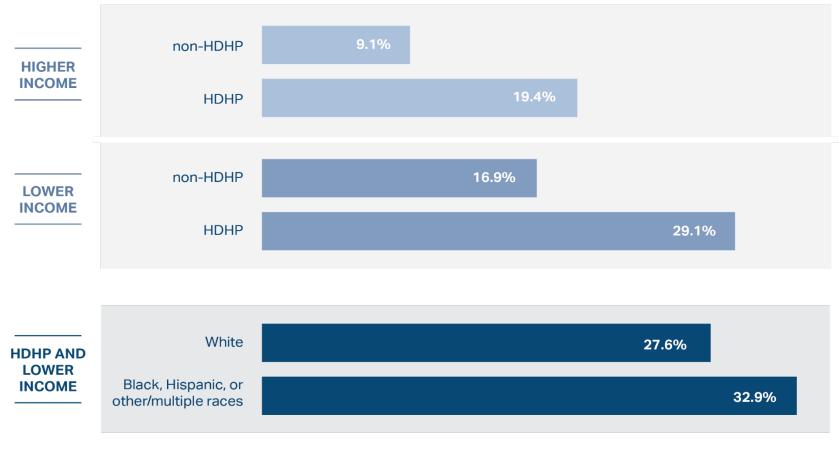
Approved final average rate increases among plans in the Massachusetts merged market for the rate year shown



Employers and employees turn to HDHPs to avoid premium increases, which result in many residents going without needed care. People of color are disproportionately impacted.



Percent of privately-insured Massachusetts residents who said they went without needed doctor care, specialist care, mental health care or prescription drugs, 2019



Notes: Low-income is defined as family income below 400% of the US Federal Poverty Level. People of color include those who identify as Black, Hispanic, or other/multiple races. The question asked, "Because of cost, did you go without needed ___ care" where the categories for types of care included those noted above as well as vision care, dental care, medical equipment, or care from an NP, PA or CNM. Population includes commercially-insured adults ages 18-64 with continuous coverage for the 12 months of 2019.

15 percent of commercially-insured residents living in the lowest income zip codes went without medical care entirely.



Commercially-insured adult residents with zero medical spending by community income decile, 2018 - 2020



In a 2021 survey, more than half of Massachusetts adults experienced a health care affordability burden in the past year.



Percent of Massachusetts adults who reported the following outcomes based on survey of 1,158 Massachusetts adults, May 2021

46% of Massachusetts adults delayed or skipped care due to cost, including:



Skipped needed dental care (27%)



Delayed going to the doctor or having a procedure done (25%)



Cut pills in half, skipped doses of medicine, or did not fill a prescription (22%)

Almost 10% of adults reported that due to the cost of medical bills, they:



Were unable to pay for basic necessities like food, heat, or housing



Used up all or most of their savings



Were contacted by a collection agency

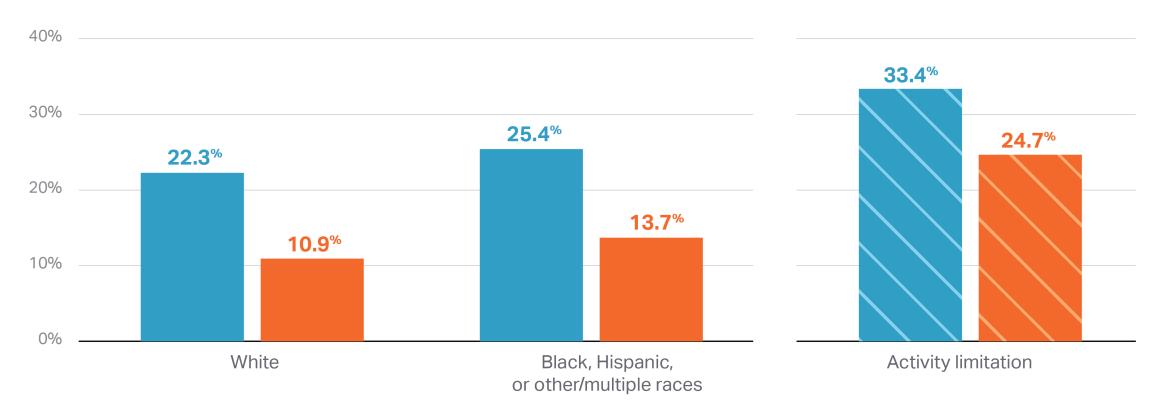


3 in 4 Massachusetts residents are worried about affording health care in the future.

People with lower incomes, people of color, and people with activity limitations were more likely to report forgoing medical care due to cost.



Share of population going without medical care due to cost by indicated characteristic and income, 2021



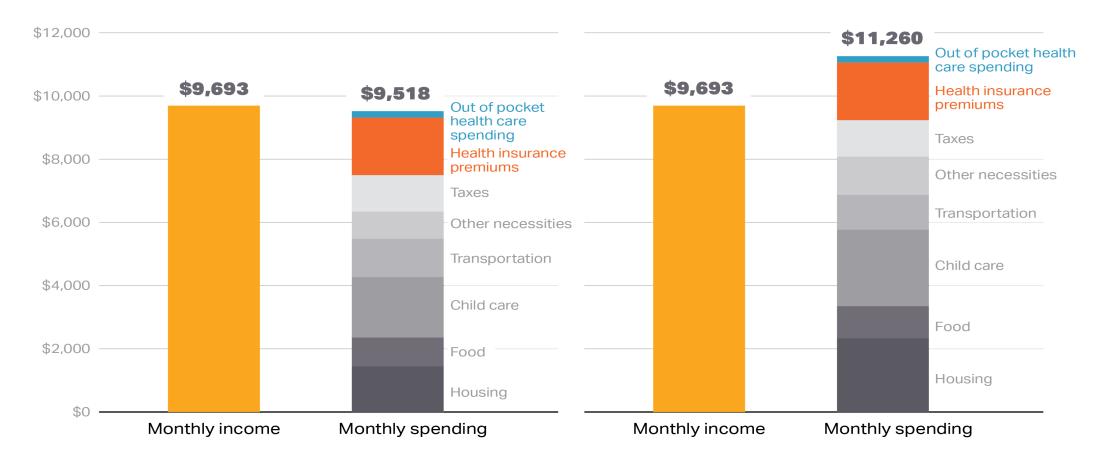
ESI: Income below 400% FPL

ESI: Income above 400% FPL

The cost of health care (including premiums and out of pocket costs), combined with the average cost of other household necessities, exceeds the income of middle-class families in the Boston metro area.



Average income and typical spending for a middle-class family of 4 with income between 3 and 5 times the FPL, 2020



WORCESTER METRO AREA

BOSTON METRO AREA

Summary of Implications for Affordability, Access, and Equity



- Total family health insurance premiums, not counting out of pocket spending, averaged \$22,163 in Massachusetts in 2021.
- Average rate increases for plans in the individual and small group market averaged more than 7 percent from 2021 to 2023.
- People with lower incomes, people of color, those covered by high deductible plans, and people with activity limitations were more likely to report forgoing medical care due to cost.
- Avoiding care due to cost and other affordability issues are associated with using the emergency department for non-emergencies.
- Including the high cost of health care, middle class families in the Boston Metro area would be unable to meet basic expenses with their income.