

CHIA: USING DATA AND ANALYTICS TO SUPPORT HEALTHCARE POLICY

Ray Campbell

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CENTER FOR HEALTH INFORMATION AND ANALYSIS



CHIA's Role

- 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.
- CHIA's mission is to create the factual foundation to support better healthcare policy in Massachusetts.
- 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.

Supporting the State's COVID-19 Response

Boosted CHIA's data collection efforts:

- Monthly Inpatient Case Mix Submissions – Voluntary then Mandatory
- Monthly Hospital and Health System Financial Submissions – Voluntary
- Nursing Facility Staff Hours and Staff Preparedness Bi-Weekly Report
- Supplemental Hospital COVID Testing Collection

Increased the frequency of reports to provide timely insights:

- Monthly Enrollment Trends
- Monthly Hospital and Health System Finances
- Monthly Hospital Case Mix Reporting

Leveraged resources and relationships to support sister agencies:

- Operational support for management of clinical rapid response teams
- Provider forums with Division of Insurance to discuss the rollout of emergency health insurance provisions

CHIA's Major Analytic Activities

- Mandated benefit reviews for the Legislature
 - Inter-agency data sharing (AGO, SAO, EOHHS, Connector, GIC, DOI)
 - Inter-agency data linking projects (e.g., Chapter 55)
 - HPC data support and referrals
 - Payer/Provider/Researcher data sharing
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- Total healthcare expenditures (THCE)
 - Total medical expenditures (TME)
 - Health equity
 - Healthcare affordability
 - Behavioral health and substance use disorders
 - Primary care spending
 - Provider finances
 - Hospital readmissions
 - Insurance coverage and enrollment trends
 - Price variation and price transparency
 - Prescription drug spending and prices
 - Rate setting

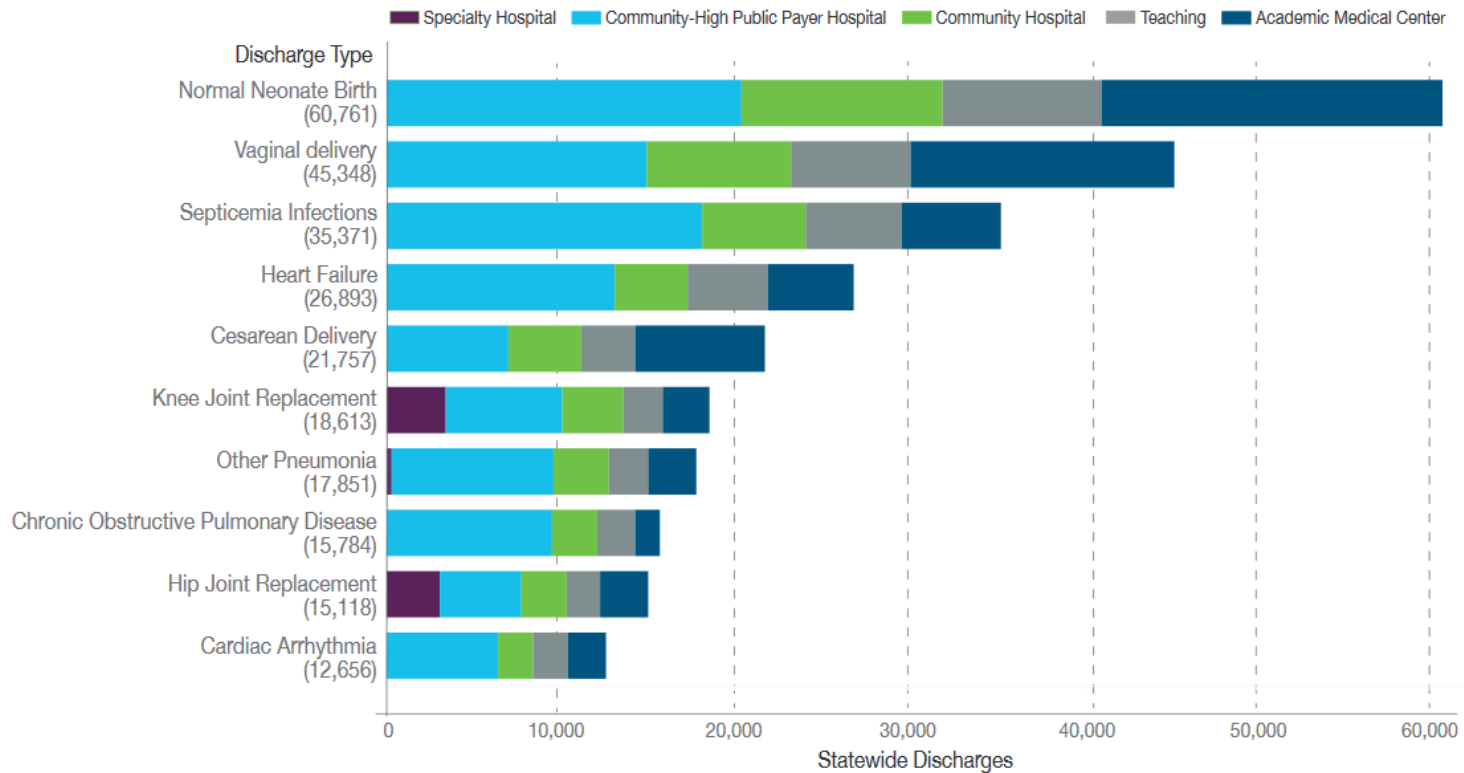
Hospital Financial Monitoring

Entity	Organization Type	Months Reported	Operating Margin	Total Margin	COVID Funding		Current Ratio	Net Assets	
					in Operating Revenue ³	Excess (Deficit) of Revenue over Expenses			
						Total COVID Funding Reported ⁴			
Baystate Health		9	1.7%	1.2%	\$93.2	\$21.8	\$392.2	1.9	\$1,106.9
Baystate Franklin	Community-High Public Payer	9	1.3%	1.8%	\$9.3	\$1.4	\$27.4	1.3	\$46.3
Baystate Medical Center	Teaching Hospital	9	5.6%	5.1%	\$71.0	\$55.4	\$319.6	2.3	\$835.3
Baystate Noble	Community-High Public Payer	9	-18.3%	-18.3%	\$3.5	(\$7.5)	\$15.6	0.7	\$23.2
Baystate Wing	Community-High Public Payer	9	-7.3%	-7.3%	\$4.2	(\$4.8)	\$18.8	1.0	\$38.2
Baystate Medical Practices	Physician Organization	9	-16.6%	-16.2%	\$4.7	(\$41.4)	\$10.8	-	-
Berkshire Health Systems		9	-4.3%	-3.0%	\$27.5	(\$14.5)	\$117.0	1.3	\$496.0
Berkshire Medical Center	Community-High Public Payer	9	1.4%	2.6%	\$20.4	\$10.3	\$96.7	1.2	\$449.7
Fairview Hospital	Community-High Public Payer	9	1.6%	4.1%	\$5.6	\$2.1	\$15.3	0.6	\$42.5
Berkshire Faculty Services	Physician Organization	9	-69.1%	-69.1%	\$1.5	(\$23.6)	\$5.0	-	-
Berkshire Orthopaedic Associates	Physician Organization	9	-42.8%	-42.8%	\$0.0	(\$3.7)	\$0.0	-	-
Beth Israel Lahey Health⁵		9	-3.3%	-3.8%	\$205.7	(\$157.4)	\$1,034.2	1.8	\$2,662.3
Anna Jaques Hospital	Community Hospital	9	-10.9%	-10.0%	\$3.0	(\$9.0)	\$27.9	1.5	\$12.0
Beth Israel Deaconess Hospital - Milton	Community Hospital	9	-2.3%	-4.5%	\$3.0	(\$3.9)	\$37.9	1.6	\$88.4
Beth Israel Deaconess Hospital - Needham	Community Hospital	9	-13.3%	-13.3%	\$1.9	(\$9.2)	\$23.9	1.1	\$47.7
Beth Israel Deaconess Hospital - Plymouth	Community-High Public Payer	9	-1.2%	-1.8%	\$8.5	(\$3.9)	\$82.7	1.3	\$102.0
Beth Israel Deaconess Medical Center	Academic Medical Center	9	3.6%	2.3%	\$98.6	\$34.5	\$321.0	2.0	\$1,078.4
Lahey Hospital and Medical Center	Teaching Hospital	9	3.5%	3.7%	\$35.4	\$28.0	\$226.5	1.3	\$120.9
Mount Auburn Hospital	Teaching Hospital	9	-2.6%	-3.7%	\$6.4	(\$8.7)	\$64.7	2.2	\$228.7
New England Baptist Hospital	Specialty Hospital	9	-7.0%	-7.4%	\$5.1	(\$11.1)	\$40.2	2.6	\$137.7
Northeast Hospital	Community-High Public Payer	9	4.5%	5.3%	\$21.6	\$15.5	\$94.3	2.8	\$220.0
Winchester Hospital	Community Hospital	9	-3.2%	-1.9%	\$5.2	(\$4.0)	\$52.1	3.2	\$290.5
The Affiliated Physicians Group	Physician Organization	9	-40.0%	-40.0%	\$1.5	(\$25.6)	\$4.9	-	-
Community Physicians Associates	Physician Organization	9	-67.7%	-67.7%	\$0.1	(\$2.0)	\$0.2	-	-

Hospital Utilization

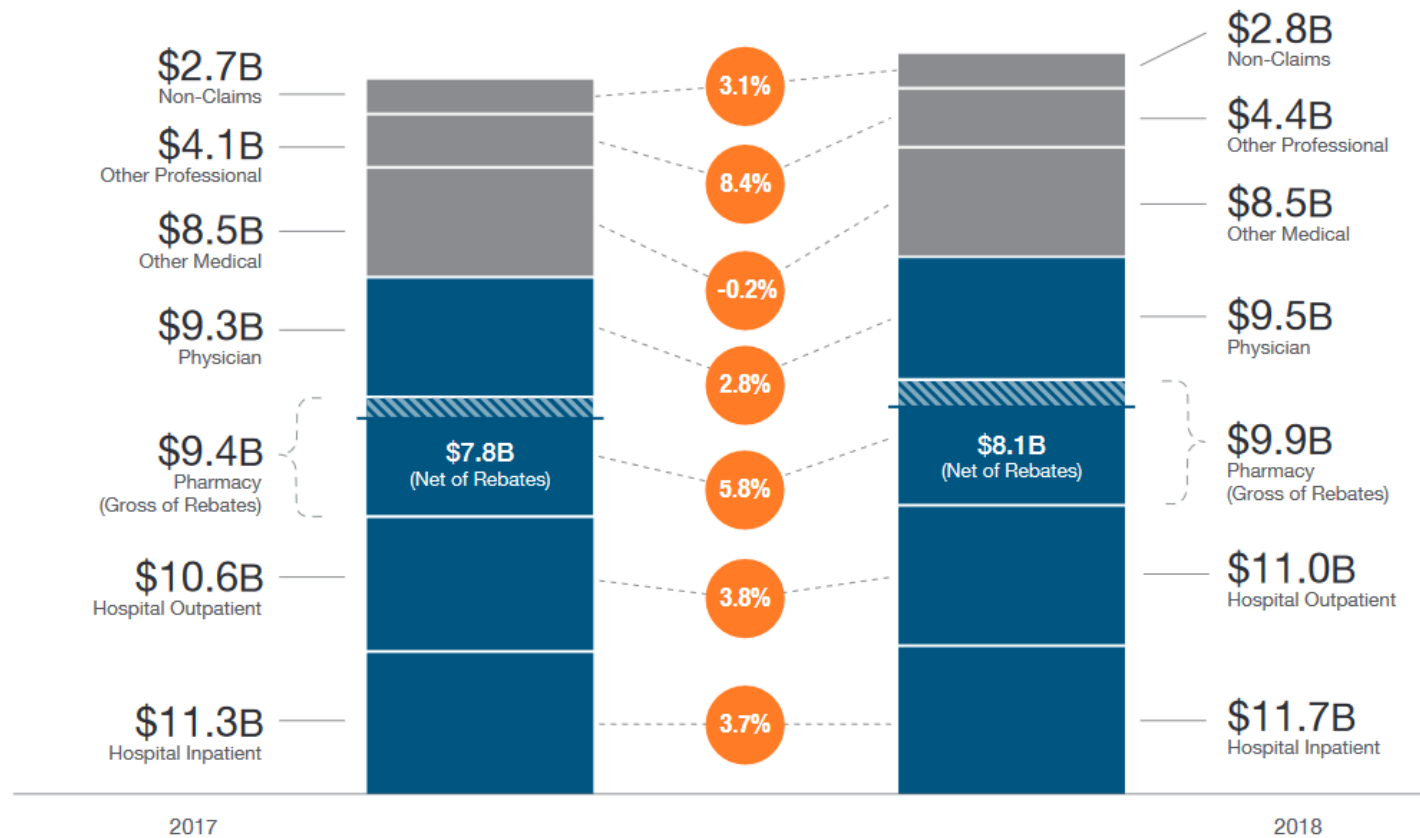
FY 2018 Top Discharges Statewide, by Hospital Type

Community-HPP hospitals have the largest share of all but two of the top 10 discharges types.



Total Health Care Expenditures

Total Health Care Expenditures by Service Category, 2017-2018



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

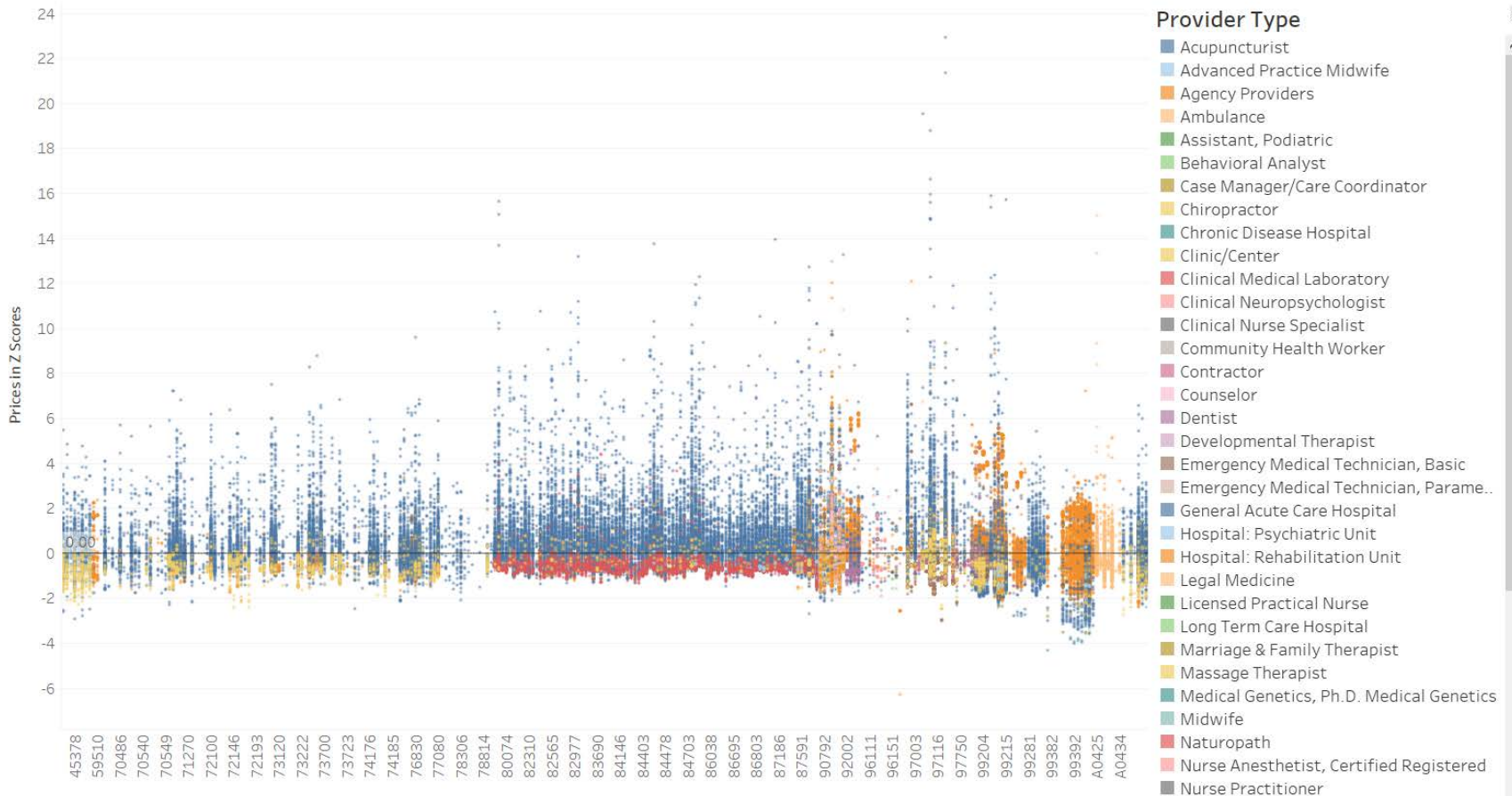
Massachusetts Employer Survey

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.

Transparency: A “Wide Field” View of Prices

Provider Price Variation Across 300 Procedures

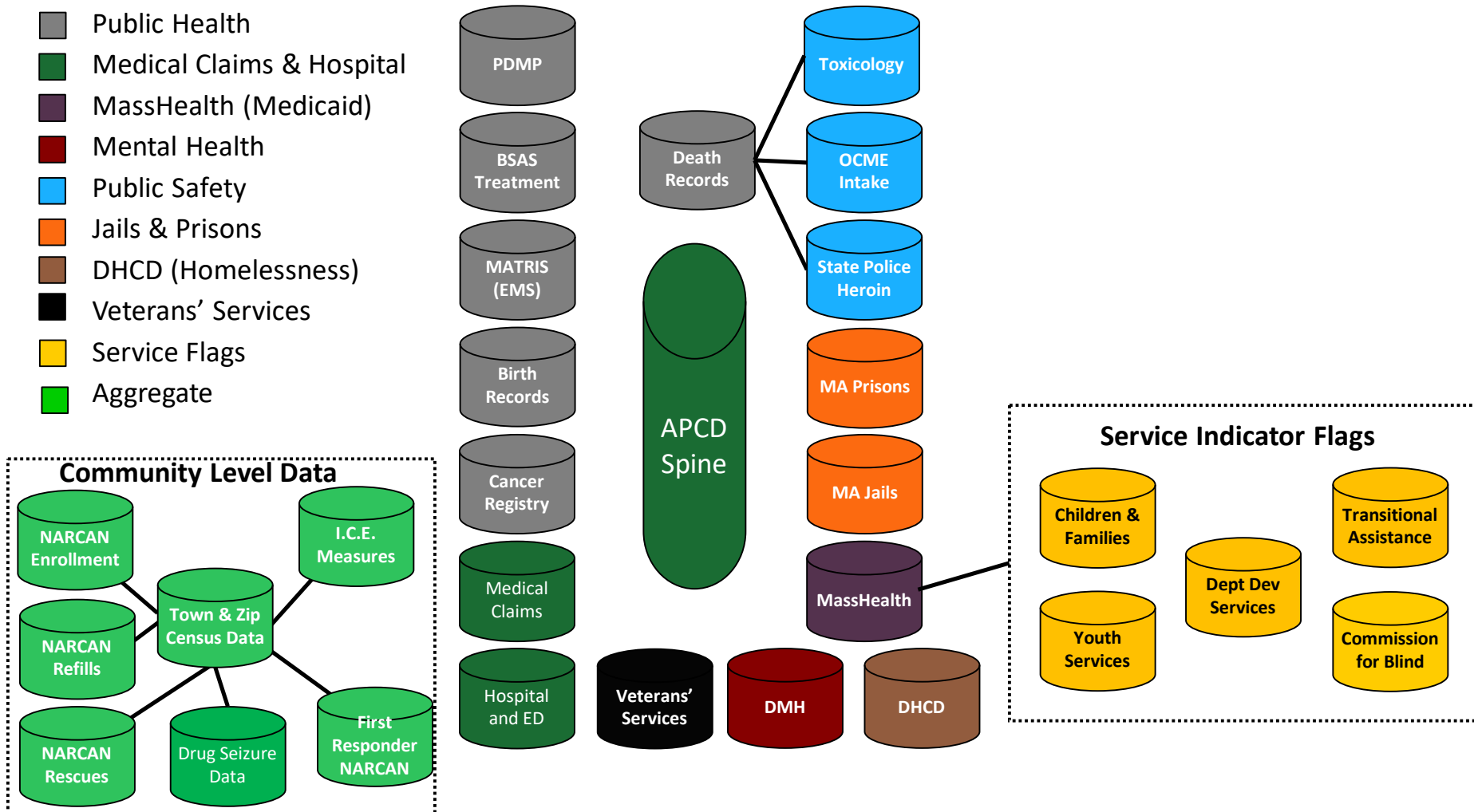


Chapter 55 Opioid Study – Massive Inter-Agency Data Sharing

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



Data De-Identification: CHIA's FileSecure

