

HPC Board Meeting

February 27, 2025

Agenda





CALL TO ORDER

Approval of Minutes (VOTE)

Executive Session (VOTE)

Presentation: Behavioral Health Emergency Department Boarding in Massachusetts

Preliminary Report on the Cost and Market Impact Review of the Proposed Clinical Affiliation between Dana-Farber Cancer Institute, Beth Israel Deaconess Medical Center, Harvard Medical Faculty Physicians Transaction (VOTE)

Bulletin HPC-2025-01: Advance Guidance for Providers and Provider Organizations Relative to the Expansion of HPC Market Oversight Authority (Pursuant to Chapter 343 of the Acts of 2024)

Executive Director's Report

Adjourn

Agenda



Call to Order



APPROVAL OF MINUTES (VOTE)

Executive Session (VOTE)

Presentation: Behavioral Health Emergency Department Boarding in Massachusetts

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Executive Director's Report

Adjourn

VOTE

₹HPC

Approval of Minutes from the January 16, 2025, Board Meeting

MOTION

That the Commission hereby approves the minutes of the Commission meeting held on **January 16**, **2025**, as presented.

Agenda



Call to Order

Approval of Minutes (VOTE)



EXECUTIVE SESSION (VOTE)

Research Presentation: Emergency Department Boarding in Massachusetts

Preliminary Report on the Cost and Market Impact Review of the Proposed Clinical Affiliation between Dana-Farber Cancer Institute, Beth Israel Deaconess Medical Center, Harvard Medical Faculty Physicians Transaction (VOTE)

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Executive Director's Report

Adjourn

VOTE

Enter Executive Session



MOTION

That having first convened in open session at its February 27, 2025, board meeting and pursuant to M.G.L. c. 30A, § 21(a)(7), the Commission hereby approves going into executive session for the purpose of complying with c. 6D, § 2A, to discuss confidential information provided to the Commission.

Agenda



Call to Order

Approval of Minutes (VOTE)

Executive Session (VOTE)

PRESENTATION: BEHAVIORAL HEALTH EMERGENCY DEPARTMENT BOARDING IN MASSACHUSETTS

Preliminary Report on the Cost and Market Impact Review of the Proposed Clinical Affiliation between Dana-Farber Cancer Institute, Beth Israel Deaconess Medical Center, Harvard Medical Faculty Physicians Transaction (VOTE)

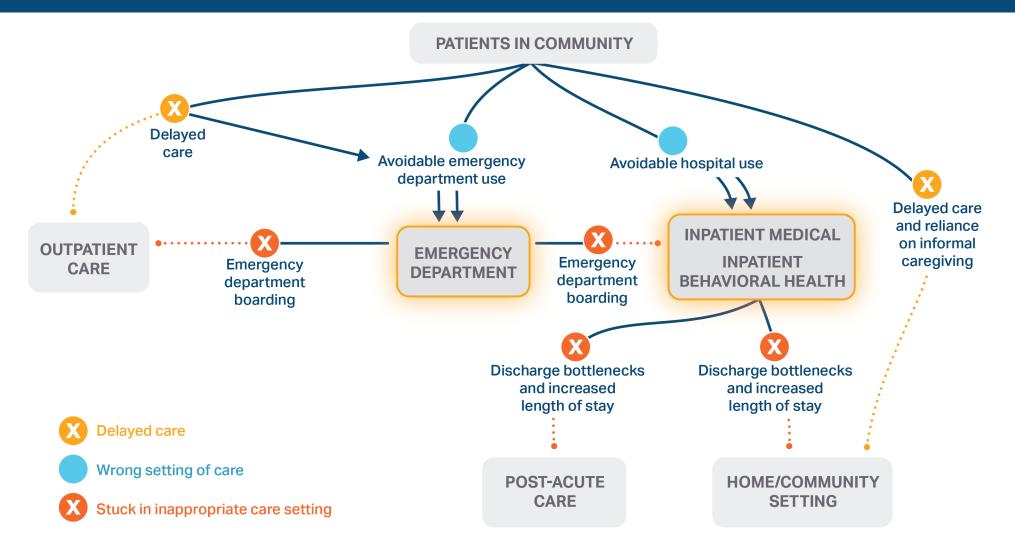
Bulletin HPC-2025-01: Advance Guidance for Providers and Provider Organizations Relative to the Expansion of HPC Market Oversight Authority (Pursuant to Chapter 343 of the Acts of 2024)

Executive Director's Report

Adjourn

Prior HPC work has examined systemic linkages and bottlenecks that can lead to capacity issues and patients stuck in the wrong setting of care.

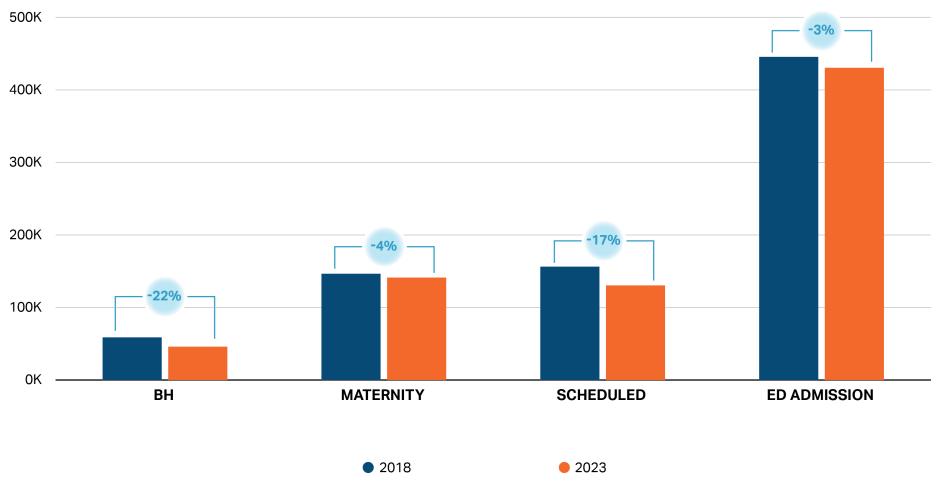




All categories of inpatient stays decreased from 2018 to 2023.



Inpatient stays by type of inpatient stay, 2018 and 2023

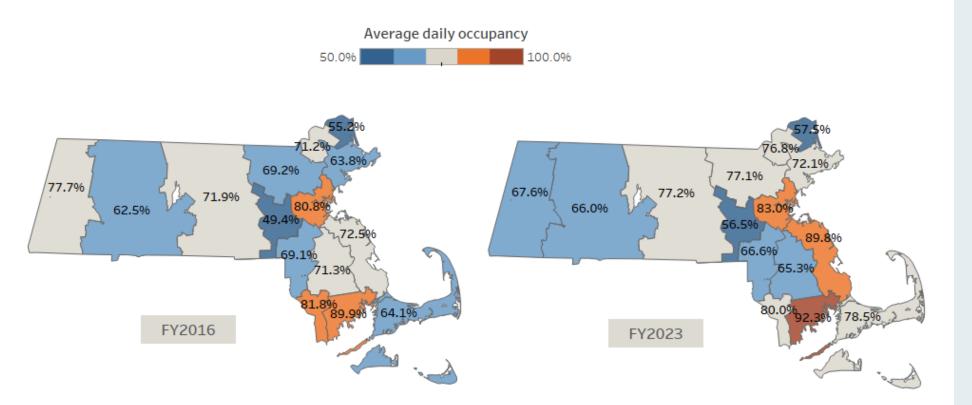


Notes: ED admission were identified using ED flags, admission source codes and ED revenue codes after excluding any BH or maternity stays. APR-DRG codes were used to identify Maternity (14,15) and BH (19,20) stays. Scheduled includes all stays that were not BH, maternity, or ED admissions. Includes COVID related discharges. Excludes rehabilitation admissions with length of stay greater than 180 days. Sources: HPC analysis of Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, FY2017-2023, preliminary FY2024

Despite a decrease in inpatient stays, hospital occupancy increased from 2016 to 2023, particularly in the Eastern half of the state.



Ratio of average daily bed days to statewide acute-care staffed beds (occupancy), FY2016-FY2023

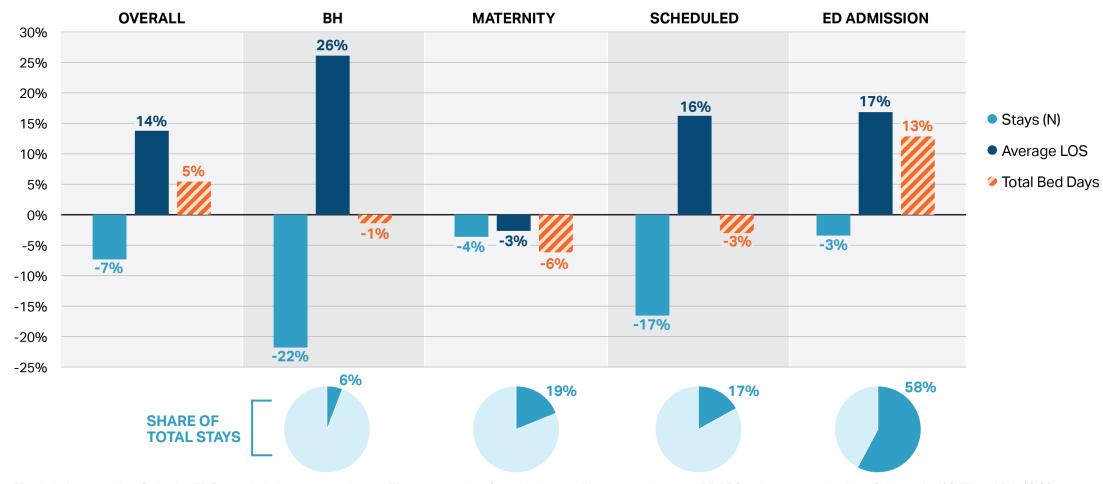


- The total number of staffed acute-care hospital beds have increased by 3.0% from FY2016 to FY2023.
- The average daily census increased by **9.6**% over this same time period, resulting in higher occupancy rates and less available beds.
- On August 31st, 2024,
 Nashoba and Carney
 Hospitals closed
 representing a loss of
 approximately 129 beds.
 HPC and others in the state
 are tracking the impact of
 these closures on statewide
 inpatient capacity.

Total hospital use (bed days) increased 5% from 2018 to 2023 despite a 7% decrease in admissions because of longer average length of stay.



Percent change from 2018 to 2023 in number of stays, average length of stay, and total days for inpatient stays, 2018 and 2023

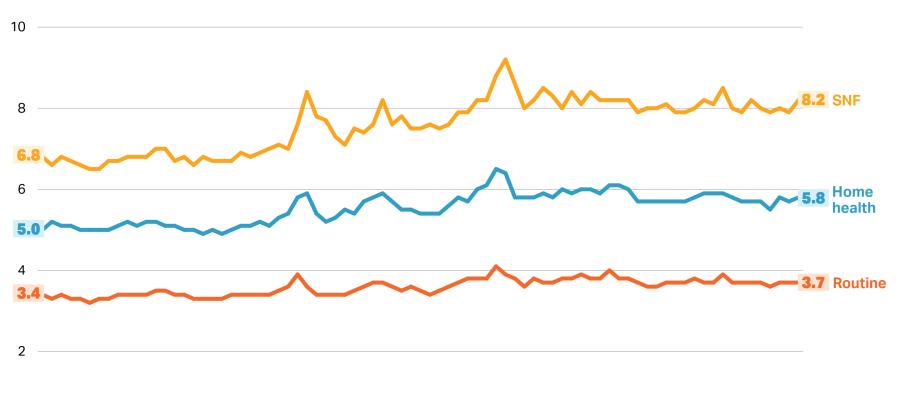


Notes: ED admission were identified using ED flags, admission source codes and ED revenue codes after excluding any BH or maternity stays. APR-DRG codes were used to identify Maternity (14,15) and BH (19,20) stays. Scheduled includes all stays that were not BH, maternity, or ED admissions. Includes COVID related discharges. Excludes rehabilitation admissions and admissions with length of stay greater than 180 days. Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, CY2018 to CY2023

The increase in length of stay is concentrated among patients ultimately discharged to post-acute care.



Average length of stay (days) for admissions from the ED (combined) by discharge destination, 2018 to 2024





Notes: Based on patient discharge data and includes only stays admitted from the emergency department (as defined in prior slides). Includes COVID-related discharges. Excludes pediatric, maternity, BH, scheduled, and rehabilitation stays. Stays with length of stay greater than 180 days.

Sources: HPC analysis of the Center for Health Information and Analysis (CHIA) Hospital Inpatient Discharge Database, FY2017 to FY2023, preliminary FY2024

HPC has previously reported on hospital capacity issues, highlighting the lack of staffed post-acute beds as well as the prior authorizations needed as an impediment to discharging patients in a timely manner.

Starting in 2021 as part of pandemic response, the DOI asked carriers to waive prior authorizations. This ended in May 2022.

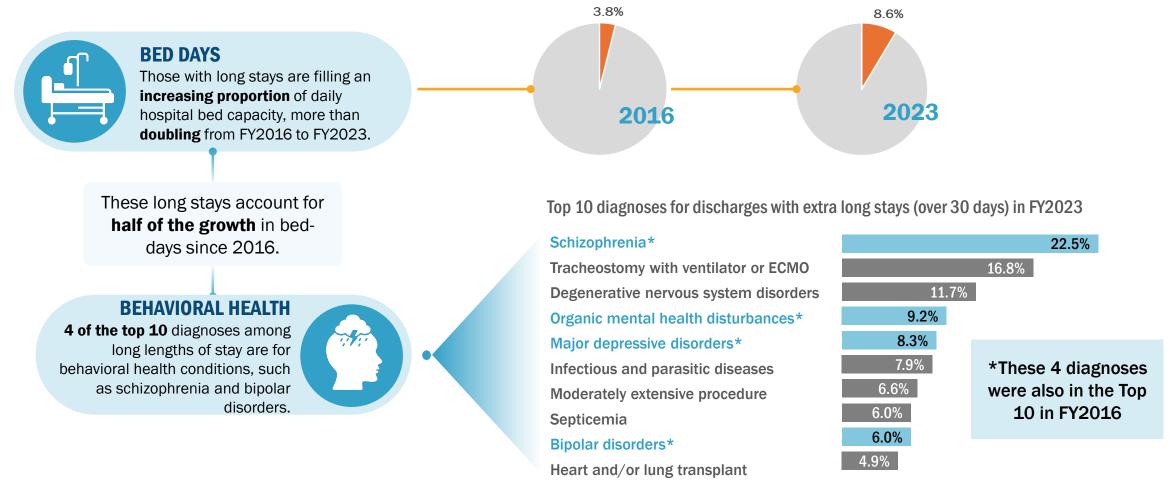
https://www.mass.gov/doc/bulletin-2022-03-extended-relaxation-of-prior-authorization-in-response-to-health-facility-capacity-constraints-issued-february-23-2022/download

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Extra long lengths of stay are increasing as a proportion of hospital stays and account for half of the growth in bed days since 2016.



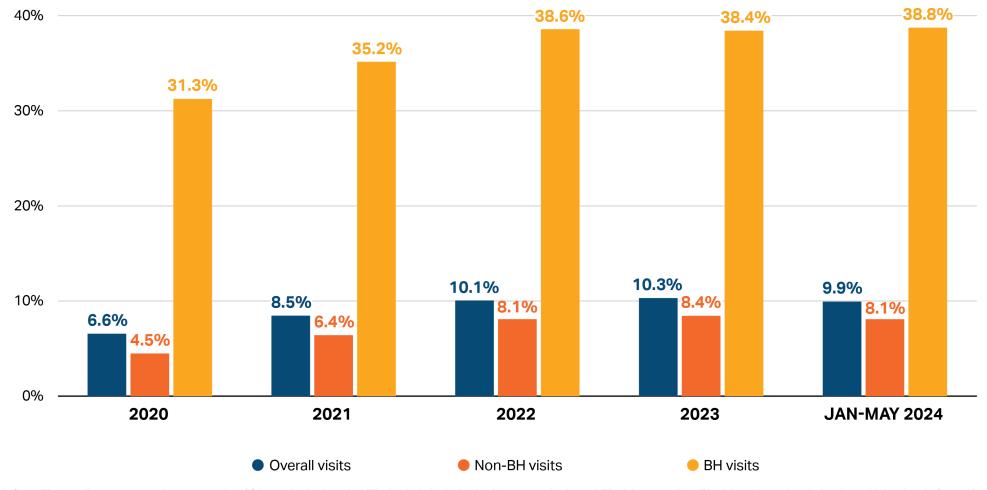
Characteristics of extra long stays (over 30 days) on a given day, FY2016 and FY2023



Long stays are also increasing in the ED. The percent of ED visits that boarded has grown both for BH-related visits and other visits as well.



Percent of emergency department visits that boarded (visits that were ≥12 hours in the ED) by type of visit, January 2020 to May 2024



Notes: The HPC defines ED boarding as greater than or equal to 12 hours in the hospital ED. Analysis includes both "treat and release" ED visits as well as ED visits ultimately admitted to a higher level of care. Does not include visits by non-Massachusetts residents. Behavioral health emergency department visits, observation stays, and inpatient stays were identified using AHRQ's CCSR for the primary diagnosis (BH: MBD001-MBD034). Sources: HPC analysis of Center for Health Information and Analysis (CHIA) Case Mix Hospital Inpatient, Observation, and Emergency Department databases, FY2018 to FY2024

The HPC's Behavioral Health-related Emergency Department Boarding Study

Pursuant to Section 145 of Chapter 126 of the Acts of 2022



- This legislation instructs the Health Policy Commission to conduct an analysis and issue a report on the ongoing effects of the COVID-19 pandemic on behavioral health-related boarding in acute care hospital settings, including but not limited to, boarding in EDs, medical surgical units or observation units.
- The study should include visits that are for mental health, behavioral health, or substance use disorders.
- The study should review:
 - Length of stay, primary reason for wait, and level of care required
 - Type of insurance coverage
 - Payer reimbursement
 - Demographics of patients including race/ethnicity, age, gender, housing status
 - Ability to facilitate care coordination
 - Effects of COVID-19 on length of stay, workforce, and workforce shortages
 - Outcomes and quality of care for patient boarded in acute care hospitals
- The final report will include recommendations on how to address the burden on acute care hospitals and payer reimbursement.

Behavioral health emergency department (ED) boarding has been a continuing crisis in Massachusetts.



- ED boarding occurs when patients are held in the emergency department awaiting further treatment such as an inpatient level of care, whether medical or psychiatric.
 - For most of the analyses in this study, the HPC considers a patient to have experienced behavioral health ED boarding if they have a primary diagnosis of a behavioral health condition and spend 12 or more hours in the ED.
 - Other state agencies and organizations have implemented several different definitions of BH boarding to track the ongoing ED boarding crisis.
- Behavioral health ED boarding may occur for several reasons such as:
 - Delayed psychiatric evaluations, lab tests, and determining level of care needed
 - No available inpatient beds either in acute-care hospitals or freestanding psychiatric hospitals for patients with a need for an inpatient level of care.
 - Delays in finding appropriate care in the community for patients who do not need an inpatient level of care.
- Behavioral health ED boarding is not only harmful for these patients and their families, but also impacts the hospital staff, non-BH patients, and emergency medical services.

Behavioral Health Emergency Department Boarding



- Researchers, state agencies, and organizations representing parts of the health care system have different ways they define behavioral health ED boarding. These definitions vary based on the availability of data and the problem they are trying to understand or address.
 - The American College of Emergency Physicians says any patient remaining in the ED for over 4 hours should be considered as "boarding".
 - Massachusetts Hospital Association conducts a weekly "point in time" survey of their hospitals on Monday mornings. They count any patients in the ED or in a med/surg bed needing a BH bed as "boarders".
 - The Expedited Psychiatric Inpatient Admission policy (EPIA) was originally developed as part of a 2017 Expedited Admissions Task Force and focused on patients spending 24 or more hours in the ED awaiting an inpatient behavioral health bed.
 - Chapter 177 of the Acts of 2022 (the ABC Mental Health Act) defines boarding as "waiting not less than 12 hours" to be placed in an appropriate therapeutic setting (e.g., inpatient, crisis stabilization, residential or community program) after the appropriate level of care is determined.

Except where otherwise noted, any patient staying 12 hours or more in the ED with a primary behavioral health diagnosis will be counted as experiencing boarding regardless of their discharge destination (e.g., inpatient, home, or observation).

One intervention that has been implemented to address long waits for psychiatric inpatient beds from the ED is the Expedited Psychiatric Inpatient Admissions (EPIA) policy.



Expedited Psychiatric Inpatient Admissions policy

The insurance carrier is notified by the ED by 24 hours that there is a patient awaiting an inpatient level of care.

The ED makes a formal request for assistance to the insurance carrier. This request will include clinical information on the patient, barriers to admission, and information on bed searches.

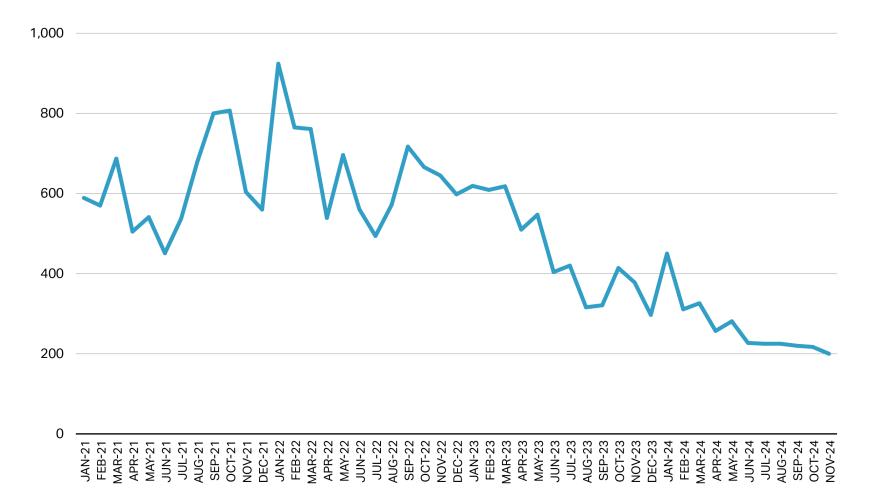
The insurance carrier requests assistance from DMH by 96 hours.

- Starting in 2018, the EPIA policy was implemented to facilitate the placement of patients in need of inpatient psychiatric hospitalization. This policy was developed through a task force that included: carriers, providers, hospital & carrier trade associations, professional associations, and several state agencies.
- The policy sets clear steps and responsibility for escalating cases where placement has not been achieved in a reasonable period of time to insurance carriers, inpatient psychiatric units, and, ultimately, the Massachusetts Department of Mental Health (DMH).

The monthly number of referrals to the EPIA has decreased since 2022.



Number of referrals to the Expedited Psychiatric Inpatient Program, January 2021 - November 2024



- The EPIA protocol only applies to patients who are determined to need an inpatient level of care and have spent at least 24 hours in the ED.
- In November 2024, there were 217 referrals through the EPIA policy, with an average time to placement of 2.4 days¹
- Of those referrals, 47.5% were insured by MassHealth ACO/MCO/PCC, 19.0% were dually-insured by MassHealth & Medicare, and 9.5% were commercially-insured.

Source: Massachusetts Executive Office of Health and Human Services. Expedited Psychiatric Inpatient Admission (EPIA) Dashboards. EPIA External Report November 2024. Available at: https://www.mass.gov/lists/expedited-psychiatric-inpatient-admission-epia-dashboards.

Other State Efforts Aimed at Improving BH ED Boarding



- ➤ The Massachusetts launched the Behavioral Health Help Line and a statewide network of Community Behavioral Health Centers in 2023. These efforts were part of the Commonwealth's Roadmap for Behavioral Health Reform.¹
 - The goal is to get Massachusetts residents "the mental health and substance use care they need, when and where they need it."
 - CBHCs are open 24 hours a day and are an alternative to the ED for certain patients in behavioral health crisis, regardless of insurance or ability to pay.
 - Some patients will still need to seek care at an ED after visiting a CBHC if they are determined to need an
 inpatient bed and there are none available, or if patients are told they need additional medical clearance.
- DOI issued an additional bulletin during COVID and an increase in ED boarding to emphasize the importance of the EPIA process for commercial insurers and hospital providers including arranging payments for specialty needs (known as "specialing"). This could include additional services such as an individual room or 1:1 staff/patient ratio. ²

The HPC identified patients with BH-related ED boarding using inpatient, observation, and emergency department data.



DATA SOURCE

- Massachusetts Center for Health Information and Analysis (CHIA) Massachusetts Acute Care Hospital Case-Mix Databases:
 - Hospital Inpatient, Observation, Emergency Department Discharge Data
- Massachusetts All-Payer Claims Database
 - Commercial & MassHealth (mental health diagnoses only)

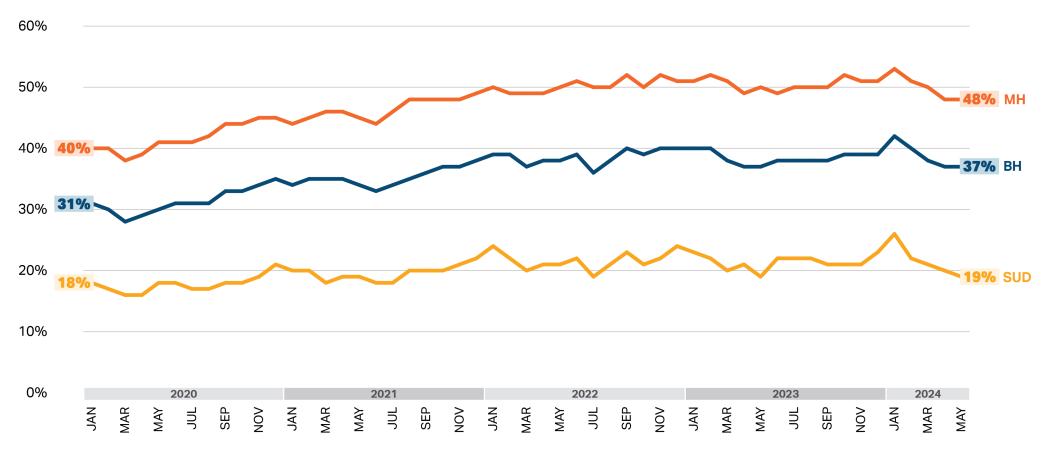
ANALYTIC NOTES

- Population: Massachusetts residents with an emergency department visit or an inpatient or observation stay that was admitted through the ED
- Linkage to APCD: Case-mix data was linked to APCD data to estimate spending and examine follow-up care for patients who seek care in the ED for a mental health problem.
- **Exclusions:** Several hospitals were excluded for analyses based on poor data quality for ED length of stay. MGB hospitals were excluded prior to 2023 due to incorrect submission of observation stays as ED visits.

By May 2024, nearly half of mental health-related ED visits boarded.



Percent of behavioral health-related ED visits that boarded (visits that were ≥12 hours in the ED) by type of visit, January 2020 to May 2024



Notes: The HPC defines ED boarding as greater than or equal to 12 hours in the hospital ED. Analysis includes both "treat and release" ED visits as well as ED visits ultimately admitted to a higher level of care. Does not include visits by non-Massachusetts residents. Behavioral health ED visits, observation stays, and inpatient stays were identified using AHRQ's CCSR for the primary diagnosis. BH visits were identified using CCSR categories MBD001-MBD034, MH visits were identified using MBD017-MBD025 and MBD028-MBD033. Visits with diagnosis codes identified as MBD026 or MBD034 were categorized as mental health-related or substance use disorder-related based on categorizations from CHIA Massachusetts Acute Care Hospital Emergency Department Data – Quarterly Update methodology (November 2023).

Residents who boarded during a BH ED visit were more often covered by MassHealth, Asian, Black, or Hispanic, and living in the lowest income communities.



Characteristics of Massachusetts residents who boarded during a behavioral health-related ED visit, 2023



11%

were children aged 0-17

10% of BH ED visits overall were children



33%

were Asian, Black, Hispanic, or a race other than White

33% of BH ED visits overall were among residents of color



56%

were male

59% of BH ED visits overall were among male residents



49%

had health insurance coverage through MassHealth

47% of BH ED visits overall were covered by MassHealth



35%

lived in the lowest income communities

34% of BH ED visits overall were among residents in the lowest-income communities



17%

did not have permanent housing

17% of BH ED visits overall were among residents without permanent housing

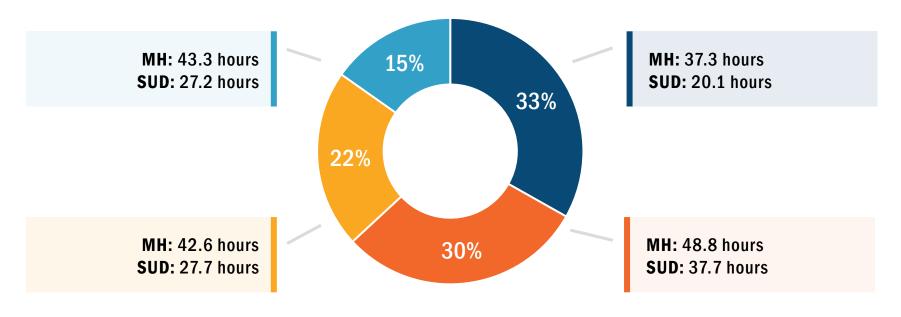
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Sources: HPC analysis of Center for Health Information and Analysis (CHIA) Case Mix databases, FY2018 to FY2024

Approximately a third of patients that experience BH ED boarding are discharged directly from the ED and not sent to a higher level of care. This has remained consistent over time.



Behavioral health-related ED visits that boarded (visits that were ≥12 hours in the ED) by departure status and average lengths of stay (hours), 2023



- Routine departure from ED
- Transferred to other facility from ED

Admitted to inpatient

Admitted to observation

Notes: Visits that left against medical advice, eloped, or had another departure from the ED accounted for approximately 1% of visits each year and are not shown. The HPC defines ED boarding as greater than or equal to 12 hours in the hospital ED. Analysis includes both "treat and release" ED visits as well as ED visits ultimately admitted to a higher level of care. Does not include visits by non-Massachusetts residents. Behavioral health ED visits, observation stays, and inpatient stays were identified using AHRQ's CCSR for the primary diagnosis. BH visits were identified using CCSR categories MBD001-MBD034, MH visits were identified using CCSR categories MBD001-MBD013 and MBD027, and SUD visits were identified using MBD017-MBD025 and MBD028-MBD033. Visits with diagnosis codes identified as MBD026 or MBD034 were categorized as mental health-related or substance use disorder-related based on categorizations from CHIA Massachusetts Acute Care Hospital Emergency Department Data – Quarterly Update methodology (November 2023).

Sources: HPC analysis of Center for Health Information and Analysis (CHIA) Case Mix databases, FY2018 to FY2024. (1) Medicare.gov. Inpatient or outpatient hospital status affects your costs. Available at: https://www.medicare.gov/coverage/inpatient-hospital-care/inpatient-outpatient-status.

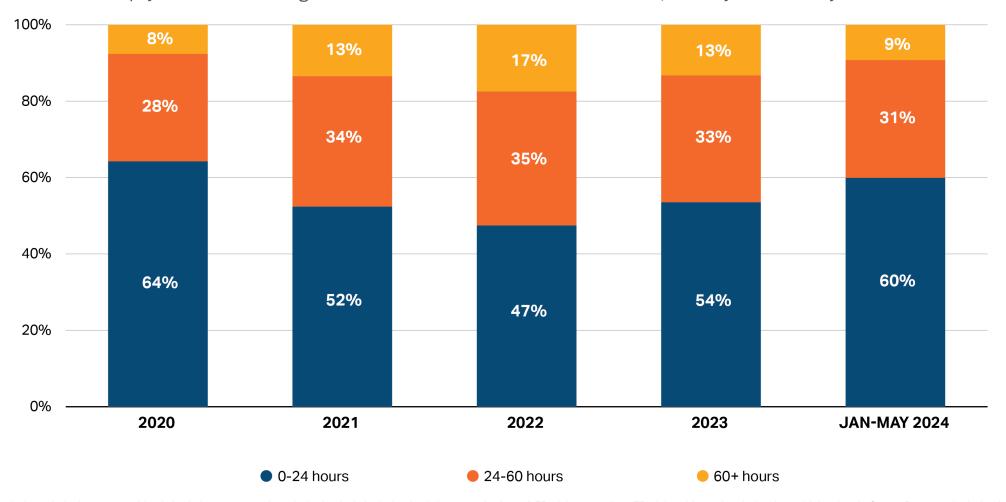
- Routine departure from the ED (i.e., discharge home) differed by type of BH ED visit. For boarded mental health-related ED visits, 26% were discharged home, while 42% of boarded substance use disorder-related visits were discharged home.
- hospital outpatient services that a patient receives while awaiting an admission decision.

 Depending on the hospital, patients may still be in the ED or in separate area.¹
- Some hospital stakeholders indicated that they would move BH patients in the ED to observation status when it was clear that a patient would not have an inpatient bed within 24 hours.

Among adults ultimately admitted to an inpatient psychiatric bed at an acute care hospital, more than half spent over 24 hours in the ED in 2022. That proportion has declined recently.



Time until admission to a psychiatric bed among behavioral health-related ED visits for adults, January 2020 to May 2024



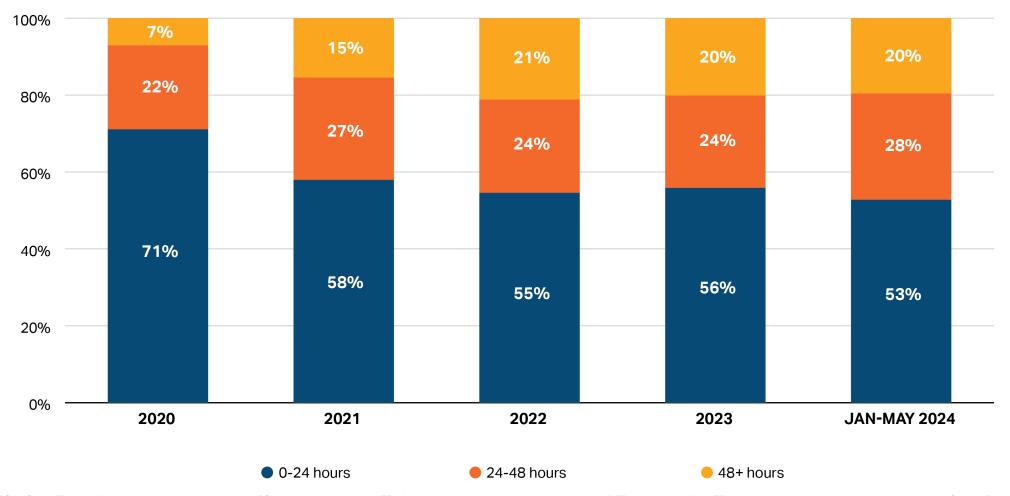
Notes: Only includes admissions to psychiatric beds in acute care hospitals. Analysis includes both "treat and release" ED visits as well as ED visits ultimately admitted to a higher level of care. Does not include visits by non-Massachusetts residents. Behavioral health ED visits, observation stays, and inpatient stays were identified using AHRQ's CCSR for the primary diagnosis (MBD001-MBD034).

Sources: HPC analysis of Center for Health Information and Analysis (CHIA) Case Mix databases, FY2018 to FY2024

Among children who were ultimately admitted to a psychiatric bed in an acute care hospital, the proportion staying in the ED more than 24 hours has steadily increased to 47% in 2024.



Time until admission to a psychiatric bed among behavioral health-related ED visits for children, January 2020 to May 2024



Notes: The HPC defines ED boarding as greater than or equal to 12 hours in the hospital ED. Analysis includes both "treat and release" ED visits as well as ED visits ultimately admitted to a higher level of care. Does not include visits by non-Massachusetts residents. Behavioral health ED visits, observation stays, and inpatient stays were identified using AHRQ's CCSR for the primary diagnosis (MBD001-MBD034).

Sources: HPC analysis of Center for Health Information and Analysis (CHIA) Case Mix databases, FY2018 to FY2024

In the past several years, state policies have been updated to increase payments and services for patients experiencing emergency department boarding.



INPATIENT PAYMENT POLICIES

- MassHealth and several commercial payers pay on a per diem basis starting the day of their ED visit for patients who end up admitted to an inpatient stay. As of 2022, HPC has identified only one major commercial payer that currently pays for BH stays on a per stay (e.g. DRG) basis.
 - For example, the spending related to boarding for the majority of commercial and MassHealth BH inpatient stays will add on to the inpatient stay as a visit (e.g., if a patient came to the ED on Saturday, was moved to inpatient on Tuesday, and discharged Friday the total inpatient stay would be 7 days at the per diem rate).
- Medicare pays per diem for stays at inpatient psychiatric facilities and per stay for BH stays at acute care hospitals.

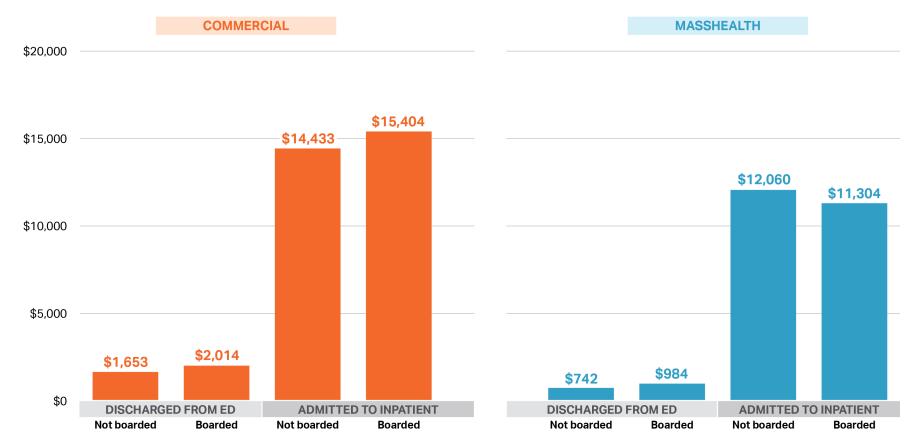
PAYMENT POLICIES RELATED TO BH ED BOARDING

- As of January 2023, MassHealth managed care entities pay hospitals directly for crisis evaluations instead of requiring patients to be first evaluated by Emergency Service Providers (ESP) and Mobile Crisis Intervention (MCI) teams to determine the right level of care. This payment is in addition to the standard ED payment (e.g. for facility and professional services in the ED). 1
- As of September 2023, in accordance with the "An Act Addressing Barriers to Care for Mental Health", section 78 of chapter 177 of the Acts of 2022², the Division of Insurance expects commercial carriers to reimburse acute care hospitals for ongoing monitoring and stabilization for patients awaiting inpatient psychiatric placement at a rate "at least equivalent to crisis intervention services as reimbursed by MassHealth". 3
- As of October of 2022, MassHealth pays an additional per admission rate for weekend admissions and admissions for harderto-place patients such as children. Stakeholders noted that finding inpatient placements on weekends and holidays was especially challenging.
- Additionally, several stakeholders mentioned moving patients from an ED status to an observation status to obtain additional payment when they knew the patient would likely be waiting for community-based supports or inpatient stays.

Both commercial payers and MassHealth paid more for ED visits that boarded and were ultimately discharged from the ED (22% and 33% more, respectively). Commercial patients that boarded before an inpatient admission had slightly higher spending than those who did not board.



Average allowed amounts for mental health-related ED episodes among commercially-insured and MassHealth-insured residents by admission and boarding status, 2022



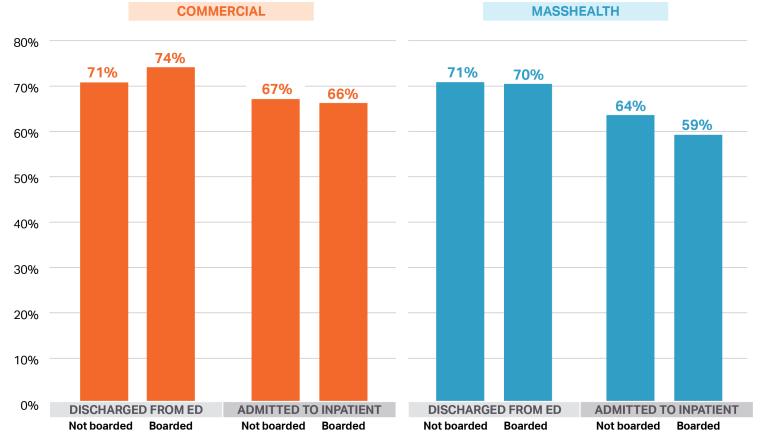
Notes: Excludes episodes with duration and/or spending greater than the 90th percentile duration for the overall category (i.e., discharged from the ED or admitted to inpatient). The HPC defines ED boarding as greater than or equal to 12 hours in the hospital ED. Mental health-related emergency department visits were defined as any ED visit or observation or inpatient stay that resulted from an ED visit with a primary diagnosis code in AHRQ CCSR categories MBD001-MBD013 or MBD027 in the Case Mix datasets. Data shown are for ED visits from the Case Mix databases that were matched (same person, same date) to commercial or MassHealth APCD claims data.

Sources: HPC analysis of Massachusetts Acute Case-Mix Databases, CY2022, All-Payer Claims Database, V2022, 2022.

Regardless of boarding status or payer, patients discharged from the ED were more likely to receive additional services within 7 days than those who had an inpatient stay.



Percent of mental health-related ED episodes that incurred at least one medical claim for any service within seven days by boarding status and discharge destination, 2022



Notes: The HPC defines ED boarding as greater than or equal to 12 hours in the hospital ED. Restricted to residents with 12 months of coverage in 2022. Mental health-related ED visits were defined as any ED visit or observation or inpatient stay that resulted from an ED visit with a primary diagnosis code in AHRQ CCSR categories MBD001-MBD013 or MBD027 in the Case Mix datasets. Data shown are for ED visits from the Case Mix databases that were matched (same person, same date) to commercial or MassHealth APCD claims data. Sources: HPC analysis of Massachusetts All-Payer Claims Database, V2022, 2022.

(1) Center for Health Information and Analysis. Quality of Care in the Commonwealth: Select Clinical Quality and Patient Experience Measures: 2020-2022. August 2024. Available at: https://www.chiamass.gov/a-focus-on-provider-quality-selected-clinical-measures.

- A recent CHIA report on quality of care found that 77.0% of members aged 6 years of age and older with an ED visit for mental illness had a follow-up visit for mental illness within seven days of their ED visit.
- For those who were hospitalized for mental illness, CHIA reported 62.1% had a follow-up visit by a mental health provider within seven days of their discharge.¹

Additional ED Boarding Study Analyses and Behavioral Health Reporting



- The HPC's full report will also include:
 - Information on behavioral-health related boarding in other states and other state policies to address BH ED boarding
 - More information from stakeholder meetings, including resources provided by health plans to care for boarders, the impact on acute care hospitals, the ability to facilitate care communication, and the impact of workforce on ED boarding
 - Policy recommendations
- Additional upcoming studies will also help understand BH ED boarding in the Commonwealth:
 - Behavioral Health Access Line and Behavioral Health Crisis Intervention
 - Pediatric Behavioral Health Planning Report
 - This report will also include data from the newly launched BH Treatment and Referral Platform. The platform is intended to reduce BH ED boarding times by facilitating inpatient placement.¹
- HPC will continue to monitor and research hospital capacity.

Agenda



Call to Order

Approval of Minutes (VOTE)

Executive Session (VOTE)

Presentation: Behavioral Health Emergency Department Boarding in Massachusetts

PRELIMINARY REPORT ON THE COST AND MARKET IMPACT REVIEW OF THE PROPOSED CLINICAL AFFILIATION BETWEEN DANA-FARBER CANCER INSTITUTE, BETH ISRAEL DEACONESS MEDICAL CENTER, HARVARD MEDICAL FACULTY PHYSICIANS TRANSACTION (VOTE)

Bulletin HPC-2025-01: Advance Guidance for Providers and Provider Organizations Relative to the Expansion of HPC Market Oversight Authority (Pursuant to Chapter 343 of the Acts of 2024)

Executive Director's Report

Adjourn

Presentation Outline



Background on the Parties

Background on the Transaction

Cost and Market

Quality of Care

Access and Equity

Summary and Status

Vote

Background: About Dana-Farber Cancer Institute



DFCI is an independent, nonprofit, acute care cancer hospital and research institute, the only National Cancer Institute-designated Comprehensive Cancer Center in the Commonwealth.



- DFCI provides outpatient care at its hospital main campus and licensed hospital satellites, with 97% of the hospital's care being provided on an outpatient basis.¹
- > DFCI has provided inpatient care through a clinical affiliation with Brigham and Women's Hospital (BWH) since 1997. DFCI has 30 licensed beds that it leases from BWH, and its physicians serve as attending medical oncologists for BWH patients in BWH beds (approximately 180 beds per day on average).
- ▶ DFCI provides oncology services in community settings with multiple other provider systems, including Milford Regional Medical Center, South Shore Hospital, St. Elizabeth's Medical Center, and Whittier Street Health Center. Through the Dana-Farber Cancer Care Collaborative, DFCI provides consulting services, educational services, and clinical support services (e.g., second opinion services, tumor board conferences, lectures) to multiple additional provider organizations, including Berkshire Health Center, UMass Memorial Health Care, and Cape Cod Healthcare.²
- DFCI has the largest number of oncologists in its physician network of all Massachusetts provider organizations, while Mass General Brigham (MGB), its current clinical affiliate, has the second largest.³

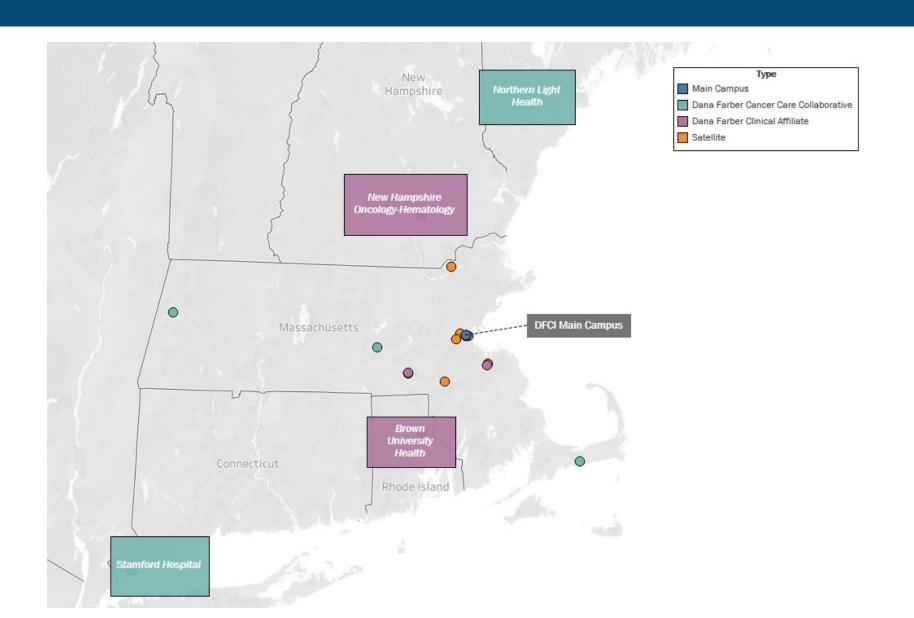
^{1.} Ctr. for Health Info. & Analysis, Dana-Farber Cancer Institute HFY21 Hospital Profile, available at https://www.chiamass.gov/assets/docs/r/hospital-profiles/2021/dana-far.pdf.

^{2.} Mass. Health Policy Comm'n., Massachusetts Registration of Provider Organizations 2023 Filing: Dana-Farber Cancer Institute.

^{3.} HPC analysis of Massachusetts Registration of Provider Organizations 2022 physician rosters.

Background: DFCI Locations and Affiliates





Background: About Beth Israel Deaconess Medical Center and Harvard Medical Faculty Physicians



- ▶ BIDMC is an 809-bed nonprofit academic medical center (AMC), the third-largest hospital in Massachusetts.
- > BIDMC is owned by Beth Israel Lahey Health (BILH), the second-largest hospital-based system in the Commonwealth with ten owned hospitals and one hospital contracting affiliate.
- Harvard Medical Faculty Physicians at BIDMC (HMFP) is a nonprofit BILH contracting affiliate physician group that employs physicians that staff BIDMC and other BILH facilities and community hospitals.
- ▶ BIDMC and HMFP currently provide adult cancer care services, with BILH having the third-largest number of oncologists in its physician network.¹





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Background: DFCI-BIDMC-HMFP Affiliation Proposal



- The current clinical affiliation between DFCI and BWH will run until at least 2028. At its conclusion, DFCI, BIDMC, and HMFP have proposed an alternative clinical affiliation.
- In connection with the clinical affiliation, the parties would collaborate on construction of a new cancer hospital adjacentto BIDMC at 1 Joslin Place, Boston. The proposed cancer hospital would be owned and operated by DFCI. This proposal is undergoing concurrent review by the Department of Public Health (DPH) Determination of Need (DoN) program.
- The parties would collaborate to provide adult cancer services in the new facility and the greater Longwood Medical Area.
 - BIDMC and HMFP would serve as DFCI's preferred providers of surgical oncology services.
 - DFCI would serve as the preferred provider of medical oncology and infusion services, with BIDMC discontinuing medical oncology in Longwood and HMFP medical oncologists shifting to employment by DFCI.
 - The parties would coordinate to provide clinical cancer pathology, clinical cancer radiology, and certain other physician services.
 - BIDMC and DFCI would form a joint venture to provide the technical component of radiation oncology, and BIDMC, HMFP, and DFCI would jointly form a physician organization to provide the professional component of radiation oncology.
 - BILH would provide DFCI access to its electronic health record system
- Each organization would remain corporately independent and the individual governing bodies of each of the parties would maintain ultimate oversight of their respective organizations, including all clinical operations.
- > DFCI would continue to contract with payers independently from BIDMC, HMFP, and BILH.

Background: DFCI-BIDMC-HMFP Affiliation Summary



COLLABORATION ON CONSTRUCTION OF NEW CANCER HOSPITAL

- > \$1.67B in construction cost
- > 30 relocated adult inpatient beds
- 270 new adult inpatient beds
- 20 new observation beds
- 2 new MRI units (currently 2)
- 2 new CT units (currently 3)
- > 1 new PET-CT unit (currently 2)
- 2 new CT simulators (currently 0)
- > 3 new linear accelerators (LINACs) (currently 3)

CLINICAL AFFILIATIONS AND JOINT VENTURE

- Medical Oncology/Infusion provided by DFCI
- Surgical Oncology provided by BIDMC/HMFP
- Radiation Oncology (professional services) provided by new DFCI/BIDMC/HMFP joint physician org
- Radiation Therapy (technical services) provided by new DFCI/BIDMC joint venture

Background: Expected Clinical Shifts



	BIDMC patients would receive medical oncology care from DFCI as opposed to BIDMC/HMFP.
Medical	BIDMC DFCI
Oncology	Some BWH patients would likely follow DFCI oncologists, while others will likely stay with MGB.
	DFCI
	Some DFCI patients would likely receive surgical oncology care at BIDMC, as opposed to BWH.
Surgical Oncology	BWH
	DFCI and BIDMC patients would receive radiation oncology services from the DFCI/BIDMC joint
Radiation Oncology	venture as opposed to BIDMC; some BWH radiation oncology patients would likely also shift. BIDMC BIDMC
	BIDIVIC BIDIVIC DFCI

Key Transaction Claims



The parties claim that this affiliation will positively impact health care spending, quality, and access to care. Their statements include:

- The collaboration would increase access to high-quality tertiary and quaternary adult oncology services for the highest acuity patients with the most complex diagnoses. Specifically, DFCI anticipates a growing need for more sophisticated cancer care and claims that the proposed new facility would ensure it is able to meet that anticipated need in a setting in which its full clinical control would improve care processes and patient satisfaction.
- The affiliation would not have a material impact on reimbursement rates as BIDMC and HMFP will continue to contract with payors independently from Dana-Farber. However, they expect that some cancer care would shift from higher-priced health systems and providers, particularly MGB, to relatively lower-priced providers.
- > The collaboration would increase the quality and efficiency of oncology services provided on the Longwood medical campus by combining the parties' respective cancer expertise in interconnected facilities, as well as through measures such as integrated clinical protocols and electronic health records and required adherence to certain performance and quality standards.

Concurrent Determination of Need Review



- The proposed construction of the new DFCI cancer hospital is subject to review by the Department of Public (DPH) Health Determination of Need (DoN) program. DFCI submitted its application for a DoN concurrently with filing its MCN.
- The DoN program required an Independent Cost Analysis (ICA) of the project, conducted by a third-party consultant. The ICA was accepted on January 10, 2025.
- DoN staff reviewed the ICA findings and comments in the context of the application, other submissions by DFCI, and comments from parties of record, and developed a staff report and recommendations to the Public Health Council. The staff report was published on February 18, 2025, recommending approval with conditions.
- Parties of record, including the HPC, may submit comments on the staff report by February 28th for consideration by DPH.
- The DFCI project will likely be voted on at a Public Health Council meeting on March 20, 2025.
- Any DoN may not go into effect until the HPC completes its CMIR review and issues its final report. The Public Health Council may choose to reopen its review of the DoN based on findings in the HPC's final report.

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Cost and Market: Factors Examined

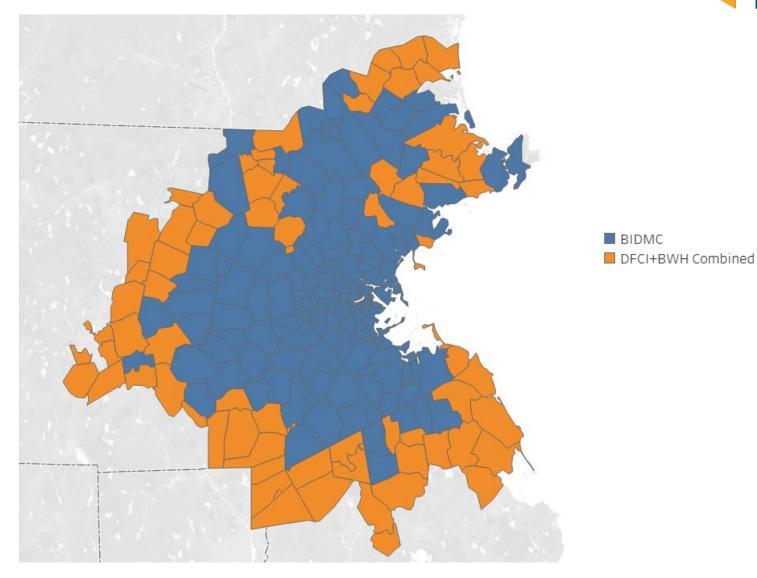


- 1 Cost and Market Baseline Performance
- 2 Inpatient and Outpatient Spending Impacts
- Future Pricing and Broader Market Impacts

Background: Inpatient Oncology Primary Service Areas

Commercial Inpatient Oncology Primary Service Areas





Source: HPC analysis of 2022 CHIA hospital discharge data

Notes: PSAs include ZIP codes from which the hospitals drew 75% of adult oncology discharges for Massachusetts residents. DFCI+BWH's combined PSA includes all zip codes in BIDMC's PSA except 01922 and 01969.

Market Share: For commercial inpatient oncology, DFCI has a small share of medical oncology discharges but manages medical oncology patients at BWH. BIDMC has the third-largest share.



	Shares of medical oncology discharges			Shares of surgical oncology discharges		
Hospital/System	Statewide	BIDMC PSA	DFCI/ BWH PSA	Statewide	BIDMC PSA	DFCI/ BWH PSA
Dana-Farber Cancer Institute	3.8%	4.3%	3.9%	0.4%	0.4%	0.5%
Mass General Brigham	39.6%	48.4%	45.8%	47.6%	55.8%	53.9%
Brigham and Women's Hospital	19.4%	21.5%	21.0%	22.3%	23.1%	24.1%
Massachusetts General Hospital	14.1%	19.1%	17.6%	17.4%	22.7%	20.6%
Beth Israel Lahey Health	17.3%	24.1%	21.4%	18.5%	25.8%	22.7%
Beth Israel Deaconess Medical Center	8.8%	13.1%	11.0%	9.9%	14.1%	11.8%
UMass Memorial Health Care	8.1%	2.0%	5.1%	7.6%	1.4%	4.7%
Tufts Medicine	5.8%	7.4%	7.6%	5.4%	6.8%	7.0%
Boston Medical Center Health System	3.4%	5.2%	4.6%	4.2%	4.6%	4.5%
Other Provider Organizations	22.1%	8.7%	11.7%	16.3%	5.2%	6.7%

Market Share: DFCI is the largest provider of outpatient medical oncology and has the second-highest share of radiation oncology and mammography services. BILH has the third-largest commercial share of these outpatient services.



	Infusion	Oncologic	Radiation	
Hospital/System	administration	drugs	oncology	Mammography
Dana-Farber Cancer Institute	38.7%	34.7%	15.1 %	25.2%
MGB	21.2%	20.3%	48.8%	42.8%
Massachusetts General Hospital	15.4%	12.6%	35.8%	25.5%
Brigham and Women's Hospital	0.2%	1.5%	10.1%	2.8%
BILH	15.7 %	16.8%	12.0%	20.0%
Beth Israel Deaconess Medical Center	10.4%	8.7%	2.3%	4.5%
Baystate Health	6.4%	9.1%	4.4%	2.8%
UMass Memorial Health Care	4.7%	4.5%	1.6%	3.5%
Tufts Medicine	2.6%	2.8%	3.0%	2.3%
Boston Medical Center Health System	1.0%	1.4%	0.7%	0.6%
Other provider organizations	9.7%	10.4 %	14.4%	2.8%

Prices: DFCI's commercial prices for inpatient medical oncology are generally lower than BIDMC and BWH, although higher than those of some other hospitals.



Commercial Price Relative to Average Hospital

Hospital	Medical Oncology	Surgical Oncology
Tufts Medical Center	1.34	1.04
UMass Memorial Medical Center	1.32	1.15
Lahey Hospital and Medical Center	1.30	1.29
Brigham and Women's Hospital	1.29	1.31
Beth Israel Deaconess Medical Center	1.26	1.11
North Shore Medical Center	1.23	0.78
Massachusetts General Hospital	1.15	1.31
Steward St. Elizabeth's Medical Center	1.13	1.16
Baystate Medical Center	1.12	0.90
Dana-Farber Cancer Institute	1.01	1.35
South Shore Hospital	0.98	0.93
Newton-Wellesley Hospital	0.94	0.97
Cape Cod Hospital	0.88	0.91
Milford Regional Medical Center	0.87	0.90

Prices: DFCI's commercial prices for outpatient oncology service lines are substantially higher than other providers' prices.



- The HPC compared commercial prices for select relevant outpatient service lines.
- In most cases, DFCI's outpatient prices are significantly higher than the hospitals from which outpatient services may shift. DFCI prices for oncologist E&M visits and oncologic drugs (not shown) are also substantially higher than those of other providers.
- BIDMC's prices for these service lines are usually, but not always, lower than BWH's prices.
- When calculating spending impacts, we weighted source hospital prices by payer and service mix to reflect different hospital patient characteristics.



Cost and Market Baseline Summary



- > DFCI (in conjunction with BWH) and BIDMC both serve patients from across the Commonwealth, with DFCI/BWH having a larger geographic reach. Although both DFCI and BIDMC serve some out-of-state patients, most of their patients come from eastern and central Massachusetts.
- MGB (in conjunction with DFCI) and BILH are currently the two largest providers of oncology services in the Commonwealth.
- > DFCI and BIDMC prices for inpatient medical and surgical oncology services, respectively, are generally lower than prices for the same services at BWH, but higher than some other hospitals.
- DFCI commercial outpatient prices are generally higher than outpatient oncology prices of other hospitals, while BIDMC's are generally moderate.

Spending: The inpatient spending impacts of the proposed transaction depend in part on which patients would fill new DFCI capacity and backfill capacity at BIDMC and BWH.



- The HPC estimates that inpatient care shifting to DFCI at current prices would reduce annual inpatient commercial spending by \$18.5M to \$23.0M.
- We modeled two scenarios for medical oncology discharges shifting to DFCI:

	Commercial discharges to DFCI	Spending impact
Scenario 1 ("party scenario")	2,339	(\$23 million)
Scenario 2 ("model-driven scenario")	2,477	(\$18.5 million)

- 1. "Party" scenario all medical oncology discharges from both BIDMC and BWH divert to DFCI, and remaining DFCI capacity is filled with patients from other providers based on the results of a patient choice model. This is an extreme scenario MGB has stated its intention to continue offering oncology services at BWH.
- 2. "Model-driven" scenario all medical oncology discharges from BIDMC divert to DFCI, and remaining DFCI beds are filled with patients from other providers (including BWH) based on the results of a patient choice model.
- These scenarios estimate the spending impact of adding capacity at DFCI, assuming patients otherwise would have received care at other hospitals. Assuming net new volume would generate spending increases filling DFCI (or backfilling other hospitals) with all new volume would increase annual Medicare and commercial spending by approximately \$190 million.
- Each scenario assumes DFCI's mix of out of state patients and commercial and Medicare payer mix would remain similar to recent years and that length of stay will increase slightly over time; the HPC adopted DFCI's assumptions of future occupancy provided in its DoN application.

Spending: Inpatient backfill at BWH would likely increase commercial spending, while backfill at BIDMC would likely reduce spending, primarily due to expected shifts from MGB AMCs.



The HPC estimates that backfill of capacity at BWH would likely increase annual commercial spending by between \$4.2M (if backfilled discharges are medical oncology discharges) and \$15.9M (if backfilled discharges are general acute care discharges).

Estimated Backfill Spending Impact (Model-Driven)

	BIDMC	BWH
General Acute Care	(\$5.3 M)	\$15.9 M
Oncology Services	(\$3.5 M)	\$4.2 M

- **\$3.5M** (if backfilled discharges are surgical oncology discharges) and **\$5.3M** (if backfilled discharges are general acute care discharges). If BIDMC were to backfill its capacity solely with surgical oncology discharges from BWH, this would reduce annual commercial spending by up to \$7.4M.
- Pecause BIDMC and the MGB AMCs will be competing to backfill patients, econometric modeling alone cannot predict the ultimate balance of patient shifts.

Spending: Outpatient oncology shifting from BIDMC and potentially other providers to DFCI would likely increase commercial spending.



We quantified spending impacts for certain service lines where we can make reasonable assumptions about the direction and scale of shifts within the service line:

Description of Shift	Spending Impact Estimate
100% of BIDMC infusion to DFCI	\$1.5 million
100% of BIDMC oncologic drugs to DFCI	\$26.5 million
BIDMC oncologist office visits to DFCI	\$3.6 million
100% of BIDMC radiation oncology to JV; JV receives DFCI rates	\$4.6 million
75% of BWH radiation oncology to JV; JV receives DFCI rates	\$4.7 million
75% of BWH oncology-related radiology to BIDMC/DFCI (50% to DFCI; 50% to BIDMC)	\$0.1 million
75% of BWH oncology-related lab and pathology to BIDMC/DFCI (50% to DFCI; 50% to BIDMC)	\$0.4 million
75% of BWH outpatient endoscopy and excision surgery to BIDMC	(\$2.4 million)
Total	\$39.0 million

- Shifts of outpatient care to DFCI from providers other than those quantified here would likely further increase spending due to DFCI's high relative prices for outpatient services. Shifts of additional outpatient care to BIDMC from MGB AMCs would further reduce spending.
- To the extent the affiliation impacts patient choice of providers outside of Longwood, additional care provided at DFCIIIcensed sites would likely further increase spending, while patients shifting to BILH for non-oncology care may reduce spending due to BILH providers' moderate hospital prices and total medical expenses (TME) compared to other major hospital-based systems.

Spending: At current Medicare rates, inpatient care shifting to DFCI would reduce Medicare spending, but changes to DFCI's Medicare reimbursement would impact these savings. Shifts of outpatient Medicare volume to DFCI may increase annual Medicare spending.



- At current prices, differences in Medicare payments per discharge would result in savings in the range of \$5.7M to \$9.1M as Medicare inpatients shift to DFCI.
 - These estimates are based on DFCI's current Medicare rates. Given DFCI's cost-based Medicare inpatient reimbursement structure, these savings would be reduced, or spending may increase, if DFCI's costs per patient increase in its new hospital.
- Outpatient care shifting to DFCI may also increase Medicare spending.
 - Dedicated cancer hospitals receive supplemental payments from Medicare for outpatient care to offset their higher costs of care. CMS estimates that in 2025 DFCI's total outpatient payments will be 46.6% higher than a hospital paid under the standard Medicare reimbursement system would receive for the same services.
 - While the HPC cannot fully adjust for service mix, if DFCI were to receive a similar supplemental payment rate for outpatient oncologic drug infusion services currently provided by BIDMC, this would increase Medicare spending by over \$17M per year.

Spending: Any increases in the parties' prices as a result of the proposed transaction would reduce savings or increase spending.



- DFCI's share of inpatient oncology services would substantially increase as it fills beds in the new facility and BIDMC exits the medical oncology market. DFCI would have to compete on price with other providers to fill its new beds, and competition with DFCI could theoretically also constrain price growth for DFCI's competitors. However, DFCI prices could grow substantially, increasing spending, while remaining lower than its largest competitors, the MGB AMCs.
- Other oncology providers may also be challenged by loss of revenue. Hospitals other than BIDMC, BWH, and MGH would lose \$60M \$64M in commercial inpatient revenue per year based on the patient flows estimated by our models. These providers would also face greater competition and labor costs for oncology-trained workers.
- The spending impact analyses in the Independent Cost Analysis conducted for the DoN program illustrate the potential for changes in DFCI prices to result in increased spending, modeling a \$10M annual spending increase on inpatient care if DFCI were to obtain commercial rates more similar to BWH and Medicare reimbursement more similar to other dedicated cancer hospitals, rather than a spending decrease at current price differentials.
- Commitments to limit future inpatient and outpatient rate increases and address DFCI's already high outpatient prices may help to mitigate these concerns.

Cost and Market Impact Summary



- The proposed transaction and the construction of the new DFCI facility would likely shift a large volume of services from BIMC, BWH, and other oncology providers to DFCI. BIDMC would also likely gain surgical oncology volume primarily at the expense of MGB. BIDMC and BWH are also likely to backfill any volume that shifts to DFCI. **Each of these volume shifts would impact health care spending**.
- Inpatient care shifting to DFCI would likely reduce annual commercial spending by \$18.5M to \$23.0M based on current prices. Backfill of newly available inpatient capacity at BIDMC would likely reduce annual commercial spending by \$3.5M to \$5.3M, while backfill of capacity at BWH would likely increase spending by \$4.2M to \$15.9M.
- Hospital outpatient care would also shift, especially as DFCI takes over outpatient medical oncology formerly provided by BIDMC. Most shifts would likely increase commercial spending due to DFCI's high commercial outpatient prices, especially for hospital-administered oncologic drugs. In total, shifts in outpatient oncology services that the HPC could quantify would likely **increase** annual commercial spending by approximately \$39 million; \$26.5 million of this spending increase would be due to higher commercial prices for oncologic drugs at DFCI.
- At current Medicare rates, inpatient care shifting to DFCI would reduce annual Medicare spending by \$5.7 to \$9.1 million. However, DFCI's inpatient Medicare reimbursement is based on its costs per patient, and to the extent its costs per patient increase in the newly constructed hospital its Medicare reimbursement rate would also increase, reducing any savings or potentially increasing spending. Shifts of outpatient Medicare volume to DFCI would likely increase Medicare spending, likely in excess of \$10 million.
- Any increases in the parties' prices as a result of the proposed transaction would reduce savings or increase spending.
 Commitments to limit future inpatient and outpatient rate increases and address DFCI's already high outpatient prices may help to mitigate these concerns.

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Quality: Factors Examined



- 1 Current Care Delivery Initiatives and Certifications
- 2 Hospital Oncology Quality Measures
- Future Plans to Improve Care Quality and Coordinate Care

DFCI and BIDMC are internationally recognized for their high-quality cancer care.



- Both DFCI and BIDMC are engaged in a variety of care delivery initiatives that are designed to foster high quality care and positive patient outcomes, including:
 - Programs to reduce unplanned admissions, such as the DFCI outpatient acute care clinic
 - Integration of care with clinical trial access and best practices; both DFCI and BIDMC (along with Boston Children's Hospital, BWH, and MGH) are members of the Dana-Farber/Harvard Cancer Center, an NCI designated cancer center with over \$13 million of annual NIH funding
 - Survivorship care planning and related governance committees to support long term patient survival outcomes
 - Patient experience reporting tools and input from patient family advisory councils
 - Patient navigator assignments intended to reduce care disparities for underserved populations
- The care delivered by DFCI and BIDMC has been endorsed by several nationally recognized certification boards, including Magnet, FACT, the Joint Commission, and Commission on Cancer.
 - Certifications from each of these boards demonstrates adherence to evidence-based care standards and robust policies and procedures required for the delivery of high-quality oncology care

There are few publicly available hospital oncology quality measures, but the parties have generally performed comparably to statewide average performance on available metrics.



- DFCI and BIDMC performance was mixed on CMS measures specific to oncology care for unplanned readmissions and ED utilization after discharge to home health, although this variation may be due in part to the lack of risk adjustment for these measures.
- On a metric of one year survival rates for oncology patients with allogeneic stem cell transplants, DFCI, in partnership with BWH and Boston Children's Hospital, outperformed survival rate expectations for its patient panel. BIDMC and other Massachusetts hospitals providing these transplants performed similarly to expected survival rates for its their patient panels.
- > DFCI and BIDMC performed **comparably to statewide average performance** for the two outpatient medical oncology metrics analyzed: Rate of Admissions for Patients Receiving Outpatient Chemotherapy and Rate of Emergency Department Visits for Patients Receiving Outpatient Chemotherapy.
- BIDMC and BWH both generally performed at or above statewide average performance on available surgical oncology care metrics.
- National research has found patients receiving oncology care at PPS-exempt cancer hospitals experience superior survival rates and other quality benefits relative to patients treated at other types of hospitals, examined at the cohort level, although literature alone cannot indicate that other hospitals with high-volume, specialized oncology programs in the Commonwealth should be assumed to have poorer patient outcomes than DFCI or that expanded capacity at DFCI would improve patient outcomes solely due to DFCI's status as a PPS-exempt cancer hospital.

The parties have identified several early-stage plans that have the potential to improve care quality, but these plans are not yet sufficiently developed to assess the likelihood of any specific impacts.



- ▶ BILH and Dana-Farber have stated an **intention to expand several existing programs**, including the DFCI acute care clinic, coordination with satellite locations and community health centers, patient navigator assignments, and access to clinical trials, and to **collaborate on new quality improvement initiatives**. These expansions would have the potential to promote clinical quality, although parties' plans are **not yet sufficiently developed** to allow the HPC to assess to what extent they might result in specific improvements.
- DFCI has identified several quality related benefits it expects to achieve from the creation of its new inpatient facility, including greater control over infection control protocols specific to cancer patients, nursing staff being certified in oncology care, diversion of admissions to newly created observation beds, improved wait times, and improved patient experience in space designed specifically for oncology care. These features appear likely to promote high-quality care.
- Annual reporting on the quality and patient experience measures recommended in the DoN Staff Report would allow assessment of the extent to which DFCI's quality improves in the years following the opening of the new hospital.

Changes in care team affiliations would require substantial coordination amongst providers to avoid disruptions to patient care.



	BIDMC patients would receive medical oncology care from DFCI as opposed to BIDMC/HMFP.
Medical	BIDMC DFCI
Oncology	Some BWH patients will likely follow DFCI oncologists, while others will likely stay with MGB.
	DFCI BWH
O minal	DFCI patients would generally receive surgical oncology care at BIDMC, as opposed to BWH.
Surgical Oncology	BWH
	DFCI and BIDMC patients would receive radiation oncology services from the DFCI/BIDMC joint venture,
Radiation	as opposed to BWH or BIDMC.
Oncology	BIDMC BIDMC
	BWH DFCI

To facilitate care coordination and avoid disruptions to care continuity, the parties and other oncology providers with whom they collaborate will **need to develop robust plans for care coordination and management**.

Quality Summary



- DFCI and BIDMC are internationally recognized for their high-quality cancer care.
- > The parties have generally historically performed comparably to statewide average performance on available oncology quality metrics.
- Research suggests that hospitals with specialized oncology care offerings achieve superior outcomes for their patients, although these findings do not necessarily indicate the transaction would result in higher quality care than that currently provided by the parties.
- The parties have identified several early-stage plans that have the potential to improve care quality, but these plans are not yet sufficiently developed to assess the likelihood of any specific impacts.
- Changes in care team affiliations would require substantial coordination amongst providers to avoid disruptions to patient care.
- The proposed clinical affiliation may result in more patients using BILH providers for non-oncology care, on which BILH providers generally perform comparably to statewide average across most metrics.

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Access and Equity: Factors Examined



- 1 Inpatient Oncology Utilization Trends and Access
- 2 Payer Mix and Patient Demographics
- 3 Current and Proposed Patient Access and Equity Efforts

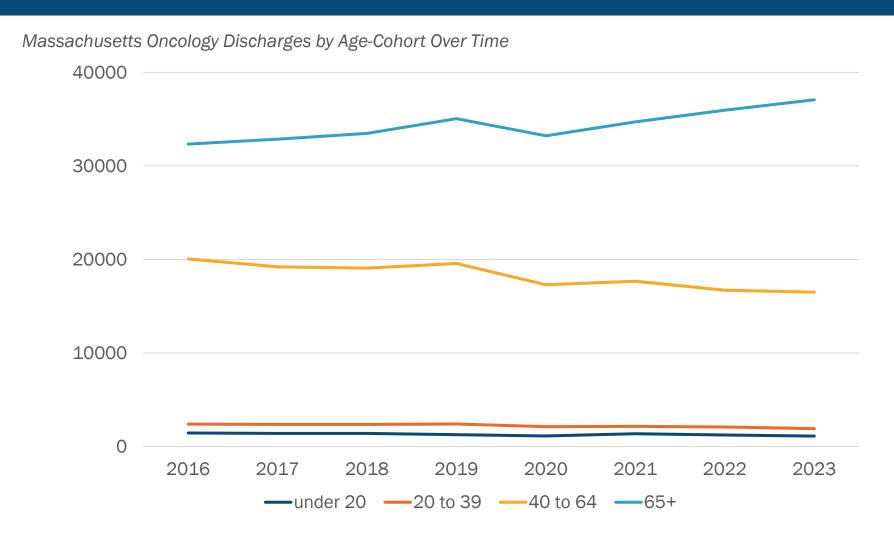
Utilization Trends and Complicating Factors: Inpatient oncology admissions have increased due to Massachusetts' aging population, but many factors will impact future oncology utilization.



- > Statewide from 2016-2023, adult medical and surgical **oncology discharges increased by 1.3%**, with discharges for adults over 64 years of age *increasing* by 14.6% and discharges for patients ages 20-64 decreasing by 18%.
- **DFCI states additional inpatient oncology capacity is needed** due to factors including Massachusetts's aging population, an increase in young adult cancers, the development of innovative cancer treatments such as CAR-T therapy that currently require inpatient stays, increasing utilization of certain therapies and imaging, present capacity constraints (including in post-acute care settings), and increases in patient acuity.
- It is unclear to what extent the proposed transaction is necessary or sufficient to ensure future access to inpatient oncology services, given
 - Projections of future bed utilization based on demographic and utilization trends
 - Uncertainty in other factors likely to influence current and future inpatient oncology utilization
 - The availability of data on current inpatient oncology capacity

Utilization Trends and Complicating Factors: Statewide, the number of oncology discharges has been increasing over time, driven by discharges for older adults.



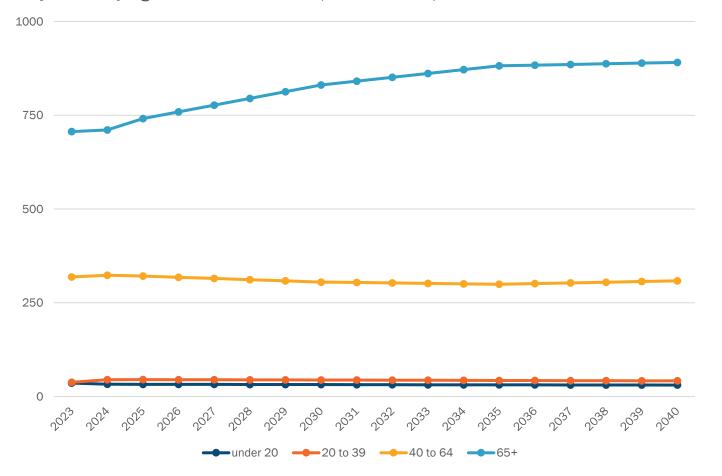


- From 2016 2023, the number of inpatient oncology discharges (medical and surgical discharges) for adults ages 65+ increased by 15%.
- Over the same time period discharges for patients ages 20-64 decreased by 18%.
- Total bed days for adult medical and surgical oncology patients grew at a much faster rate during this period, an increase of 20.2%.

Utilization Trends and Complicating Factors: HPC modeling identified significant variation in model outcomes depending on small changes to underlying assumptions.



Estimated Inpatient Oncology Bed Utilization Using 2019 Utilization Levels and Population Projections by Age and Gender Cohort (2023 – 2040)



This model is based on statewide population and point-in-time utilization levels and does account for changes in cancer care trends.
 Demographic modeling alone is unreliable and highly sensitive to assumptions. Using 2023

average lengths of stay, would predict a "need" for substantially more beds than the 2019 model (53

more beds by 2030 and 72 more beds by 2040).

utilization as the baseline year, with longer

2030, and 172 beds (16%) by 2040.

To test the models provided by DFCI and the ICA.

demographic projections.

the HPC also created a utilization model based on

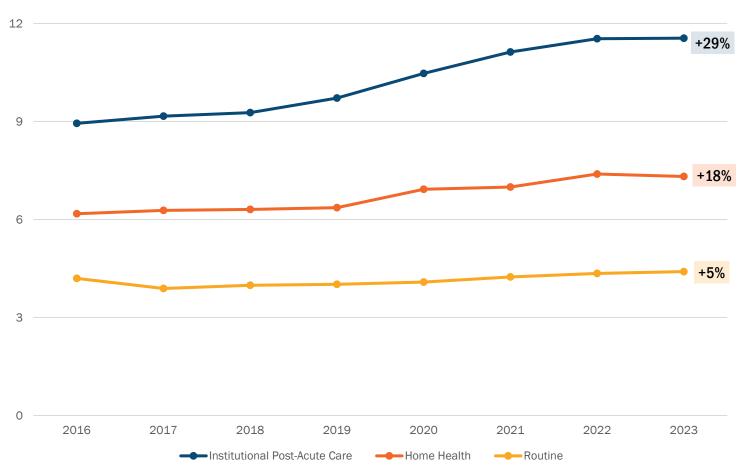
Based **solely on demographic trends** (i.e., aging population) and assuming 2019 utilization per capita, the HPC estimated that total oncology utilization in the Commonwealth would increase by approximately 113 beds (10%) from 2023 to

Source: HPC analysis of CDC WONDER incidence and population data, UMass Donahue Institute population projections, and CHIA HIDD data. Note: 2023 figures are actuals. All other figures are projections.

Utilization Trends and Complicating Factors: Average length of stay for oncology care appears to have increased in part due to challenges discharging to home health care and institutional post-acute care settings.



Average Lengths of Stay for Oncology Discharges by Discharge Destination (2016 - 2023)



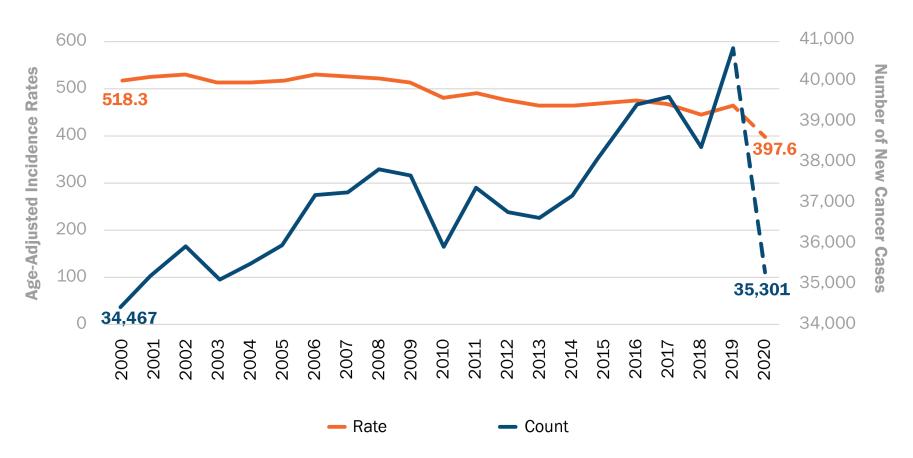
Note: Institutional post-acute care settings are defined as long-term care hospitals, rehabilitation facilities or hospitals, rehabilitation hospitals, skilled nursing facilities, and intermediate care facilities.

- As shown in prior HPC work, average length of stay for certain general acute care scheduled hospital stays and admissions from the emergency department increased by nearly a full day from 2017 2023, driven by discharges to SNFs and home health care.
- Trends were similar among oncology stays from 2016 – 2023:
 - For oncology discharges to home health care (comprising 35.7% of oncology bed days and 33.2% of oncology discharges in 2023), average length of stay increased by 1.1 day.
 - For oncology discharges to institutional post-acute care (comprising 25.3% of oncology bed days and 14.9% of oncology discharges in 2023), average length of stay increased by 2.6 days.

Utilization Trends and Complicating Factors: The Massachusetts Cancer Registry found that age-adjusted cancer incidence rates decreased in Massachusetts between 2000 and 2020.



Trends in Total Number of Massachusetts Cancer Cases and Incidence Rates (2000-2020)



- From 2000 to 2019, total cancer counts increased, mostly due to an aging and growing Massachusetts population.
- However, age-adjusted incidence has declined in Massachusetts.
- The relationship between cancer incidence and inpatient utilization is not necessarily linear.

Utilization Trends and Complicating Factors: While continued care innovation and novel therapies may result in increased inpatient utilization, they may also reduce the need for inpatient utilization.



- DFCI identified **changes in cancer care techniques and technology**, especially intensive complex treatments such as CAR-T and bi-specific antibody therapies that often require extended inpatient care, as likely drivers of future inpatient utilization.
- However, advancements in care protocols, technology, and pharmaceuticals have also resulted in more oncology care being provided on an outpatient basis over the past two decades than previously possible. DFCI has often been at the forefront of these efforts and estimates it **saved the equivalent of five inpatient beds of capacity** in FY24 for certain types of advanced CAR-T and transplant therapies, double the rate of the prior year.
- The introduction of innovative oncology drugs, advancements such as less invasive treatment options and genetic therapies, and the use of interventions like DFCI's acute care clinic also show promise for **treating and managing cancer and side effects in outpatient settings**. This suggests that care innovations will reduce as well as increase inpatient oncology utilization.

Utilization Trends and Complicating Factors: Data are not currently available regarding the number of beds currently available in the Commonwealth suitable to care for oncology patients.



- In addition to factors confounding utilization projections, it is not possible to determine whether the facility proposed by DFCI is necessary to meet future utilization without an assessment of current capacity. Data are not currently available regarding the number of beds available in the Commonwealth suitable to care for oncology patients, and none of the models discussed attempts to answer this question.
- To the extent physical bed space limits access to oncology care, the HPC's findings regarding challenges in discharging patients to post-acute care suggests that access might be most efficiently improved by increasing post-acute care capacity and improving post-discharge care management.
- In addition to existing capacity, other Massachusetts providers are already constructing oncology beds to meet projected utilization growth, including MGH's current construction of a clinical tower housing 210 beds dedicated for oncology care (an increase of 91 oncology-specific beds).

Payer Mix, Demographics, and Equitable Access to Care



- Literature documents **disparities in access to oncology care, morbidity, and mortality** based on patient payer, race and ethnicity, geography, income, and other social determinants of health.
- Payer Mix and Patient Demographics
 - DFCI and BIDMC serve a higher proportion of commercially insured and Medicaid-insured oncology patients than the statewide average.
 - Based on certain indicia of social need, BIDMC's oncology patients reside in areas with greater burden of social determinants of health than DFCI's patients.
 - DFCI and BIDMC serve a greater proportion of BIPOC and Hispanic oncology patients than the statewide average, with BIDMC serving a particularly high proportion of Black patients.
 - DFCI has the largest proportion of oncology discharges from rural areas among major cancer providers in Boston.
- The patients served in the new DFCI hospital would, at baseline, likely resemble a mix of the patient populations currently served by BIDMC, BWH, and other oncology providers.
- DFCI's new facility would represent a significant expansion and concentration of inpatient oncology services in downtown Boston, creating a greater need for coordination with community oncology providers to ensure continued local access to care.

The parties intend to collaborate on expanding equitable access to cancer care, although most of their plans are not yet sufficiently developed for the HPC to evaluate the potential for any specific impacts.



- DFCI and BIDMC currently engage in programs designed to improve access and equitable care for oncology patients.
 - DFCI's current access and equity efforts include its Cancer Care Equity Program, which offers patient navigation services, co-location of screening clinics at community health centers, and efforts to minority representation in clinical trials.
 - BIDMC's oncology-specific access and equity efforts include cancer screening and prevention programs run by BILH, a
 Multicultural Cancer Task Force, survivorship symposiums, and patient navigation programs, in addition to accessoriented programs available to all patients.
- The parties have stated that they intend to collaborate on expanding "access to and affordability of cancer care" and have established a **road map identifying priorities and short- and long-term goals for collaboration**. These planning efforts suggest that the collaboration has the **potential to improve equitable access to cancer care**. However, because the parties have not yet moved substantially beyond identifying these priorities and exchanging information on their current efforts, the HPC is unable to evaluate the likelihood that specific potential benefits would be realized.
 - DFCI has stated in responses to DoN inquiries that it will align its financial assistance policy with BIDMC's. Adhering to this commitment would improve affordability for patients with low incomes.
- Regular public reporting on the implementation and results of the parties' proposed access and equity initiatives would allow the Commonwealth to assess whether and to what extent the transaction enhanced equitable access to oncology care. Annual reporting relevant to these areas has been proposed as part of the conditions for approval of DFCI's DoN.

Access and Equity Summary



Inpatient Oncology Utilization Trends and Access: DFCI asserts that the proposed new cancer hospital is necessary to meet projected changes in oncology utilization. However, given the many factors that may impact future inpatient oncology utilization, the limits of statistical modeling, and the inability to fully assess other inpatient oncology capacity, it is unclear to what extent the proposed transaction is necessary or sufficient to ensure future access to oncology care.

Payer Mix and Patient Demographics:

- DFCI and BIDMC serve a larger proportion of commercially insured and Medicaid-insured oncology patients than the statewide average, and DFCI's Medicare payer mix would likely increase somewhat as a result of the transaction.
- Based on certain indicia of social need, BIDMC's oncology patients reside in areas with greater SDoH burden than DFCI's patients.

Access and Equity Summary (cont.)



Payer Mix and Patient Demographics continued:

- DFCI and BIDMC serve a greater proportion of BIPOC and Hispanic oncology patients than the statewide average, with BIDMC serving a particularly high proportion of Black individuals who would likely shift to the new facility.
- DFCI has the largest proportion of oncology discharges from rural areas among major cancer providers in Boston and would likely serve a greater share of patients from nearby urban areas in the new facility.
- Current and Proposed Access and Equity Efforts: The parties currently engage in programs designed to improve access and equitable care for oncology patients and state that they intend to collaborate on expanding these efforts, although their plans are not yet sufficiently developed for the HPC to evaluate the likelihood of any specific impacts.

Presentation Outline



Background on the Parties

Background on the Transaction

Cost and Market

Quality of Care

Access and Equity

Summary and Status

Vote

Summary of Findings



- The proposed affiliation and the construction of the new facility is likely to result in DFCI providing much more oncology care.
- Shifts in inpatient oncology care from BIDMC, BWH, and other hospitals to DFCI may reduce annual commercial spending by \$18.5M to \$23M. Backfill of inpatient capacity at BIDMC would also reduce annual commercial spending by \$3.5M to \$5.3M, while backfill of capacity at BWH would increase commercial spending by \$4.2M to \$15.9M.
- Outpatient care shifting to DFCI would increase commercial spending on outpatient care by approximately \$39M; \$26.5 million of this spending increase would be due to higher commercial prices for oncologic drugs at DFCI.
- At current Medicare rates, inpatient care shifting to DFCI would reduce annual Medicare spending by \$5.7 to \$9.1 million, but to the extent its costs per patient increase in the newly constructed hospital, its Medicare reimbursement rate would also increase, reducing savings or resulting in increased spending. Shifts of outpatient Medicare volume to DFCI may increase annual Medicare spending.
- The ultimate spending impacts would depend on whether DFCI maintains its low relative prices for inpatient care and reduces its high relative prices for outpatient care. Commitments regarding rate increases and DFCI's future outpatient price structure may help mitigate concern about spending impacts in the short term.

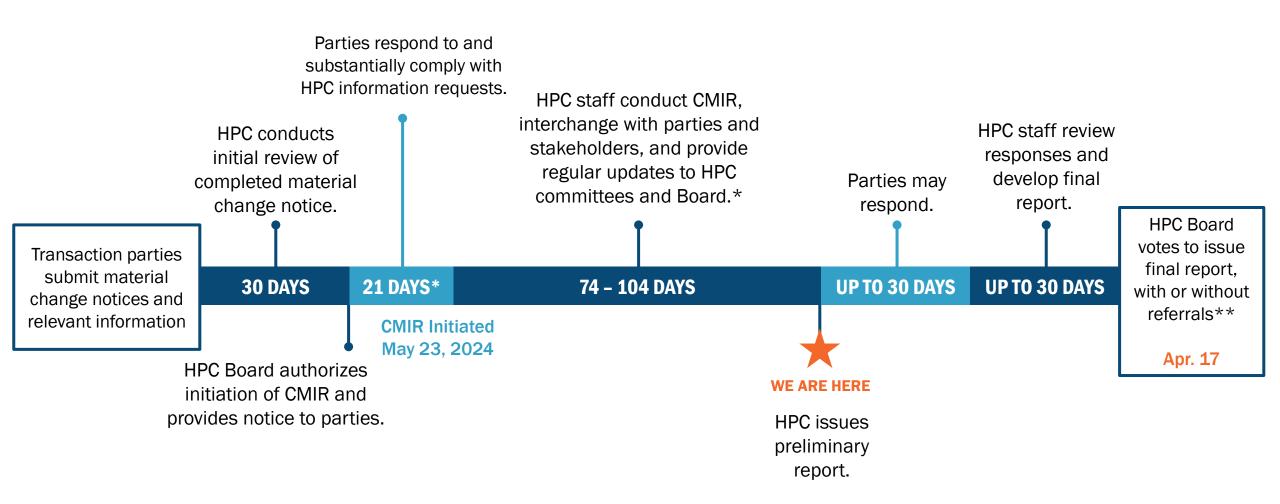
Summary of Findings cont'd.



- The HPC did not identify significant concerns regarding changes in the quality of care for oncology patients as a result of the proposed transaction based on the parties' current quality performance. The parties have emphasized aspects of their plans designed to improve care quality. While these plans have the potential to improve clinical quality, they are not yet sufficiently developed for the HPC to be able to assess the likelihood of any specific impacts. The parties have begun planning to limit disruptions to care coordination, and in the short-term it will be critical for the parties and other oncology providers to develop robust plans for care coordination and management to avoid disruptions in continuity of care as long-standing provider relationships shift.
- Although inpatient oncology utilization has increased in recent years, many factors may impact future inpatient oncology utilization. Given the uncertainty of these influences, the limits of statistical modeling, and the inability to fully assess inpatient oncology capacity, it is unclear whether the parties' specific proposal is necessary or sufficient to meet future access needs. The parties have begun planning to collaborate and expand on their existing access and equity initiatives, and continued attention to and investment in these collaborations will determine the extent to which the affiliation results in more equitable access to care for underserved populations.

Timeline for CMIR Review





^{*} The parties may request extensions to this timeline which may likewise affect the timing of the report ** The parties must wait 30 days following the issuance of the final report to close the transaction

Presentation Outline



Background on the Parties

Background on the Transaction

Cost and Market

Quality of Care

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Summary and Status

Vote

VOTE



Approval of Cost and Market Impact Review Preliminary Report: Dana-Farber Cancer Institute, Beth Israel Deaconess Medical Center, Harvard Faculty Medical Physicians

MOTION

That, pursuant to section 13 of chapter 6D of the Massachusetts General Laws, the Commission hereby authorizes the issuance of the preliminary report, as presented, on the cost and market impact review of the proposed clinical affiliation between Dana-Farber Cancer Institute, Beth Israel Lahey Health, Beth Israel Deaconess Medical Center, and Harvard Medical Faculty Physicians at BIDMC and the related construction of a freestanding, adult inpatient cancer facility; and the submission of the preliminary report to the Department of Public Health as a comment to the Determination of Need staff report.

Agenda



Call to Order

Approval of Minutes (VOTE)

Executive Session (VOTE)

Research Presentation: Emergency Department Boarding in Massachusetts

Preliminary Report on the Cost and Market Impact Review of the Proposed Clinical Affiliation between Dana-Farber Cancer Institute, Beth Israel Deaconess Medical Center, Harvard Medical Faculty Physicians Transaction (VOTE)

BULLETIN HPC-2025-01: ADVANCE GUIDANCE FOR PROVIDERS AND PROVIDER ORGANIZATIONS RELATIVE TO THE EXPANSION OF HPC MARKET OVERSIGHT AUTHORITY (PURSUANT TO CHAPTER 343 OF THE ACTS OF 2024)

Executive Director's Report

Adjourn

Recap: Expansion of HPC Market Oversight Authority



Chapter 343 of the Acts of 2024 expands the HPC's market oversight authority, <u>including but not limited to</u> the following:

- Expands the triggers for material change notice ("MCN") reviews to include:
 - Significant expansion in a provider's capacity;
 - Transactions involving a significant equity investor that result in a change of ownership or control of a provider or provider organization;
 - Significant acquisitions, sales, or transfers of assets, including real estate lease-backs; and
 - Conversions of a provider from a non-profit entity to for-profit
- **Expands HPC authority to collect information from significant equity investors and other parties to a transaction**, including by allowing the HPC to require financial statements and materials on an investor's capital structure be filed with the notice

For additional information on the recent health care legislation, see the January 2025 Board <u>presentation</u>.

New: MCN Guidance





The requirements are effective April 8, 2025.

The HPC is developing advance guidance for market participants regarding the statutory updates to MCN filings in advance of a full update to the regulations.

- **Effective date:** Pursuant to the law, expansions of the HPC's market oversight authority are effective on April 8, 2025.
- Expansion of Material Changes: The Guidance identifies the new transaction types requiring an MCN filing. see next slide
- Expansion of required information: The Guidance describes the new information the HPC can require to be submitted, as well as the types of parties from which information may be required for submission.
- **MCN Form updates:** The revised MCN form will be available on the HPC's website for use beginning on April 8, 2025.

REMINDER: HPC's regulation, 958 CMR 7.00 (Notices of material change and cost and market impact reviews), and the MCN/CMIR review processes established thereunder, remain in effect except where notice and submission requirements are expanded.

Guidance on Expansion of Material Changes

Chapter 343 of the Acts of 2024 adds four types of proposed changes to the definition of Material Change.

This slide includes <u>initial</u> guidance on three of the new Material Changes.



- "Significant expansions in a Provider or Provider Organization's capacity" includes any increase to a Provider or Provider Organization's capacity (e.g. additions of beds, equipment or new sites) that require an application to be submitted to the Massachusetts Department of Public Health's Determination of Need program.
- "Transactions involving a significant equity investor which result in a change of ownership or control of a Provider or Provider Organization" includes any investment by an equity investor that will change the ownership of a Provider or Provider Organization or any investment in excess of \$10M that results in an equity investor having significant control over a Provider or Provider Organization, e.g., the potential to appoint a board member(s), make key business decisions (e.g., hiring or terminating staff).
- "Significant acquisitions, sales, or transfer of assets including, but not limited to, real estate sale lease-back arrangements" includes the sale of any licensed facility or the sale of real property assets where Health Care Services are delivered for the purposes of a real estate lease-back arrangement.

The fourth new Material Change, Conversion of a Provider or Provider Organization from a non-profit entity to a for-profit entity, is omitted for purposes of this slide.

Key Takeaways and Additional Information

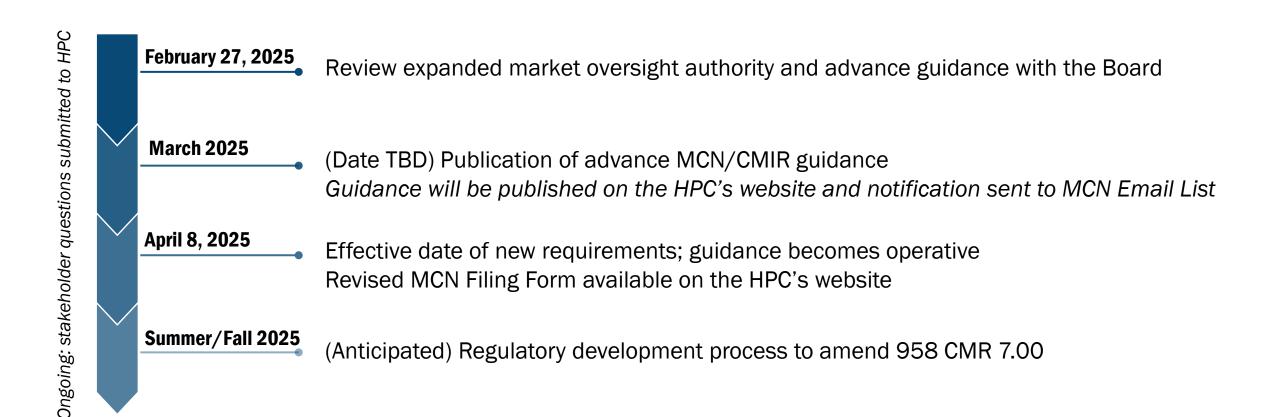


The HPC anticipates conducting a regulatory development process to amend 958 CMR 7.00 to fully implement the new requirements later in CY2025*.

- **Guidance.** The advance guidance will be available on the HPC's website prior to April 8, 2025. The guidance will become operative on that date.
- **MCN Email List.** In addition to being posted, the guidance and related updates (e.g., updates to MCN form) will be distributed via the HPC's MCN email list. Registration is available here.
- **Questions.** The HPC encourages stakeholders with specific questions, including timing considerations for potential transactions, to contact the HPC. Please submit questions to HPC-Notice@mass.gov.

Timeline: Expanded Market Oversight Authority





Agenda



Call to Order

Approval of Minutes (VOTE)

Executive Session (VOTE)

Presentation: Behavioral Health Emergency Department Boarding in Massachusetts

Preliminary Report on the Cost and Market Impact Review of the Proposed Clinical Affiliation between Dana-Farber Cancer Institute, Beth Israel Deaconess Medical Center, Harvard Medical Faculty Physicians Transaction (VOTE)

HPC-2025-01: Advance Guidance for Providers and Provider Organizations Relative to the Expansion of HPC Market Oversight Authority (Pursuant to Chapter 343 of the Acts of 2024)

EXECUTIVE DIRECTOR'S REPORT

Adjourn

Since 2013, the HPC has reviewed 185 market changes.

TYPE OF TRANSACTION	NUMBER	FREQUENCY
Physician group merger, acquisition, or network affiliation	41	22%
Formation of a contracting entity	40	22%
Clinical affiliation	36	19%
Acute hospital merger, acquisition, or network affiliation	31	17%
Merger, acquisition, or network affiliation of other provider type (e.g., post-acute)	30	16%
Change in ownership or merger of corporately affiliated entities	6	3%
Affiliation between a provider and a carrier	1	1%

Material Change Notices Currently Under Review



The proposed acquisition of **Vibra Hospital of Western Massachusetts**, the for-profit owner and operator of both an inpatient long term acute care hospital and a skilled nursing facility in Rochdale, Massachusetts, by **Everest Hospital, LLC**, a newly formed Massachusetts corporation in coordination with Nielk Equities, LLC.

RECEIVED SINCE 1/16/2025

A proposal by UMass Memorial Health Care (UMass) to merge **Marlborough Hospital**, a UMass community hospital, into **UMass Memorial Medical Center**, making Marlborough a licensed campus of the UMass academic medical center.

2025 Hearing on the Health Care Cost Growth Benchmark



Thursday, March 13 at 12:00 PM Gardner Auditorium Massachusetts State House

Chapter 224 prescribes the formula that the HPC must use to establish the benchmark each year. Since 2018, the HPC has had authority to modify the benchmark if an adjustment is "reasonably warranted."

For the years 2023 through 2032, the health care cost growth benchmark will be set equal to potential gross state product (PGSP), or 3.6%, unless the HPC determines that an adjustment to the benchmark is reasonably warranted. In that case, the HPC Board may choose to modify the benchmark to any amount.

To sign up to provide in-person public testimony, please email <u>HPC-Testimony@mass.gov</u>





Recent and Upcoming Publications



RECENTLY RELEASED



- DataPoints: An ACO-verview: Key Insights from HPC-Certified Accountable Care Organizations (February 2025)
- ACO Strategies: LEAP 2024-2025 Certified ACOs (January 2025)
- Chartpack: A Dire Diagnosis: The Declining Health of Primary Care in Massachusetts and the Urgent Need for Action (January 2025)
- Report: Analysis of the Effects of Behavioral Health Managers on the Commonwealth's Health Care Delivery System (November 2024)
- Report: 2024 Annual Health Care Cost Trends Report and Policy Recommendations (October 2024)

UPCOMING



- Video: Moving Massachusetts Upstream HEAL Winchendon
- Report: Assessment of Health Care Needs and Supply in Massachusetts
- **Evaluation Report**: C4SEN Investment Program
- Report: 2023 Office of Patient Protection Annual Report
- DataPoints Series: Issue #29, Polypharmacy in the Commonwealth
- Report: Behavioral Health-Related Emergency Department Boarding in Massachusetts

Agenda



Call to Order

Approval of Minutes (VOTE)

Executive Session (VOTE)

Presentation: Behavioral Health Emergency Department Boarding in Massachusetts

Preliminary Report on the Cost and Market Impact Review of the Proposed Clinical Affiliation between Dana-Farber Cancer Institute, Beth Israel Deaconess Medical Center, Harvard Medical Faculty Physicians Transaction (VOTE)

Bulletin HPC-2025-01: Advance Guidance for Providers and Provider Organizations Relative to the Expansion of HPC Market Oversight Authority (Pursuant to Chapter 343 of the Acts of 2024)

Executive Director's Report



ADJOURN



APPENDIX

DoN Staff Report Conditions Summary



- Standard contribution to DPH's Community Health Initiatives (CHI) fund
- Annual reporting for 5 years on:
 - Efforts to identify and address barriers to care and implementation of early detection, screening, and
 prevention programs, including number of community screenings, time to treatment for patients coming
 from community partners, mammography van activity, and health-related social needs screenings.
 - Total inpatient Revenue, expenses, discharges, and CMI
 - A breakdown of discharges and inpatients per capita from New England by race, ethnicity, language, payer, and ZIP of residence.
 - Patient experience measures, to be evaluated stratified by patient race, ethnicity, and language
 - Radiation therapy patient volume by race, ethnicity, and language
 - A slate of PCHQR quality measures
 - Source of admissions, including percentage of admissions from EDs, transfers, and transfers denied

DoN Staff Report Conditions Summary (con't)



- For 5 years, DPH will annually calculate DFCI's annual case-mix-adjusted revenue and operating costs per discharge, excluding pharmaceutical revenue and costs.
 - If the DoN program identifies increases substantial enough to raise concerns regarding cost containment,
 DPH may require DFCI to explain the reasons for this growth to the PHC.
 - If the year-over-year growth in inpatient revenue per CMAD exceeds the cost growth benchmark, DFCI must explain this growth to DPH. If the PHC determines the increase is not attributable to innovative treatments or forces beyond DFCI's control, DFCI must develop a plan to make additional investments in its own health equity programs not greater than the amount by which inpatient spending exceeded the cost growth benchmark percentage.

Background: Proposed Changes in Service from DoN Application



	Number of Beds		Patient Days		Occupancy Rate			Number of Discharges	
	Current	Post- Project	Current	Projected	Current	Projected	Average LOS	Actual	Projected
Medical/Surgical	30	280	9,663	97,103	88%	95%	7.5	1,295	12,111
ICU/CCU/SICU	0	20	0	6,936	0%	95%			
Total Acute	30	300	9,663	104,039	88%	95%	7.5	1,295	12,111

	Existing Number of Units	Change in Number (+/-)	Proposed Number of Units	Existing Volume	Proposed Volume
MRI	2	2	4	8,008	12,632
СТ	3	2	5	30,513	50,801
PET-CT	2	1	3	6,792	12,401
LINAC	3	3	6	25,356	42,000
CT Simulator	0	2	2	0	2,475

Inpatient Oncology Service Line Definitions



- Start with all discharges with an ICD-10 oncology diagnosis code, using DFCI's list from its DoN application.
- Categorize discharges by primary MS-DRG, categorized into 3 groups:
 - 1. Always cancer-related, regardless of cancer diagnosis code (e.g., bone marrow transplants, malignancy-specific DRGs)
 - 2. Potentially cancer-related as long as there is a cancer diagnosis code in some position (including many surgical procedures, septicemia and other major infections that may result from oncology-related immunosuppression)
 - 3. Never cancer-related, regardless of diagnosis code (e.g., traumas, heart attack, labor and delivery)
- A discharge was considered an oncology discharge in-scope for this review if it fell into either of the categories 1 or 2.
 - Likely results in some overcounting (e.g., patients with a cancer diagnosis who happen to be admitted for a reason wholly unrelated to their disease), but necessary to capture the full scope of oncology services provided by the parties.
- Services further split into medical or surgical based on how CMS classifies the DRG
 - DFCI used a more nuanced definition of medical vs. surgical, which we were not able to replicate.

Market Share: All-Payer Inpatient Shares



	Shares o	Shares of medical oncology discharges Shares of surgical			of surgical oncol	l oncology discharges	
Hospital/System	Statewide	BIDMC PSA	DFCI/ BWH PSA	Statewide	BIDMC PSA	DFCI/ BWH PSA	
MGB	29.7 %	40.2%	36.3%	39.0%	47.8%	45.7%	
Brigham and Women's Hospital	11.6%	14.0%	13.4%	17.3%	18.8%	19.4%	
Massachusetts General Hospital	10.3%	15.2%	13.4%	14.6%	19.6%	17.7%	
NSMC Salem Hospital	2.5%	4.0%	3.7%	1.6%	2.6%	2.4%	
Newton-Wellesley Hospital	2.2%	3.9%	3.1%	1.7%	2.9%	2.5%	
BILH	19.4%	27.7%	25.3%	19.3%	27.2%	24.7%	
Beth Israel Deaconess Medical Center	7.5%	11.8%	10.0%	9.7%	13.8%	12.2%	
Lahey Clinic	3.5%	5.4%	5.0%	4.9%	7.2%	6.8%	
UMass	8.9%	2.5%	6.0%	8.3%	1.9 %	5.1 %	
UMass Memorial Medical Center	2.3%	3.0%	3.1%	3.4%	3.4%	3.7%	
вмс	5.3 %	8.3%	7.3%	6.8%	9.1%	8.2 %	
Boston Medical Center	3.0%	5.3%	4.3%	3.4%	5.7%	4.6%	
Tufts	5.1 %	7.0 %	7.3%	5.0 %	6.7%	7.0%	
Tufts Medical Center	2.2%	3.3%	2.9%	3.1%	4.4%	4.2%	
South Shore Hospital	4.6%	5.5%	6.7%	2.7%	3.2 %	3.8%	
Dana-Farber Cancer Institute	2.1%	2.4%	2.3%	0.4%	0.5%	0.5%	
Lawrence General	2.0%	3.3%	3.1%	1.1 %	1.7 %	1.6%	
Other Hospitals	22.9%	3.1 %	5.7%	17.3 %	1.9%	3.3%	
Total	100%	100%	100%	100%	100%	100%	
Current-State HHI	1,491	2,560	2,168	2,091	3,173	2,863	

Prices: Medicare Inpatient Relative Prices

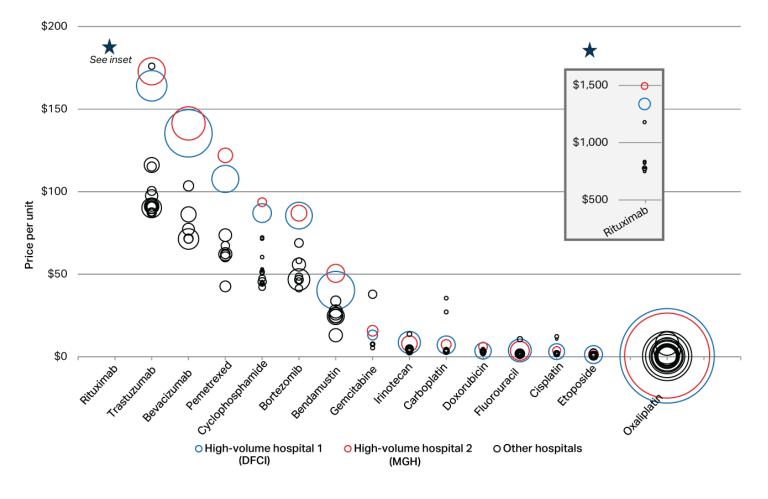


	Medicare inpatient medical oncology price relative to average hospital
Boston Medical Center	1.47
UMass Memorial Medical Center - University Campus	1.41
UMass Memorial Medical Center - Memorial Campus	1.31
Tufts Medical Center	1.28
Beth Israel Deaconess Medical Center	1.23
Brigham and Women's Hospital	1.23
Massachusetts General Hospital	1.19
Dana-Farber Cancer Institute	1.09
Lahey Hospital and Medical Center	1.06
Mount Auburn Hospital	1.04
North Shore Medical Center	0.96
Newton-Wellesley Hospital	0.94
Lowell General Hospital	0.90
Milford Regional Medical Center	0.90
Beverly Hospital	0.88

Price: Prior HPC work found similar differentials in oncologic drug prices.

Variation by hospital in chemotherapy drug unit prices and volume, 2016





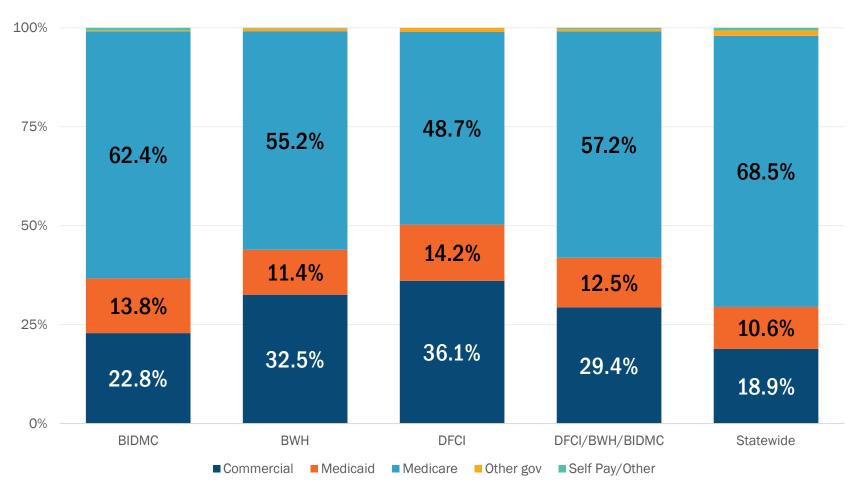
Source: 2018 HPC Cost Trends Report (HPC analysis of Massachusetts All-Payer Claims Database, 2016)

Notes: Data include 2016 Blue Cross Blue Shield of Massachusetts and Tufts Health Plan claims. Sample includes all injectable chemotherapy drugs for which there were more than 10 claims in at least 10 hospitals in 2016. Each bubble represents one hospital in Massachusetts. The area of each bubble is scaled by the total number of units administered by each hospital. Prices represent volume-weighted averages of claims. Claims from Harvard Pilgrim Health Care were excluded due to coding anomalies. See Technical Appendix for additional data.

Payer Mix and Demographics: Inpatient Medical Oncology Payer Mix







- DFCI's inpatient oncology
 Medicaid mix has been
 increasing over time, and it
 was higher than the
 statewide average of 10.6%
 in 2023.
- This was in part due to an expansion of DFCI's MassHealth MCO contracting.

Payer Mix and Demographics: Based on certain indicia of social need, BIDMC's oncology patients reside in areas with greater social determinant of health burden than DFCI's patients.



Per Capita Income	UMass Memorial Medical Center	\$ 38,853
	Statewide	\$ 45,350
	Tufts Medical Center	\$ 48,512
	South Shore Hospital	\$ 48,795
	Beth Israel Deaconess Medical Center	\$ 49,315
	Brigham and Women's Hospital	\$ 49,671
	Dana-Farber Cancer Institute	\$ 49,924
	Massachusetts General Hospital	\$ 50,629
	Tufts Medical Center	7.5%
	Beth Israel Deaconess Medical Center	6.5%
	Massachusetts General Hospital	6.1%
Limited English-Speakin	gStatewide Statewide	5.2%
Households	UMass Memorial Medical Center	5.0%
	Dana-Farber Cancer Institute	4.8%
	Brigham and Women's Hospital	4.7%
	South Shore Hospital	3.2%
	Tufts Medical Center	5.2%
	Beth Israel Deaconess Medical Center	5.1%
	Statewide	5.0%
Population that was	UMass Memorial Medical Center	4.9%
Unemployed (Ages 16+)	Dana-Farber Cancer Institute	4.8%
	Brigham and Women's Hospital	4.8%
	Massachusetts General Hospital	4.8%
	South Shore Hospital	4.7%

- Both DFCI's and BIDMC's patients live in areas with higher per capita income compared to the statewide average.
- Among the major providers of oncology care in Massachusetts, oncology patients of Tufts Medical Center live in areas with a greater SDoH burden than the parties on all examined metrics.

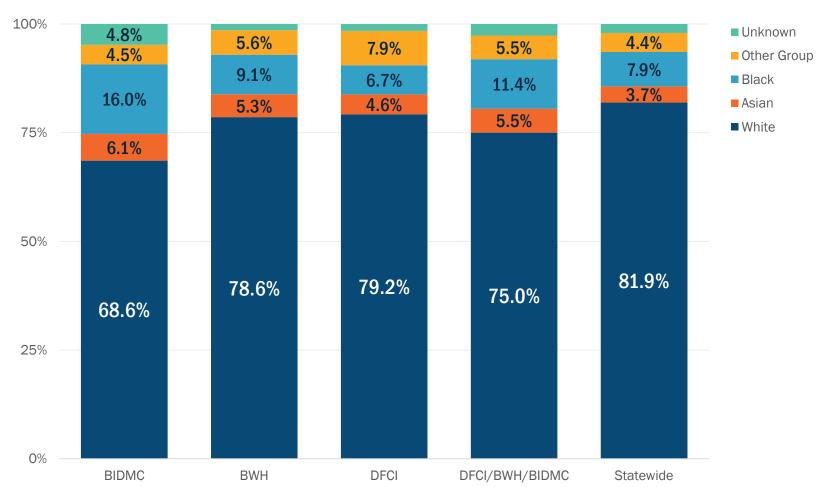
HPC analysis of AGENCY FOR HEALTHCARE RESEARCH AND QUALITY, SOCIAL DETERMINANTS OF HEALTH DATABASE, available at https://www.ahrq.gov/sdoh/data-analytics/sdoh-data.html.

Measures assessed included Sum of Households with Limited English Speaking, Sum of Population Reporting as Non-white Race, Sum of Population that was Unemployed (Age 16 Years +), Sum of Population with Any Medicaid/Means-Tested Public Coverage (Ages 64 and Under) and Sum of Population with Income to Poverty Ration < 1.24. Measures were calculated as the average score in the zip codes where a given hospital's oncology patients resided, weighted by proportion of each hospital's patients in each relevant zip code. Analysis was limited to Massachusetts residents ages 18+ and oncology discharges (inclusive definition).

Payer Mix and Demographics: DFCI and BIDMC serve a greater share of BIPOC and Hispanic inpatient oncology discharges than statewide.



Inpatient Medical Oncology Discharges by Race (2023)



- In 2023, BIDMC had a significantly higher share of inpatient oncology discharges for BIPOC patients than the statewide average.
- DFCI and BIDMC both had higher shares of Hispanic inpatient oncology discharges than statewide in 2023, though DFCI's share was higher than BIDMC's.

 $Source: HPC\ analysis\ of\ CHIA\ Massachusetts\ Hospital\ Discharge\ Database\ data.$