MASSACHUSETTS
HEALTH POLICY COMMISSION

2025

ANNUAL HEALTH CARE COST TRENDS REPORT AND POLICY RECOMMENDATIONS

CHARTPACK

DECEMBER 2025

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INTRODUCTION

COMMERCIAL PRICE TRENDS

While prices paid to health care providers by public payers (e.g., Medicare, Medicaid) are set by government bodies, prices paid to providers by commercial insurers are negotiated. Commercial prices are typically significantly higher than Medicare and Medicaid prices - often by a factor of two or more - and are also often twice as high or more than the estimated costs of providing such care for an efficient provider.[1]

Commercial prices also vary considerably between providers, with some providers being paid two or three times the price paid to other providers for the same sets of services.[2] Researchers have found little, if any, relationship between the level of commercial prices and quality of care; rather, prices are more related to the relative bargaining leverage of the provider and payer.[3] High commercial prices not only increase insurance premiums paid by employers, employees, and taxpayers, but also often result in higher out-of-pocket spending for patients through cost sharing.

This Chartpack focuses on commercial price trends in Massachusetts through 2023 for roughly 1.5 million commercially-insured members with medical claims in the Massachusetts All-Payer Claims Database (APCD) covered by major health plans in the state: Blue Cross Blue Shield of Massachusetts (BCBSMA), Tufts Health Plan (THP), Harvard Pilgrim Health Care (HPHC), Health New England (HNE), MGB Health Plan (MGBHP), Elevance Health (previously Anthem), and UnitedHealthcare. Unless otherwise specified, analyses of prices for inpatient stays exclude maternity stays which account for a large portion of commercial hospital stays but are distributed unevenly across hospitals and are challenging to express relative to Medicare prices. See technical appendix for more details.

Terminology note: For purposes of this analysis, the HPC uses "price" to refer to the total amount of money due to be received by a provider (from the insurer and any patient cost sharing) for a specific service in an office, hospital outpatient department (HOPD), emergency department (ED), or independent laboratory, or a specific diagnosis-related group (DRG) for an inpatient stay, including both facility and professional components. The HPC uses "payment" to refer more broadly to money received for a more heterogenous set of services, e.g. where amounts can be impacted by differences in recorded acuity, such as all hospital stays. All amounts included in this Chartpack represent estimates based on observed payments to providers across payers within the MA APCD and do not necessarily represent negotiated prices in contract between a specific payer and provider.

1 Kaiser Family Foundation, Lopez, Eric, Tricia Neuman, Gretchen Jacobson, and Larry Levitt. "How much more than Medicare do private insurers pay? A review of the literature." (2020).

2 Chernew ME, Hicks AL, Shah SA. Wide State-Level Variation In Commercial Health Care Prices Suggests Uneven Impact Of Price Regulation: An examination of state-level price variation in the commercial market, relative to Medicare, for a broader set of states and a wider set of services than had been previously examined. Health Aff (Millwood). 2020 May 1;39(5):791–9.

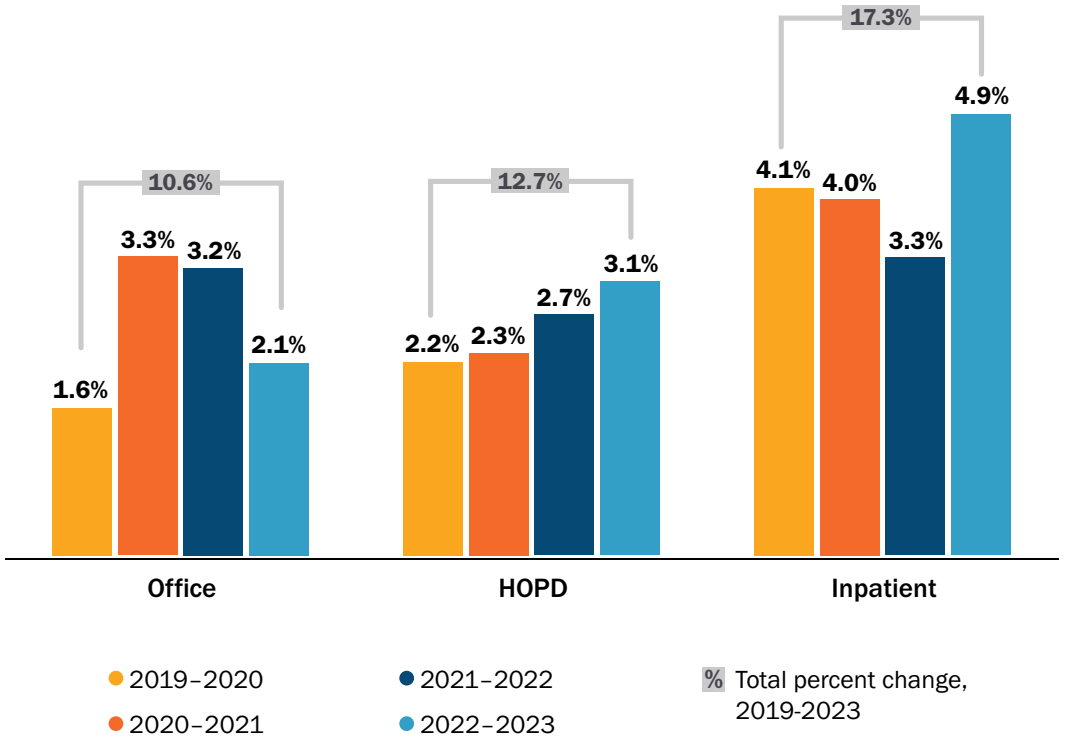
3 Roberts ET, Mehrotra A, McWilliams JM. High-Price And Low-Price Physician Practices Do Not Differ Significantly On Care Quality Or Efficiency. Health Aff (Millwood). 2017 May;36(5):855–64.

KEY FINDINGS

COMMERCIAL PRICE TRENDS

- Prices for hospital inpatient (4.9%) and hospital outpatient (3.1%) services grew faster in 2023 than in any of the previous four years. The average payment for a hospital inpatient stay was 30% higher in 2023 than it was in 2019.
- The average commercial price for a typical inpatient admission ranged two-fold from $13,900 (Baystate Wing) to $28,300 (Brigham and Women's hospital) while Medicare and MassHealth generally paid between $12,000 and $13,000 for most hospitals.
- Prices for hospital outpatient services often varied more than prices for inpatient services despite more standardized services, ranging from $13,000 (Baystate) to $31,000 (Brigham and Women's) for a knee replacement, $10,800 (Harrington) to $22,400 (Dana Farber) for a dose of Keytruda and from $6,000 (Holyoke Medical Center) to $30,000 (Children's Hospital, Dana Farber and Martha's Vineyard) for a common basket of laboratory services.
- Hospitals varied in the extent to which prices increased from 2019 to 2023. Prices for emergency department visits grew the fastest at UMass Memorial (12% annual growth from 2019 to 2023), for all hospital outpatient services (6% annually at Dana Farber) and for hospital inpatient services (6% annually at SouthCoast).
- Prices for a market basket of common hospital outpatient services also varied by payer, from $29,000 for Blue Cross Blue Shield of Massachusetts to $48,000 for United Healthcare.
- Hospitals were typically paid much more than physician offices or other sites for the same services; the average amount paid for a colonoscopy with removal of lesions was $2,530 when the procedure occurred in a hospital outpatient department versus $960 when provided in a physician office and $880 when provided in an ambulatory surgery center. Payers varied in the extent by which they paid more for the same services when taking place in a hospital: from 150% more (United) to 80% more (Elevance).

ANNUAL PERCENTAGE INCREASE IN AGGREGATE COMMERCIAL PRICES BY SETTING, 2019–2023



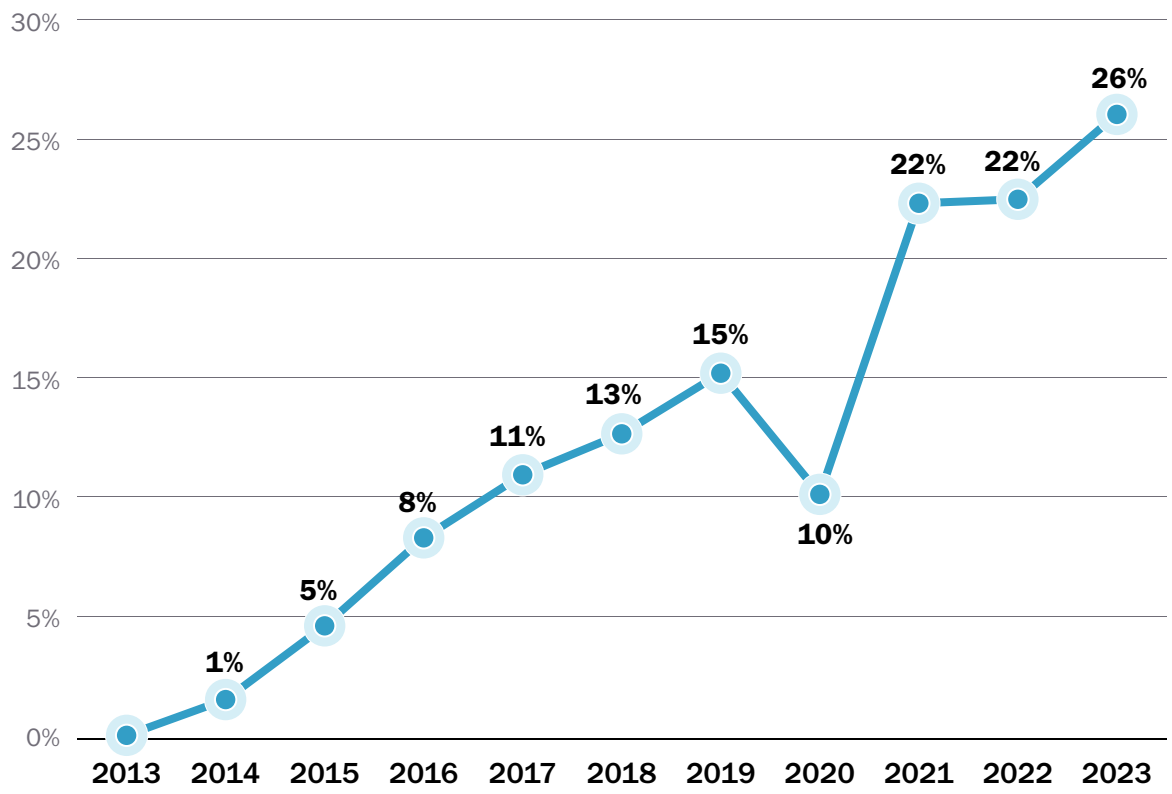
NOTES: HOPD = hospital outpatient department. Price growth includes both facility and professional spending, where applicable. For all sites, price growth in a given period (e.g., 2019-2020) is equal to the sum of spending for all procedure codes in the more contemporary year (e.g., 2020) divided by the sum of the product of the average price in the earlier year (e.g., 2019) and total utilization in the more contemporary year for all procedure codes. Only procedure codes that were billed in both years in each period were included. Procedure codes with fewer than 20 encounters in either year during the period were excluded. For administered drugs and physical therapy services, unit prices were evaluated. Administered drug claims billed by UnitedHealthcare were excluded due to coding anomalies. Inpatient price growth excludes newborns, mental health, and substance use disorder (SUD) discharges. Inpatient price growth reflects change in payment per inpatient stay divided by APR-DRG weight (case-mix adjusted). Payment growth for inpatient stays include all services provided during the hospital stay. HOPD spending increase does not match HOPD index due to differences in methodology.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023

- Commercial prices per encounter continued to grow between 2% and 5% in all settings in 2023.
- Prices in both inpatient and outpatient hospital settings grew faster in 2023 than in any of the previous four years. Cumulatively, growth in these settings exceeded growth in office settings from 2019 to 2023. These findings are consistent with payer-reported testimony.[1]

1 Pre-filed testimony submitted to the Health Policy Commission in advance of the 2021, 2022, 2023, and 2024 Annual Cost Trends Hearing.

CUMULATIVE CHANGE IN AVERAGE MEMBER RISK SCORES FOR THREE LARGE COMMERCIAL PAYERS, 2013–2023



NOTES: Includes the member-weighted average of three payers: Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim Health Care, and Tufts Health Plan.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) 2016, 2017, 2018, 2019, 2021, 2022, 2023, 2024, and 2025 Annual Report TME Databooks .

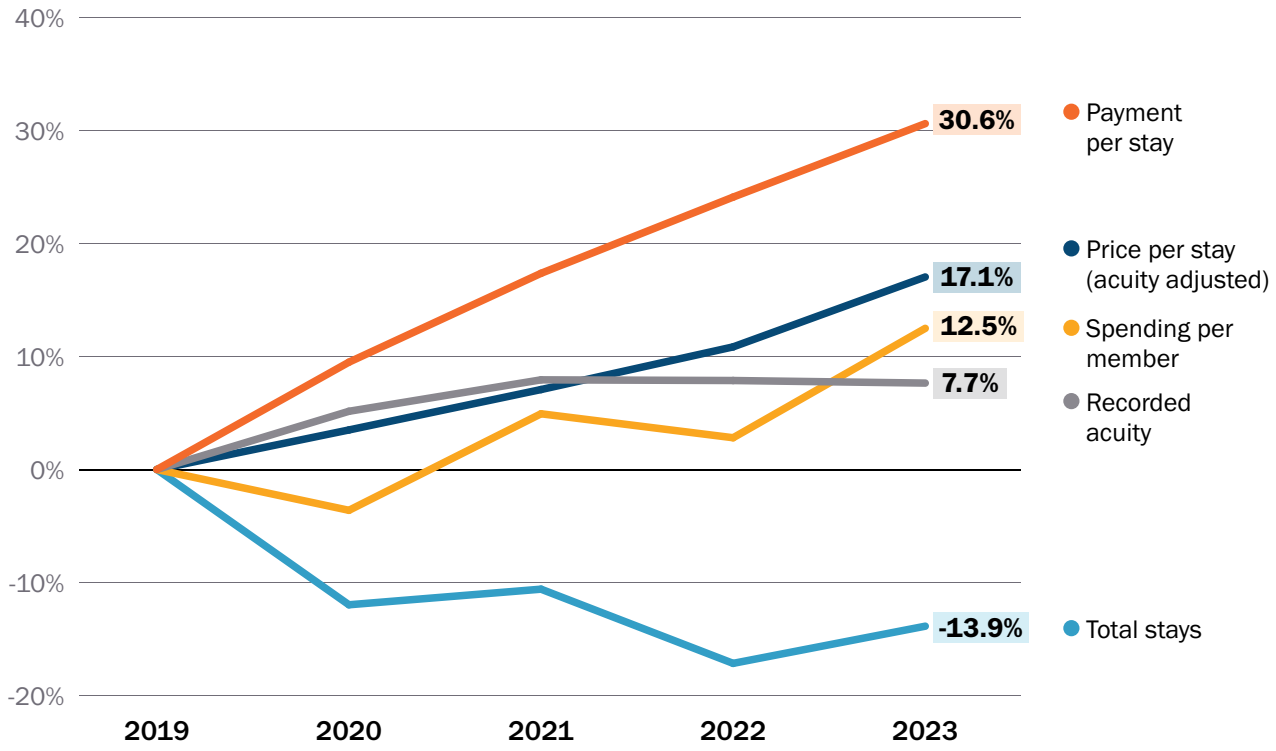
- Risk scores grew 2.9% from 2022 to 2023; in 2023, risk scores were approximately 26% higher than in 2013.
- The HPC has previously reported that growth in risk scores reflects payer and provider efforts to code diagnoses more intensively in response to financial incentives more than worsening health of the population.[1]

1 See the 2019 HPC Annual Cost Trends Report for additional information on risk scores and coding intensity.

INPATIENT PAYMENT TRENDS

COMMERCIAL PRICE TRENDS

CUMULATIVE CHANGE IN PRICES, SPENDING, ACUITY, VOLUME, AND PAYMENTS PER DISCHARGE FOR NON-MATERNITY ACUTE COMMERCIAL STAYS, 2019–2023

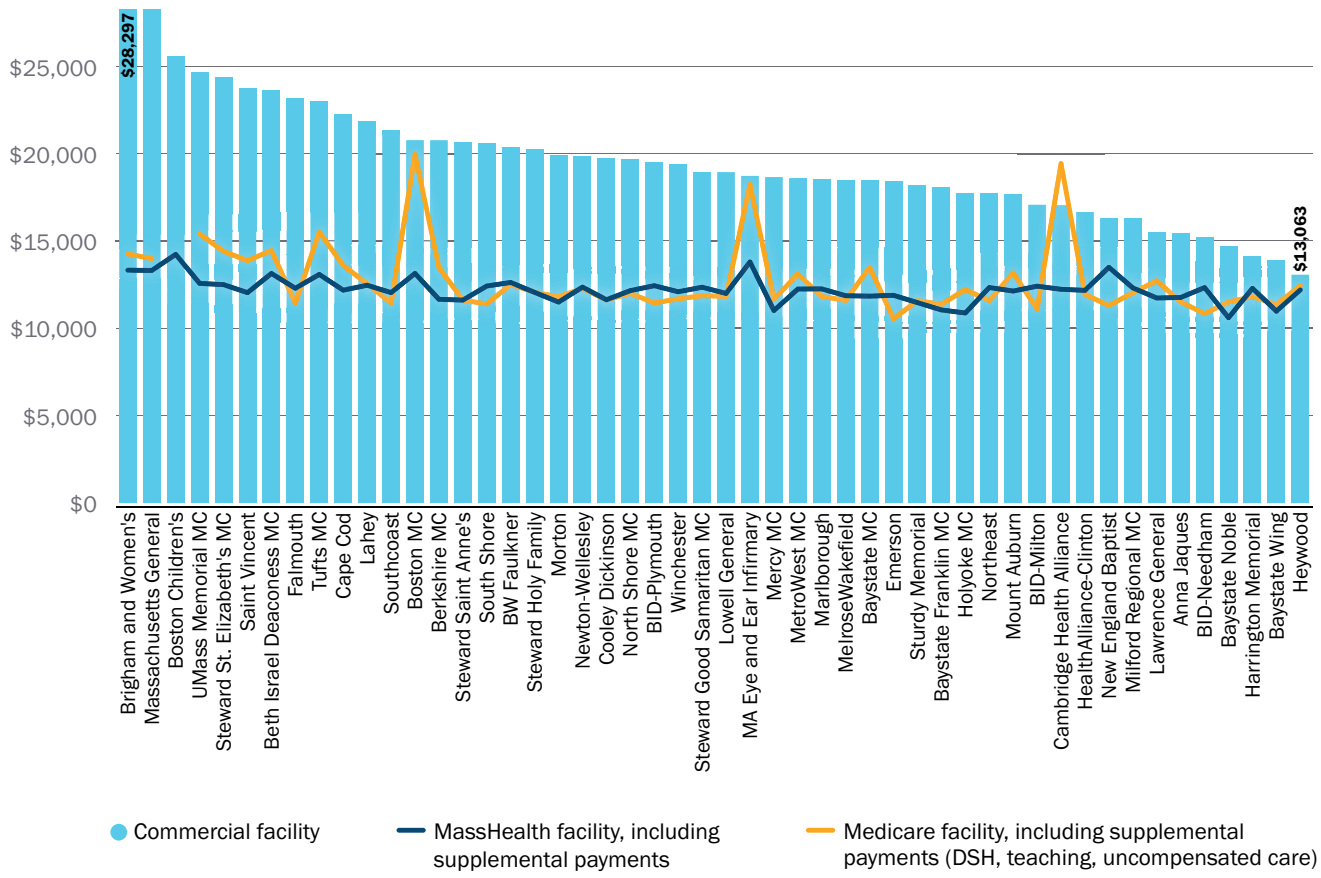


NOTES: Inpatient stays for maternity and newborns are excluded, as well as psychiatric care stays. Average payment shown includes both facility and professional claims. Stays that are outliers in length of stay and transfers are included in calculation of total spending and volume but excluded from price calculations. Acuity-adjusted payment is calculated as average of payment divided by commercial APR-DRG weight for each stay. The research findings included within this report were produced using the Solventum™ (previously 3M) APR DRG Software. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023

- Despite a 13.9% drop in the number of (non-maternity) inpatient hospital stays, total spending on hospital stays increased 12.5% from 2019-2023 due to a 30.6% increase in the average commercial payment per stay.
- The 30.6% increase in payment per stay was driven by a 17.1% increase in acuity-adjusted prices and a 7.7% increase in the recorded acuity of these stays. Acuity changes reflect both changes in patient health and coding.
- The average commercial payment per maternity stay (not shown) grew 14.6% over this period, with a small increase in recorded acuity (2.7%).
- Growth in facility prices continued to exceed professional price growth.

COMMERCIAL FACILITY PRICE FOR AN INPATIENT STAY OF MEDIAN COMPLEXITY COMPARED TO MEDICARE & MASSHEALTH FACILITY RATES BY HOSPITAL, 2023



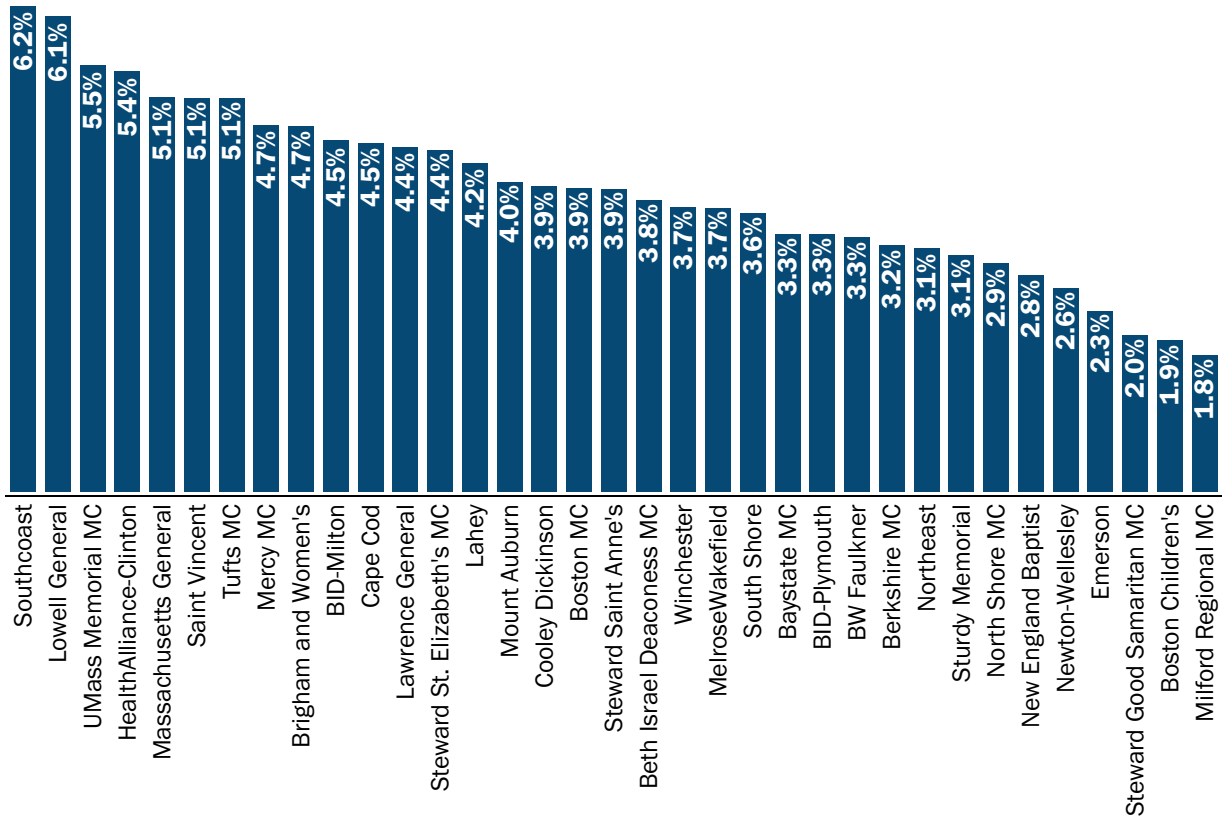
NOTES: Exhibit includes the top 50 acute care hospitals by volume of adult non-maternity and non-psychiatric patients in 2023. Stays that are outliers in payment and length of stay within their APR-DRG as well as transfers are excluded. Commercial hospital price is estimated as hospital average of facility payment per APR-DRG weight multiplied by statewide median DRG weight for commercial population (weight=0.94). MassHealth supplemental payments only include rate add-on payments per discharge and do not include other types of supplemental payments. For the detailed description of corresponding Medicare and MassHealth prices see technical appendix.

SOURCES: HPC analysis of Center for Health Information and Analysis All-Payer Claims Database, V2023, 2023; Solventum™ (previously 3M) Commercial APR DRG weights, version 38; Medicare IPPS Final rule and correcting amendment documentation 2023

- The commercial facility price per acuity-adjusted inpatient stay (non-maternity) ranged from $13,063 at Heywood Hospital to $28,297 at Brigham and Women's Hospital in 2023.
- Medicare and MassHealth rates were similar for most hospitals. MassHealth included additional per-discharge supplemental payments in 2023 amounting to roughly $1,856 per discharge.[1]
- Several hospitals receive particularly high Medicare payments due to the combination of payments for teaching programs, disproportionate share hospitals (DSH), and uncompensated care.

1 These payments do not vary by complexity of admission and increased to approximately $3,850 in 2025.

AVERAGE PER YEAR INPATIENT FACILITY PRICE GROWTH (NON-MATERNITY), 2019–2023

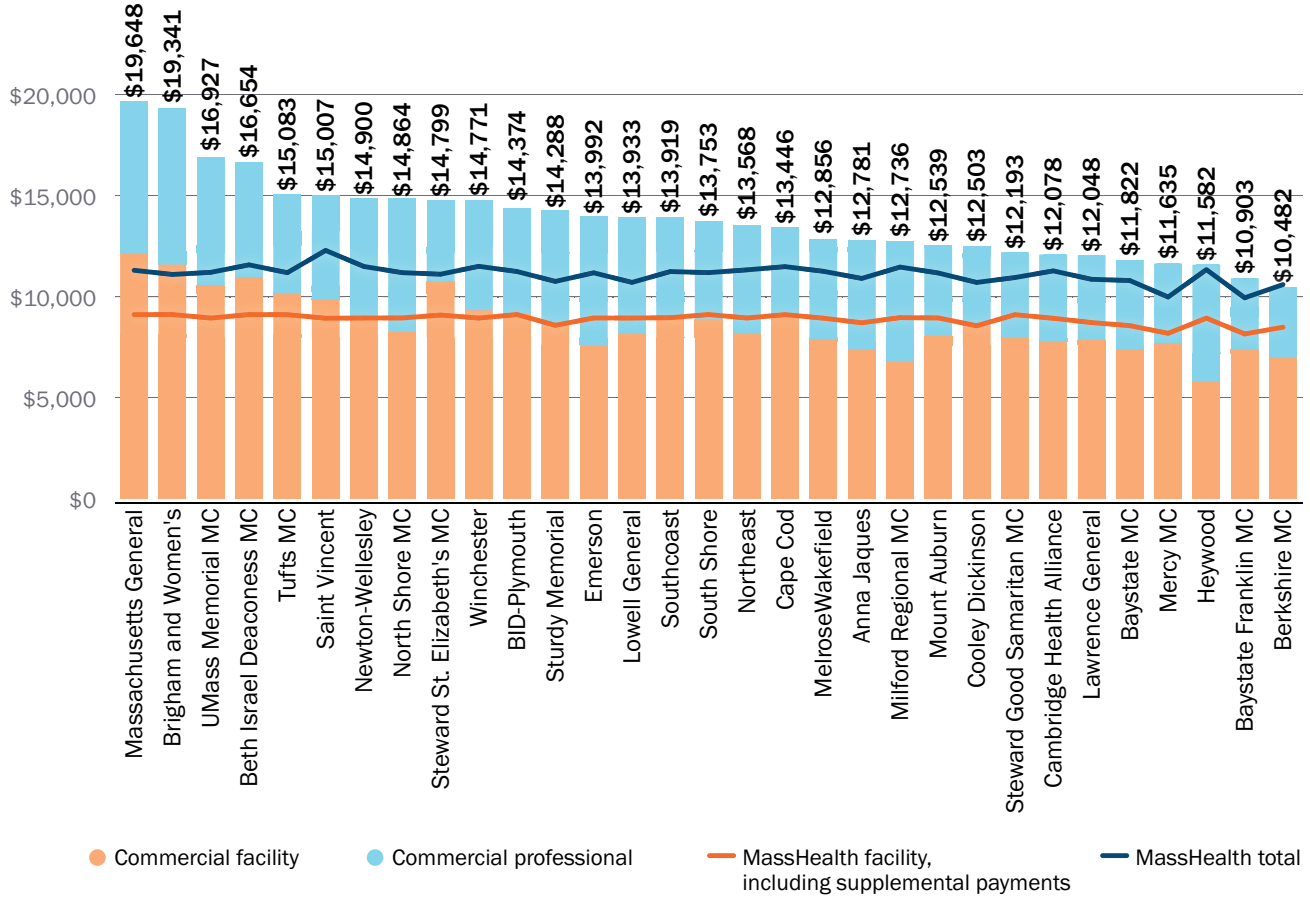


NOTES: Top 35 hospitals by volume are shown. Inpatient stays for maternity and newborns are excluded, as well as psychiatric & substance use disorder stays. Stays that are outliers in length of stay or payment relative to DRG as well as transfers are excluded from price calculations. Acuity-adjusted payment is calculated as average of payment divided by commercial APR-DRG weight for each stay. The research findings included within this report were produced using the Solventum™ (previously 3M) APR DRG Software. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023

- Average annual growth in hospital facility prices per inpatient discharge varied by more than a factor of three (1.8% to 6.2%), between 2019 and 2023.
- Hospitals with the highest growth from 2022 to 2023 include UMass Memorial (12.2%), BID-Plymouth (9.2%), South Shore (8.9%), Sturdy Memorial (8.7%), and Mass General (8.7%) (data not shown).

INPATIENT PRICES FOR LOW-COMPLEXITY VAGINAL DELIVERY BY HOSPITAL, 2023



NOTES: Analysis included stays with APR-DRG 560, weighted average of prices for severity levels 1 and 2, in hospitals with at least 30 observations. Stays that are outliers in payment or length of stay, as well as transfers, are excluded from the estimation of comparable prices. The MassHealth facility rate is estimated for commercial patient population, while MassHealth professional payments are an estimate of actual professional payments to MassHealth patients based on APCD. MassHealth supplemental payments only include rate add-on payments per discharge and do not include other types of supplemental payments. The research findings included within this report were produced using the Solventum™ (previously 3M) APR DRG Software. See technical appendix for details.

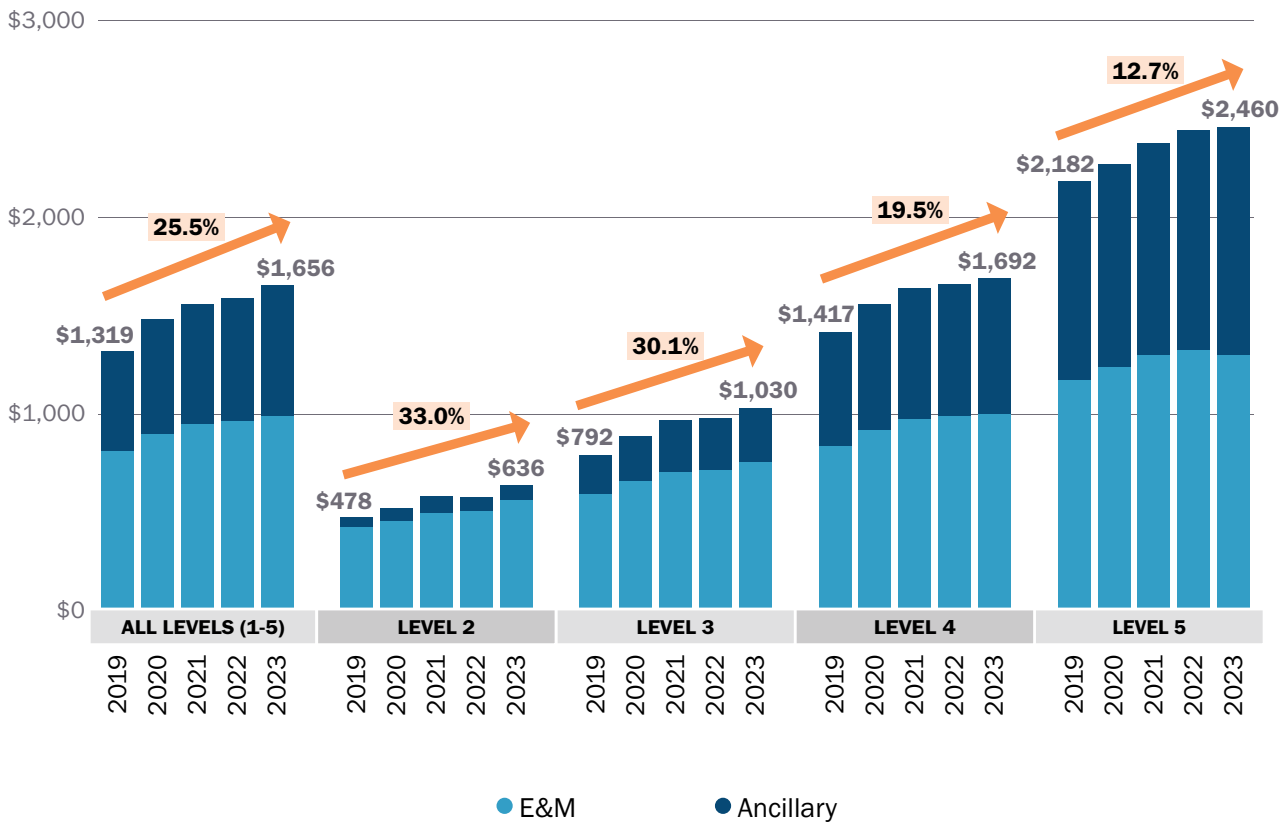
SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

- The average commercial price (including facility and professional components) for low-complexity vaginal delivery ranged from $10,482 to $19,648 across hospitals.
- The professional commercial price comprised between 28% to 51% of the total price – higher than for a typical non-maternity stay.
- MassHealth's facility price is higher than the commercial facility price for 20 of 31 hospitals but MassHealth's professional payment is lower than commercial rates for all hospitals. MassHealth's facility price incorporates supplemental payments made on a per-discharge basis as noted earlier.

EMERGENCY DEPARTMENT (ED), OFFICE, AND HOSPITAL OUTPATIENT DEPARTMENT (HOPD) PRICE TRENDS

COMMERCIAL PRICE TRENDS

PAYMENTS FOR EMERGENCY DEPARTMENT VISITS FOR COMMERCIALLY-INSURED PATIENTS FOR THE MOST COMMON COMPLEXITY LEVELS, 2019–2023

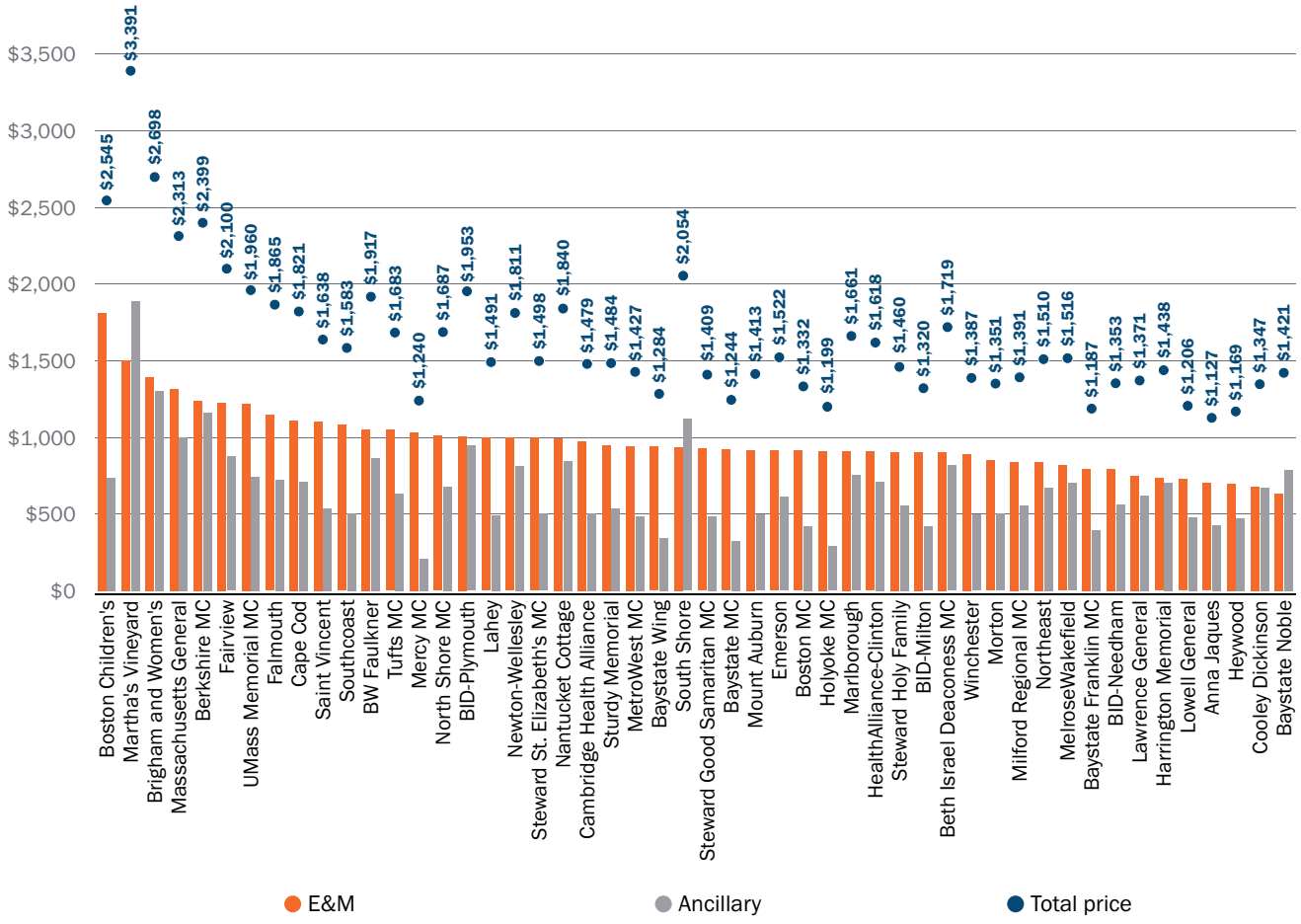


NOTES: ED visits only include those visits that were not admitted to an inpatient stay. ED level for the encounter was assigned based on the facility ED evaluation & management visit procedure code (99281-99285) for the patient encounter. Ancillary services include payments for the additional tests and procedures provided during the ED visit, such as imaging, EKG or advanced tests. E&M payment and ancillary payment include payments for facility and professional services.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023.

- The annual increase in ED visit payments across all levels averages 5.8% from 2019–2023, due to price increases within each complexity level and an increasing share of high-complexity levels.
- Growth in ED prices slowed after 2021.
- Across all levels, ancillary services contributed to 40% of the ED visit payment in 2023; the share increased with the level, from 12% for level 2 to 47% for level 5 in 2023.

COMMERCIAL PRICE FOR A LEVEL 4 COMPLEXITY ED VISIT, BY HOSPITAL, 2023

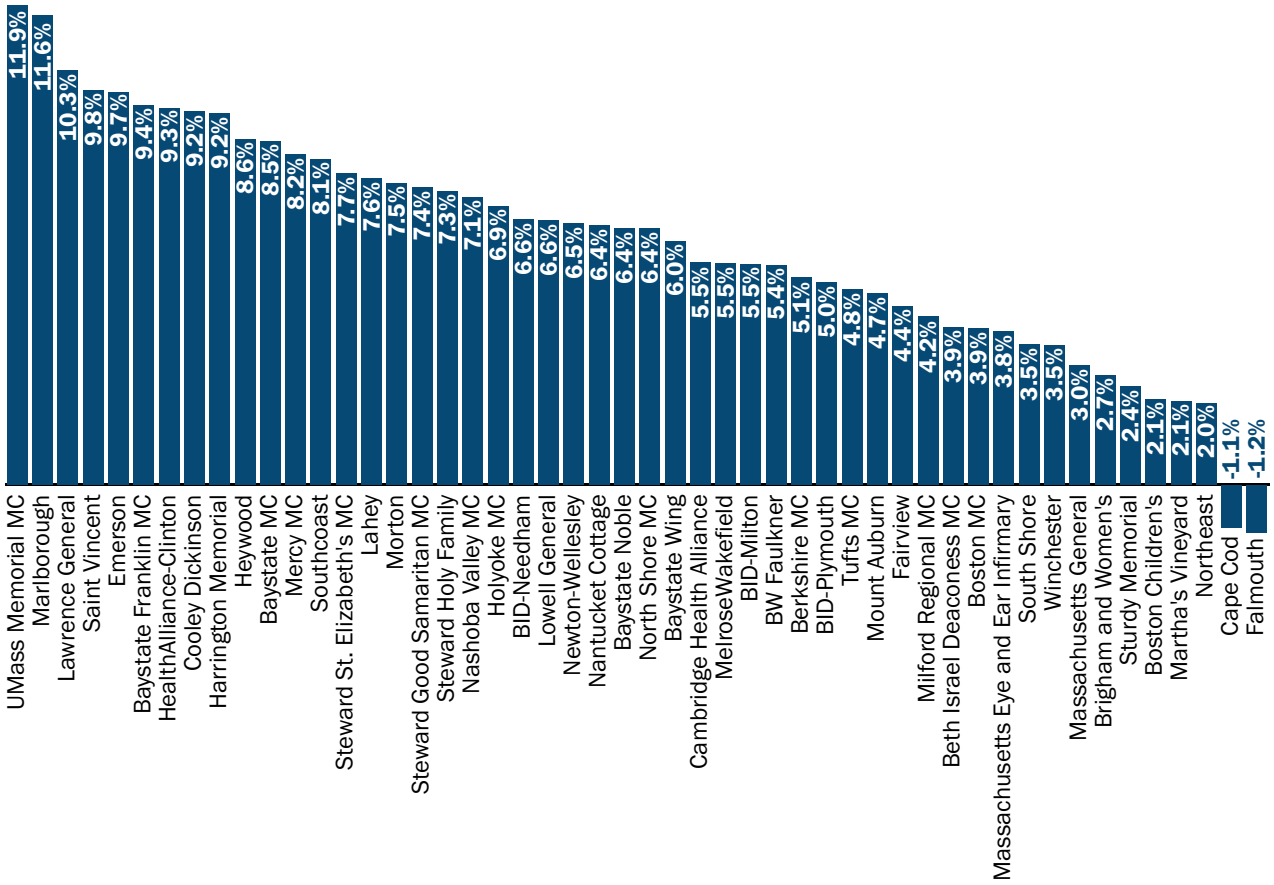


NOTES: E&M = evaluation & management. ED visits only include those visits that were not admitted to an inpatient stay. Included top 50 hospitals by ED volume. Prices reflect total spending for the ED encounter, including payments for E&M and ancillary services. Procedure code for level 4 is 99284. The encounter was identified based on the facility E&M code.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

- The price for the evaluation and management (E&M) portion of an emergency department visit varied by a factor of 3, from $631 (Baystate Noble) to $1,810 (Boston Children's Hospital), followed by Martha's Vineyard ($1,500) and Brigham and Women's hospital ($1,393).
- When including all other services provided for a level 4 ED visit, prices ranged from $1,127 (Anna Jacques) to $3,391 (Martha's Vineyard Hospital).

AVERAGE ANNUAL ED PRICE GROWTH (E&M PORTION) BY HOSPITAL, 2019–2023

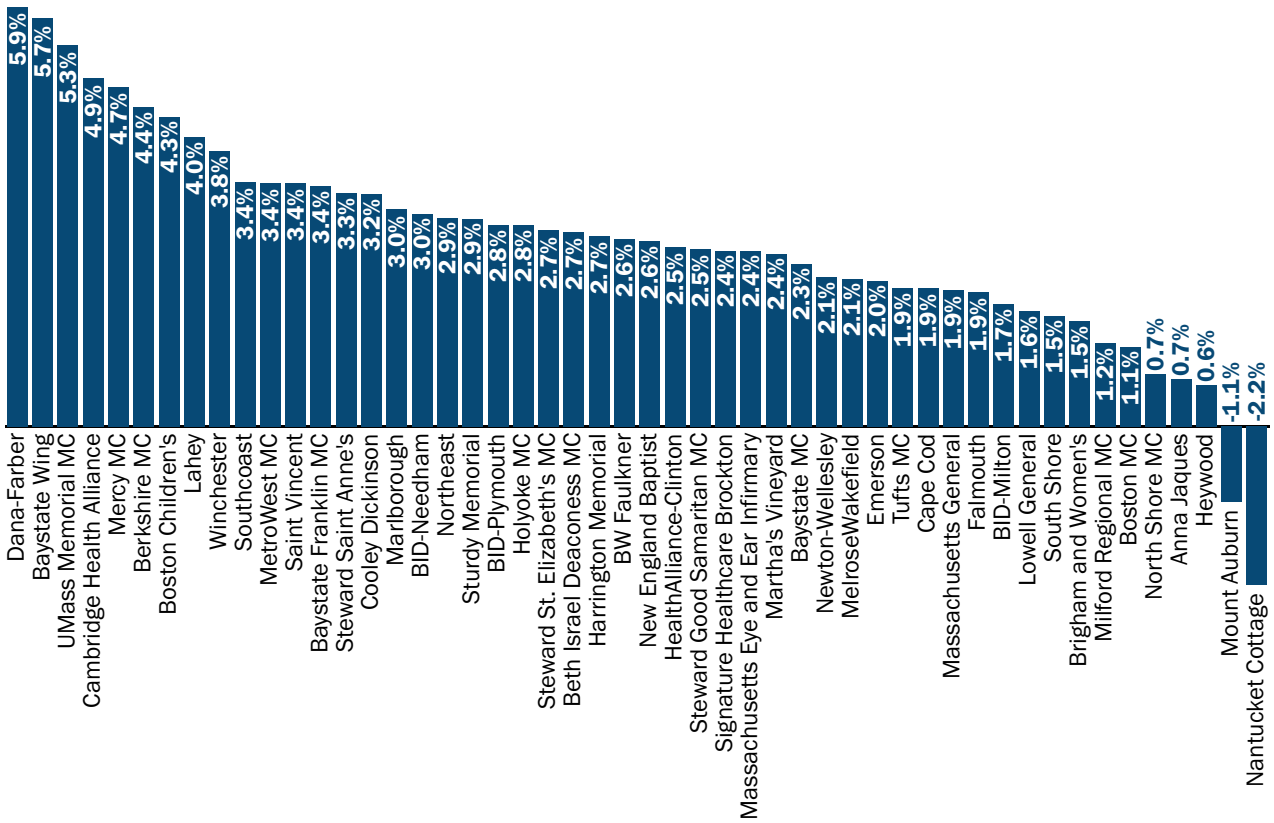


NOTES: E&M = evaluation & management. Top 50 hospitals by volume are shown. Professional and facility ED E&M codes are included. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023

- Prices for the E&M portion of an ED visit grew more than 10% annually, on average, for UMass Memorial Medical Center, Marlborough and Lawrence General Hospital
- A decline in prices for some small hospitals may reflect a shift towards the payers and plans with lower negotiated prices.

AVERAGE ANNUAL HOPD PRICE GROWTH BY HOSPITAL, 2019–2023

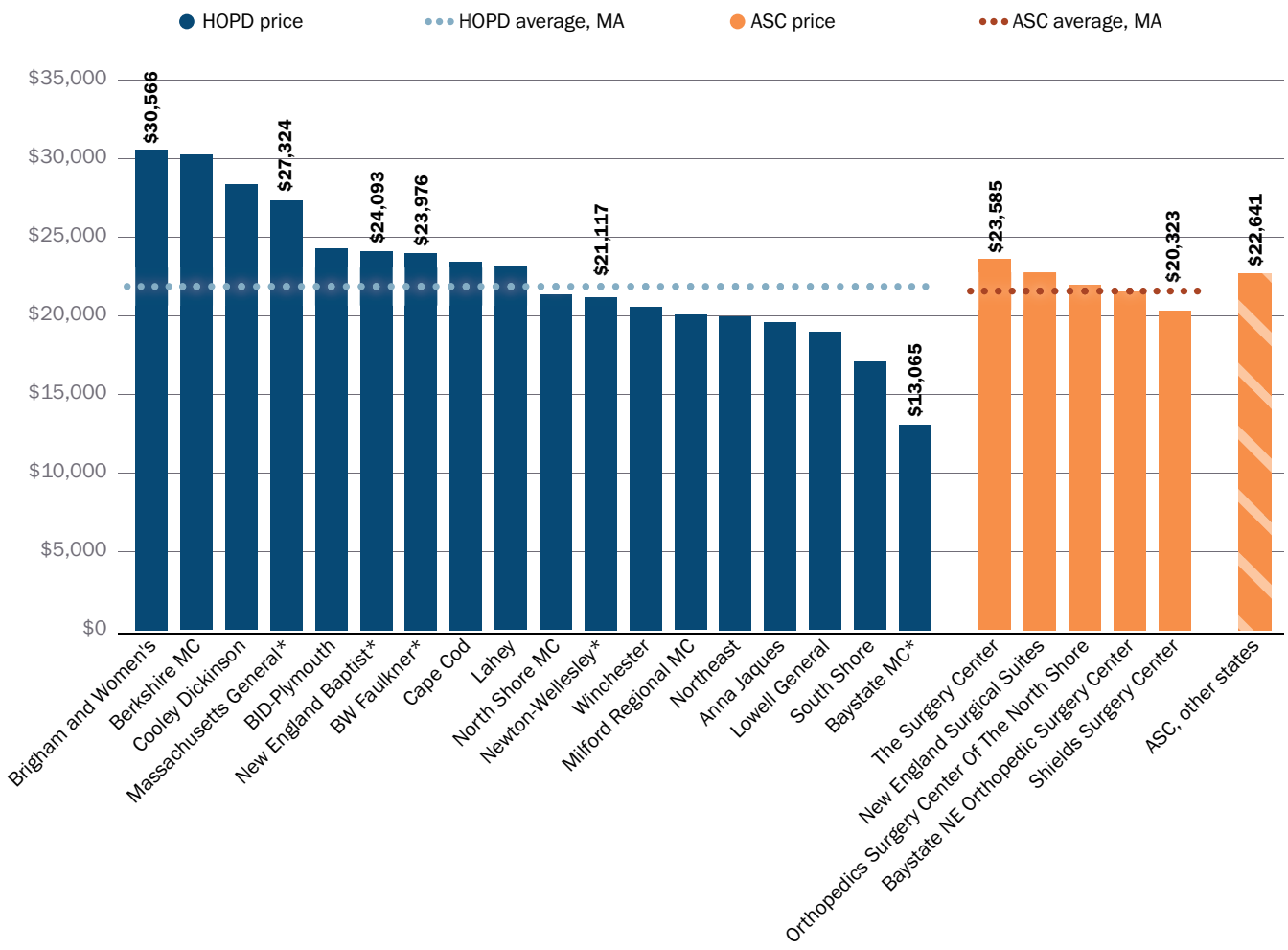


NOTES: Top 50 hospitals by volume are shown. Professional and facility payments are included in HOPD price. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023

- Prices for hospital outpatient department (HOPD) services grew more than 5% annually, on average, for Dana-Farber Cancer Institute, Baystate Wing Hospital and UMass Memorial Medical Center between 2019 and 2023.
- From 2022 to 2023, UMass Memorial Medical Center had the highest price increase (13.0%), followed by Cambridge Health Alliance (8.6%) and Tufts Medical Center (8.5%).

AVERAGE COMMERCIAL PRICE FOR OUTPATIENT KNEE ARTHROPLASTY BY PROVIDER, 2023



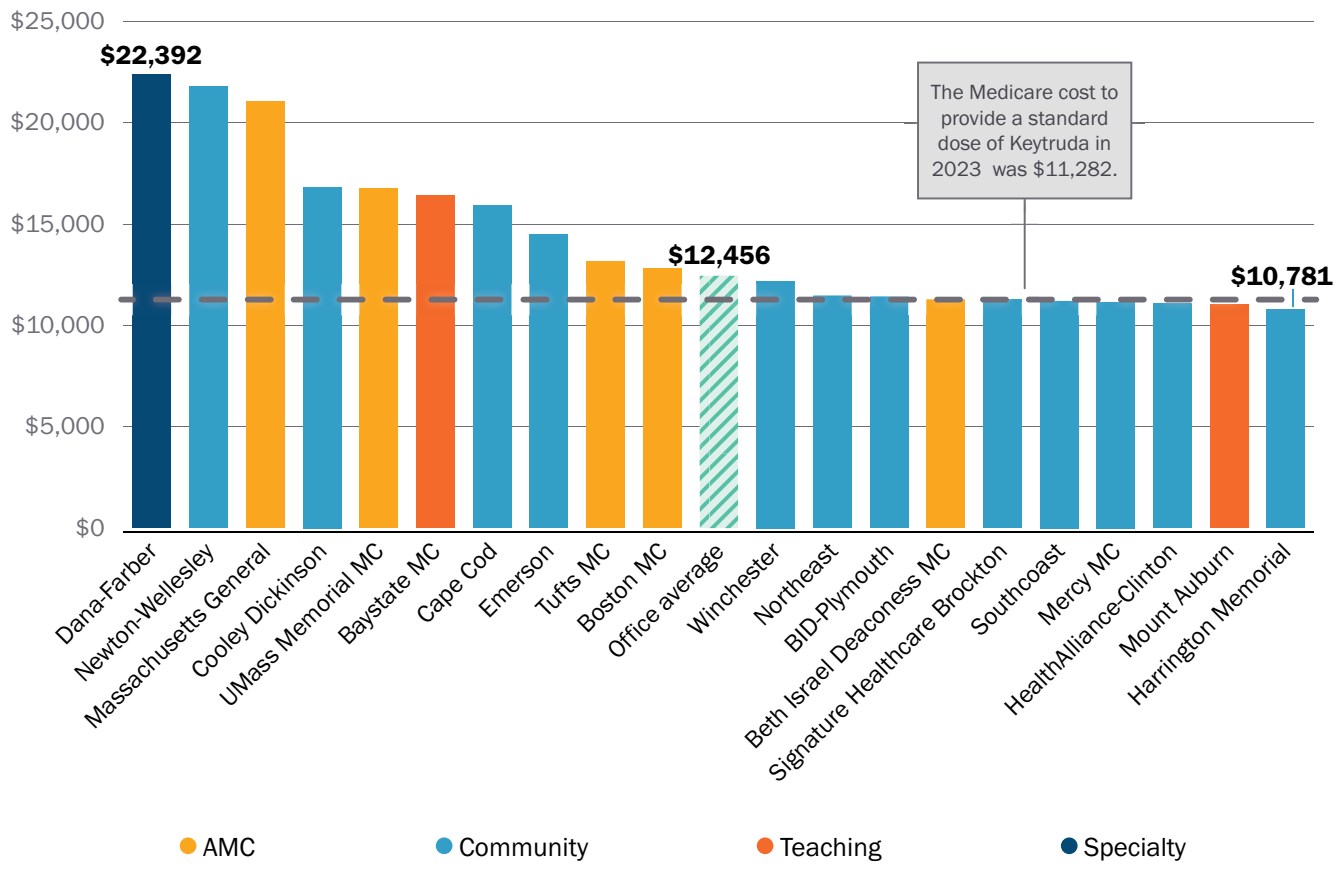
NOTES: Providers with at least 25 surgeries are shown. Top 5 highest-volume providers are highlighted with a * symbol. Price includes all surgical, anesthesia and other costs on the day of the surgery. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023

- Prices for knee arthroplasty (knee replacement surgery) range by more than a factor of two across hospital outpatient departments (HOPDs) – prices at ambulatory surgery centers (ASCs) are near the hospital average (in contrast to many other services provided at ASCs).[1]
- Baystate Medical Center has the lowest price and the second highest volume (after New England Baptist).
- Out-of-state ASCs provide 9.0% of joint replacement surgeries for commercial Massachusetts population, which is equal to share of surgeries provided by MA ASCs (8.8%). Their prices are comparable on average.

1 HPC datapoints issue #26 compared ASC and HOPD prices in 2021 and found that prices for eye surgeries, colonoscopies, arthroscopies and other common ASC services were significantly lower at ASCs with a notable exclusion of joint replacement surgeries.

AVERAGE COMMERCIAL PRICE OF A STANDARD DOSE OF KEYTRUDA BY HOSPITAL, 2023

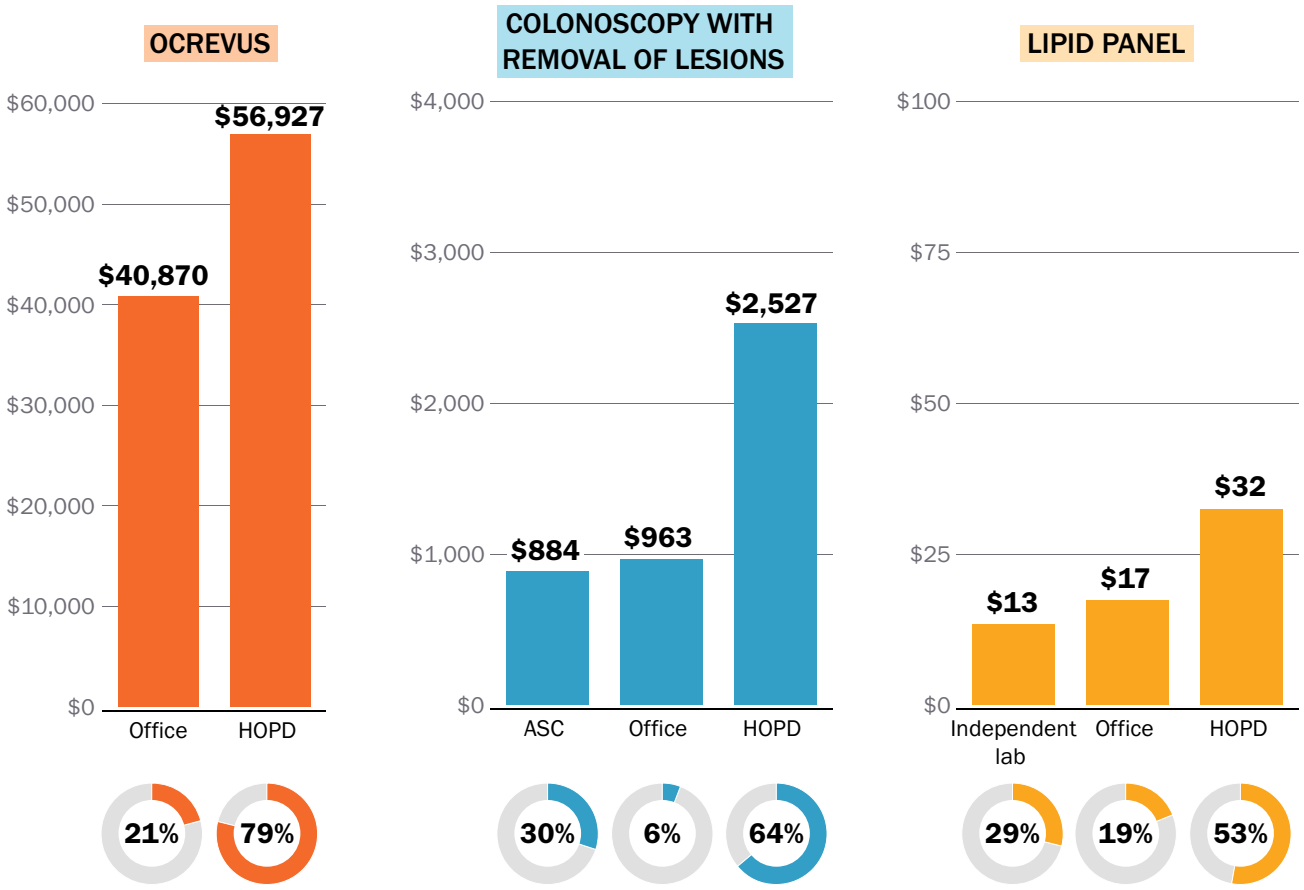


NOTES: Facilities listed are limited to those with at least 20 commercial encounters delivered in 2023. Prices reflect encounters (same person, same date of service, same procedure code) to capture the potential for both facility and professional claims billed on the same day. The price shown is for a standard dose of Keytruda (200 mg or 200 billable units). Data are for Keytruda (CPT J9271, 'Injection, pembrolizumab, 1 mg').

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database v2023, 2023

- Clinician-administered drugs are medications administered through injections or infusions in a HOPD, office, or other ambulatory setting.
- Unlike prescription drugs that are covered under an insurance plans' pharmacy benefit, clinician-administered drugs are typically covered under the medical benefit. In most cases, providers purchase the drugs and then bill insurers after using the drug in patient care.
- Keytruda (pembrolizumab) is a chemotherapy drug that treats 18 types of cancer.
- The average price for a standard dose of Keytruda in 2023 varied by a factor of 2:1 across providers.
- Medicare's prices for clinician-administered drugs do not vary by setting (although the price for the administration does vary by setting); Medicare's price for Keytruda is roughly 10% less than the average commercial price for Keytruda when administered in an office setting and considerably less than the price at half of the hospitals analyzed.

AVERAGE PRICE AND DISTRIBUTION OF VOLUME FOR COMMON AMBULATORY SERVICES BY SETTING, 2023



NOTES: HOPD = Hospital outpatient department. ASC = Ambulatory surgical center. Prices reflect encounters (same person, same date of service, same procedure code) to capture the potential for both facility and professional claims billed on the same day. Data are for Ocrevus (CPT J2350, 'Injection, ocrelizumab, 1 mg'), which is a clinician-administered drug used to treat multiple sclerosis; Colonoscopy with removal of lesions (CPT 45385, 'Colonoscopy, flexible; with removal of tumor(s), polyp(s), or other lesion(s) by snare technique'); Lipid Panel (CPT 80061, 'Lipid panel'). The price shown for Ocrevus is for a 600 mg dose (600 billable units).

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

- Many ambulatory services can be provided safely in multiple settings and often have lower prices at settings other than HOPDs.
- For all three services examined, the price was much higher when the service was provided in a HOPD.
- HOPDs represented the setting of care with more than half of the volume for each service.

COMMERCIAL PRICE INDICES

COMMERCIAL PRICE TRENDS

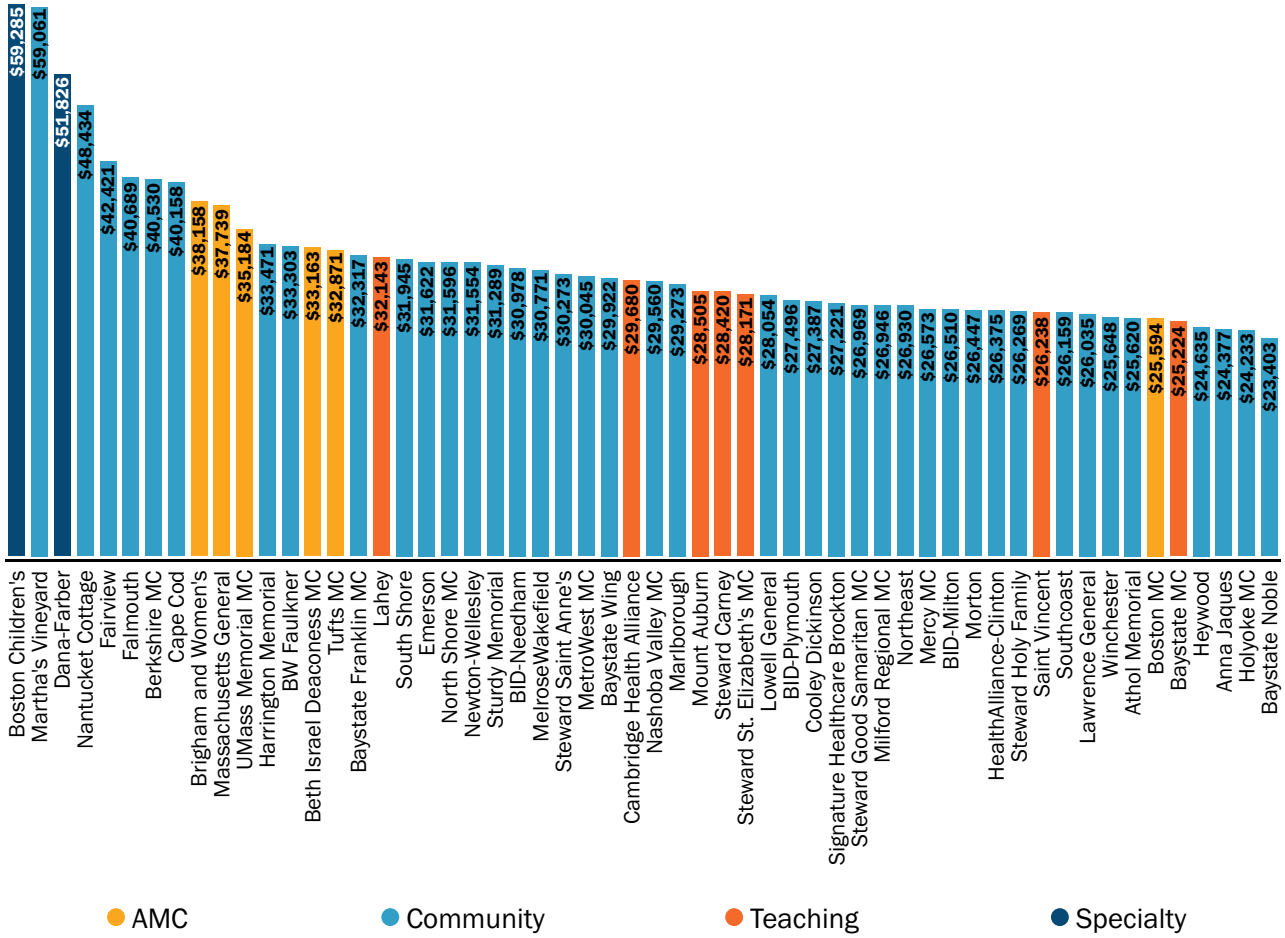
SUMMARY OF COMMERCIAL PRICE INDICES

- The HPC developed three fixed quantity market baskets[1] ("index") to allow for comparisons of ambulatory prices over time and across payers, providers, and settings of care.
  - The services in the HOPD basket are the 50 HOPD services with the highest aggregate statewide spending in 2023 that also meet a minimum hospital volume threshold (using 2023 volume data).
  - The services in the laboratory basket are the 50 lab services with the highest aggregate statewide spending in 2023 that also meet a minimum volume threshold among HOPDs, provider offices, and independent labs.
  - The services in the crossover basket are the 25 ambulatory services with the highest aggregate statewide volume in 2023 that also meet a minimum volume threshold among both HOPDs and office settings.
- For all indices, the services are defined by procedure code encounters, and prices reflect spending from both associated professional and facility claims. The number of each item in each basket represents the number of services used by 100 average Massachusetts residents in 2023. For example, the HOPD basket contains 8.2 physical therapy evaluations and 9.3 screening mammographies per 100 Massachusetts residents.[2] See the technical appendix for more details.
- All prices and payments represent estimates based on observed payments to providers across payers within the APCD and do not necessarily represent contractually negotiated prices between a specific payer and provider.

1 A fixed-quantity market basket is also referred to as a Laspeyres price index, a commonly used index in economics. The Consumer Price Index (CPI) is an example of a commonly used Laspeyres index. See technical appendix for information on the methodology in greater detail and James HO., et al. "Assessment of a Price Index for Hospital Outpatient Department Services Using Commercial Claims Data in Massachusetts." JAMA Health Forum. Vol. 4. No. 4. American Medical Association, 2023.

2 Data are for CPT 97110, 'Therapeutic PX 1/> Areas each 15 minute exercises' and CPT 77067, 'Screening mammography, bilateral (2-view study of each breast), including computer-aided detection (CAD)'.

COST OF THE HOPD MARKET BASKET PER 100 PATIENTS BY HOSPITAL, 2023

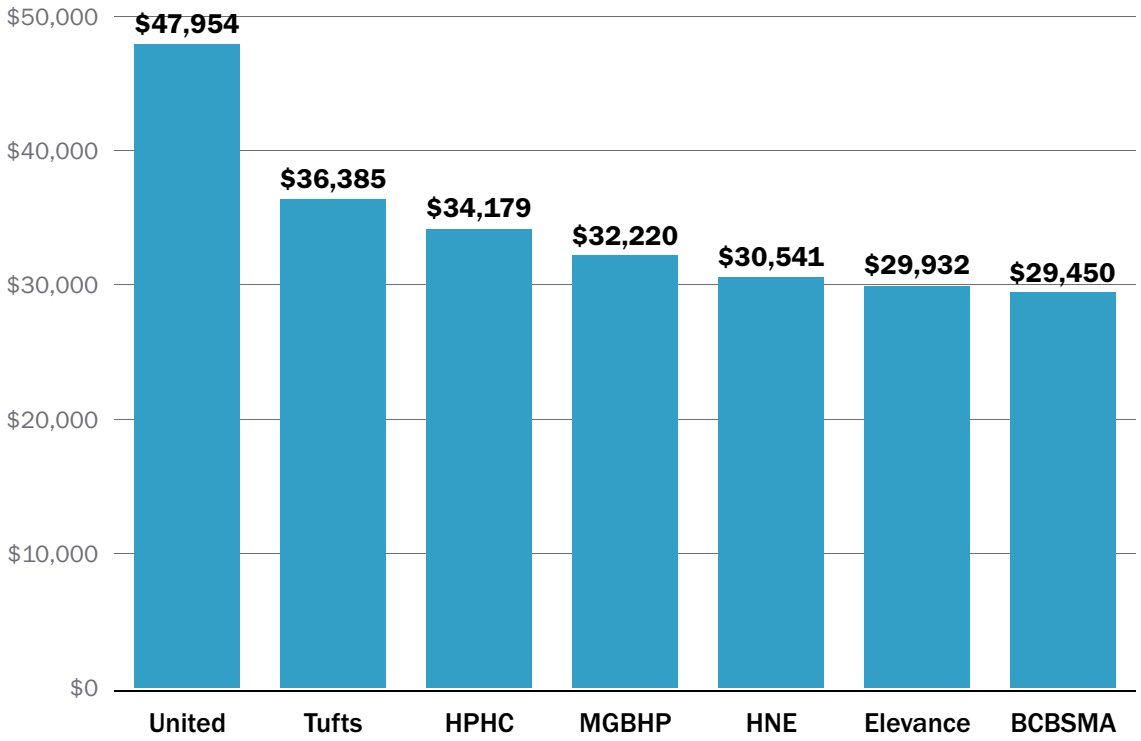


NOTES: AMC = academic medical center. For each hospital, the same 50 procedure codes are evaluated using a fixed statewide volume (computed using 2023 data) and hospital-specific average service prices in 2023 for each procedure code. Hospitals with fewer than 20 service encounters for any individual procedure code have imputed values for that procedure code and are not included if more than 20 procedure codes would have to be imputed.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

- The cost of the HOPD market basket (including insurer-paid and patient-paid amounts) averaged $32,369 and varied by a factor of 2.4 across hospitals.
- Patient cost sharing was generally higher when the market basket cost was higher. Cost sharing averaged $6,042 per 100 patients across all hospitals.

COST OF THE HOPD MARKET BASKET PER 100 PATIENTS BY PAYER, 2023

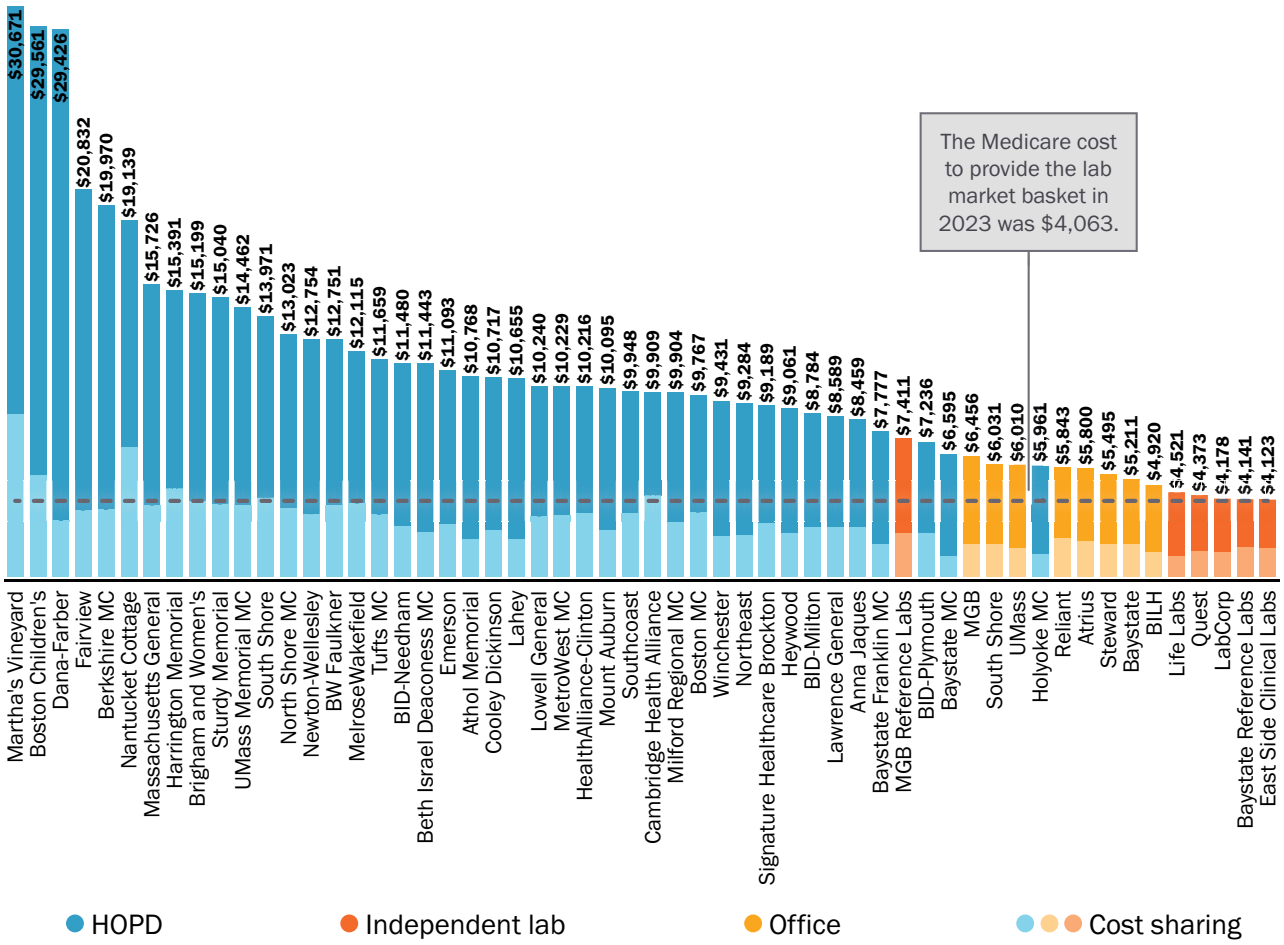


NOTES: The HPC's version of the APCD includes claims for members enrolled in commercial insurance products from the seven payers shown. These claims include some Group Insurance Commission and other self-insured members but otherwise are more heavily representative of members with fully-insured products and overall represent approximately 37% of the commercial market in Massachusetts. Elevance Health was formerly Anthem.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

- In 2023, United paid 63% more for the HOPD market basket than Blue Cross Blue Shield of Massachusetts (BCBSMA), the payer with the lowest cost.
- The cost of the HOPD market basket grew most for Elevance Health between 2022 and 2023 (5.4%). See technical appendix for 2022 data.

COST OF THE LAB MARKET BASKET PER 100 PATIENTS, INCLUDING COST SHARING, BY MASSACHUSETTS PROVIDER, 2023



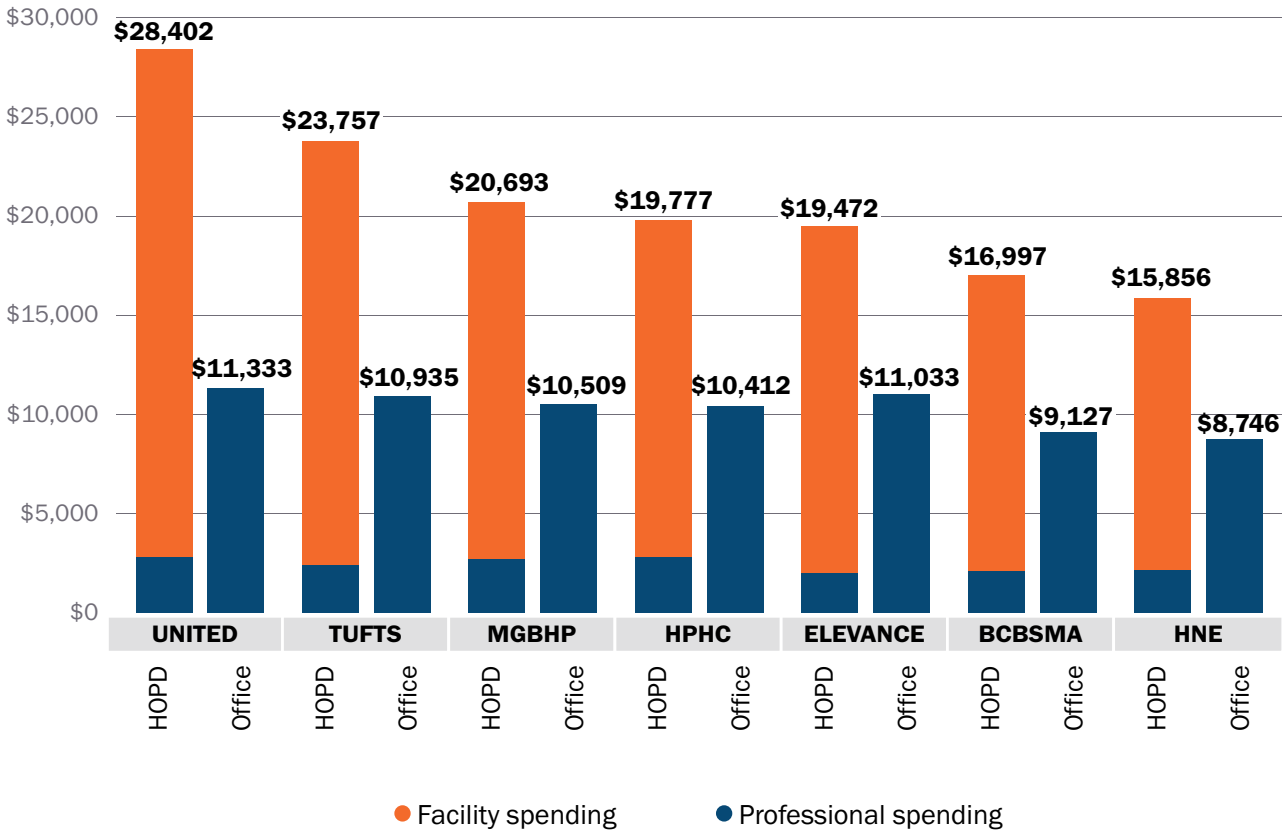
NOTES: HOPD = Hospital outpatient department. The lab market basket reflects the quantity and type of lab tests ordered per 100 members in 2023. For each provider, the same 50 highest-aggregate-spending procedure codes are evaluated using a fixed statewide volume (computed using 2023 data) and provider-specific mean service prices in 2023 for each procedure code. Providers with fewer than 20 service encounters for any individual procedure code have imputed values for that procedure code and are not included if more than 24 procedure codes would have to be imputed. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023.

- The cost of the lab market basket in 2023 varied by a factor of 5 across hospitals throughout the state and varied by a factor of 7.4 across all providers, with higher price levels among HOPDs.
- Higher costs for the lab market basket also translated to higher patient cost sharing, varying by a factor of 8 across all providers.[1]

1 About a quarter of the labs in the basket fall under the ACA preventative care coverage requirement and should not be subject to patient cost sharing if the lab service falls under the appropriate guidelines.

COST OF A "CROSSOVER SERVICES" MARKET BASKET PER 100 PATIENTS BY PAYER AND SETTING OF CARE, 2023



NOTES: Crossover services are defined as services that can be provided safely at both hospital outpatient sites and office-based sites, see technical appendix for details. Only the top 25 services by total statewide volume are included in the index. For each payer-setting combination the same 25 procedure codes are evaluated using a fixed statewide volume (computed using 2023 data) and payer-setting specific average prices in 2023 for each procedure code. Each payer-setting combination has at least 20 encounters for each procedure code. Elevance Health was formerly Anthem.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

- The HPC identified 25 high volume cross-over services, defined in literature as procedures that can be safely performed at either a hospital outpatient department (HOPD) or a physician office. For most of these procedures, volume largely occurs in HOPDs.
- All payers paid more for the basket of procedures when performed in a HOPD versus an office setting, but the degree varied from paying 2.5 times more (United) to 1.8 times (Elevance) in 2023.

PRIMARY CARE AND BEHAVIORAL HEALTH

INTRODUCTION

PRIMARY CARE AND BEHAVIORAL HEALTH

Policymakers across the U.S. have sought to strengthen primary care and behavioral health care (PCBH). PCBH services are associated with better health outcomes and patients increasingly face challenges accessing these high-value services, yet PCBH remain relatively underpaid compared to specialty health care services.[1,2,3,4] Behavioral health includes mental health and substance use disorder.

Starting in 2022, the Center for Health Information and Analysis (CHIA) has worked with stakeholders to define PCBH services and report on aggregate spending in Massachusetts.[5] CHIA reported that primary care spending comprised 6.9% of commercial health care spending in 2022, dropping to 6.7% in 2023, while behavioral health care represented 7.7% of commercial spending in 2022 and 7.8% in 2023.[6]

Building on CHIA's reporting and to fulfill the HPC's responsibility under Chapter 126 of the Acts of 2022 to report on behavioral health spending trends, the HPC includes analyses in this Chartpack on Massachusetts PCBH utilization and spending trends, with a focus on the commercial market. Using CHIA's All-Payer Claims Database (APCD), the HPC examines longer term trends in primary care and behavioral health spending, spending by commercial payer, and disparities in primary care use based on community-income level. New this year, the HPC examines disparities in reimbursement for PCBH services compared to specialist services by comparing the amount paid to primary care providers for a routine evaluation & management (E&M) visit and to behavioral health providers for a 60-minute psychotherapy session relative to a basket of specialty services that totals the same amount of provider time.

This Chartpack also presents updated trends in the use of telehealth for psychotherapy services, for commercial and MassHealth patients, and opioid-related hospitalizations for all patients. For psychotherapy visits, the data analyzed comprise spending and utilization for claims submitted to insurance plans. As a result, the data exclude BH visits where insurance was not used. CHIA found in 2023 that 15% of Massachusetts residents paid entirely out-of-pocket for their most recent behavioral health visit.[7]

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1 National Academies of Sciences, Engineering, and Medicine. 2021. Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care. Washington, DC: The National Academies Press.

2 Primary Care Spending: High Stakes, Low Investment December 2020. Available at: https://www.pcpcc.org/sites/default/files/resources/PCC_Primary_Care_Spending_2020.pdf

3 National Academies of Sciences, Medicine, Board on Children, Youth, Committee on Fostering Healthy Mental, Behavioral Development Among Children, & Youth. (2019). Fostering healthy mental, emotional, and behavioral development in children and youth: A national agenda.

4 Hawrilenko M, et al. Return on Investment of Enhanced Behavioral Health Services. JAMA Netw Open. 2025;8(2):e2457834

5 Center for Health Information and Analysis. Payer Data Reporting: Primary and Behavioral Health Care Expenditures. Available at: https://www.chiamass.gov/payer-data-reporting-primary-and-behavioral-health-care-expenditures/

6 Center for Health Information and Analysis. Massachusetts Primary Care Expenditures: 2022 and 2023. April 2025. Available at: https://www.chiamass.gov/assets/docs/r/pubs/2024/Primary-Care-Spending-Report-2024.pdf

7 Center for Health Information and Analysis. Findings from the 2023 Massachusetts Health Insurance Survey. Available at: https://www.chiamass.gov/assets/docs/r/survey/mhis-2023/MHIS-2023-05-Behavioral-Health.pdf

KEY FINDINGS

PRIMARY CARE AND BEHAVIORAL HEALTH

- From 2019 to 2023, commercial primary care spending grew 13.6% or by $67 per capita. Behavioral health spending grew 56.7% or $228 per capita and other medical spending (not including prescription drugs) grew 20.6% or by $840 per capita, leaving primary care with a shrinking share of health care spending.
- Among the commercial payers analyzed, the proportion of non-prescription drug spending devoted to primary care and behavioral health care (combined) varied from 15.6% (United) to 21.7% (Blue Cross Blue Shield).
- Thirty percent (30%) of commercially-insured adults living in the lowest income communities of the state had no primary care visits in 2023, compared to 20% of adults in the highest income areas. A similar pattern was present for children (11% versus 4%).
- Primary care providers are paid far less than specialist physicians for an equivalent 30 minutes of work time. This payment disparity varies by commercial insurer, with payment ratios of 1:4.5 for United and 1:2.7 for MGB health plans.
- From 2019 to 2023, psychotherapy use among commercially-insured patients grew by 66% for members in the lowest income quintile (from 1,056 visits per 1000 members per year to 1,754 visits), and by 45% for members in the highest income areas (from 1,612 to 2,336 visits per 1000 members).
- Opioid-related ED and inpatients visits have continued to decline among all racial/ethnic groups studied from 2021 to 2024, but disparities between groups remain. In 2024, visit rates for Black/African American residents were 22% higher than for White residents (839 per 100k and 685 per 100k residents, respectively) and 24% higher than for Hispanic residents (675 per 100k).

METHODS

PRIMARY CARE AND BEHAVIORAL HEALTH

PRIMARY CARE

- Data source: Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023
- Primary care services were defined based on meeting all of the following criteria:
  - Professional claim containing a primary care service procedure code, which includes office-type visits (e.g., sick visit), preventive visits (e.g., wellness exam), vaccines, and other services; prescription drugs are not included.
  - Performed by a primary care provider (PCP), identified using taxonomy codes from CHIA's primary care and behavioral health data code list as well as HPC's PCP attribution methodology.
- PCP attribution methodology: Analyses rely on attribution of patients to a PCP based on data in the APCD and linking PCPs to their affiliated provider organization based on data from the Registration of Provider Organizations (RPO). The RPO data was supplemented with a commercial database obtained from IQVIA, which also includes nurse practitioners and physician assistants. Details can be found in the technical appendix for the Provider Organization Performance Variation Chartpack.

BEHAVIORAL HEALTH

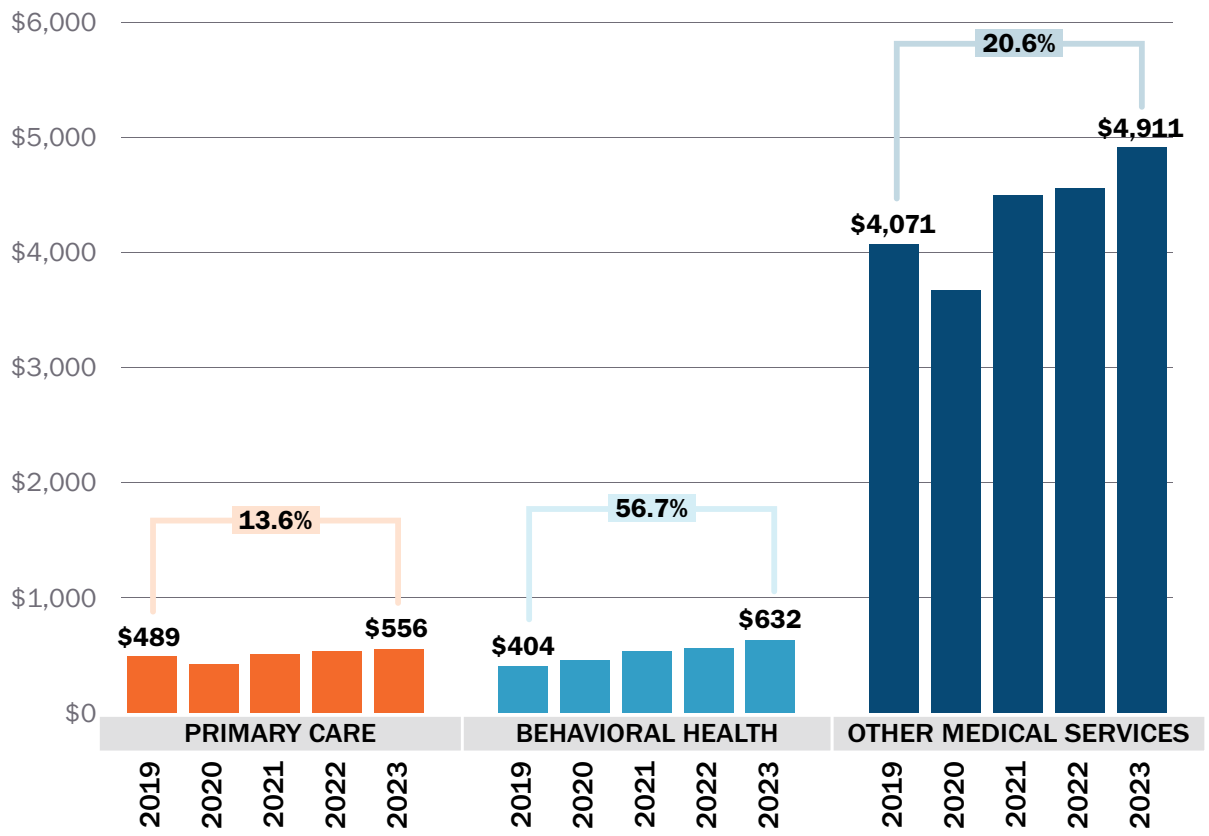
- Data sources: CHIA All-Payer Claims Database (v2023), Massachusetts Acute Hospital Case Mix Discharge Databases: Hospital Inpatient and Emergency Department Database.
- Behavioral Health spending was defined by CHIA's Primary Care and Behavioral Health Spending methodology. Prescription drugs are not included.
- Ambulatory visits for psychotherapy defined by procedure codes (Commercial and MassHealth ACO-A/MCO).
- HPC analyzed trends in ED visits and acute care hospital stays for opioid use disorder (all-payer) based on diagnosis codes.
- Comparisons to other states are based AHRQ FastStats and Kaiser Family Foundation State Health Facts.

NOTES: Primary care services were defined based on CHIA's primary care and behavioral health data code list; however, the HPC excluded obstetrics services. Available at: CHIA Payer Data Reporting: Primary and Behavioral Health Care Expenditures: https://www.chiamass.gov/payer-data-reporting-primary-and-behavioral-health-care-expenditures/

PRIMARY CARE AND BEHAVIORAL HEALTH SPENDING AND UTILIZATION IN MASSACHUSETTS

PRIMARY CARE AND BEHAVIORAL HEALTH

COMMERCIAL MEDICAL SPENDING BY CATEGORY PER MEMBER PER YEAR, 2019–2023

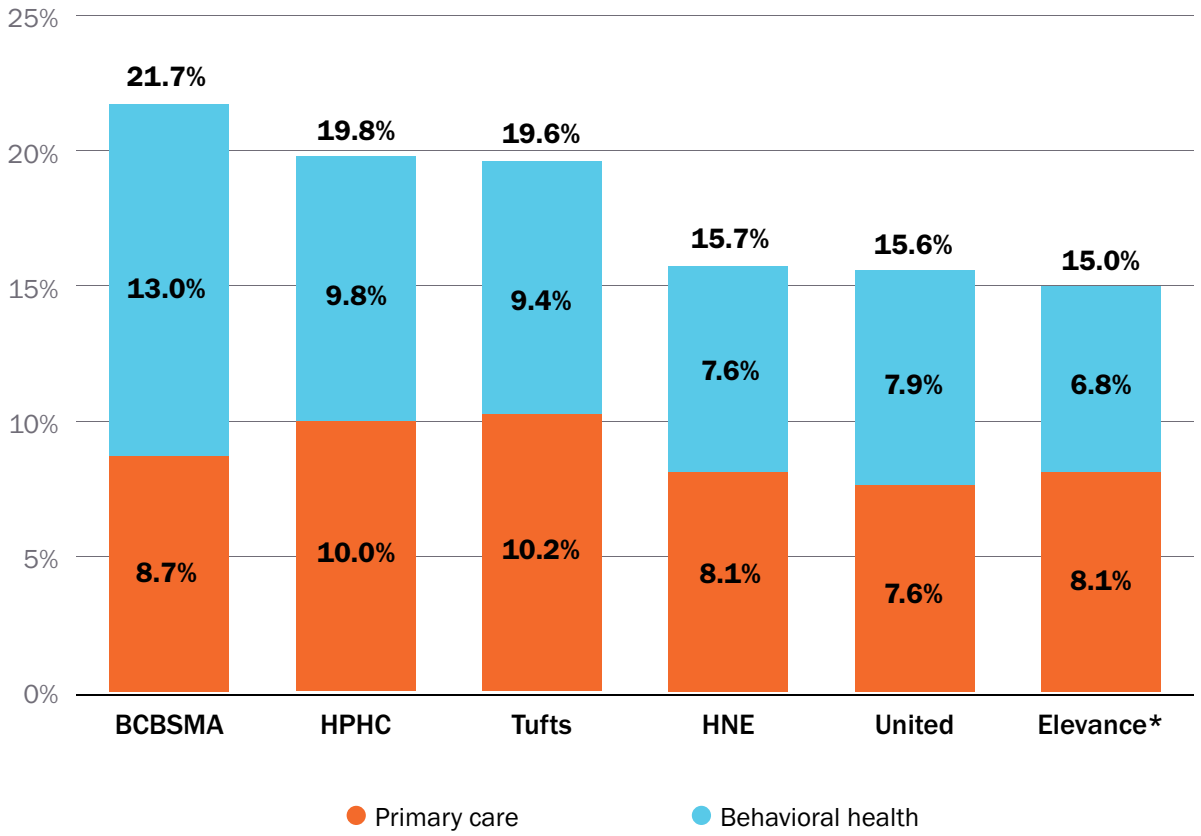


NOTES: Analysis restricted to members under age 65. Visits with a primary care provider and a principal behavioral health diagnosis were categorized as primary care. Analysis excludes prescription drug spending.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023.

- As a share of total medical spending (not including prescription drugs), spending on primary care declined from 9.9% in 2019 to 9.1% in 2023, while spending on behavioral health grew from 8.1% of total medical spending in 2019 to 10.4% in 2023.
- These trends were observed for both adults and children but to different degrees. For children, primary care spending as a share of total medical spending declined from 18.8% in 2019 to 16.5% in 2023 while behavioral health spending as a share of total medical spending increased from 14.6% in 2019 to 16.3% in 2023. For adults, primary care spending declined from 8.3% in 2019 to 7.8% in 2023 while behavioral health increased from 7.0% in 2019 to 9.3% in 2023. (See technical appendix for detail.)

COMMERCIAL SPENDING ON PRIMARY CARE AND BEHAVIORAL HEALTH AS A PERCENT OF TOTAL MEDICAL SPENDING BY PAYER, 2023

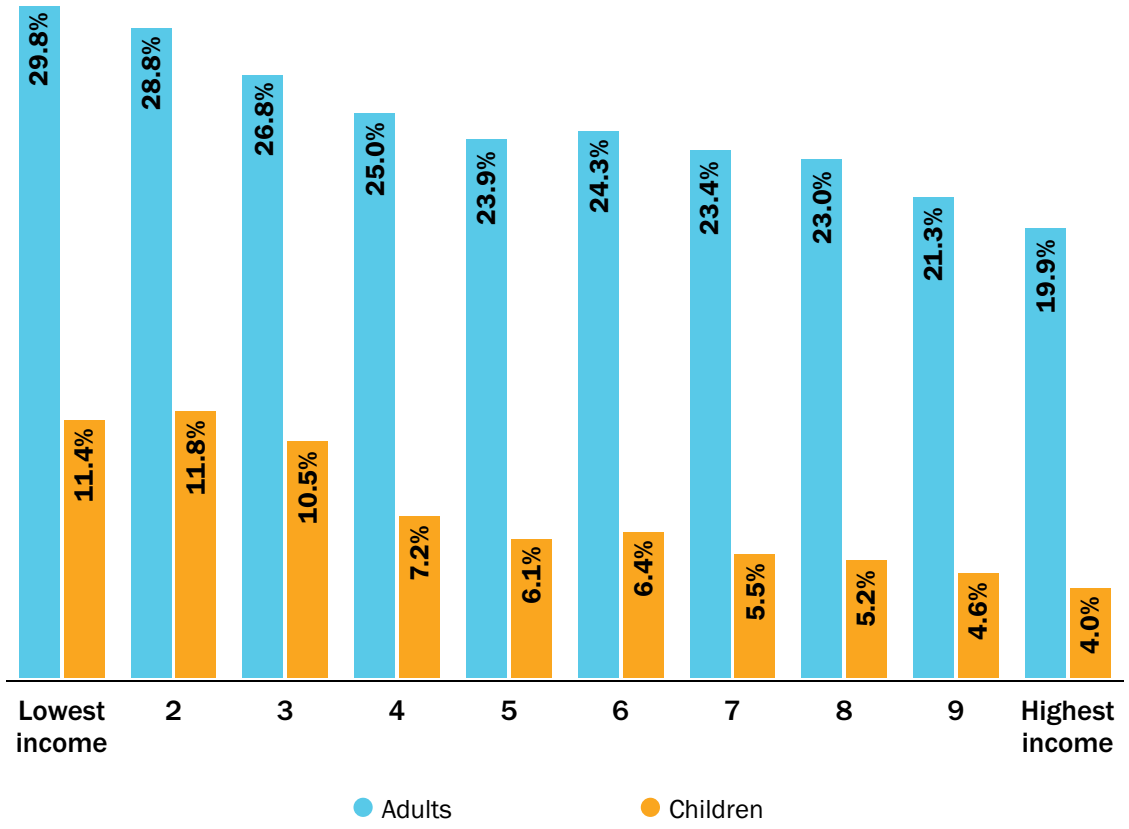


NOTES: Analysis restricted to members under age 65. Visits with a primary care provider and a principal behavioral health diagnosis were categorized as primary care. Total medical spending does not include pharmacy spending. Elevance Health was formerly Anthem, Inc. *Percent of medical spending on behavioral health for Elevance may be an underestimate due to lack of substance use disorder claims.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023.

- Spending on primary care and behavioral health (combined) as a percent of total expenses ranged from 15.0% to 21.7% across commercial payers in 2023.
- Share of spending on primary care decreased for all payers from 2019 to 2023 while share of spending on behavioral health increased for all payers during this period (see technical appendix for details).

PERCENT OF COMMERCIALLY-INSURED RESIDENTS WITH NO PRIMARY CARE VISITS BY INCOME OF MEMBER'S ZIP CODE, 2023



- Based on APCD data, 20.6% of residents with commercial insurance did not have any primary care visits in 2023. However, there was significant variation by income, especially for children.
- Members living in lower income areas were more likely than those in higher income areas to have no health care utilization at all. Overall, 5.0% of commercially-insured children living in the lowest income areas had no medical or pharmacy utilization compared to 1.0% of children in the highest income areas. Figures for adults were 12.1% and 4.9%, respectively (see technical appendix for details).

NOTES: Analysis restricted to members under age 65 with full year medical and prescription drug coverage. Children are defined as those under age 18. Income groupings represent population-weighted deciles based on median income of zip code sourced from U.S. Census Bureau American Community Survey 5-year estimates.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023.

PRICE RATIO OF SELECT PHYSICIAN SPECIALTY SERVICES TO PRIMARY CARE E&M VISITS AND PSYCHOTHERAPY VISITS: METHODS

To understand differences in negotiated prices for different health care services (i.e., specialty, primary care, and behavioral health care), the HPC constructed a price index of common specialty procedures and compared the average price for this index to the average price for a 20-minute evaluation & management (E&M) visit (CPT 99213) and the average price of a 60-minute psychotherapy visit (CPT 90837).

Within a subset of services performed in ambulatory settings (offices, hospital outpatient departments, ambulatory surgical centers, and freestanding laboratories), the HPC identified the top 15 physician specialty types (by volume) using either the taxonomy code submitted on the claim or, when necessary, provider taxonomy information submitted by payers. These specialty types are as follows: allergy/immunology, anesthesiology, dermatology, emergency medicine, hospitalist, internal medicine, obstetrics & gynecology, ophthalmology, otolaryngology, pathology, physical medicine/rehab, psychiatry and neurology, radiology, surgery, and urology.

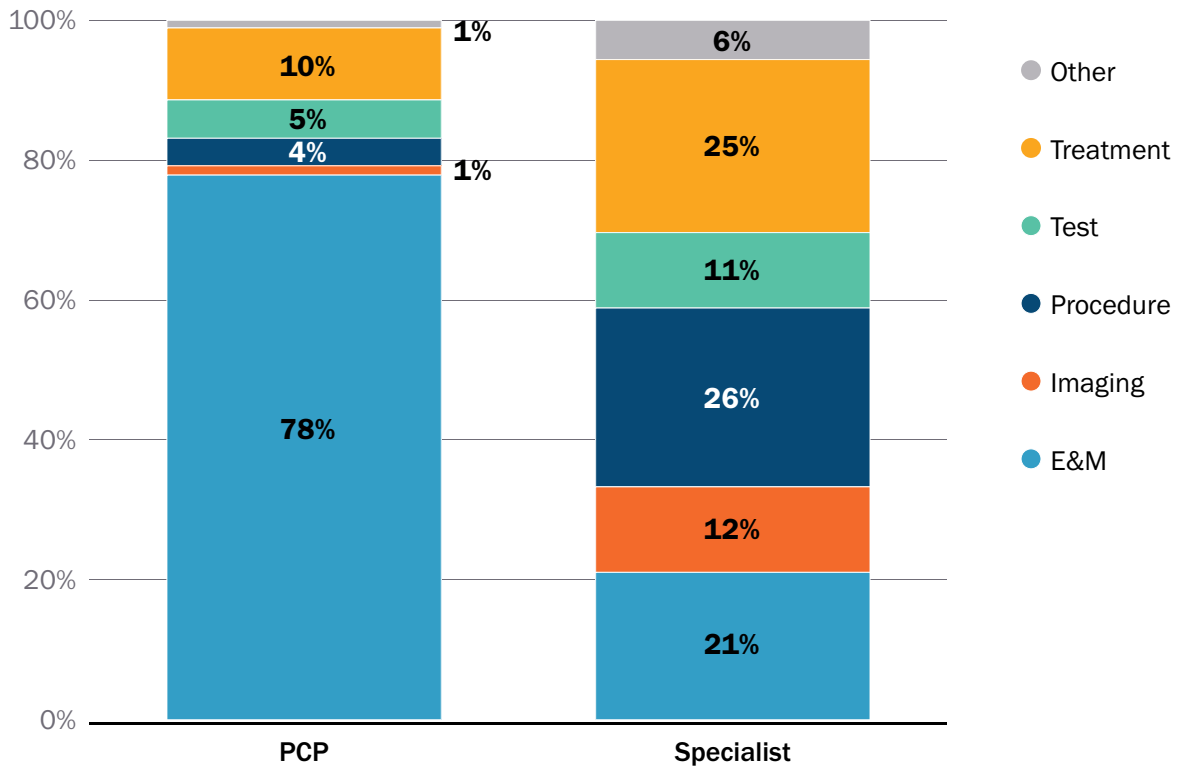
The HPC included the 10 most common procedures that can be safely performed in either an office or hospital outpatient department (commonly referred to as "crossover services") for each physician specialty and excluded procedures with fewer than 300 claims across specialty types. After exclusions and de-duplication, 77 distinct procedures were included. The HPC identified the median intra-service, immediate pre-service, and immediate post-service work times for each service using CMS work time estimates and adjusted the average price for each service of interest to a 30-minute equivalent (equal to the total pre-, intra-, and post-service work time for 99213). There are additional factors that influence the prices of specialist-provided services relative to primary care services such as additional training time to develop the specific expertise and capital expenditures and equipment. However, there are also several potential biases that tend to inflate Medicare fee-for-service prices for specialist services relative to primary care or behavioral health services[1] – and these relative differences in the Medicare rates are often replicated or exaggerated in the commercial market.[2]

This comparison includes professional and facility components for all procedures across all ambulatory sites of service. Restricting to specific sites of service or claim components impacts the observed ratio (for example, when restricting to only procedures and E&M visits performed in a HOPD, the ratio between the average price for 99213 and the index of specialty procedures increases). Likewise, this comparison does not restrict to E&M visits only performed by primary care providers or procedures only performed by specialists. Doing so would lead to a slight decrease in the observed ratio.

1 https://www.healthaffairs.org/content/forefront/modernizing-medicare-physician-fee-schedule-part-1-role-technical-expert-panel
2 https://www.cbo.gov/publication/57778

NOTES: Excludes extreme price outliers that were above 500% of the median price or below 20% of the median price for a given procedure code and site of service. The full list of included specialty and procedure codes can be found in the technical appendix.
SOURCE: CMS Final Rule CMS-1807-F, CY 2025 PFS Final Rule Physician Work Time Estimates. https://www.cms.gov/medicare/payment/fee-schedules/physician/federal-regulation-notices/cms-1807-f

SHARE OF COMMERCIAL AMBULATORY SERVICE REVENUE BY CATEGORY AND PROVIDER TYPE, 2023



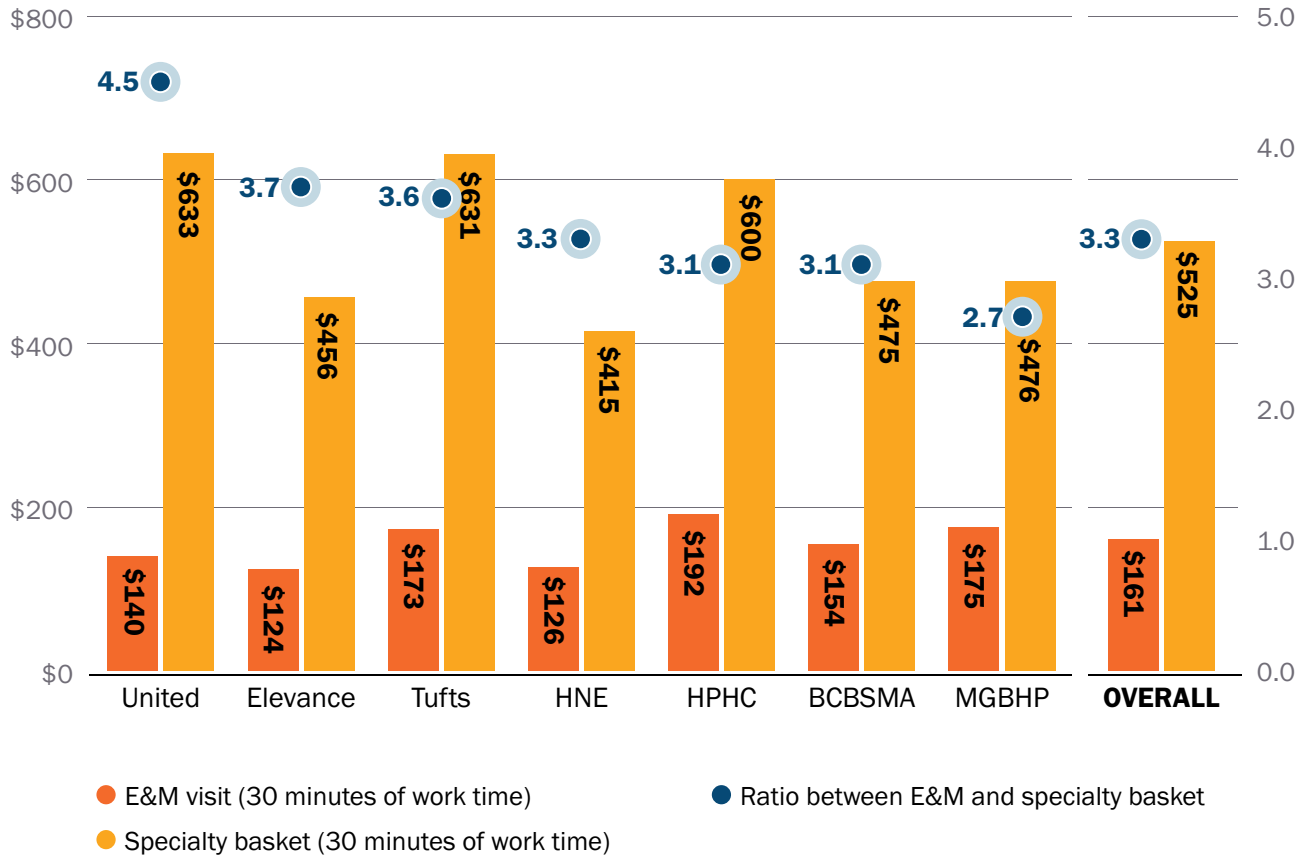
NOTES: E&M = evaluation & management visit. Providers are flagged as primary care providers (PCPs) if: a) they are flagged as a PCP by a payer, b) self-report as a PCP in the Registry of Provider Organizations survey, or c) practice family, general medicine, or pediatrics as identified by payers or in the IQVIA Massachusetts provider dataset. Procedures grouped using Restructured BETOS Classification System Categories. "Other" includes DME, anesthesia, other, and missing categories. "Revenue" defined as total allowed amount per procedure.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023.

- Among services performed in ambulatory settings (offices, ambulatory surgical centers, freestanding laboratories, and hospital outpatient departments), evaluation & management visits make up a far larger share of revenue for primary care providers, compared to specialists.

PCBH

COMMERCIAL PRICE RATIO FOR 30 MINUTES OF WORK TIME FOR SELECT SPECIALTY SERVICES TO PRICES FOR PRIMARY CARE VISITS, 2023

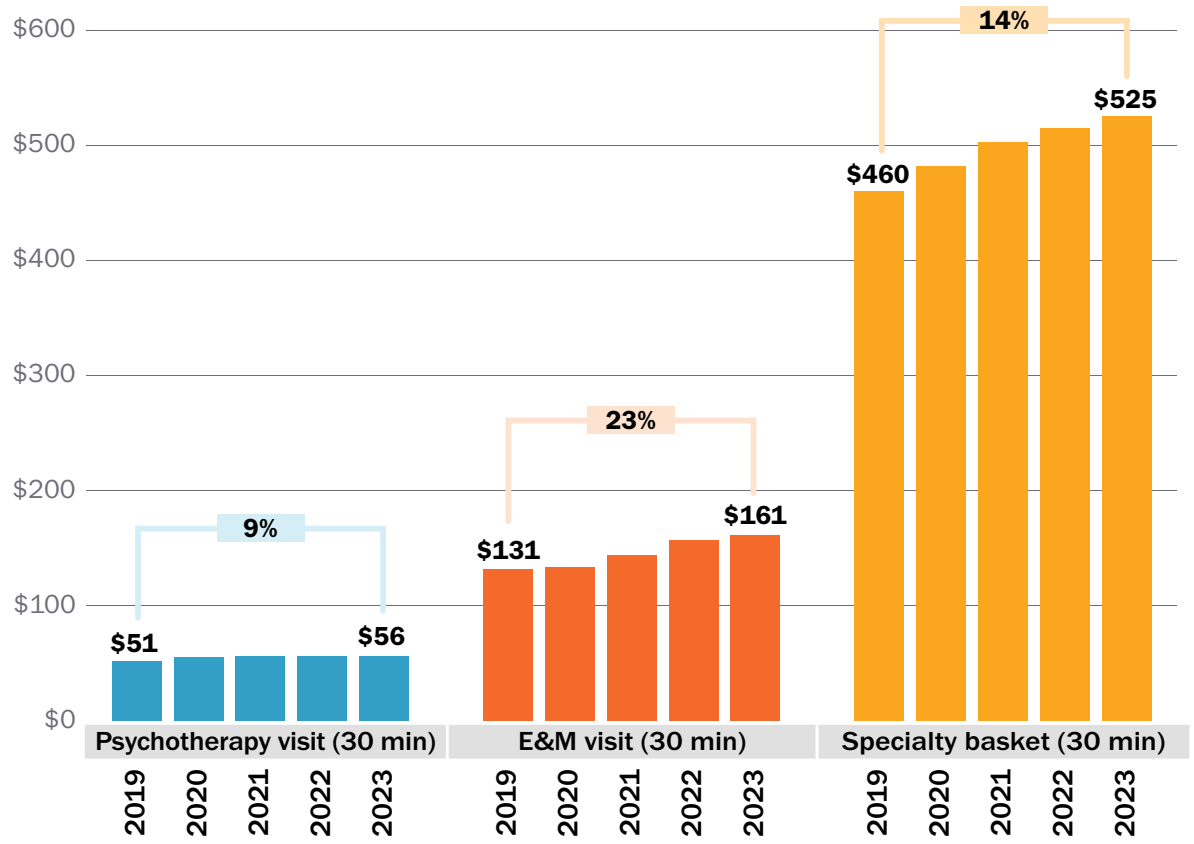


NOTES: E&M = evaluation & management visit. "E&M visit" reflects average allowed amount for a 20-minute E&M visit with an established patient (CPT 99213) (30 minutes of work). "Specialty basket" reflects average of average prices paid for select specialty procedures performed in an ambulatory setting (30 minutes of work).

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023.

- The average payment for a composite of specialty services is 3.3 times greater than the average payment for an E&M visit representing the same amount of work time (30 minutes).
- While the average prices for the services shown have increased between 2019 and 2023, the ratio between the specialty basket and E&M visit has remained relatively constant over these years.

TRENDS IN COMMERCIAL PRICE FOR 30 MINUTES OF WORK TIME FOR PSYCHOTHERAPY, PRIMARY CARE VISITS, AND SELECT SPECIALTY SERVICES, 2019–2023



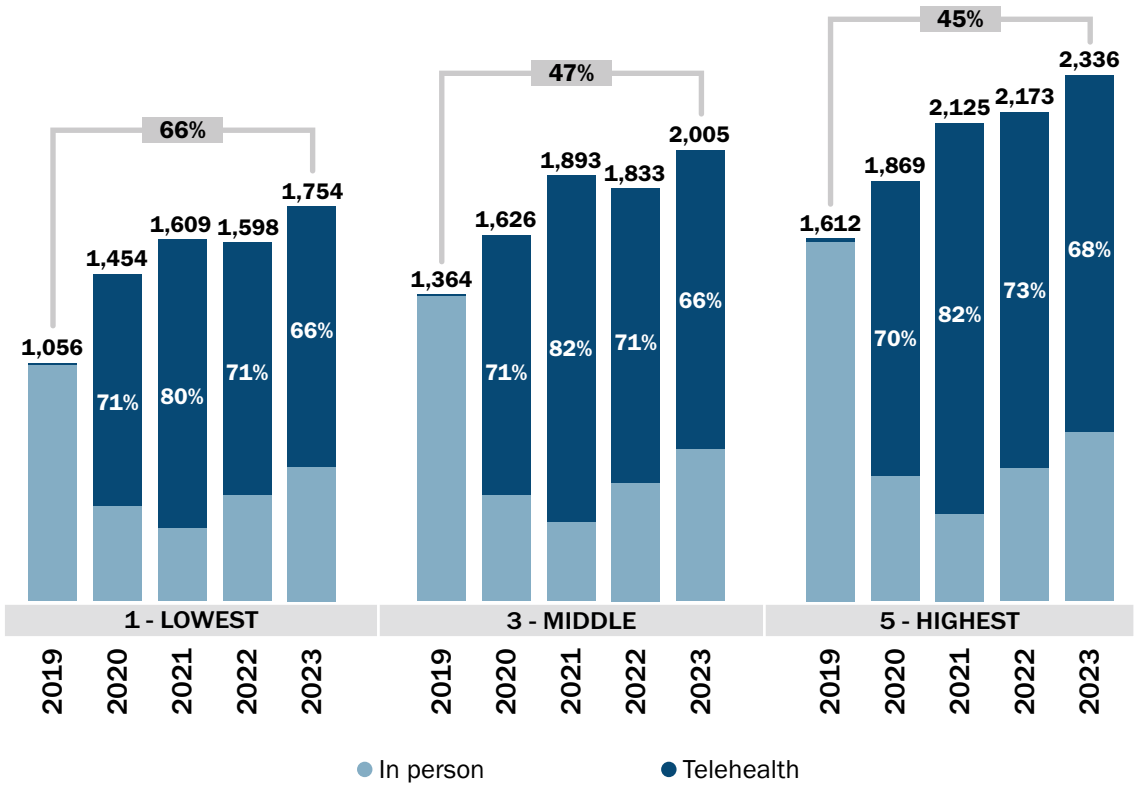
NOTES: E&M = evaluation & management visit. "E&M visit" reflects average allowed amount for a 20-minute E&M visit with an established patient (CPT 99213) (30 minutes of work). "Psychotherapy visit" reflects average allowed amount for a 60-minute psychotherapy visit (CPT 90837) (75 minutes of work). "Specialty basket" reflects average of average prices paid for select specialty procedures performed in an ambulatory setting (30 minutes of work). Excludes claims from MGBHP.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023.

- The average price for 30 minutes of work time for a psychotherapy visit is roughly 65% lower than that of an E&M visit and 90% lower than that of a basket of common specialty services in 2023.
- While the average prices for these services have grown over time, the average price for 30 minutes of psychotherapy has grown at a slower rate than the price for 30 minutes of primary care or specialty work.

PSYCHOTHERAPY UTILIZATION BY COMMERCIAL MEMBERS, BY INCOME OF MEMBER'S ZIP CODE, 2019–2023

Number of commercial psychotherapy visits per 1,000 members by type of visit and community income quintile

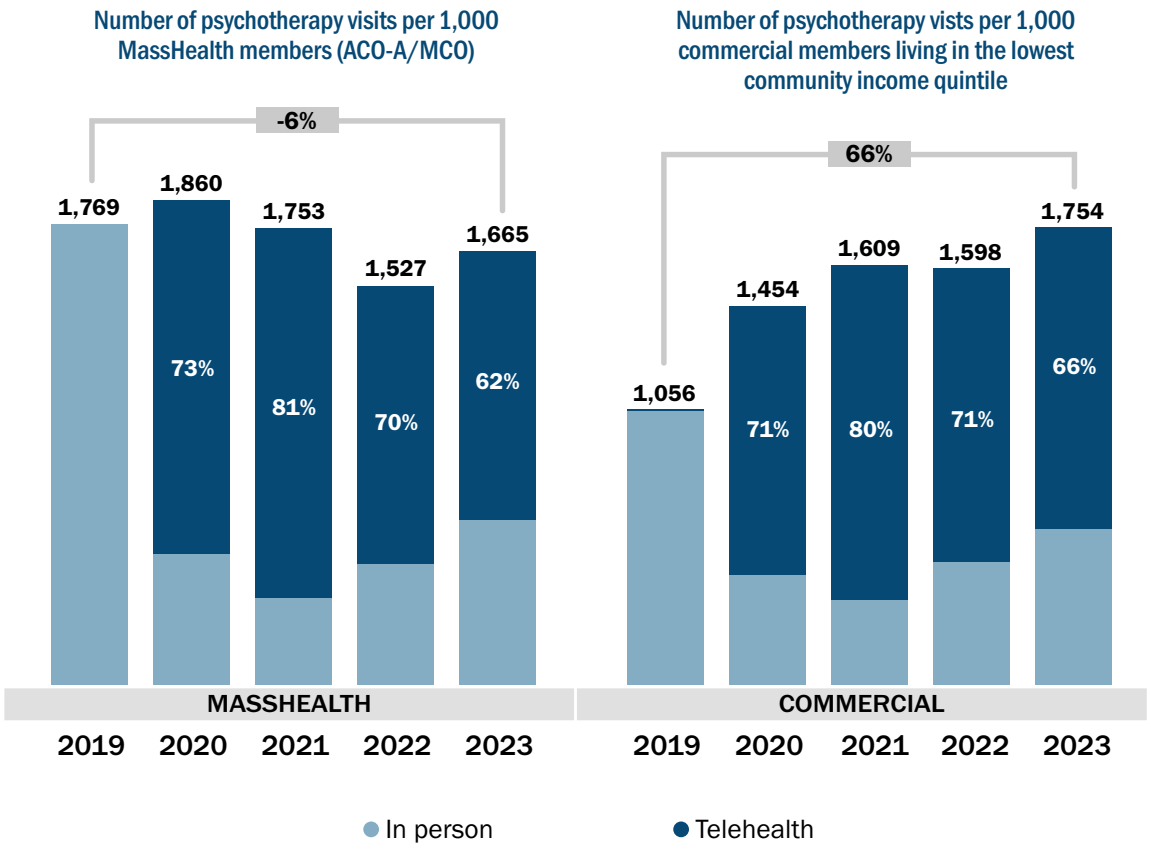


NOTES: "1-Lowest" indicates the zip codes in Massachusetts that include the 20% of the population with the lowest median income. "3-Middle" refers to the communities between the 40th and 60th percentiles of median income. "5-Highest" refers to the communities between the 80th and 100th percentiles of median income. Income groupings represent population-weighted quintiles based on median income of zip code sourced from U.S. Census Bureau American Community Survey 5-year estimates. Data includes psychotherapy visits for individuals ages 0-64 with 12 months of enrollment in the year. Therapy claims identified using Current Procedural Terminology codes 90832, 90833, 90834, 90836, 90837 and 90838. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2019-2023.

- The rate of psychotherapy visits among commercially-insured members rose between 2019 and 2023 among all income groups.
- The increase in psychotherapy use between 2019 and 2023 was greatest for members in the lowest income quintile (66% increase), although members in the highest income quintiles had the highest overall rates of psychotherapy use.
- The share of psychotherapy visits conducted via telehealth peaked at roughly 80% in 2021 for members in all income quintiles and had declined to roughly two-thirds of visits conducted by telehealth in 2023.

PSYCHOTHERAPY UTILIZATION BY MASSHEALTH MEMBERS AND COMMERCIAL MEMBERS LIVING IN THE LOWEST INCOME COMMUNITIES, 2019–2023

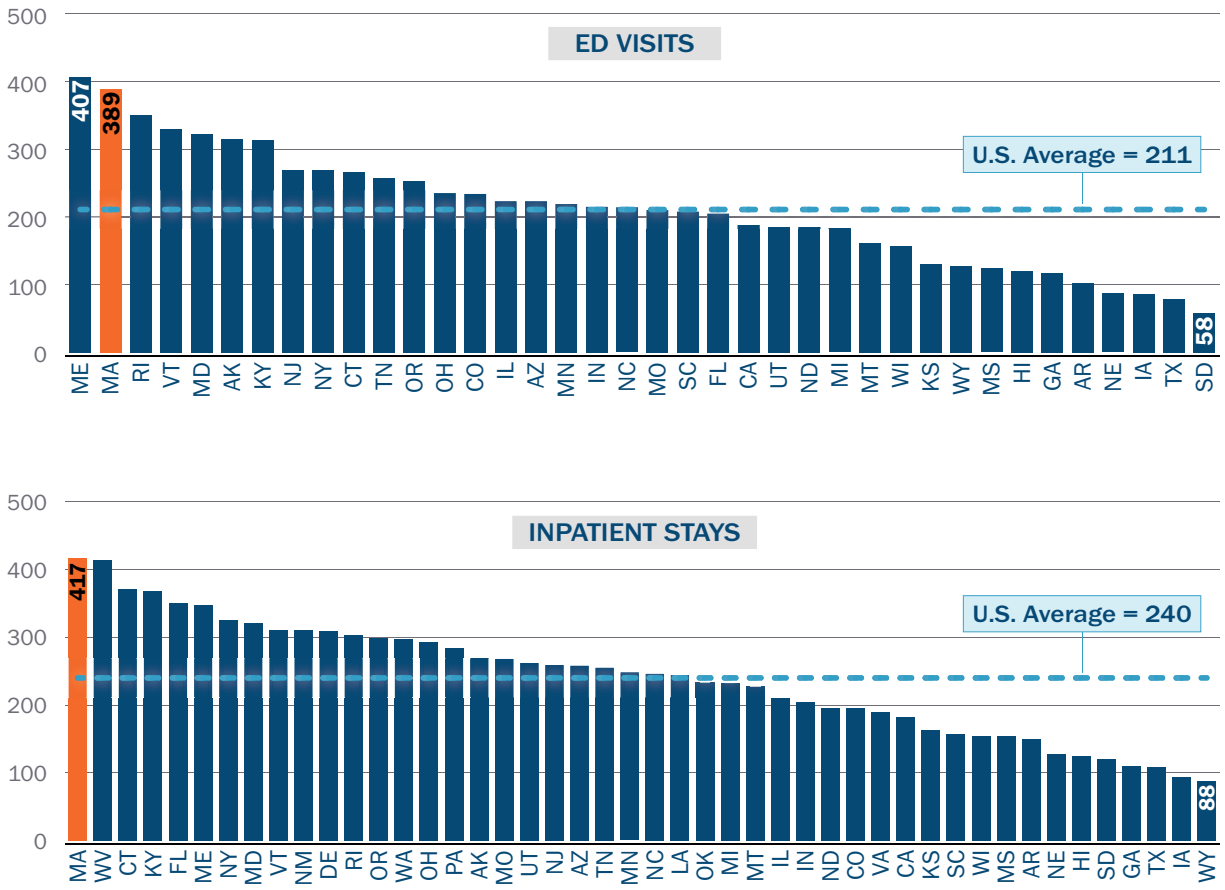


NOTES: "ACO-A" includes enrollees involved in MassHealth Accountable Care Partnership Plan. "MCO" refers to managed care organizations. Data excludes MassHealth Primary Care accountable care organizations. Data includes psychotherapy visits for individuals ages 0-64 with 12 months of enrollment in either ACO-A or MCO plans in the year. Therapy claims identified using Current Procedural Terminology codes 90832, 90833, 90834, 90836, 90837 and 90838. Income groupings represent population-weighted quintiles based on median income of zip code sourced from U.S. Census Bureau American Community Survey 5-year estimates. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023 (2019-2022).

- The overall rate of psychotherapy visits was lower for MassHealth ACO-A/MCO members (1,665 per 1,000 members) than for lower income commercial members (1,754 per 1,000 members) in 2023.
- The rate of psychotherapy visits among MassHealth ACO-A/MCO members declined between 2019 and 2023. The share of psychotherapy visits conducted via telehealth for MassHealth ACO-A/MCO members peaked at 81% in 2021.
- The decrease in psychotherapy use by MassHealth ACO-A/MCO members was driven by decline in utilization by children (ages 0-17) and older adults (ages 50-64) who accounted for 42% and 14% of members, respectively. Children's psychotherapy visits declined by 20% and older adults' psychotherapy use declined by 9% between 2019 and 2023. In contrast, therapy use increased among commercial members in these populations (see technical appendix for data).

ALL-PAYER OPIOID-RELATED ACUTE CARE HOSPITAL UTILIZATION BY STATE PER 100,000 POPULATION, 2022

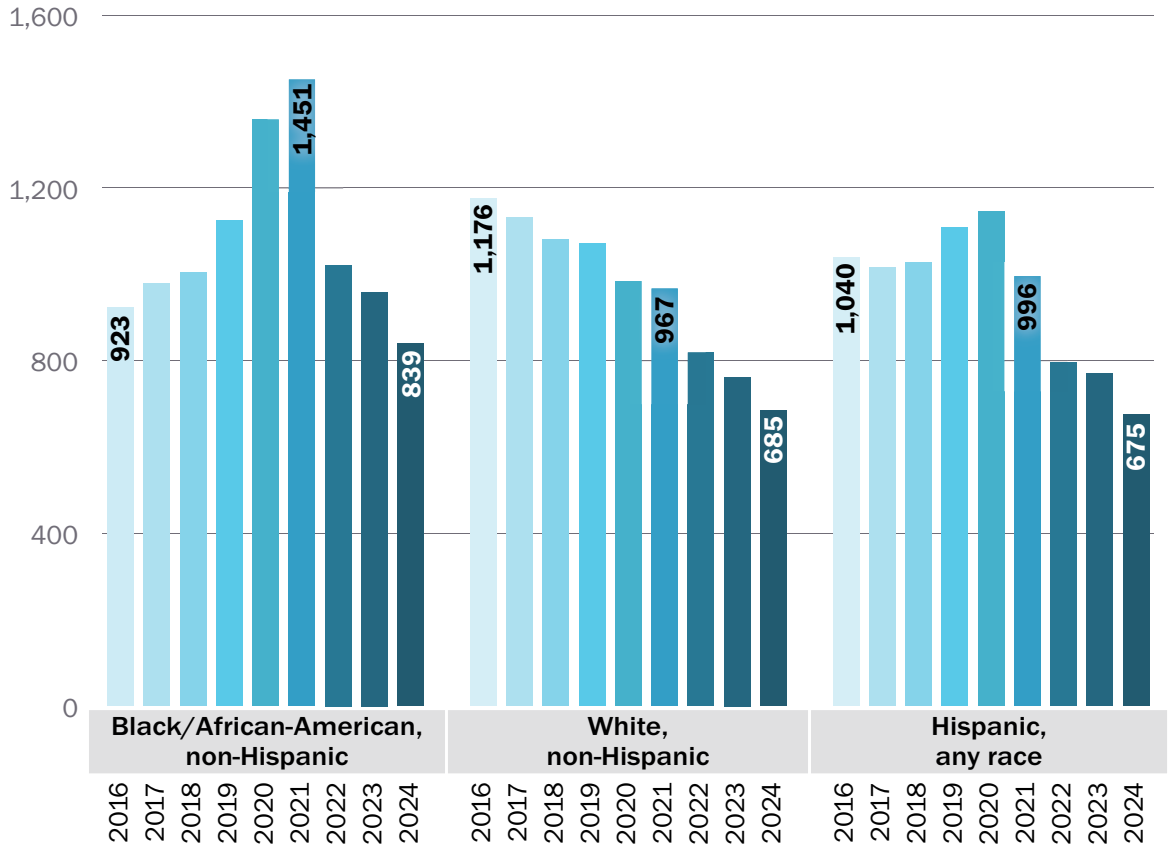


NOTES: Only states reporting both inpatient and emergency department data were included. Average was calculated from states included in graphic. Washington DC was excluded.

SOURCES: Quarterly and annual rates for Opioid-Related Hospital Use for all available States and settings of care. Available at https://datatools.ahrq.gov/hcup-fast-stats/; Kaiser Family Foundation State Health Facts: https://www.kff.org/other/state-indicator/opioid-overdose-death-rates/

- Massachusetts had the highest rate of opioid-related inpatient stays and the second highest rate of opioid-related ED visits in 2022 among states that report these data.
- Massachusetts experienced a slight increase in opioid-related deaths from 2021 to 2022 (1.8%). Massachusetts had the 13th highest death rate from opioids in 2022 at 33.1 deaths (age-adjusted) per 100,000 population (see technical appendix for data for all states).

ALL-PAYER OPIOID-RELATED ED VISITS AND INPATIENT STAYS (COMBINED) BY RACE/ETHNICITY PER 100,000 RESIDENTS, 2016–2024



NOTES: Opioid-related hospitalizations included any inpatient stay or emergency department visit with at least one opioid-related code (either primary or secondary diagnoses). See technical appendix for a complete list of codes. The Hispanic/Latino of any race category also included those of Spanish culture or origin regardless of race. Data from populations with other race / ethnicity as reported by the facility are not included in the graph due to methodology concerns. Analysis was restricted to Massachusetts residents.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) Hospital Inpatient and Emergency Department Discharge Databases 2016 to 2024, preliminary FY2025Q2 and preliminary EDD FY24. Population denominators from American Community Survey 1 year files 2016 through 2023 (2023 also used for 2024).

- Opioid-related hospital utilization (ED and inpatient stays combined) continued to decline to a low of 635 opioid-related visits per 100,000 residents in 2024. Only 9.0% of opioid-related inpatient stays at acute-care hospitals listed an opioid diagnosis as the primary diagnosis while 47.8% of ED visits listed an opioid diagnosis as the primary diagnosis in 2024.
- From 2016 through 2020, trends differed between groups by race/ethnicity. However from 2021 to 2024, rates of these events decreased among all racial/ethnic groups shown.
- Black/African-American residents had the largest absolute decrease in opioid-related hospital utilization events from 2021 to 2024 from 1,451 opioid-related hospital utilization events per 100,000 residents to 839 opioid-related hospital utilization events per 100,000 residents (a 42% decrease). However, these residents still had the highest rate of opioid-related hospital utilization among all racial/ethnic groups shown in 2024.

HOSPITAL AND POST-ACUTE CARE UTILIZATION

INTRODUCTION

HOSPITAL AND POST-ACUTE CARE UTILIZATION

Hospital spending accounted for almost 40% of total health care spending in Massachusetts in 2023.[1] While Massachusetts has regularly ranked high compared to other states on metrics such as health status and health care access, the Commonwealth ranked 35th in the nation in the area of "cost and potentially avoidable hospital use," according to the 2025 Commonwealth Fund's Scorecard on State Health System Performance.[2] The HPC has shown that rates of hospital use in Massachusetts are higher than the national average, and a larger share of inpatient care is delivered at higher-cost academic medical centers.[3] While Massachusetts has consistently exceeded the national average for hospital use in recent years, this was not always the case. In the early 2000s, Massachusetts had the same rate of inpatient hospital use per capita as the national average.[3] The HPC has recommended action to reduce unnecessary hospital use and to shift appropriate care to community hospitals.

Post-acute care (PAC) refers to a range of medical services that support a patient's rehabilitation and nursing care needs following an acute care hospitalization. Depending on patient need, these services may be delivered at home (through a home health agency) or in an institutional setting such as a skilled nursing facility (SNF), inpatient rehabilitation facility (IRF), or long-term care hospital (LTCH). Patients with a "routine" discharge are discharged to home with no formal post-acute care, but they may receive some services, such as physical therapy, on an outpatient basis. The HPC previously found that Massachusetts had higher rates of discharge to institutional PAC and home health than the U.S. average, across all payers, contributing to higher PAC spending. In 2023, Massachusetts Medicare spending on PAC totaled nearly $1.5 billion, and annual PAC spending per beneficiary in Massachusetts was 9.3% higher ($162 more) than the U.S. average.[4] Institutional PAC is considerably more expensive than home health. In 2023, Medicare spending in Massachusetts for a SNF stay averaged $12,794, compared to roughly $2,100 for a home health episode.[4]

This Chartpack reviews recent trends in hospital use and post-acute care in the Commonwealth, largely through 2024, and examines several measures of avoidable hospital utilization, including avoidable emergency department (ED) use, ED boarding, and readmissions. It also examines trends in appropriate inpatient care occurring at community hospitals compared to teaching hospitals and academic medical centers, along with trends in the use of PAC following hospital discharge. Note that in the analyses that follow, ED visits that result in an inpatient admission are not included in ED visit counts, unless otherwise noted.

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1 Center for Health Information and Analysis "2025 Annual Report on the Performance of the Massachusetts Health Care System" (p. 27). Estimate excludes the net cost of private health insurance, spending at the VA, and the Health Safety Net. Physician spending associated with hospital visits is also excluded.

2 Commonwealth Fund's 2025 Scorecard on State Health System Performance. Available at: https://scorecard.commonwealthfund.org/. Accessed June 2025.

3 Massachusetts Health Policy Commission. 2023 Cost Trends Report. Sep 2023. Available at: https://www.mass.gov/doc/2023-health-care-cost-trends-report/download

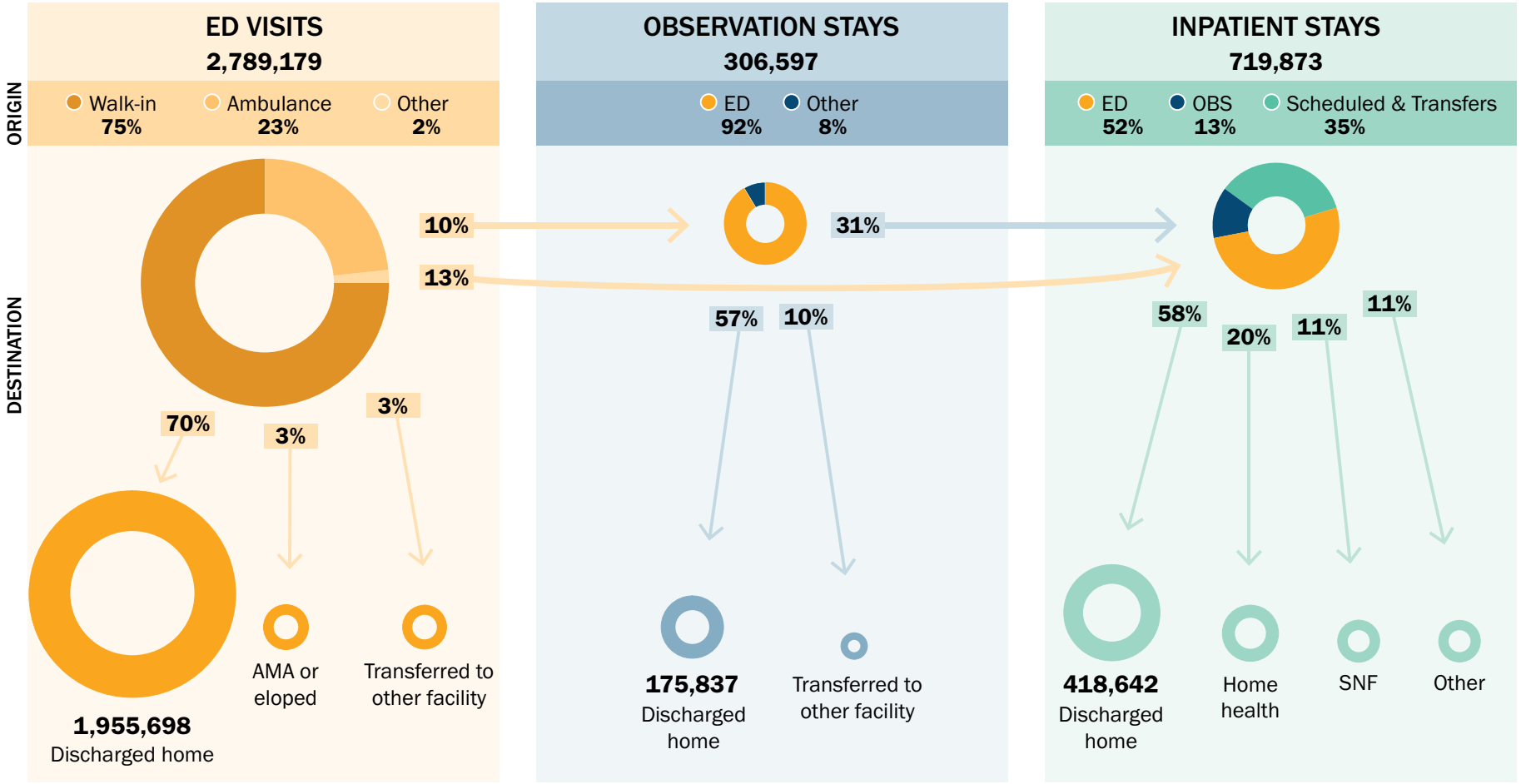
4 HPC analysis of 2022 Centers for Medicare and Medicaid Services (CMS) Medicare Geographic Variation Public Use File.

KEY FINDINGS

HOSPITAL AND POST-ACUTE CARE UTILIZATION

- The number of statewide emergency department visits has remained steady from 2022 to 2024 with roughly 315 visits per 1,000 residents, about 40% of which are potentially avoidable.
- Roughly 30% of behavioral health ED patients continue to board in the ED (visits exceed 12 hours).
- While two-thirds of ED visits continue to take place at community hospitals, these hospitals cared for a declining share of commercially-insured patients (46%) and newborn deliveries (47%) in 2024.
- Massachusetts Medicare beneficiaries had the highest rate of being hospitalized, the second highest rate of having a preventable hospital visit and the highest likelihood of being admitted to a hospital stay after an ED visit across all 50 states.
- Massachusetts Medicare beneficiaries are more likely to receive care in hospital outpatient departments for 18 of 25 common services that can be provided in hospital or office-based settings.
- Average length of stay in the hospital has been relatively steady, below peak levels observed in 2021-2022 but significantly above pre-pandemic levels, particularly for patients ultimately discharged to post-acute care.

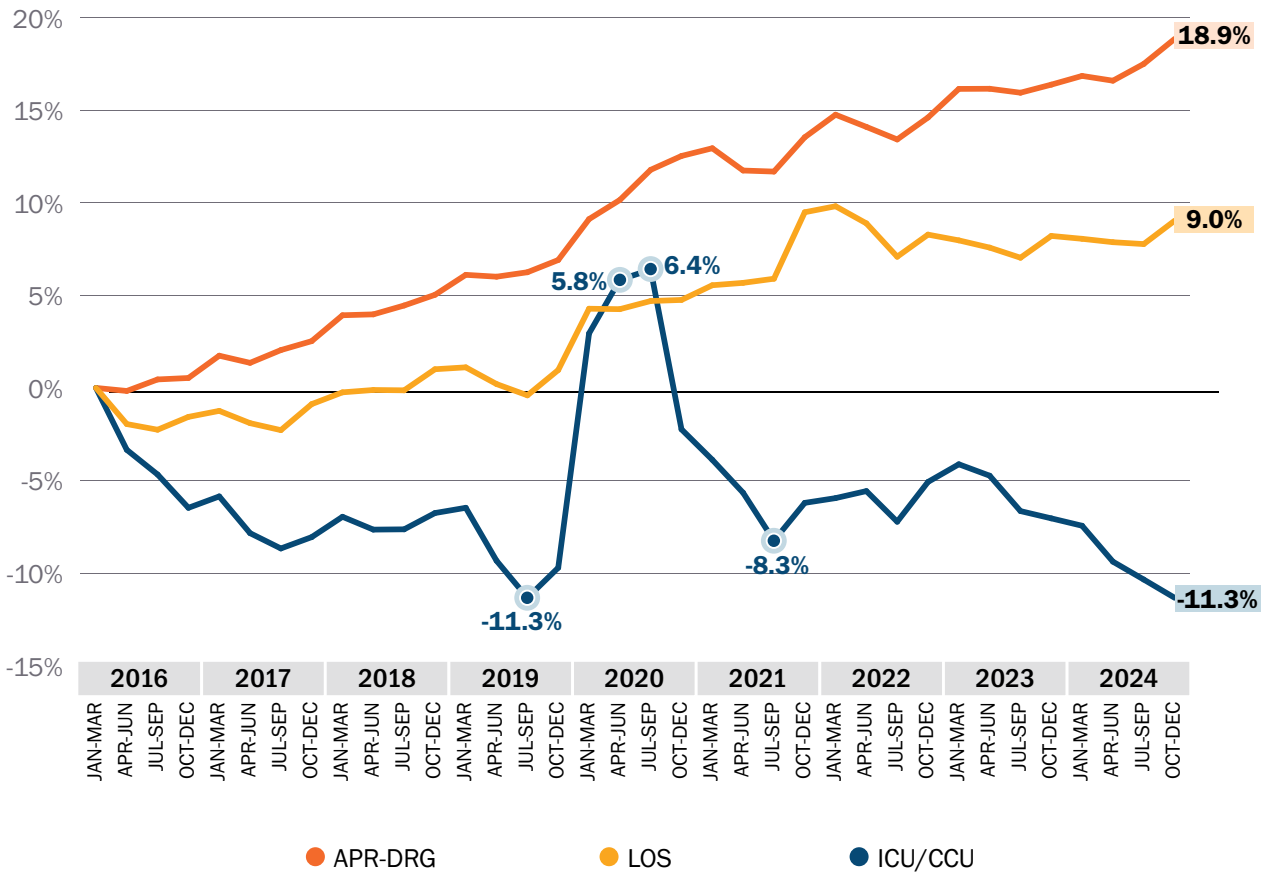
PATIENT PATHWAYS THROUGH THE HOSPITAL, 2024



NOTES: Ambulance transport category includes ambulance and helicopter; non-ambulance and non-walk-in transport category includes law enforcement and "other". Against medical advice destination category includes against medical advice and eloped. Emergency department visits identified using both emergency department and inpatient data. Transport information only available for ED visits identified in emergency department data (i.e., not admitted to observation or inpatient). Visits at specialty hospitals are excluded, as well as visits at three hospitals with incomplete data during the study period (Metrowest Medical Center, Framingham; Metrowest Medical Center, Morse; and St. Vincent Hospital).

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) Emergency Department Discharge, Outpatient Observation, and Hospital Inpatient Discharge Databases FY2020 to FY2024, preliminary FY2025.

INPATIENT PERCENTAGE CHANGE IN AVERAGE LENGTH OF STAY, ICU/CCU DAYS PER DISCHARGE, AND CASE MIX INDEX (3 QTR MOVING AVERAGE), JAN 2016–DEC 2024



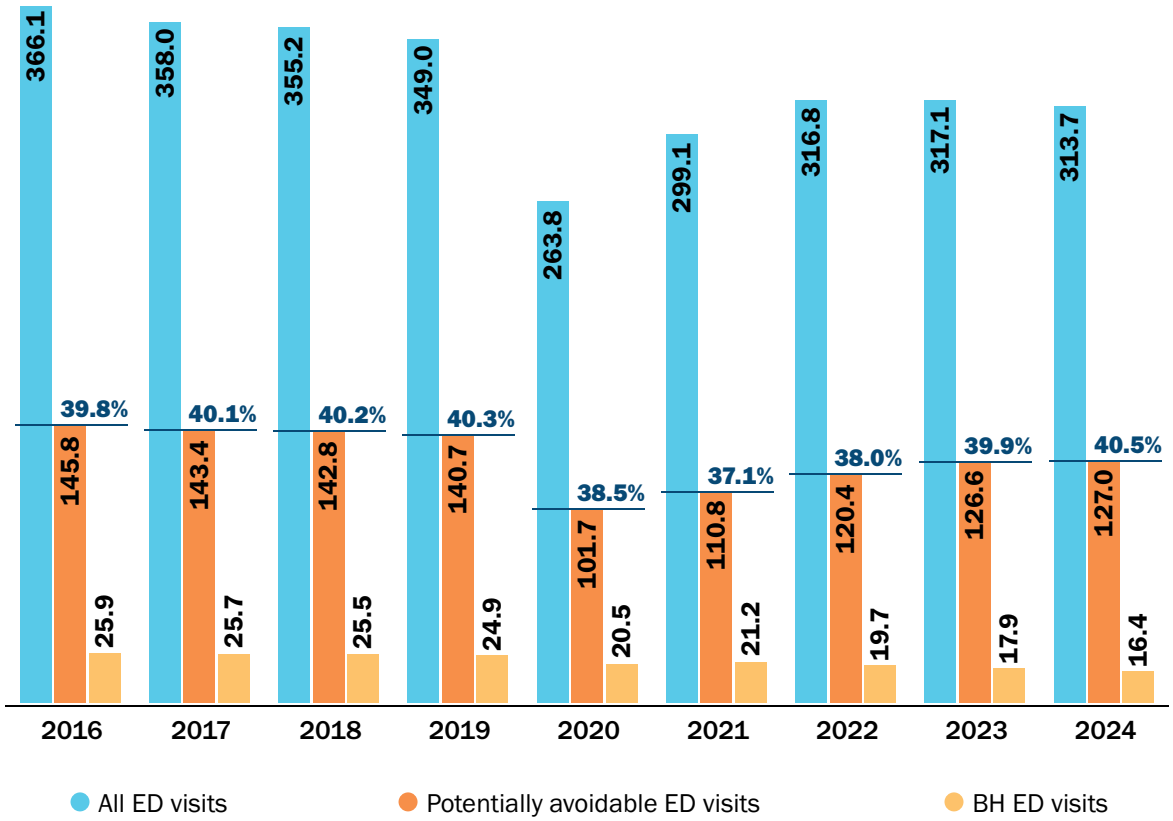
NOTES: Data is based on patient discharge date and represent 3-quarter moving averages centered on the quarter in the X axis. The analysis excludes behavioral health stays and extremely long length of stay because these cases are usually not paid based on DRGs. Other exclusions include rehabilitation, transfers, and patients that died. Two hospitals with at least one quarter of data quality issues (Shriner's Hospital for Children – Boston and Melrose Wakefield – Lawrence) excluded for the entire study period. See technical appendix for details.

SOURCES: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, 2016-2024 and Preliminary FY2025

- APR-DRG weight (casemix index), length of stay (LOS), and time patients spend in intensive care and cardiac care units (ICU, CCUs) are potential indicators of the level of complexity or acuity of hospitalized patients.
- The APR-DRG weight is also influenced by hospital administrative efforts to increase recorded patient acuity in response to financial incentives.[1]
- From Q1 2016 to Q4 2024, APR-DRG weights grew 18.9% and LOS increased 9.0%, while ICU/CCU days per discharge decreased by 11.3%.

1 Crespin, D, et al. "Upcoding Linked To Up To Two-Thirds Of Growth In Highest-Intensity Hospital Discharges In 5 States, 2011–19:" Health Affairs 43.12 (2024): 1619-1627.

ALL ED VISITS, POTENTIALLY AVOIDABLE ED VISITS, AND BEHAVIORAL HEALTH ED VISITS PER 1,000 RESIDENTS, 2016–2024

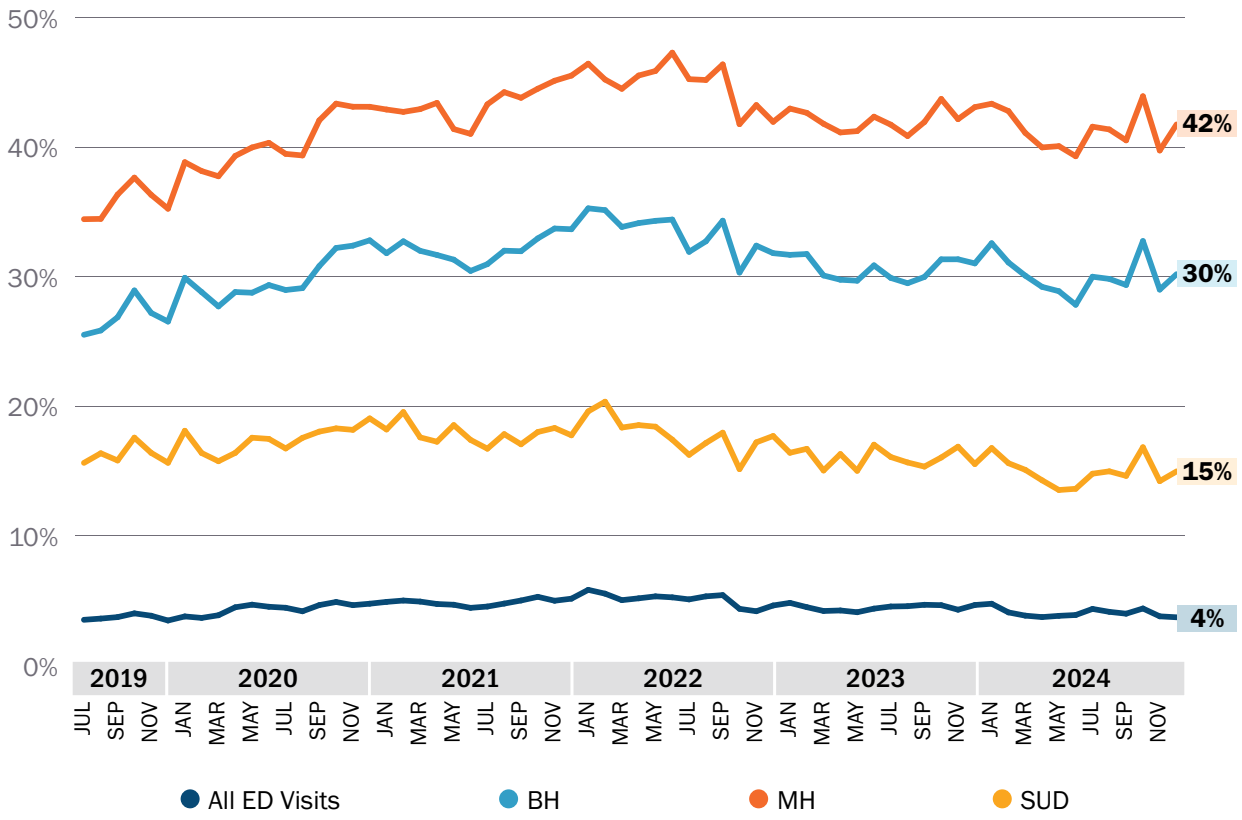


NOTES: Data only include ED visits that did not result in an inpatient admission. Avoidable ED visits are based on the Billings algorithm, which classifies an ED visit into the following categories: Emergent - ED care needed and not avoidable; Emergent - ED care needed but avoidable; Emergent - primary care treatable; and Non-emergent - primary care treatable. "Avoidable" is defined here as ED visits that were emergent - primary care treatable or non-emergent - primary care treatable. Behavioral health ED visits were identified based on a principal diagnosis related to mental health and/or substance use disorder using the Clinical Classifications Revised Software (CCSR) diagnostic classifications. To improve classification rate, diagnosis codes unclassified by the Billings algorithm were truncated and shortened codes were re-classified. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) Emergency Department Discharge Database FY2016 – FY2023, preliminary FY2024 and FY2025.

- The total number of ED visits was relatively steady between 2023 and 2024 and remains below pre-pandemic levels.
- The share of ED visits that were potentially avoidable grew slightly from 39.8% in 2023 to 40.5% in 2024.
- Between 2023 and 2024, the number of behavioral health ED visits continued to decline and comprised 5.2% of visits in 2024.

PERCENT OF "TREAT & RELEASE" ED VISITS THAT RESULTED IN BOARDING (≥12 HOURS) BY TYPE, JULY 2019 TO DECEMBER 2024



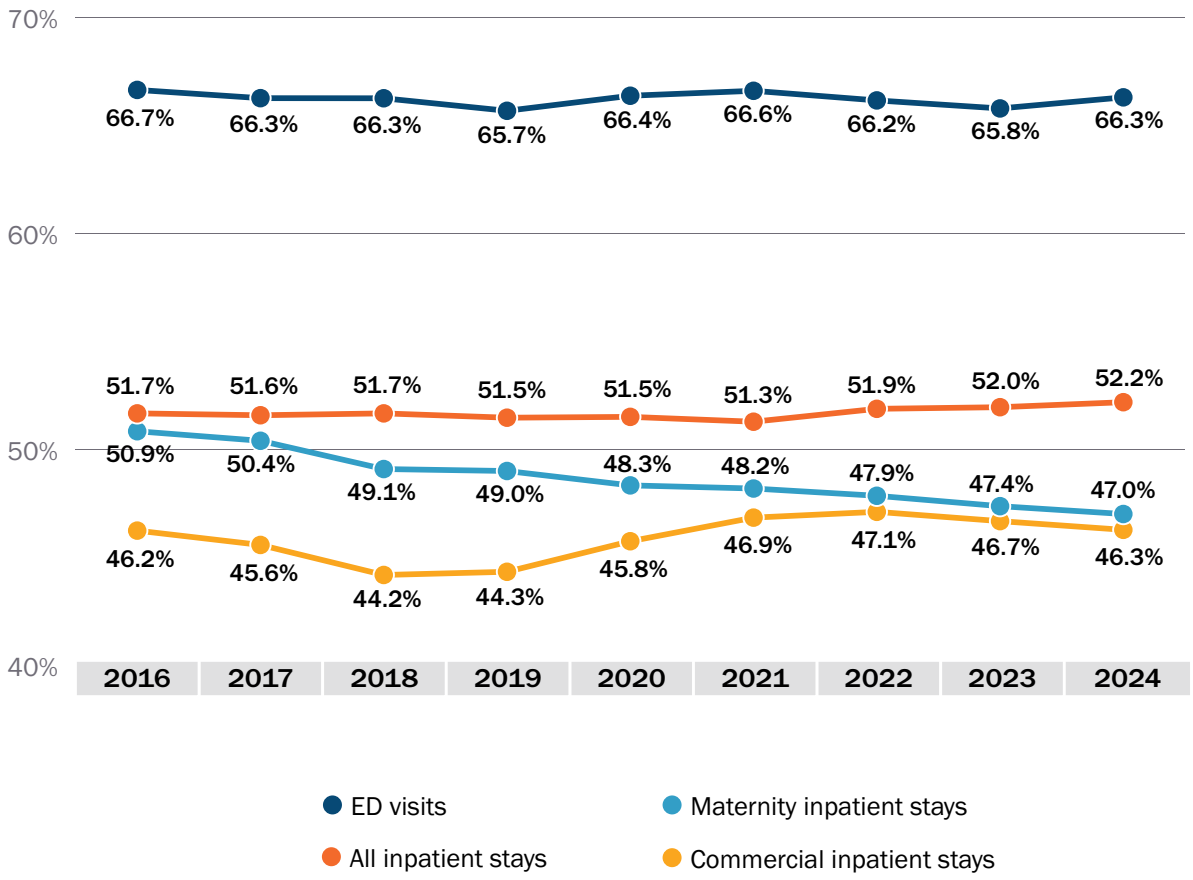
NOTES: MH = Mental health; BH = Behavioral health; SUD = Substance use disorder. Excludes nine ED sites due to irregular length of stay data (Metrowest MC - Framingham, Metrowest MC - Morse, St. Vincent, HealthAlliance–Clinton – Clinton Campus, HealthAlliance-Clinton – Leominster Campus, UMass Memorial MC – Memorial, UMass Memorial MC – University, Marlborough, and North Adams). The HPC defines ED boarding as greater than or equal to 12 hours in the hospital ED. Behavioral health visits were identified using AHRQ's CCSR for the primary diagnosis (BH: MBD001-MBD034, MH: MBD001-MBD013, SUD: MBD17-MBD34). See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) Emergency Department Discharge Database FY2020 to FY2023, preliminary FY2024 and FY2025.

- The share of behavioral health ED visits that resulted in boarding increased between July 2019 and July 2022 and has remained relatively steady since then.
- This exhibit does not include individuals who visited the ED and were admitted to an observation or inpatient bed; however, previous work by the HPC has shown that rates of ED boarding tend to be higher for such individuals.[1]
- Persistent rates of behavioral heath ED boarding indicate challenges in identifying available inpatient beds or appropriate care in the community for individuals experiencing behavioral heath crises.

1 Massachusetts Health Policy Commission. "Behavioral Health Emergency Department Boarding in Massachusetts." February 27th, 2025. Available at: https://masshpc.gov/sites/default/files/2025-02/20250227_BH-ED-Boarding_0.pdf

PERCENTAGE OF INPATIENT STAYS AND ED VISITS AT COMMUNITY HOSPITALS, BY DISCHARGE TYPE, 2016–2024

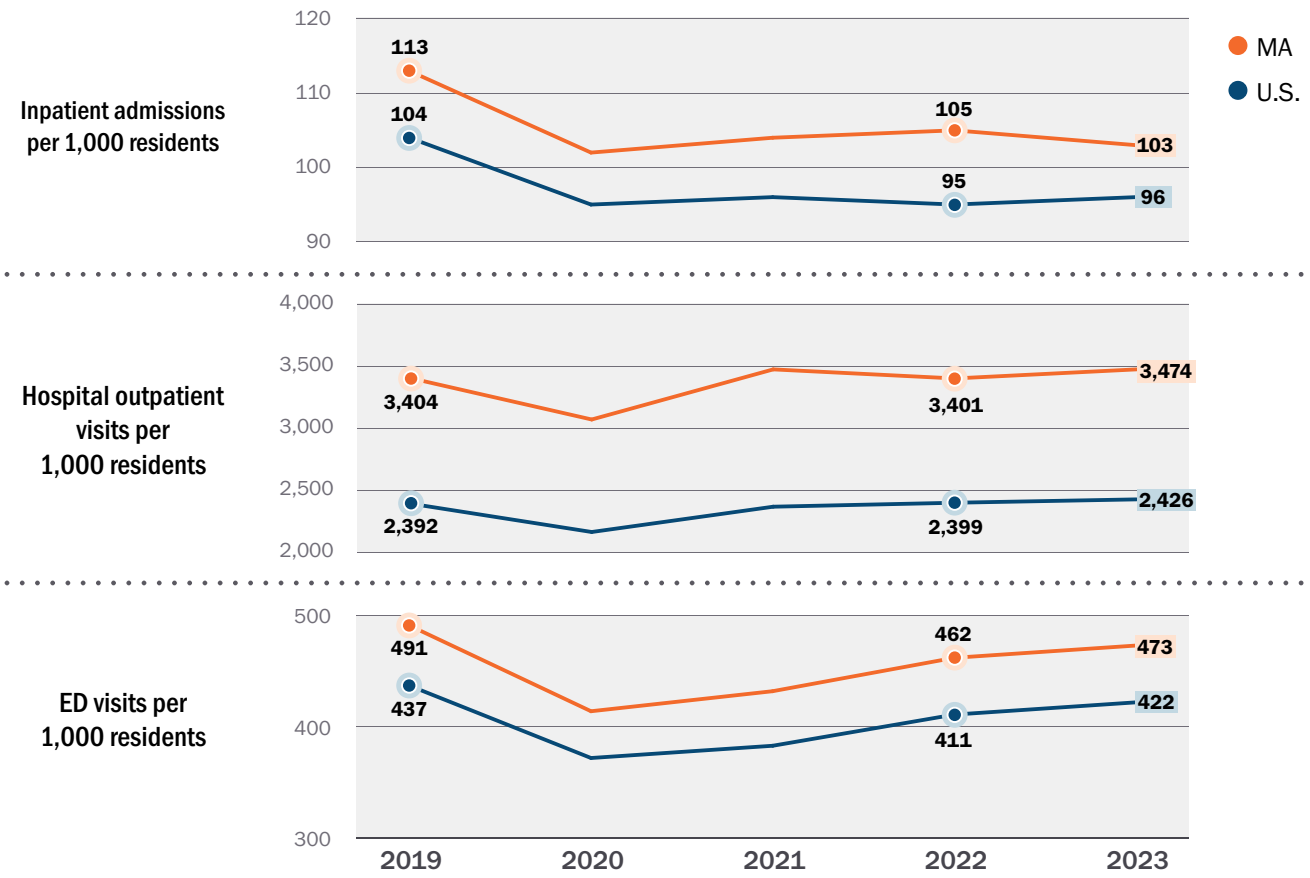


NOTES: The Center for Health Information and Analysis defines community hospitals as general acute care hospitals that do not support large teaching and research programs. Two hospitals with at least one quarter of missing payer or admission source data (MetroWest MC - Morse and Mercy MC) were excluded for the entire study period.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) Emergency Department Discharge Database FY2016-FY2023 and preliminary FY2024 and FY2025, and Hospital Inpatient Discharge Database, FY2016-FY2024 and preliminary FY2025

- Community hospitals (non-teaching, non-specialty hospitals) accounted for approximately two-thirds (66.3%) of all ED visits and 52.2% of inpatient stays in Massachusetts in 2024, similar to their proportion in 2016.
- The share of hospital births taking place at community hospitals has been generally declining since 2016 (from 50.9% in 2016 to 47.0% in 2024). Some of the movement of births away from community hospitals over time reflects a decrease in provision of maternity services at community hospitals in Massachusetts; between 2017 and 2025, six community hospitals have permanently closed their obstetric units.
- The share of commercial stays taking place in community hospitals rose from 2019 and 2022 but decreased slightly between 2022 and 2024.

HOSPITAL USE IN MASSACHUSETTS AND THE U.S., 2019–2023

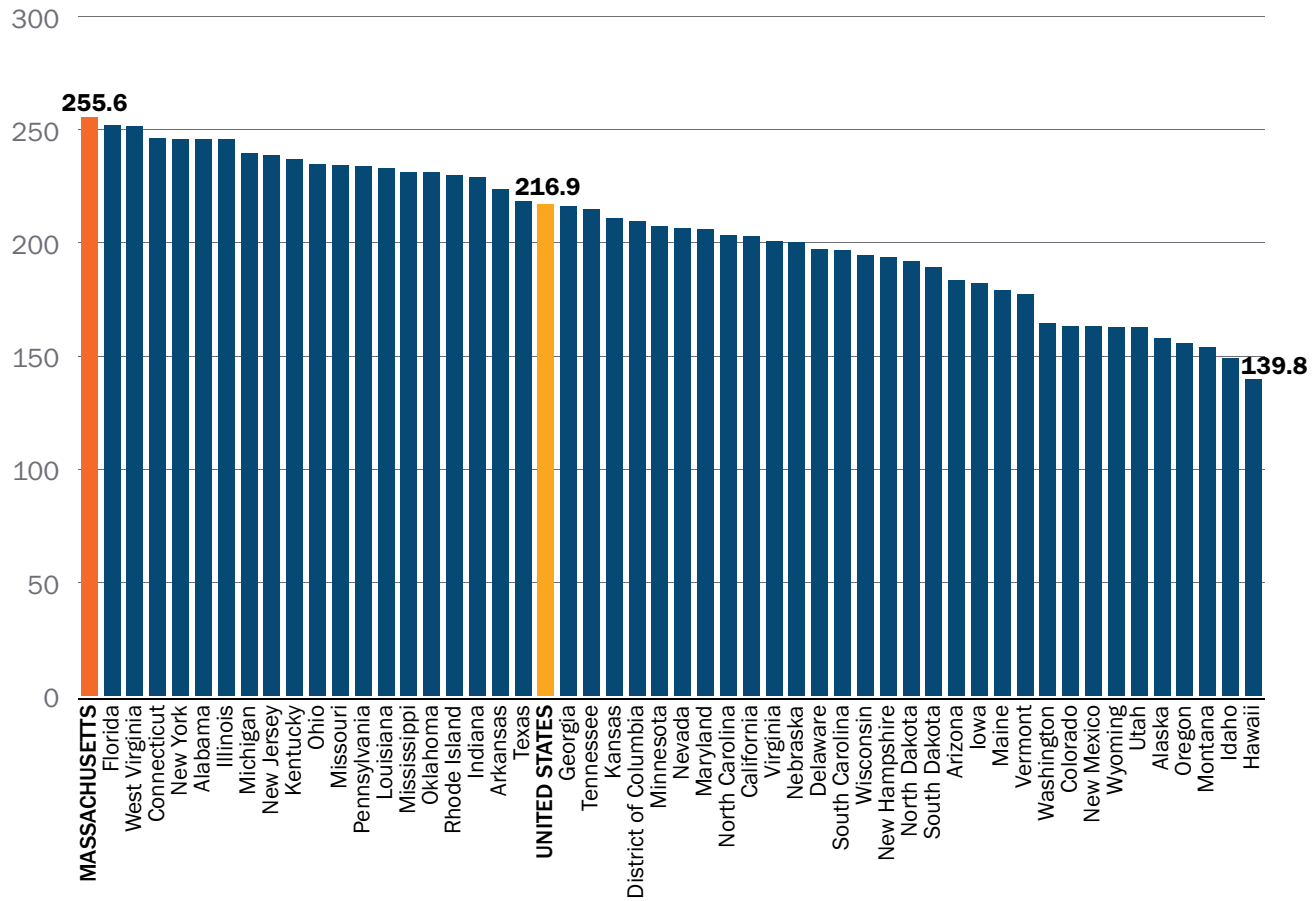


NOTES: Data are for community hospitals as defined by Kaiser Family Foundation, which represent 85% of all hospitals. Federal hospitals, long term care hospitals, psychiatric hospitals, institutions for the intellectually disabled, and alcoholism and other chemical dependency hospitals are not included. The United States category includes Massachusetts.

SOURCES: Kaiser Family Foundation State Health Facts (2023). "Hospital Admissions per 1,000 Population by Ownership Type" (2012 - 2023); "Hospital Emergency Room Visits per 1,000 Population by Ownership Type" (2012-2023); "Hospital Outpatient Visits per 1,000 Population by Ownership Type" (2012-2023). http://www.kff.org/state-category/providers-service-use/hospital-utilization/

- Massachusetts continued to have higher rates of hospital inpatient (7% higher), outpatient (43% higher) and ED visits (12% higher) than the U.S. in 2023.
- From 2019 to 2023, per capita inpatient visits fell slightly faster in Massachusetts (-8.8%) than the U.S. as a whole (-7.7%).

TOTAL INPATIENT STAYS PER 1,000 ORIGINAL MEDICARE BENEFICIARIES AGED 65+, BY STATE, 2023

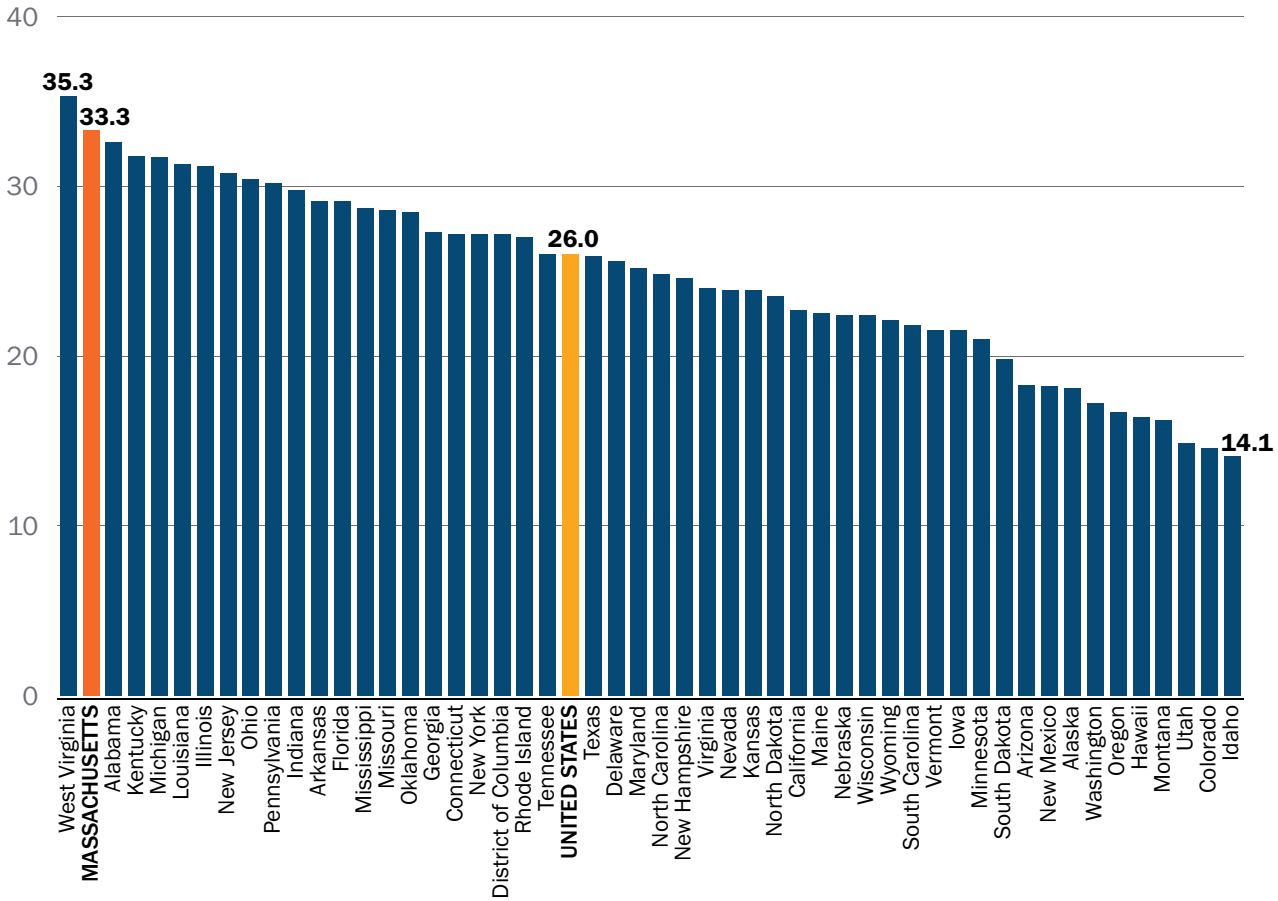


- Massachusetts has the highest rate of inpatient stays among Original Medicare beneficiaries aged 65+.

NOTES: Inpatient discharge data is based on 100% of Original Medicare (fee-for-service) claims for beneficiaries aged 65 and older.

SOURCES: HPC analysis of the Center for Medicare and Medicaid Services Geographic Variation Public Use file, 2023

ANNUAL PREVENTABLE HOSPITAL ADMISSIONS PER 1,000 ORIGINAL MEDICARE BENEFICIARIES AGED 65+, BY STATE, 2023

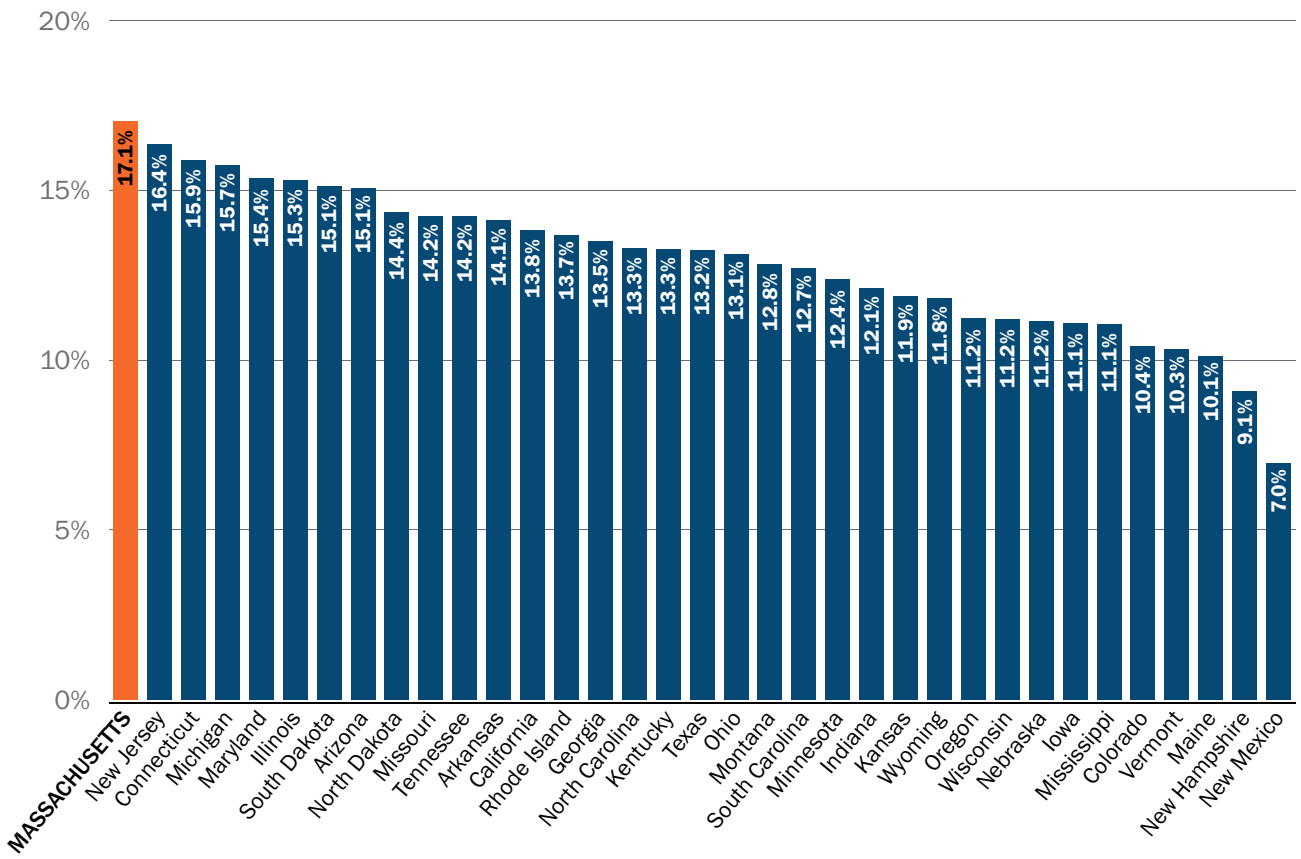


NOTES: Data includes only beneficiaries enrolled in Original Medicare (fee-for-service) aged 65 and older and combines admissions for the following ambulatory care-sensitive conditions: diabetes, COPD, asthma, hypertension, CHF, bacterial pneumonia, UTI and lower extremity amputation.

SOURCES: HPC analysis of the Center for Medicare and Medicaid Services Geographic Variation Public Use file, 2023

- Preventable hospitalizations are hospitalizations that could potentially have been treated in ambulatory care settings if they had been seen earlier (e.g., earlier primary care visit for UTI symptoms). They are considered an indicator for both quality of care and health care access.

PERCENTAGE OF ALL PATIENT ED VISITS ADMITTED TO AN INPATIENT STAY, BY STATE, 2022

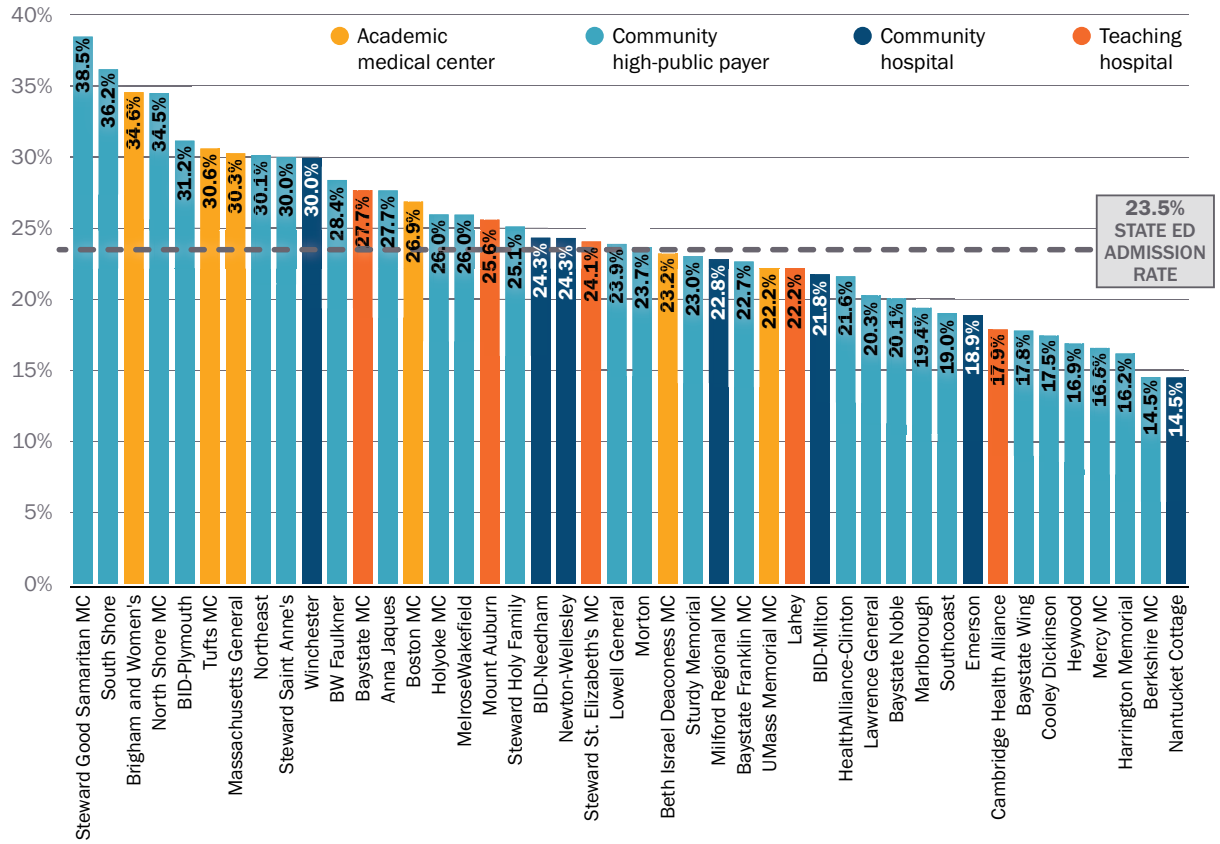


NOTES: Data represents the share of all visits originating in an ED that were admitted to an inpatient unit. Data are for all ages and payers. Not all states report data to HCUP and not all reporting states include data in both ED and Inpatient settings. States without 12 months of data in the year were excluded. These criteria resulted in 35 states with inpatient and emergency department discharge data.

SOURCES: HPC analysis of AHRQ HCUP Inpatient and Emergency Department Summary Trend Tables, 2022

- Massachusetts' rate of ED admission decreased from 19.7% in 2020, yet Massachusetts continues to have the highest rate among states with data.

PERCENTAGE OF PATIENT ED VISITS FOR SELECT CONDITIONS ADMITTED TO AN INPATIENT STAY (ADJUSTED), 2024

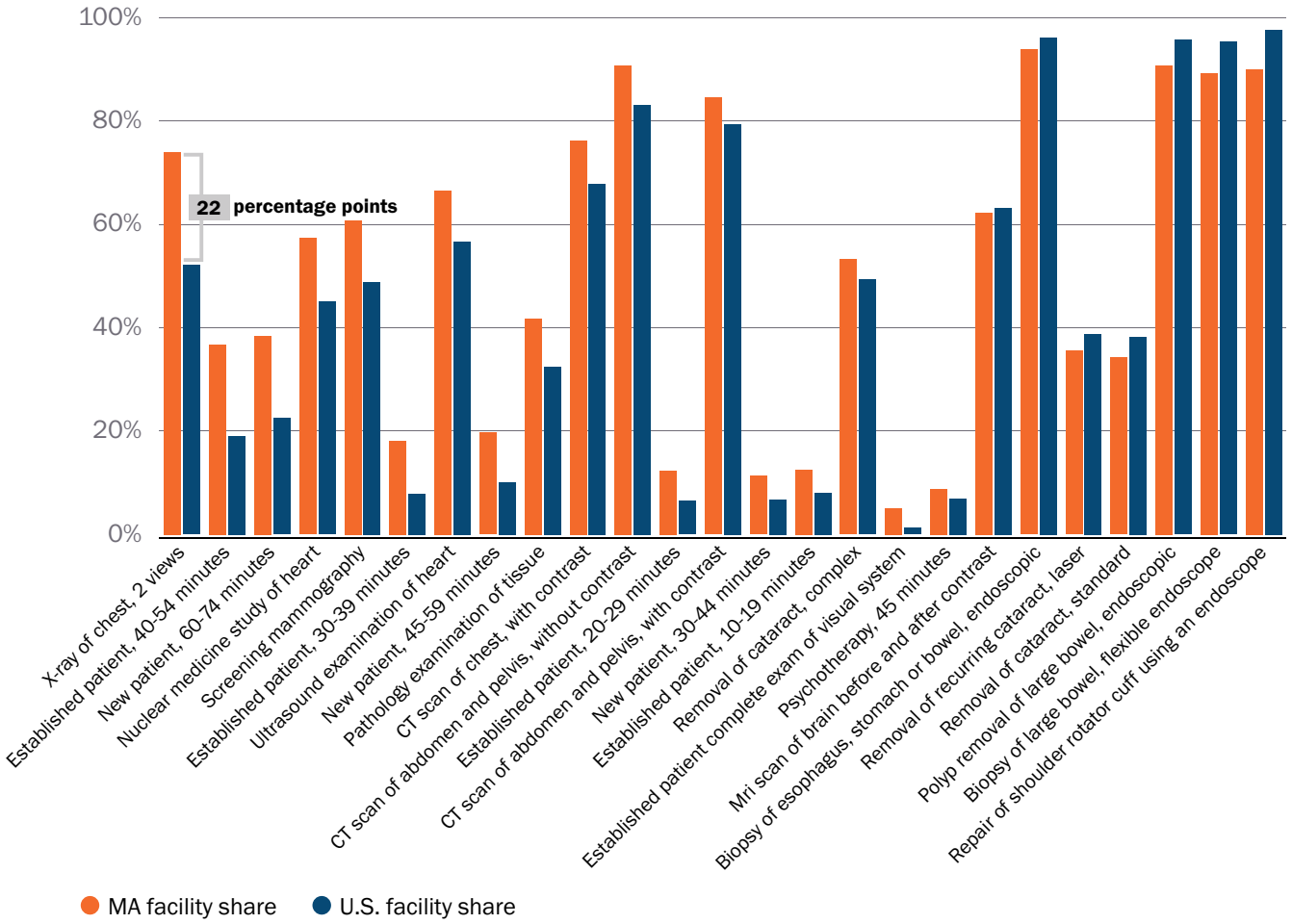


NOTES: Adult ED visits for select medical conditions: chest pain, congestive heart failure, pneumonia, COPD, urinary tract infection, and abdominal pain. ED admission rates were adjusted to account for differences in patient populations between hospitals: rates were adjusted for age, sex, race/ethnicity, payer mix, median income of patient zip code, drive time to the nearest ED, visit taking place on a weekend, diagnosis and patient comorbidities. Visits to specialty hospitals, hospitals with missing data during the study period (Signature Healthcare Brockton, Steward Nashoba Valley, Steward Norwood, Steward Carney, North Adams Regional Hospital), as well as hospitals with inconsistent reporting of the ED flag in the observation unit (Cape Cod and Falmouth) or other issues with data quality (MetroWest, St. Vincent) were excluded. Critical Access Hospitals excluded from display. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, Emergency Department Database, and Outpatient Observation Database, CY2024; AHRQ Clinical Classification Software Refined (CCSR), 2023; AHRQ Elixhauser Comorbidity Software Refined, 2024

- Adjusting for patient differences between hospitals, the percentage of ED visits for six high volume, high variability conditions that were admitted to an inpatient stay ranged from 15% to 39% (Nantucket Cottage, Steward Good Samaritan Medical Center) in 2024.

SHARE OF MEDICARE SERVICES PROVIDED IN A HOPD (FACILITY) VS AN OFFICE SETTING, TOP 25 PROCEDURES BY VOLUME, MA AND U.S., 2022

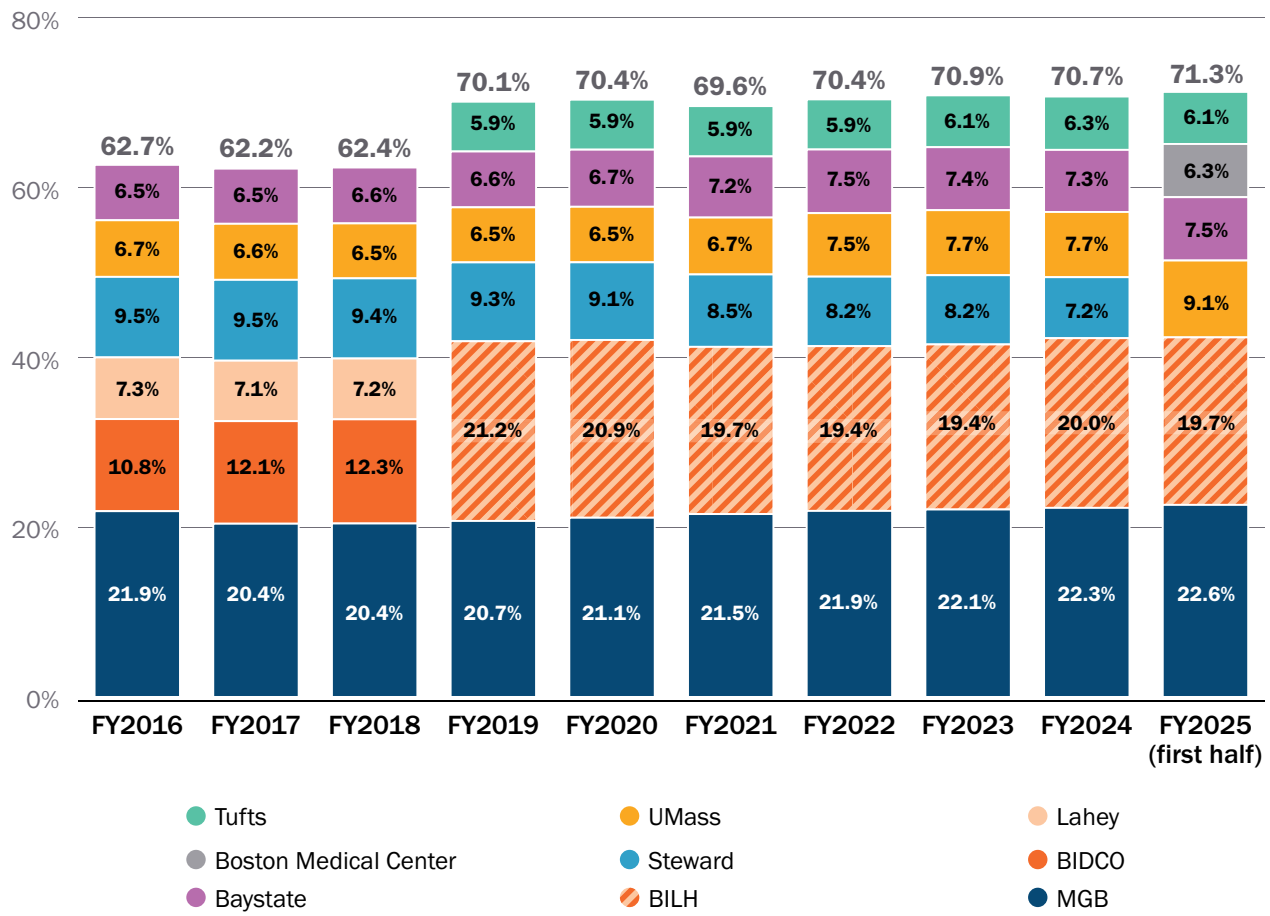


NOTES: Based on services and procedures provided to Original Medicare beneficiaries by physicians and other healthcare professionals. Bars represent the share of services taking place in a facility setting rather than an office setting. Inpatient, ED, rehabilitation, and nursing procedures were excluded. Procedures that took place in only one setting or in one geography were excluded.

SOURCE: HPC analysis of CMS Medicare Physician & Other Practitioners — by Geography and Service, Public use File, 2022.

- Massachusetts Medicare beneficiaries were more likely to receive care in a facility setting (usually a hospital outpatient department) than beneficiaries in other states for 18 of 25 common services, often by a wide margin.
- For example, 74% of chest X-rays were provided to Massachusetts Medicare beneficiaries in a facility setting, in contrast to 52% of such visits in the U.S. overall, a difference of 22 percentage points. Medicare generally pays more for the same service when provided in facility settings, as do private insurers.

SHARE OF INPATIENT SERVICES PROVIDED IN THE SIX LARGEST HOSPITAL SYSTEMS, FY2016–FY2025

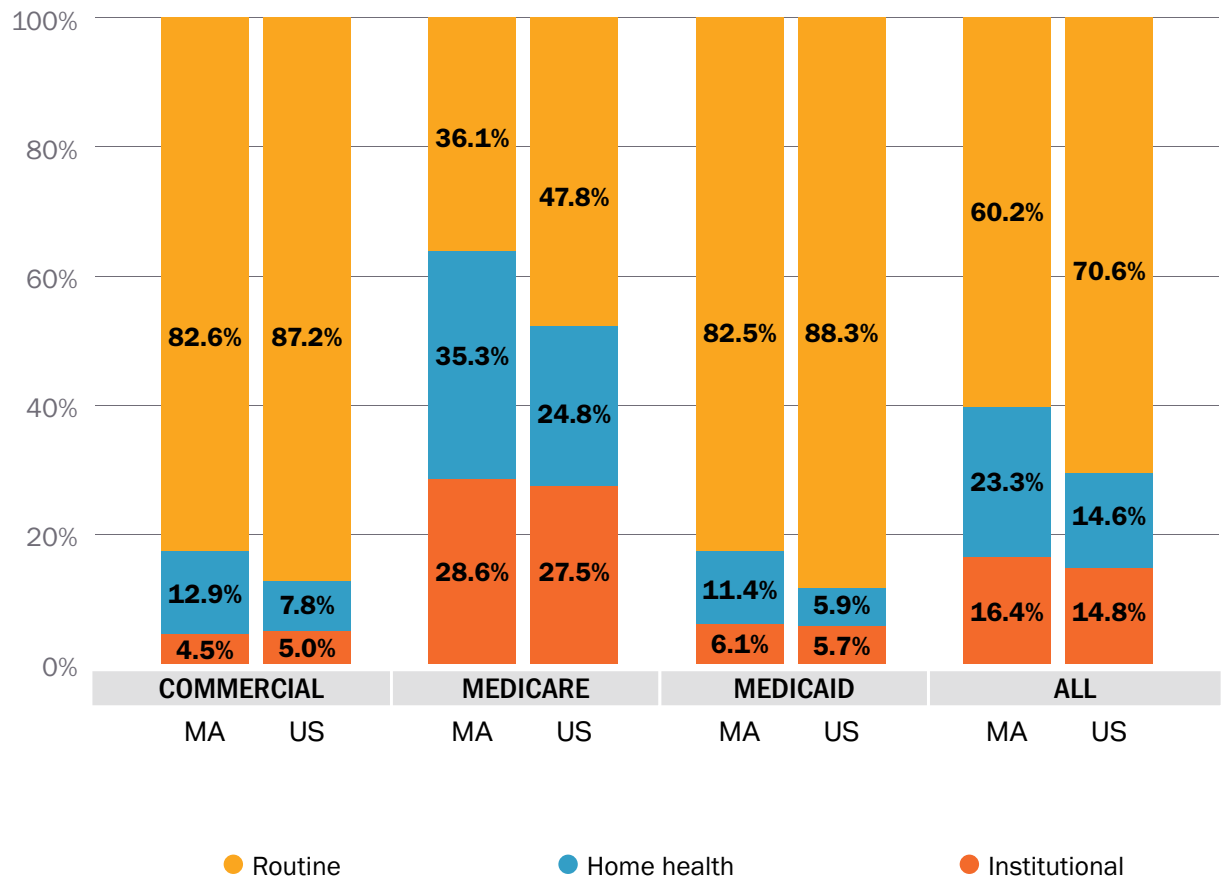


NOTES: Partners HealthCare changed its name to Mass General Brigham (MGB) in 2019. FY 2019 reflects the formation of Beth Israel Lahey Health (BILH) following the merger of Beth Israel Deaconess and Lahey Health systems. Inpatient care is measured in hospital discharges for general acute care services.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) hospital discharge dataset (HDD) FY2016-2025

- In the first half of FY2025 (after the collapse of the Steward system) the share of inpatient general acute services provided at the six largest hospital systems increased slightly to 71.3%.
- MGB and UMass' shares increased slightly in FY2025, while Steward's share was largely replaced by the BMC system which took over two of the former Steward hospitals.
- BILH and MGB together provide 43% of the state's inpatient care.
- The next three hospital systems together accounted for 22%.

USE OF POST-ACUTE CARE IN MASSACHUSETTS AND THE U.S., ALL DRGS, 2022

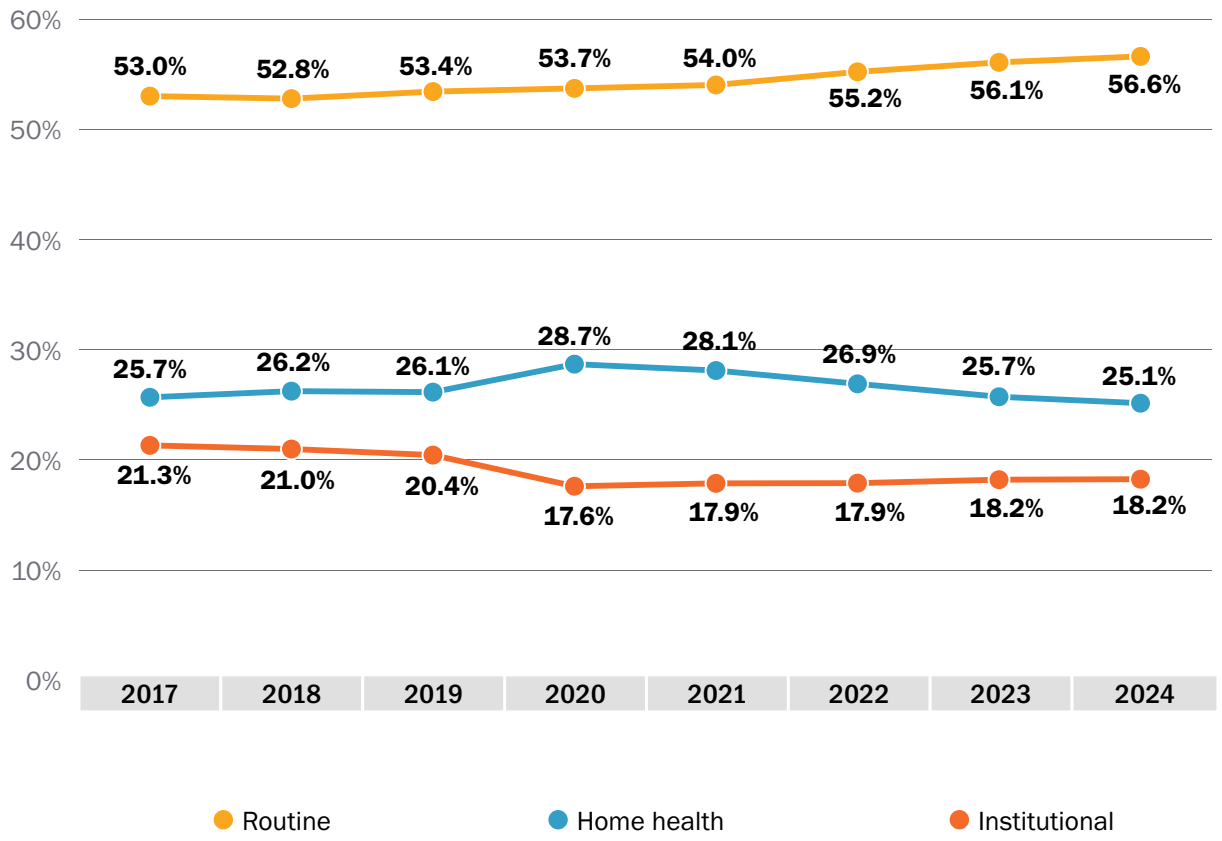


- Massachusetts continued to discharge patients from inpatient care to home health care at much higher rates than those in other parts of the U.S.
- The proportion of patients receiving institutional post-acute care (e.g. skilled nursing facilities) following a hospital discharge was slightly higher in Massachusetts in 2022, but the gap has narrowed in recent years.

NOTES: Institutional settings include skilled nursing facilities, inpatient rehabilitation facilities, and long-term care hospitals. Routine = discharge to home with no formal post-acute care. See technical appendix for details.

SOURCES: HPC analysis of Healthcare Cost and Utilization Project (HCUP) Nationwide Inpatient Sample Survey and State Inpatient Sample, 2022

POST-ACUTE CARE IN MASSACHUSETTS FOLLOWING HOSPITAL DISCHARGE, ALL DRGS, 2017 TO 2024

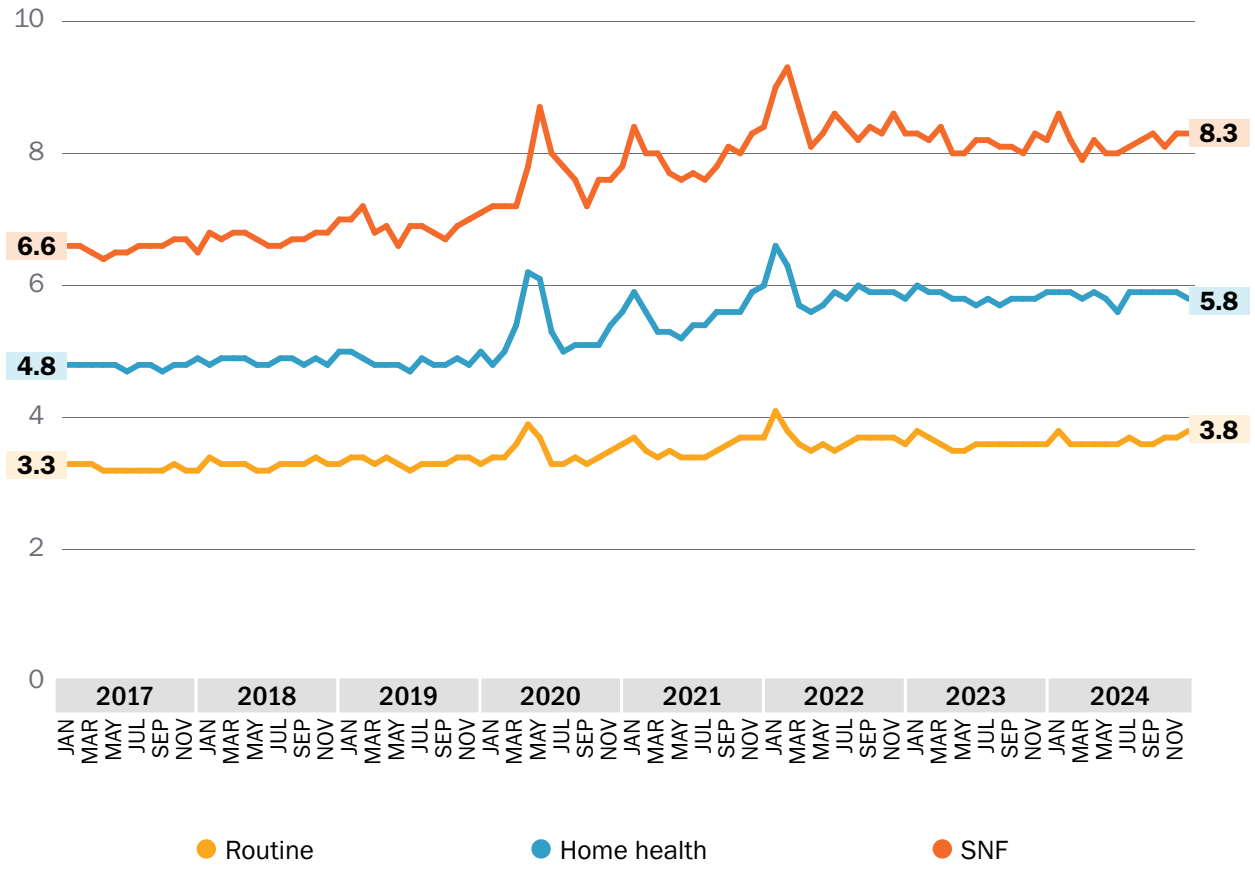


NOTES: Out of state residents and those under 18 are excluded. Institutional post-acute care settings include skilled nursing facilities, inpatient rehabilitation facilities, and long-term care hospitals. Rates adjusted to control for age, sex, and changes in the mix of diagnosis-related groups (DRGs) over time. Specialty hospitals, except New England Baptist, were excluded. One hospital with at least one quarter of missing data (Mercy MC) was excluded for the entire study period. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis Hospital Inpatient Discharge Database (HIDD), FY2017 to FY2024, preliminary FY2025.

- In 2024, 18.2% of inpatient stays were discharged to an institutional post-acute care setting, a share that has continued to increase slightly since 2020. While the share of stays discharged to institutional care dropped with the start of the COVID-19 pandemic, use of institutional post-acute care had been declining slowly before the pandemic.
- The share of inpatient stays discharged to home health declined from 25.7% in 2023 to 25.1% in 2024. Rates of discharge to home health jumped in 2020, coinciding with the drop in institutional discharges, and have been steadily declining since. The share of discharges to routine care has been rising steadily since 2018.

AVERAGE INPATIENT LENGTH OF STAY (DAYS) FOR SCHEDULED STAYS AND ADMISSIONS FROM THE ED (COMBINED) BY DISCHARGE DESTINATION, 2017 TO 2024



NOTES: Based on patient discharge date and includes only admissions from the emergency department and scheduled admissions. Includes COVID-related discharges. Excludes pediatric, maternity, BH, and rehabilitation admissions and admissions with length of stay greater than 180 days. Two hospitals with at irregular length of stay data (MelroseWakefield - Lawrence and Shriner's Hospital for Children- Boston) were excluded for the entire study period.

SOURCES: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, FY2017 to FY2024, preliminary FY2025

- The average length of stay for scheduled hospital stays and admissions from the ED (excluding maternity, BH-related and certain other stays) increased by over full day from January 2017 (4.5 days) to January 2022 (5.8 days) and has since stabilized to an average of 5.2 days by December 2024 (data not shown).
- The increase has been concentrated among stays discharged to SNFs and home health care, where average length of stay between January 2017 and December 2024 increased by 1.7 days and 1.0 days, respectively.

PROVIDER ORGANIZATION PERFORMANCE VARIATION

INTRODUCTION

PROVIDER ORGANIZATION PERFORMANCE VARIATION

This Chartpack analyzes the performance of provider organizations in the Commonwealth on measures of medical spending, inpatient and emergency department (ED) utilization, and low value care (LVC) using data from commercially-insured patients. Analyzing variation in performance among provider organizations across a range of spending and utilization measures allows for identification of areas for improvement in efficiency and care delivery across Massachusetts.

The first graph in this Chartpack uses aggregate, payer-reported data on total medical expenses (TME) for patients assigned to the nine largest provider groups via their primary care providers. This data, compiled and reported by the Center for Health Information and Analysis (CHIA), includes both claims and non-claims spending and allows for comprehensive comparisons (e.g. including more payers) over longer time periods. The other analyses in the Chartpack rely on data from the Massachusetts All-Payer Claims Database (APCD), coupled with attribution of patients to a primary care provider (referred to in this Chartpack as attributed patients) using provider organization data from the 2023 Registration of Provider Organizations (RPO) supplemented with a 2023 commercial database obtained from IQVIA, which has information on additional Massachusetts providers including nurse practitioners. Details of the attribution methodology have been previously published[1] and can also be found in the technical appendix. For the APCD analyses, the HPC reports on patients with commercial insurance through seven payers[2] who were attributed to PCPs affiliated to one of the ten largest provider organizations in the state. The 2023 cohort included approximately 1,052,000 patients.

Results for most APCD analyses are statistically adjusted to account for differences in age, sex, health status, insurer and product type, and community-level variables related to education and socioeconomic status across provider patient populations.[3] Health status is based on risk scores generated from the U.S. Department of Health and Human Services Hierarchical Condition Categories (HHS-HCC) Risk Adjustment Model Software with modifications.[4] These adjustments are imperfect, however, and there may be some unmeasured differences across patient populations by provider organization that can affect how members use and access the health care system. The Chartpack includes a table summarizing characteristics of patients attributed to each provider organization.

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1 Massachusetts Health Policy Commission. 2017 Cost Trends Report. March 2018.

2 Blue Cross Blue Shield of Massachusetts, Tufts Health Plan, Harvard Pilgrim Health Plan, Health New England, Elevance Health, MGB Health Plan and United Healthcare

3 Total medical spending and spending by category remain unadjusted due to methodology constraints (more in technical appendix). Low value care measures do not adjust for patient demographics as these are services that should not occur.

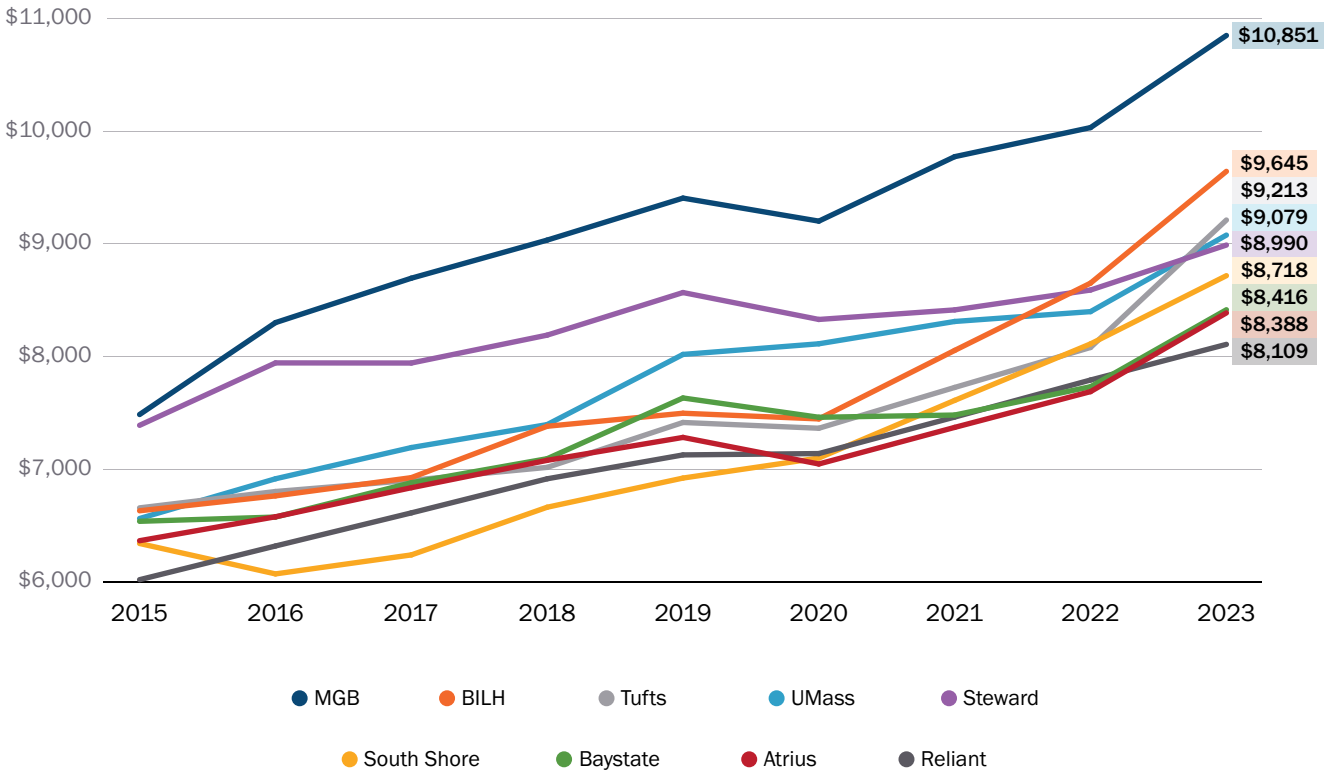
4 The HPC modified the model by applying a coding intensity adjustment that removed eight diagnosis groups that researchers have found prone to upcoding from consideration in patient risk scores. This is a change from prior years in which the HPC used the Johns Hopkins ACG risk adjuster. More details on health status methodology can be found in the technical appendix.

KEY FINDINGS

PROVIDER ORGANIZATION PERFORMANCE VARIATION

- MGB had the highest unadjusted per member spending in 2023 ($10,851), 12.5% higher than the next highest-spending group (BILH at $9,645) and 33.8% higher than the lowest-spending group (Reliant at $8,109).
  - After adjusting for member health status and other characteristics, MGB spending remained the highest (32% higher than patients attributed to Reliant), followed by UMass Memorial.
- Among provider groups, hospital outpatient spending varied the most across provider groups, ranging from $3,275 for MGB patients to $1,732 for Reliant patients.
  - This variation is partly due to some providers providing a high proportion of care in higher-cost hospital settings versus physician offices. Such variation among services safely provided in either setting ranged from 86% provided in hospital settings (BILH) to 18% (Atrius).
- Adjusted for patient health status, rates of use of imaging varied across provider groups from 169 MRI scans per 1,000 patients per year (MGB) to 118 (Reliant) and from 227 CT scans (UMass) to 187 (Reliant).
- Avoidable ED visits among attributed patients ranted from 29.1 per 1,000 attributed patients (Atrius) to 64.7 (BMC)
- Provision of low-value care to patients in Massachusetts increased in 2023 for 15 of 17 low-value services, reaching over $50 million for commercially-insured patients for these 17 services, when projected from the sample to the full commercial population. Spending on low-value care ranged by a factor of almost two across provider groups for some services.

TOTAL HEALTH CARE SPENDING PER MEMBER PER YEAR BY ATTRIBUTED PROVIDER ORGANIZATION FOR THE NINE LARGEST PROVIDER GROUPS, 2015–2023

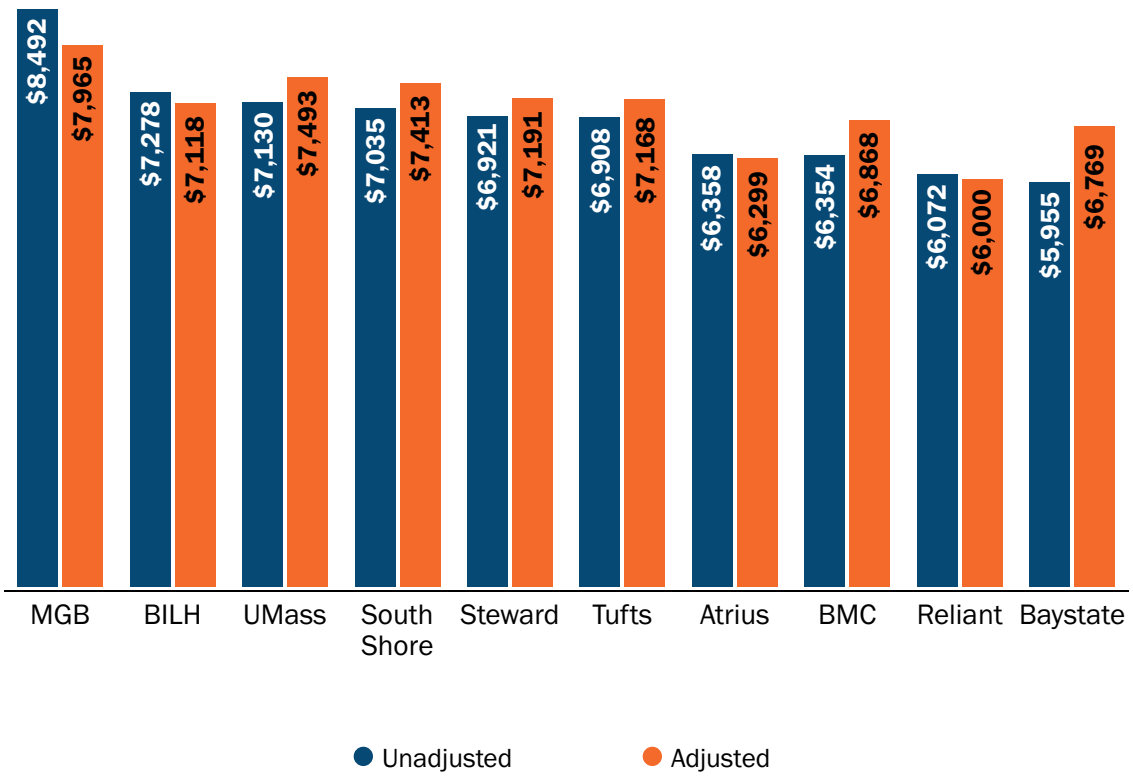


NOTES: TME includes claims and non-claims payments as well as patient cost-sharing paid. Analysis includes commercial full claims only (excluding partial claims) and includes all payers except BMCHP and THPP. Partners HealthCare changed its name to Mass General Brigham (MGB) in 2019. Beth Israel Deaconess Care Organization (BIDCO) and Lahey Hospital and Medical Center merged in 2019 and became Beth Israel Lahey Health (BILH). BIDCO and Lahey data were reported separately by CHIA until 2022. New England Quality Care Alliance (NEQCA), Tufts Medicine Integrated Network, and Lowell General PHO were combined as Tufts. Payer methods for attributing patients to provider group for TME data differ from HPC methods used in APCD analyses.

SOURCES: HPC analysis of Center for Health Information and Analysis 2018, 2019, 2021, 2022, 2023, 2024, and 2025 Annual Report TME Databooks

- Between 2015 and 2023, average annual total medical spending (unadjusted) per member by provider group (including claims and non-claims payments) grew between 2.5% (Steward) and 4.8% (BILH and MGB) with an average of 3.9% across all provider groups.
- MGB had the highest unadjusted per member spending in 2023 ($10,851), 12.5% higher than the next highest-spending group (BILH at $9,645) and 33.8% higher than the lowest-spending group (Reliant at $8,109).

UNADJUSTED AND ADJUSTED AVERAGE ANNUAL MEDICAL SPENDING (EXCLUDING PRESCRIPTION DRUG SPENDING) FOR PATIENTS ATTRIBUTED TO EACH PROVIDER ORGANIZATION VIA THEIR PRIMARY CARE PROVIDERS, 2023



NOTES: Prescription drug spending and non-claims-based spending excluded. Data include commercially-insured adults who could be attributed to larger provider organizations via their primary care provider using claims-based analysis of primary care visits. Included adults had 12 months of continual medical insurance coverage (N= 702,925). Prescription drug spending is excluded from this analysis because a significant portion of members' plans have prescription drug benefits "carved out" to third parties for which the HPC does not have access to the claims data. HPC methods for health status adjustment and attributing patients to provider group differ from payer methods used in CHIA TME data; HPC health status adjustment methods include adjustments based on factors noted in sidebar and a risk score as estimated by the HHS-HCC Risk Adjustment Model Software: HHS-HCC Risk Adjustment Model "Do It Yourself (DIY)" Software. Version 0723. Centers for Medicare and Medicaid Services (CMS). January 2024. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023.

- The HPC calculated unadjusted and adjusted medical spending, with adjustments for age, sex, risk score, payer, product, and community-level variables related to socioeconomic status. When adjusted spending is lower than unadjusted spending for a given provider group, that suggests its patient population is sicker than average. However, adjusted spending may also reflect differences in provider coding behavior.
- Differences in unadjusted spending were greater than differences in adjusted spending. Unadjusted spending for MGB-attributed patients was 43% higher than spending for Baystate-attributed patients, while adjusted spending for MGB-attributed patients was 32% higher than the lowest spending group (Reliant-attributed patients).

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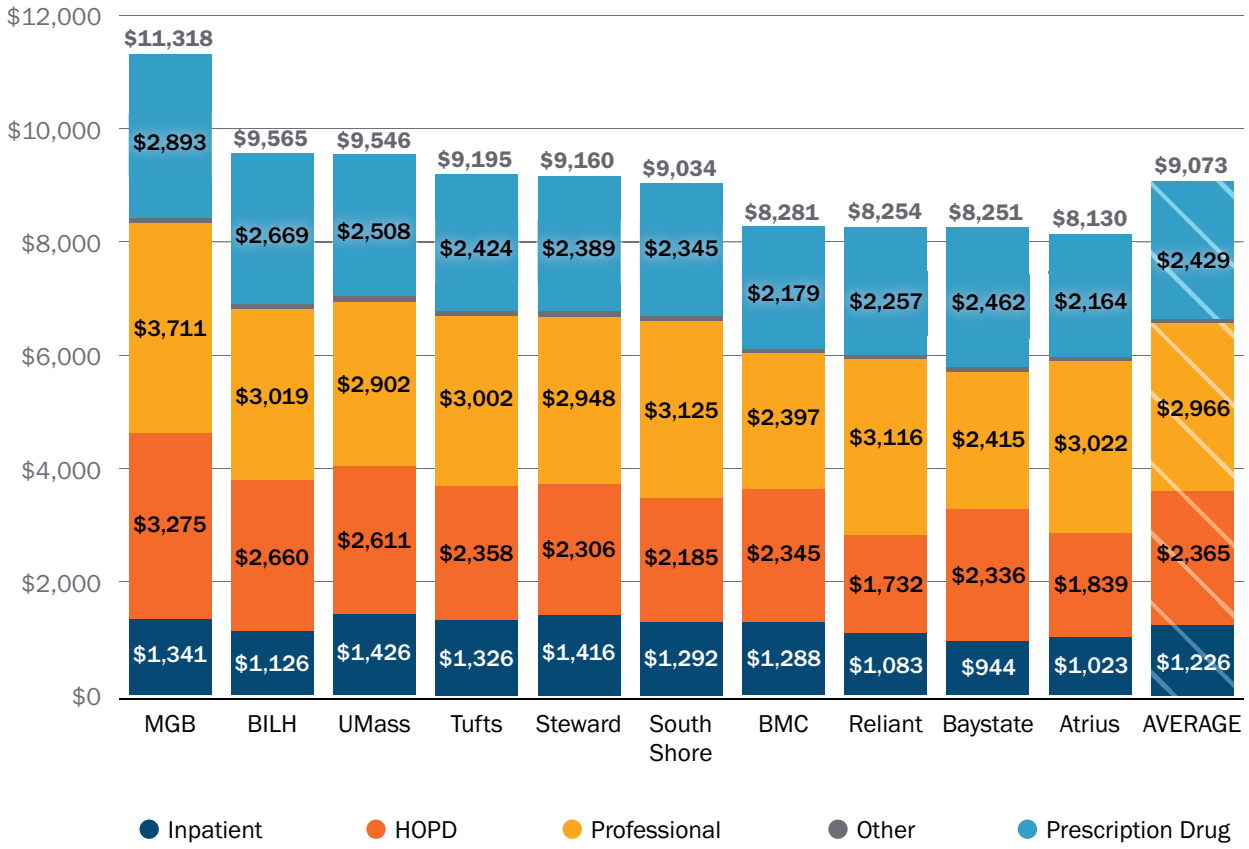
UNADJUSTED MEDICAL SPENDING PER MEMBER PER YEAR BY CATEGORY OF SPENDING AND PROVIDER ORGANIZATION, 2023



NOTES: HOPD = Hospital outpatient department. Individuals without 12 months of prescription drug insurance coverage were excluded. Spending results are for commercial attributed adults with 12 months of continual medical insurance coverage (N= 517,405). Average is calculated across provider organizations included in this graph. Hospital inpatient and outpatient spending include facility spending only. Professional spending associated with these sites of care is included in "Professional". See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

- Analyzing average medical spending per member per year (PMPY) by category can help determine whether a provider organization's overall spending is driven by a particular area.
- Hospital outpatient department (HOPD) and professional spending varied the most among provider groups by dollar amount and by percentage, respectively: HOPD spending varied by $1,543 PMPY or 89%, while professional spending varied by $1,314 PMPY or 55%.

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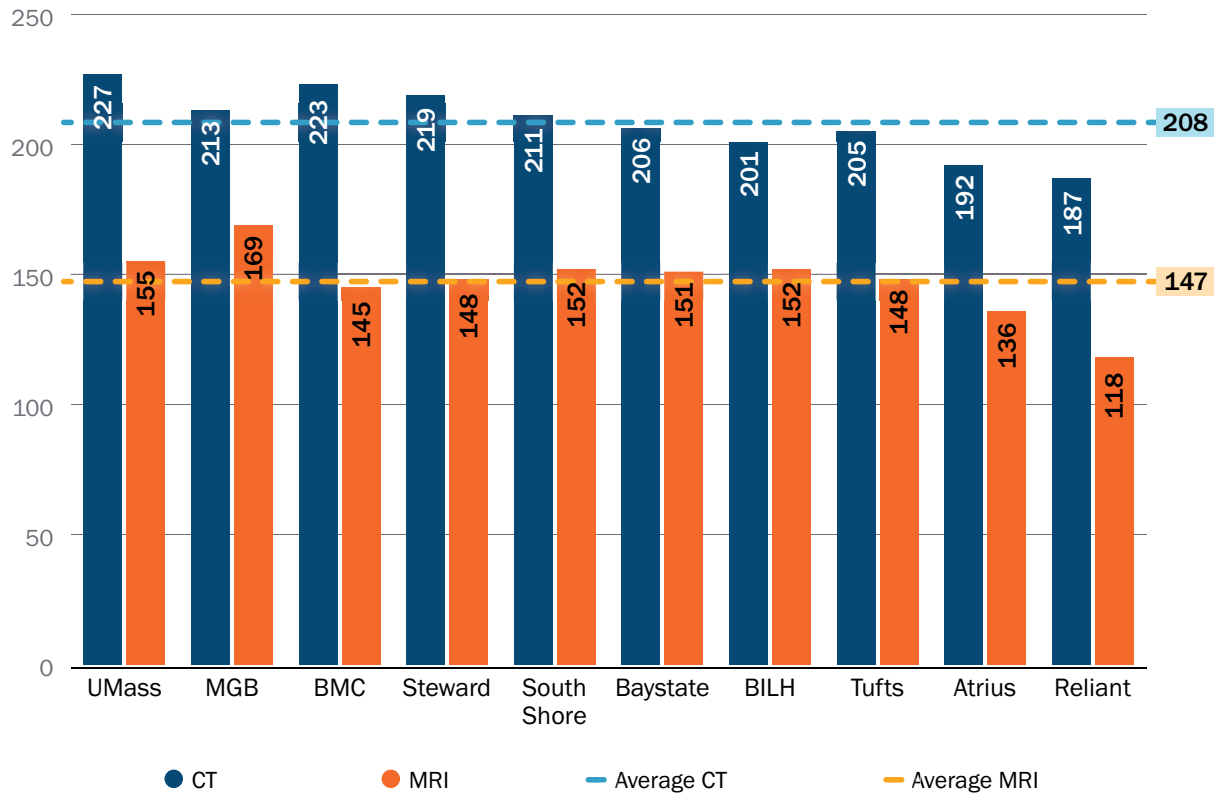
HEALTH STATUS ADJUSTED CT AND MRI UTILIZATION PER 1,000 ATTRIBUTED PATIENTS, 2023



NOTES: Provider organizations sorted by total imaging rates as a sum of the relative rates of CT and MRI. Results reflect commercial attributed adults, at least 18 years of age with 12 months of continual medical insurance coverage (N= 702,925). Sessions are defined as same day, same person, and same category of service (CT or MRI). If a patient had an MRI and a CT service both on the same day, those would be considered as two sessions. Results are adjusted for differences in age, sex, health status, and community-level variables related to education and socioeconomic status. Averages are calculated across the provider organizations included in this graph. HPC health status adjustment methods include adjustments based on factors noted on prior slides and a risk score as estimated by the HHS-HCC Risk Adjustment Model Software: HHS-HCC Risk Adjustment Model "Do It Yourself (DIY)" Software. Version 0723. Centers for Medicare and Medicaid Services (CMS). January 2024.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database v2023, 2023

- Variation in utilization rates, adjusted for patient characteristics, suggests opportunities for more appropriate use of imaging services. MRI utilization varied 43% across provider organizations and CT use varied 21%.
- Across provider organizations, there was a 8.9% increase in CT imaging rates and a 6.2% increase in MRI imaging rates from 2022 to 2023 among attributed patients.
- In 2021, the latest year for which data is available, Massachusetts commercial members had the highest MRI rate in the nation but had the 33rd highest CT rate.[1]

1 Health Care Cost Institute, Health Care Vitals Data Dashboard. 2023.

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DEMOGRAPHICS OF COMMERCIAL PATIENTS BY PROVIDER ORGANIZATION, BASED ON CHIA ALL-PAYER CLAIMS DATABASE, 2023

	INDIVIDUAL-LEVEL CHARACTERISTICS					ZIP-CODE LEVEL CHARACTERISTICS			
	Member size	Average risk score	Percent age 0-18	Percent age 50+	Percent with at least one selected chronic health condition	Percent in the lowest income quintile	Median family income	Percent with at least a high school diploma	Percent on food stamps/ SNAP
Atrius	124,784	1.05	23%	29%	29%	4%	$132,964	88%	9%
Baystate	61,540	1.09	16%	40%	36%	37%	$89,131	87%	16%
BILH	186,278	1.14	8%	39%	32%	4%	$ 130,472	89%	9%
BMC	36,611	0.98	17%	30%	28%	19%	$103,717	76%	15%
MGB	274,408	1.25	17%	37%	33%	7%	$130,004	89%	8%
Reliant	42,821	1.09	28%	30%	27%	16%	$113,943	96%	10%
South Shore	37,031	1.01	15%	36%	31%	4%	$121,520	74%	9%
Steward	111,560	1.06	17%	36%	32%	15%	$106,701	86%	12%
Tufts	98,092	1.05	21%	33%	30%	8%	$123,573	87%	10%
UMass	79,060	1.09	14%	38%	31%	29%	$101,197	92%	12%

NOTES: In order, the variables are the attributed member population size; average patient risk score (Center for Medicare & Medicaid Services (CMS) hierarchical condition coding (HCC), percent of patient population age 0-18, percent of patient population age 50+, and the percent of the population with any one diagnosis of the following twelve health conditions: AIDS/HIV, asthma, arthritis, cancer, cardiovascular disease, diabetes, epilepsy, hypertension, mood disorder, multiple sclerosis, psychosis, and renal failure. The HPC linked community-level variables at the member zip code level, based on CHIA analysis of the 2020 American Community Survey including the percent of the population in the lowest income quintile, the median family income, the percent with a high school diplomat, percent of population receiving food stamps/SNAP.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

LOW VALUE CARE INTRODUCTION

PROVIDER ORGANIZATION PERFORMANCE VARIATION

Low value care (LVC) in this section refers to medical services recognized by clinicians as not based on evidence and typically unnecessary for any patient, based on research compiled in the Choosing Wisely® recommendations.[1] Provision of these services to patients often involves additional unnecessary follow-up care ("cost cascades"),[2] financial cost to both the patient and health care system, medical risk (in some cases), and time and physical or emotional distress with little or no clinical benefit. Over the years, researchers have established algorithms to identify some of these services in claims databases such as the APCD,[3] though many other LVC services are best identified using electronic health records that include information such as lab values and family medical history. While LVC services identified in this manner may not represent a large portion of overall medical spending, or even necessarily a large portion of all LVC services, the services highlighted in this section can serve as a focal point for sharing best evidence-based practices and orienting health systems toward patient well-being.[4]

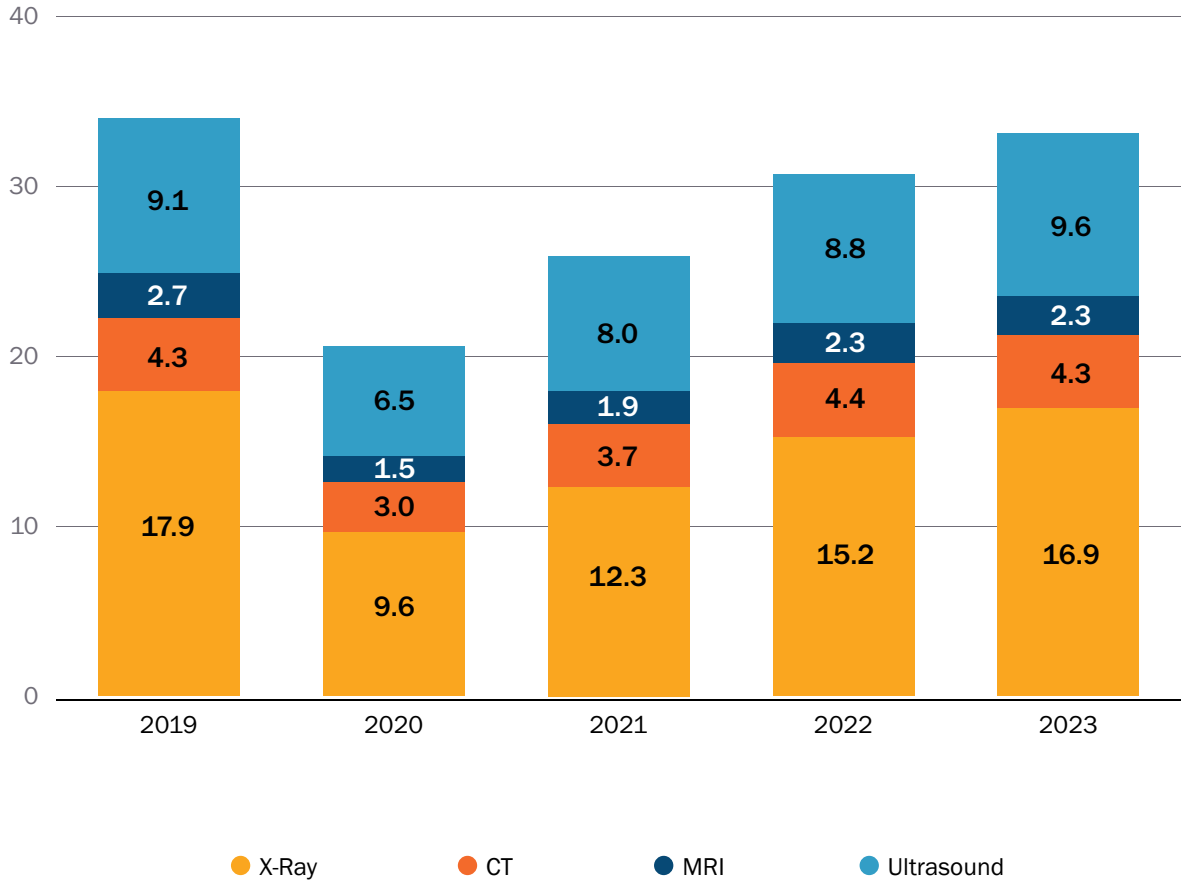
In the 2024 Cost Trends Report, the HPC focused on seventeen LVC measures across five domains (screening, pre-operative tests, procedures, imaging, and prescriptions).[5] The following section reports on these same measures and adds new analyses describing the prevalence of low value imaging in the pediatric population. Low value imaging for pediatric members is not shown by provider organization due to the smaller sample size compared to measures for the adult population. Generally, the HPC identified cases where a patient received a low value service, excluding cases when their medical claims history indicates that the procedure may be warranted, such as individuals with imaging for heel pain who had a recent prior surgery. This section examines rates of service use in 2023 and uses claims from 2022 for "look-back" periods where appropriate for some measures. For analyses of the adult population, the HPC reports LVC utilization rates per 1,000 members attributed to the provider organizations (total N = 1,052,185 for 2023).

The HPC selected these measures based on published literature, relatively high prevalence and spending in commercial populations, ability to be identified using APCD claims data, and availability of specifications using ICD-10 codes. Specific codes and sources for all measures can be found in the technical appendix of this report. While the measures presented do not capture the full extent of LVC in the Commonwealth (or even the majority), they are illustrative of the prevalence of such care, the variation in care, and the associated spending in the Massachusetts commercial population.

Assuming the members reported here are representative of the full commercial population of Massachusetts, total spending on these services and the total number of Massachusetts commercially-insured residents who received a low-value care services are roughly 2.5 times higher than the reported totals for this population sample (i.e. ~302,000 residents receiving ~441,600 LVC services and ~$52m in total spending).

1 Choosing Wisely®. ABIM Foundation; 2022. https://abimfoundation.org/what-we-do/choosing-wisely.
2 Ganguli, I., Lupo, C., Mainor, A. J., et al (2019). Prevalence and cost of care cascades after low-value preoperative electrocardiogram for cataract surgery in fee-for-service Medicare beneficiaries. JAMA internal medicine, 179(9), 1211-1219.
3 Schwartz, A. L., Jena, A. B., Zaslavsky, A. M., & McWilliams, J. M. (2019). Analysis of physician variation in provision of low-value services. JAMA internal medicine, 179(1), 16-25.
4 Beckman, H., Mafi J., and Bortz B. "A 10-step program to successfully reduce low-value care." The American Journal of Managed Care 27.6 (2022): e208-e213.
5 Massachusetts Health Policy Commission. 2024 Cost Trends Report. September 2024.

LOW VALUE IMAGING PER 1,000 CHILDREN (STATEWIDE), BY IMAGING TYPE, 2019–2023



NOTES: Data include commercial members less than 18 years of age. See technical appendix for details. Pediatric LVC is not reported on a by-provider basis due to sample size restrictions.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2023

- Provision of low-value imaging to children dropped significantly with the onset of the COVID-19 pandemic but has gradually increased since 2020, approaching pre-pandemic levels by 2023.

PEDIATRIC LVC MEASURES

- Chest x-ray for bronchiolitis
- Chest x-ray for asthma
- Head/brain CT scan for minor head injury
- MRI or CT scan for acute atraumatic primary headache
- CT, ultrasound, or x-ray imaging for abdominal pain

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2023 ADULT LOW VALUE CARE SUMMARY (AMONG 1,618,021 COMMERCIALLY-INSURED PATIENTS)

NON-PRESCRIPTION DRUG LOW VALUE CARE MEASURES

Screening

- T3 (Thyroid) screening for patients with hypothyroidism
- Cardiac stress testing for patients with an established diagnosis of ischemic heart disease or angina
- Vitamin D screening for patients without chronic conditions

Testing

- Baseline labs in patients without significant systemic disease undergoing low risk surgery
- Pre-operative EKG, chest X-ray, and pulmonary function testing

Procedures

- Spinal injections for lower back pain

Imaging

- Low value DEXA bone density scans
- Brain imaging for simple syncope
- Imaging for low back pain
- Imaging for heel pain
- Imaging for headaches
- Abdomen imaging

LOW VALUE CARE PRESCRIPTION DRUG MEASURES

- Antibiotics for acute upper respiratory and ear infections
- Concurrent use of two or more antipsychotic drugs
- Chronic use of benzodiazepines for more than 180 days
- Gabapentinoids for non-neuropathic pain
- Concurrent use of two or more anticholinergic drugs

9% (118,973)

Percent and number of patients with at least 1 LVC service

173,988

Total number of LVC services provided

$20,629,151

Total spending for LVC services

~1.7:1

Spending variation across provider organizations

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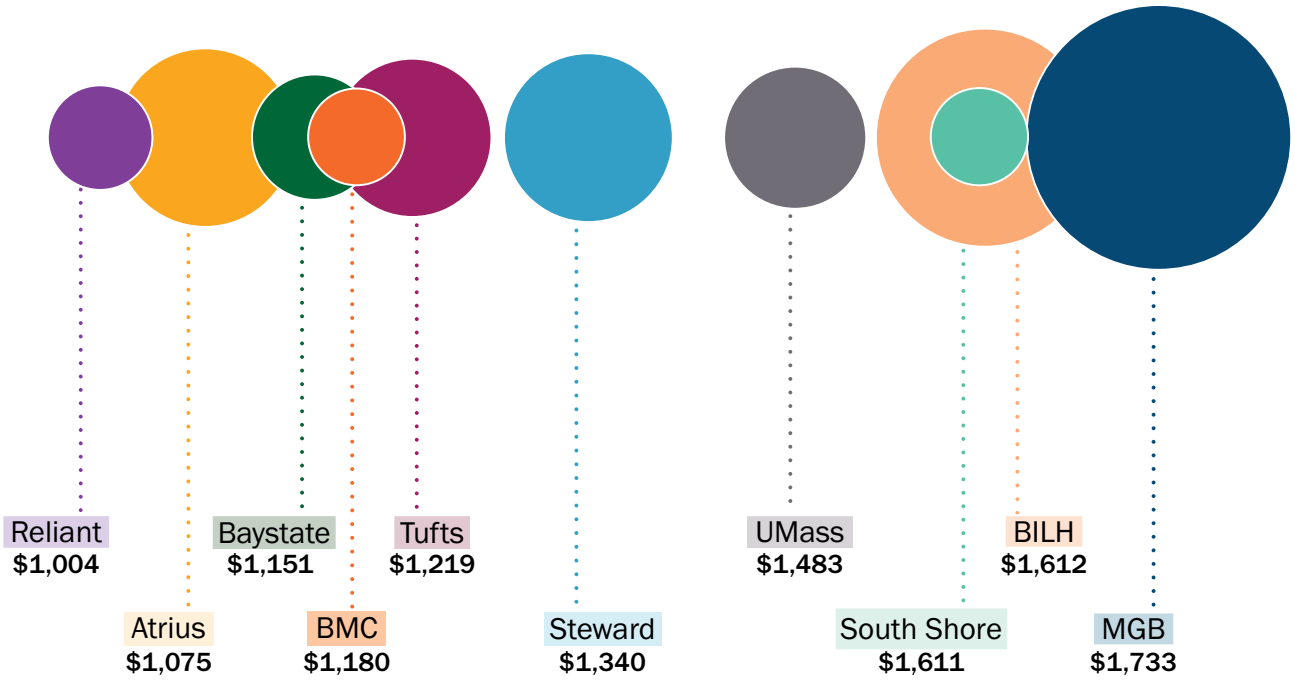
LOW VALUE SPENDING PER 100 ATTRIBUTED COMMERCIAL MEMBERS, 2023



- LVC spending reflects both the rate of LVC services and the prices for these services. MGB had the highest annual LVC spending per 100 attributed patients at $1,733, 73% higher than that of Reliant, which had the lowest spending ($1,004).
- Average spending across all provider groups increased 8% from 2022 to 2023, from $1,247 to $1,341 per 100 attributed members.

NOTES: Bubble size is proportional to the number of attributed members per organization. Low value spending across all measures was summed by provider organization and then divided by the total number of commercial adult attributed patients and reported as a rate per 100 patients. Spending reflects both number of services provided and the price of those services. N = 1,052,185 for 2023.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2022-2023

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PROVIDER ORGANIZATION SUMMARY

Composite of provider organization performance measures. Lower values generally indicate better performance.

	SPENDING MEASURES		UTILIZATION MEASURES					LOW VALUE CARE MEASURES			
Provider organizations	**Unadjusted PMPY spending**	**Adjusted PMPY spending**	**ED visit rate**	**Potentially avoidable ED visit rate**	**Non-maternity inpatient admissions**	**MRI and CT utilization**	**% of select services at HOPD**	**Screening composite**	**Procedure composite**	**Imaging composite**	**Prescription drug composite**
ATRIUS	$6,358	**$6,299**	**168.2**	**29.1**	36	**327.3**	**18%**	**8.1**	36.5	36.1	25.9
BAYSTATE	**$5,955**	$6,769	201.5	42.9	34	357.0	68%	**21.8**	39.1	33.3	**43.8**
BILH	$7,278	$7,118	194.9	38.2	38	353.1	**86%**	16.8	**48.7**	36.0	28.9
BMC	$6,354	$6,868	**250.5**	**64.7**	41	367.8	66%	13.3	36.3	**26.6**	25.3
MGB	**$8,492**	**$7,965**	192.5	40.5	35	**381.3**	74%	14.8	39.0	36.7	**36.4**
RELIANT	**$6,072**	**$6,000**	**171.2**	33.5	**29**	**305.3**	**20%**	**10.0**	38.6	32.5	26.0
SOUTH SHORE	$7,035	$7,413	183.9	32.2	**45**	362.9	56%	14.9	43.5	34.2	31.2
STEWARD	$6,921	$7,191	207.2	37.6	43	366.5	42%	17.0	43.0	33.2	29.6
TUFTS	$6,908	$7,168	191.5	33.5	**44**	352.3	66%	17.6	36.1	**27.1**	25.6
UMASS	$7,130	$7,493	194.0	37.9	38	**382.0**	64%	15.5	38.3	35.8	31.6

At least 1 SD below average (better performance) At least 1 SD above average (worse performance)

NOTES: SD = standard deviation. PMPY = Per member per year. Adjusted PMPY spending and the utilization measures have been adjusted for age, sex, health status, insurer and product type, and community-level variables related to education and socioeconomic status across provider patient populations. Low value care (LVC) measures are not adjusted.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023 2022-2023

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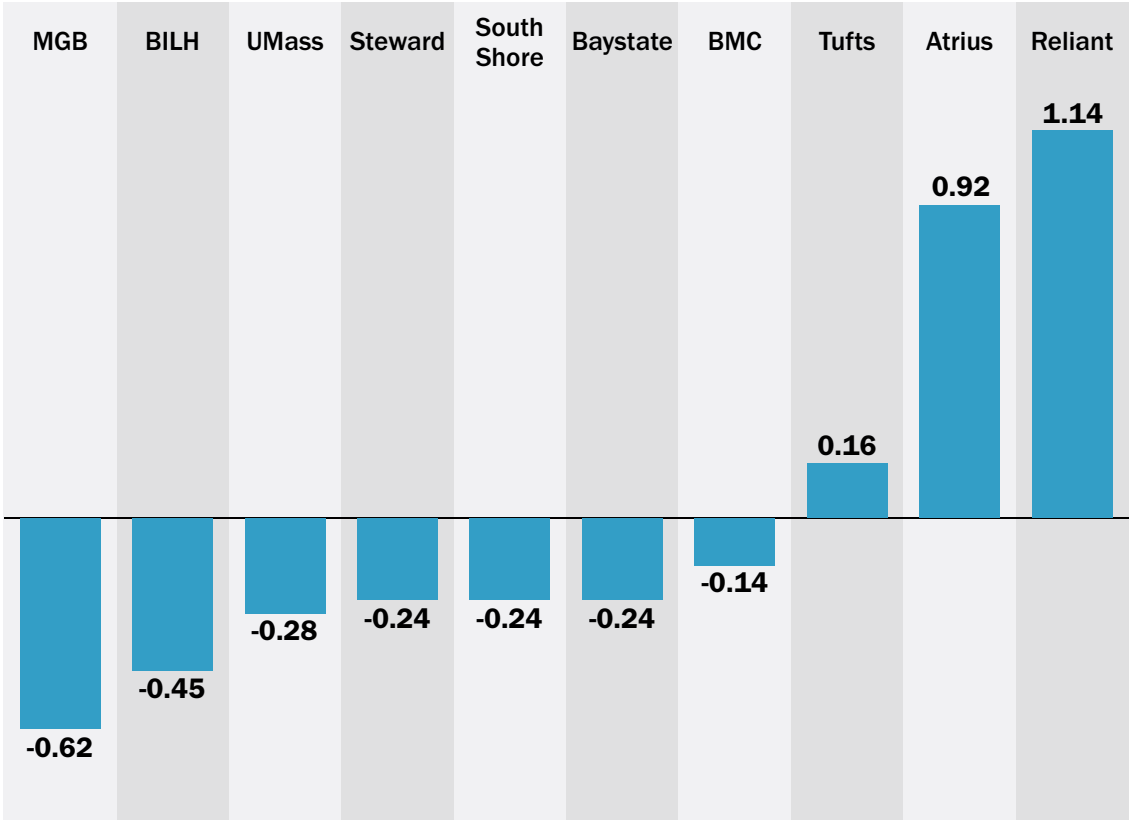
OVERALL INDEX OF PROVIDER ORGANIZATION PERFORMANCE MEASURES (HIGHER INDICATES BETTER PERFORMANCE), 2023



NOTES: Z-scores are calculated and summed for the following measures: unadjusted PMPY spending, adjusted PMPY spending, ED visit rate, potentially avoidable ED visit rate, non-maternity inpatient admissions, MRI and CT utilization, share of select services at a HOPD, LVC screening and testing measures, LVC procedures, LVC imaging, and LVC prescriptions. Adjusted PMPY spending and the utilization measures have been adjusted for age, sex, health status, insurer and product type, and community-level variables related to education and socioeconomic status across provider patient populations. Low value care (LVC) is not adjusted. See technical appendix for details.

SOURCES: HPC analysis of Center for Health Information and Analysis (CHIA) All-Payer Claims Database V2023, 2022-2023

- The HPC calculated a performance index based on a provider organization's difference from the average across a set of performance measures. The measures are listed in the exhibit notes and detailed in the technical appendix. The index is based on the sum of Z-scores, which represent the number of standard deviations from the average for each measure.
- Reliant and Atrius ranked the best performance among all provider organizations analyzed.

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