OVERVIEW OF CHIA

MASSACHUSETTS HEALTH POLICY FORUM

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Overview

- CHIA’s Mission, Data Assets, and Analytic Activities
- Examples from CHIA Publications
- Transparency Initiatives
- De-identification and Data Linking
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Mission, Data Assets, and Analytic Activities
Massachusetts places greater emphasis on measuring its healthcare system than any other state in the country.

Massachusetts has a long history of innovation not only in healthcare delivery, but also in healthcare policy, which benefits from more data for evidence-based policy making.

Healthcare matters in several important ways, and in each there is a premium on more information for better decisions:

- Individual, family, and community health;
- Family budgets through premiums and out-of-pocket costs;
- Employer costs of hiring and locating a business,
- The state’s budget, mostly in EOHHS and the GIC; and
- As a major economic sector in MA.
CHIA’s Mission

- CHIA’s goal is to support Moneyball in Massachusetts healthcare.
- CHIA has extensive authority to compel the submission of data from Massachusetts healthcare stakeholders.
- CHIA uses this authority to create and curate several major data assets that support evidence based policy making and program oversight. CHIA also releases numerous publications documenting key features and metrics of the system.
CHIA’s Major Data Assets

CHIA receives more than 25,000 data submissions per year from over 1,500 data submitters. Major data assets include:

- **Hospital discharge database**: Patient-level information on every acute and behavioral health hospital discharge in the state.
- **Emergency department database**: Patient-level information on every ED visit in the state.
- **All-Payer Claims Database**: Despite gaps, the APCD is a massive, powerful repository of claim-level data about healthcare delivery and finance. APCD 2.0 is coming soon.
- **Payer expenditure reports**: Annual submissions of aggregate spending and cost data broken out by product, service category, ZIP code, market segment, cost sharing, and more.
CHIA’s Major Data Assets (continued)

- **Provider financial reports:** CHIA collects financial and cost information from hospitals, nursing homes, community health centers, and other types of providers.

- **Statewide surveys of employers and households:** Large surveys provide rich information about individuals, households, and employers.

- **Registered Provider Organizations:** CHIA’s newest area of data collection gathers information on the financial condition and the clinical and contractual affiliations of medical groups.
CHIA’s Major Analytic Activities

- Alternative payment method adoption trends
- Consumer transparency website
- Healthcare affordability report
- Provider financial reports
- Hospital readmissions reports
- HPC data support and referrals
- Insurance coverage and enrollment trends
- Inter-agency data linking projects (e.g., Chapter 55)
- Inter-agency data sharing (AGO, SAO, EOHHS, Connector, GIC, DOI)
- Mandated benefit reviews for the Legislature
- Payer/Provider/Researcher data sharing
- Prescription drug spending report
- Provider price transparency
- Provider relative price
- Quality measurement and reporting
- Total healthcare expenditures (THCE)
- Total medical expenditures (TME)
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Examples from CHIA Publications
CHIA Hospital Profiles

BETH ISRAEL DEACONESS MEDICAL CENTER
2017 Hospital Profile

Beth Israel Deaconess Medical Center is a large, non-profit academic medical center (AMC) located in the Metro Boston region. It is one of nine organ transplant centers in Massachusetts and is a member of CareGroup. It is a Level 1 Trauma center. Beth Israel Deaconess Medical Center saw increases in both inpatient discharges and outpatient visits between FY13 and FY17. It earned a profit each year from FY13 to FY17, with a 4.3% total margin in FY17 compared to the AMC median total margin of 2.0%.

Overview / Size
Hospital System Affiliation: CareGroup
Change in Ownership (FY13-17): Not Applicable
Total Staffed Beds: 688, 5th largest acute hospital
% Occupancy: 88.6%, > cohort avg. (88%)
Special Public Funding: Not Applicable
Trauma Center Designation: Adult: Level 1
Case Mix Index: 1.39, < cohort avg. (1.50); > statewide (1.12)

Financial
Inpatient NPSR per CMAD: $13,762
Change FY16-FY17: -1.0%
Inpatient Outpatient Revenue in FY17: $445,568
Outpatient Revenue in FY17: $561,777,181
Change FY16-FY17: 5.1%
Total Revenue in FY17: $1,732,988,057
Total Surplus (Loss) in FY17: $74,501,445

Payer Mix
Public Payer Mix: 57.2% (Non-HPP* Hospital)
CY16 Commercial Statewide Relative Price: 1.05
Top 3 Commercial Payors: Blue Cross Blue Shield of Massachusetts
Harvard Pilgrim Health Care
Tufts Associated HMO, Inc.

Utilization
Inpatient Discharges in FY17: 40,490
Change FY16-FY17: 1.0%
Emergency Department Visits in FY17: 69,433
Change FY16-FY17: 1.5%
Outpatient Visits in FY17: 667,952
Change FY16-FY17: 0.3%

Quality
Readmission Rate in FY16: 18.9%
Change FY12-FY16 (percentage points): -0.2
Early Elective Deliveries Rate: 0.0%

What were the most common inpatient cases (DRGs) treated at this hospital in FY17? What proportion of the region’s cases did this hospital treat for each service?

Discharges by DRG

Where did most of the hospital's inpatients reside? What proportion of each community's total discharges was attributed to this hospital?

Discharges by Community

- Boston MA (2,489)
- Quincy MA (1,443)
- Brookline MA (1,343)
- Dorchester MA (1,285)
- Cambridge MA (857)
- Jamaica Plain MA (855)
- Dorchester Center MA (837)
- Brockton MA (806)

- of community discharges were treated at this hospital in FY17
Hospital Readmissions Analysis

Readmissions

Hospital readmissions are a central issue in efforts to improve health care quality and reduce costs, due to readmissions being a costly and potentially preventable problem that impacts patient health and experience of care both nationally and in Massachusetts. CHIA currently releases three analytic products annually concerning readmissions:

• The report *Hospital-Wide Adult All-Payer Readmissions in Massachusetts: SFY 2011-2017*, released in December 2018, takes a statewide look at readmissions in Massachusetts acute care hospitals, providing insights into statewide, regional, and hospital-specific readmission rates, including data cuts by payer type, discharge setting, and hospital characteristics.

• The *Hospital Readmissions Profiles series*, released in June 2018, offers a graphical report for each acute care hospital in the Commonwealth. These profiles provide more in-depth readmission statistics for each hospital broken out by several factors and presented in the context of the statewide figures.

• *Behavioral Health and Readmissions in Massachusetts Acute Care Hospitals*, released in August 2016, examines the readmission patterns for individuals with comorbid behavioral health conditions in Massachusetts acute care hospitals.

Revisits

Providers, payers, and policymakers are increasingly turning their attention to whether the patient returns to the acute care setting at any level (emergency department (ED), observation, or inpatient) within 30 days of inpatient discharge.

• In this new report *Emergency Department Visits After Inpatient Discharge: SFY 2015*, CHIA analyzed revisits —defined here as a visit to the ED within 30 days of an inpatient discharge—and provides a first statewide examination of revisits for the all-payer adult population in Massachusetts acute care hospitals.
Total Health Care Expenditures
Growth Rates, 2012-2017

THE INITIAL ESTIMATE OF THCE PER CAPITA GROWTH IS 1.6% FOR 2017, THE SECOND CONSECUTIVE YEAR IT FELL BELOW THE HEALTH CARE COST GROWTH BENCHMARK.
Total Health Care Expenditures
Insurance Categories, 2017

$61.1B Total Health Care Expenditures

- Commercial: $22.8B (+3.1%)
- MassHealth: $17.2B (-0.2%)
- Medicare: $17.0B (+1.9%)
- NCPHI: $2.5B
- Other Public: $1.65B (+10.2%)

For more information, see page 12 of CHIA’s Annual Report
Total Health Care Expenditures
Service Categories, 2016-2017

Health care spending decelerated across all service categories, with the highest growth in pharmacy and outpatient spending.
IN 2017, MORE THAN ONE IN FOUR (28.2%) MASSACHUSETTS CONTRACT MEMBERS WERE ENROLLED IN AN HDHP. THESE PLANS WERE MORE COMMON AMONG SMALLER EMPLOYER GROUP PURCHASERS.
MEMBER COST-SHARING AND FULLY-INSURED PREMIUMS GREW FASTER THAN WAGES AND INFLATION IN 2017.
Biennial Household and Employer Surveys

Massachusetts Health Insurance Survey
Monitors health care coverage, access, utilization and affordability

- 3.7% of Massachusetts residents uninsured
- 89% respondents had usual source of care
- 35% respondents visiting the emergency department who sought care for a non-emergency condition
- 45% of respondents reported a health care affordability issue

Massachusetts Employer Survey
Monitors employer insurance market, cost-sharing, and benefit decision making

- 71% of Massachusetts firms offered health insurance
- 51% eligible employees enrolled in their employer’s health plans
- 36% of firms who offer insurance offered it to their part-time employees. One in ten part-time employees enrolled in their employer’s health plan.
- The 2018 average total monthly premium was $617 for single coverage and $1,687 for family coverage. The average percent employee contribution was 26% for single coverage and 30% for family coverage.
In 2017, 43% of insured residents reported having an affordability issue in the past 12 months and 18% of insured residents reported having multiple affordability issues.
Health Care Affordability by Health Status

*Insured residents in fair or poor health, who have more need for health care services, have high rates of affordability issues*

- **Any Affordability Issues**: 36% in Fair or Poor Health, 58%* in Excellent, Very Good, or Good Health
- **Multiple Affordability Issues**: 12% in Fair or Poor Health, 30%* in Excellent, Very Good, or Good Health
- **Unmet Health Care Need Due to Cost**: 16% in Fair or Poor Health, 37%* in Excellent, Very Good, or Good Health
- **Family Medical Debt**: 18%* in Fair or Poor Health, 16% in Excellent, Very Good, or Good Health
- **High Family Spending on OOP Health Care Expenses**: 25%* in Fair or Poor Health, 12% in Excellent, Very Good, or Good Health
- **Problems Paying Family Medical Bills**: 25%* in Fair or Poor Health, 10% in Excellent, Very Good, or Good Health

*Difference from value for “Excellent, Very Good, or Good Health” is statistically significant at the 5% level.*
Health Care Affordability by Family Income

Insured residents with low to moderate family income are more likely to struggle with affordability

- Any Affordability Issues
  - LT139% FPL: 50%
  - 139 to 299% FPL: 35%
  - 300%+ FPL: 56%

- Multiple Affordability Issues
  - LT139% FPL: 21%
  - 139 to 299% FPL: 27%
  - 300%+ FPL: 14%

- Unmet Health Care Need Due to Cost
  - LT139% FPL: 27%
  - 139 to 299% FPL: 30%
  - 300%+ FPL: 18%

- Family Medical Debt
  - LT139% FPL: 12%
  - 139 to 299% FPL: 22%
  - 300%+ FPL: 17%

- High Family Spending on OOP Health Care Expenses
  - LT139% FPL: 26%
  - 139 to 299% FPL: 25%
  - 300%+ FPL: 8%

- Problems Paying Family Medical Bills
  - LT139% FPL: 17%
  - 139 to 299% FPL: 22%
  - 300%+ FPL: 11%

*Difference from value for “300%+ FPL” is statistically significant at the 5% level.
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Transparency Initiatives
CHIA’s Transparency Agenda - CompareCare

What you should know about cost

The cost quotes you are about to see are an estimation of the entire cost of the procedure in 2015. It is the total amount that was paid to the provider, based on what both the insurance plan paid and what the patient paid. To find out what this procedure will cost you, please visit your insurance plan’s cost estimator.

Get a better estimate from your health insurer:

- Aetna
- Blue Cross Blue Shield MA
- Boston Medical Center HealthNet Plan
- CeltiCare
- ConnectiCare
- Fallon Health
- Harvard Pilgrim Health Care
- Health New England
- Neighborhood Health Plan
- Tufts Health Plan
- UniCare

Smart patients know to consider more than just price when making health care decisions.

To learn more about getting the most out of your health care before viewing cost estimates, check out CompareCare’s procedure-based Conversation Guides, or continue to CompareCare’s cost estimates.
CHIA’s Transparency Agenda - CompareCare

Find the right healthcare options for you and your family

- Compare Treatment Costs
  - Check the average cost for common procedures.

- Get Quality Care
  - Find quality ratings for healthcare providers.

- Ask Informed Questions
  - Ask the most important questions to get better care.

- Troubleshoot an Issue
  - Get help resolving common issues with health insurance and care.

Learn more about the Massachusetts health care system.

- Learn the basics about getting insurance in Massachusetts
  - Find out how to get insurance through your school, employer, the state, or directly from an insurer.

- Costs for great health care vary widely
  - Learn how to use cost information to make better health care decisions.

- Quality of care varies across health care facilities and providers
  - Learn how to use quality rating information to find high-quality health care options.
CHIA’s Transparency Agenda - CompareCare

Colonoscopy-45378

Diagnostic examination of large bowel - 45378 - includes costs for facility, physician, and anesthesiologist, but not for surgical pathology. Procedure code 45378.

To get a precise cost, ask for a quote from your insurance company.

The cost of a service will vary based on your insurance company and health care provider. Learn why.

Talking to your doctor about this treatment can help you get better outcomes.

Learn the right questions to ask before having this procedure.

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<table>
<thead>
<tr>
<th>Provider</th>
<th>Type of provider</th>
<th>Town/City</th>
<th>What might this procedure cost?</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Shore Endoscopy Center, Inc</td>
<td>Surgery Center</td>
<td>Braintree</td>
<td>$ 969</td>
<td>QUALITY</td>
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<td>Worcester</td>
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<td>QUALITY</td>
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</tbody>
</table>
Price Variation — “Wide Field” View

Provider Price Variation Across 300 Procedures

Provider Type
- Acupuncturist
- Advanced Practice Midwife
- Agency Providers
- Ambulance
- Assistant, Podiatric
- Behavioral Analyst
- Case Manager/Care Coordinator
- Chiropractor
- Chronic Disease Hospital
- Clinic/Center
- Clinical Medical Laboratory
- Clinical Neuropsychologist
- Clinical Nurse Specialist
- Community Health Worker
- Contractor
- Counselor
- Dentist
- Developmental Therapist
- Emergency Medical Technician, Basic
- Emergency Medical Technician, Paramedic
- General Acute Care Hospital
- Hospital, Psychiatric Unit
- Hospital, Rehabilitation Unit
- Legal Medicine
- Licensed Practical Nurse
- Long Term Care Hospital
- Marriage & Family Therapist
- Massage Therapist
- Medical Genetics, Ph.D. Medical Genetics
- Midwife
- Naturopath
- Nurse Anesthetist, Certified Registered
- Nurse Practitioner
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De-Identification and Data Linking
Emerging Capability: De-identification

• CHIA has developed sophisticated ways of de-identifying and managing data from many different data submitters.

• The Massachusetts “Chapter 55” Opioid Study was an ambitious project to link more than 20 datasets across state government to create the most complete view of the opioid crisis and its causes.

• CHIA is working to apply this capability to state agency and program membership rosters to create an all-encompassing view of the interactions between individuals and state programs, at a point in time or over time, without ever sharing anyone’s identity or violating any privacy laws.
Chapter 55 Opioid Study – Massive Inter-Agency Data Sharing

Data Sources
- Public Health
- Medical Claims & Hospital
- MassHealth (Medicaid)
- Mental Health
- Public Safety
- Jails & Prisons
- DHCD (Homelessness)
- Veterans’ Services
- Service Flags
- Aggregate

Chapter 55 Data Structure
- PDMP
- BSAS Treatment
- MATRIS (EMS)
- Birth Records
- Cancer Registry
- Medical Claims
- Hospital and ED
- Veterans’ Services
- DMH
- DHCD
- Toxicology
- OCME Intake
- State Police Heroin
- MA Prisons
- MA Jails
- MassHealth

Community Level Data
- NARCAN Enrollment
- NARCAN Refills
- NARCAN Rescues
- Town & Zip Census Data
- Drug Seizure Data
- I.C.E. Measures
- First Responder NARCAN
- Children & Families
- Dept Dev Services
- Commission for Blind

Service Indicator Flags
- Veterans’ Services
- Cancer Registry
- Children & Families
- Youth Services
- Transitional Assistance
- Blind Services

MHA Health Fellowship | August 20, 2019
CHIA’s FileSecure – A Closer Look

Data File
Data Element 1
Data Element 2
... Data Element n

Demographic File
First Name
Middle Name
Last Name
Suffix
Address 1
Address 2
City/Town
State
ZIP
Gender
Birthday
SSN
Member ID

CHIA’s FileSecure Application
Step 1 – Pre-process and standardize key demographic data elements.
Step 2 – Hash key demographic data elements and remove clear-text values.

Data File
Data Element 1
Data Element 2
... Data Element n

New Demographic File
HASHED First Name
HASHED Middle Name
HASHED Last Name
HASHED Suffix
HASHED Address 1
HASHED Address 2
City/Town
State
ZIP
Gender
HASHED Birthday
HASHED SSN
Member ID

To CHIA

DataSubmitter’s Internal IT environment