Examining the Financial Structure and Performance of Rhode Island's Acute Hospitals and Health Systems

A Compendium of Publicly Available Data

Manatt Health

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Contact Information

This study summarizes research conducted on behalf of the Rhode Island Foundation and partner organizations in early 2024.

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Study Context

The Rhode Island Foundation is a proactive community and philanthropic leader dedicated to meeting the needs of the people of Rhode Island. The Rhode Island Foundation has earned the trust of Rhode Islanders through effective investments, strategic grants, and responsible decisions. It has three strategic priorities: to improve economic, educational, and health outcomes for Rhode Islanders.

In addition to the Foundation, this project was sponsored by **Blue Cross Blue Shield of Rhode Island, Care New England, Lifespan, and South County Health**. Several other key stakeholders from within the state's health sector provided input that informed the scope of the study.

The Foundation engaged **Manatt Health** to support the data collection and analysis that is found in this study. Manatt Health integrates legal and consulting expertise to better serve the complex needs of clients across the health care system. Combining legal excellence, first-hand experience in shaping public policy, sophisticated strategy insight, and deep analytic capabilities, Manatt Health provides uniquely valuable professional services to the full range of health industry players. Its diverse team of more than 200 attorneys and consultants is passionate about helping our clients advance their business interests, fulfill their missions, and lead health care into the future. For more information, visit https://www.Manatt.com/Health.

The study is intended to provide a shared set of facts to inform ongoing and future discussion and planning and intentionally does not suggest or offer policy recommendations.

The study is not a comprehensive review of the entire healthcare delivery system and is focused on Rhode Island's hospitals and health systems. There are questions that cannot be answered via the existing, publicly sourced data that were used to inform this work and therefore fall outside the scope of this study.

1. Executive Summary

Study Objectives

This study uses publicly available data to examine the financial structure and performance of Rhode Island's (RI) acute care hospital and health systems and compare trends with Connecticut (CT) and Massachusetts (MA). It also examines select publicly available metrics by Core-Based Statistical Areas (CBSA)[1]. Defining regional geographic markets by CBSA allows for a more nuanced regional view, reflecting regional economies and demographics.

Study Objectives:

Provide baseline statistics for RI and neighboring states, as available from public data sources, on select measures of:

- Health care expenditures
- Health care prices
- Health system and hospital financial metrics
- Health care utilization
- Health care workforce

The following Rhode Island hospitals were included in this study:

- Kent County Memorial Hospital
- Landmark Medical Center
- Newport Hospital
- Our Lady of Fatima Hospital
- Roger Williams Medical Center
- Rhode Island Hospital
- South County Hospital
- The Miriam Hospital
- The Westerly Hospital
- Women and Infants Hospital

Note:

[1] Several CBSAs cross state lines, such as the Providence-Warwick RI-MA CBSA. When the CBSA groupings are applied to the data metrics, note that the Providence-RI CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital, and Sturdy Memorial Hospital.

Executive Summary

Study Section	Key Highlights

Market Overview	▪ **RI's population in 2021 was 1.1 million, MA's was 7 million, and CT's was 3.6 million (Slide 21). All three states share a similar population age profile among children (under 18), adult (18 – 64) and seniors (65+) (Slide 22).**
	▪ **RI's median annual household median income (HHMI) is 11% lower than CT's and 19% lower than MA's median HMMI (Slide 21).**
	  ▪ RI's annual 2022 HHMI was $81,370.
	  ▪ CT's annual 2022 HHMI was $90,213.
	  ▪ MA's annual 2022 HHMI was $96,505.
	▪ **RI's Medicare[1]/Medicaid and Self Pay[2] acute hospitals' inpatient payer mix (based on discharges) is higher than both MA and CT.** RI's combined Medicare/Medicaid and Self Pay payer mix is 74.2%, MA is 67.6% and CT is 69.4% (Slide 23).

Notes:
[1] Includes Medicare Advantage-insured discharges
[2] "Self-Pay" typically includes uninsured patient volumes. There may be definitional differences in how each state categories "self-pay" vs "uninsured" in their payer mix data summaries and this may account for some portion of the difference between states. "Self-pay" services are less likely to be paid, and more likely to be transitioned to "uncompensated care" or "charity care," an important financial dynamic for hospitals with thin operating margins.

Executive Summary

Study Section	Key Highlights
Health Care Premiums & Expenditures	▪ **Compared to MA and CT, RI experienced a smaller percentage growth rate in Medicare and Medicaid expenditures per enrollee between 2016 and 2019 (pre-COVID) (Slide 32).** ▪ **RI's Medicare expenditures per enrollee increased by 4.6%, compared to 8.7% in MA and 9.4% in CT** ▪ **RI's Medicaid expenditures per enrollee increased by 0.5%, compared to 7.2% in MA and -2.1% in CT** ▪ **Average Medicare Fee for Service (FFS) payment per inpatient discharge in 2021 (Slide 33) was lower in RI than in MA and CT.** ▪ The average 2021 Medicare FFS payment per inpatient discharge paid to RI hospitals was $14,324, compared to $16,381 (MA) and $16,951 (CT) ▪ **RI's private health[1] average expenditures per enrollee (2019) were 88% of the US average private health expenditures per enrollee, 81% of the CT private health average expenditures per enrollee and 73% of the MA private health expenditures per enrollee (Slide 34).** ▪ **In 2022, RI's average Small Group market premium was $571 Per Member Per Month (PMPM), compared to $575 for MA and $719 for CT (Slide 35).** ▪ RI had the lowest individual market premiums among New England states and had one of the lowest individual market premiums in the country in 2022 (Slide 36). ▪ **RI Small Group market health plans have higher actuarial values (AV), offering more generous benefits compared to its New England peers, while being less expensive**. In 2022, RI had an AV of 0.812 compared to the New England AV average (RI, CT, ME, NH) of 0.748 and the New England and merged markets AV average (+ MA, VT) of 0.734 (Slide 35).

Note:

[1] Private health insurance includes fully insured commercial plans and self-insured plans.

Executive Summary

Study Section	Key Highlights
Employer Health Plan Acute Care Hospital Prices	▪ **Average inpatient standardized price paid by private employer sponsored health plans (Slide 40) and average outpatient standardized price paid by employer sponsored health plans (Slide 45) were both lower in RI than MA and CT**. ▪ The average inpatient standardized price paid to RI hospitals was $19,080 compared to $22,793 (MA) and $22,922 (CT). ▪ The average outpatient standardized price paid to RI hospitals was $188 compared to $202 (MA) and $266 (CT). ▪ **For inpatient and outpatient facility pricing relative to Medicare, RI hospitals' average relative price[1] is between that of CT and MA hospitals (Slides 51 & 57).** ▪ The average inpatient 2020 facility Relative Price for RI hospitals was 202%, compared to 180% (MA) and 209% (CT). ▪ The average outpatient 2020 facility Relative price for RI hospitals was 197%, compared to 185% (MA) and 253% (CT**).**

Note:

[1] Relative prices represent the allowed amount paid by the employer-sponsored private plan as a percentage of what Medicare would have paid to the same hospital for the same services.

Executive Summary

Study Section	Key Highlights
Health System & Acute Care Hospital Financial Trends & Metrics	▪ **Health System Operating Margins continue to decline for RI, MA and CT hospital & health systems from 2018 to 2022 (Slide 66).** ▪ RI Health System statewide operating margin declined from -0.8% in FY 2018 to -3.4% in FY 2022. ▪ MA Health System statewide operating margin declined from -0.2% in FY 2018 to -4.5% in FY 2022. ▪ CT Health System statewide operating margin declined from -0.1% in FY 2018 to -3.8% in FY 2022. ▪ **Between FY 2018-2022, RI acute care hospitals' operating costs grew faster than its net patient revenues.(Slides 69 & 74)** RI's statewide average operating expenses/adjusted discharge rose by 17% between FY 2018-2022 whereas its average net revenue/adjusted discharge rose by 9% ▪ **The Average Acute Hospital FY22 Net Patient Revenue (NPR) per Adjusted Discharge (Slide 68), Average FY22 Hospital Operating Expense per Adjusted Discharge (Slide 74) and Average FY22 Hospital Direct Patient Care Labor Cost per Adjusted Discharge (Slide 84) are all lower in RI than MA and CT.** ▪ RI hospitals' average NPR/adjusted discharge was $14,401 compared to $17,043 (MA) and $18,913 (CT. ▪ RI hospitals' average operating expense/adjusted discharge was $17,294 comparted to $21,697 (MA) and $21,124 (CT). ▪ RI hospitals' average direct patient care labor costs/adjusted discharge was $4,680 compared to $5,835 (MA) and $5,831 (CT).

Executive Summary

Study Section	Key Highlights
Acute Care Hospital Inpatient & Emergency Department Utilization	▪ **RI, CT, and MA all experienced between 1-3% declines in age-adjusted acute hospital inpatient utilization between 2017-2019 (Slide 93).** ▪ **All three states experienced a significant decline in acute care inpatient hospitalizations between 2019 and 2020 (i.e., during the COVID-19 pandemic).** RI experienced the greatest decrease in utilization with a 14% decrease in discharges compared to a 7% decrease in CT and 10% decrease in MA (Slide 93). ▪ **In 2021, RI had a 5% lower inpatient acute hospital utilization rate than CT and a 12% lower inpatient acute hospital utilization rate than MA (Slide 93).** All three states' acute utilization rates were age adjusted**.** ▪ When comparing age-specific cohort acute hospital utilization between MA and RI, **MA senior age cohorts (i.e., 65 – 74 and 75+), had a higher rate of acute hospital inpatient utilization than RI.** In 2021, utilization among people ages 65-74 in RI was 18% lower than that in MA and 21% lower among people ages 75 and older (Slide 94). ▪ **RI's 2021 ED visit utilization rate (28.94 visits per 100) was similar to MA's statewide ED visit utilization** and notably lower than CT's ED visit utilization rate of (36.89 visits per 100) (Slide 95). ▪ **RI, CT, and MA all had approximately the same number of staffed beds in acute care hospitals per 1,000 population in 2022 (Slide 92).** In RI, there were 2.23 staffed beds per 1,000. Staffed bed counts were provided by each hospital in its most recent Medicare Cost Report.

Executive Summary

Study Section	Key Highlights
Physician & Health Care Workforce Supply	▪ **In 2020, RI had 122 primary care physicians (PCPs) per 100,000 population** compared to 108 PCPs and 136 PCPs per 100,000 in CT and MA, respectively (Slide 100). ▪ **RI and CT's physician workforce supply are approximately the same per 100,000 population across all specialties except emergency medicine,** where RI has the highest ratio of physicians/100,000 among all three states. RI has the lowest number of cardiovascular physicians per 100,000 of RI, CT, and MA (Slide 101). ▪ In 2022, **RI had a higher supply of nursing assistants than CT and MA**. RI had the **lowest supply of licensed practical nurses (LPNs), home health and personal care aides, and physician assistants** compared to CT and MA. RI also has **a notably lower supply of RNs per 100,000** when compared to MA and a higher supply when compared to CT (Slide 103). ▪ In RI**, health care workers – except for licensed practical nurses (LPNs) and nursing assistants – were paid less than their peers in both CT and MA in 2022**. Health care workers in MA received the highest salaries for most health care positions except for physician assistants (Slide 104).

2. Scope of the Study

Study Purpose & Use of Publicly Available Data

This study uses publicly available data to compare financial measures among RI's health systems and acute care hospitals and those of CT and MA. It also examines select publicly available metrics by Core-Based Statistical Areas (CBSA)[1]. Defining regional geographic markets by CBSA allows for a more nuanced regional view, reflecting regional economies and demographics.

Study Objectives:

Provide baseline statistics for RI and neighboring states, as available from public data sources, on select measures of:

- Health care expenditures
- Health care prices
- Health system and hospital financials
- Health care utilization
- Health care workforce

Examples of publicly available data sources used in this study include:

- CMS National Health Expenditure Accounts (State Level by Residence)
- RI Office of the Health Insurance Commissioner (OHIC) RI 2024 Market Summary
- RAND Hospital Price Transparency Study, Round 4.0
- Hospital & Health System Audited Financial Statements
- NASHP Hospital Cost Tool
- State-Reported Acute Care Hospital Discharges and Emergency Department Visits
- US Census Bureau State Population Data
- US Bureau of Labor Statistics Occupational Employment and Wage Statistics

Note:

[1] Several CBSAs cross state lines, such as the Providence-Warwick RI-MA CBSA. When the CBSA groupings are applied to the data metrics, please be aware that the Providence-RI CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital and Sturdy Memorial Hospital.

Health Care Service Areas In Scope and Out of Scope for the Study

This study focused on comparative publicly available financial metrics across acute care hospitals in RI, CT and MA. Service areas such as physicians and clinicians, pharmacy, and long-term care were out of scope for this study.

Study Areas "In Scope"	Study Areas "Out of Scope"

• **Acute care hospitals**, including employer health plan sponsored inpatient and outpatient pricing, financial metrics, and inpatient discharge and emergency department visit utilization metrics
 	
• **Health system financial metrics**, which include acute care hospitals and may include financial metrics for health system owned non-acute specialty hospitals, employed physician practices and any joint investments in health care services across the health care service continuum, such as home care, rehabilitation and ambulatory clinics
 	
• **State-level health care workforce** supply and compensation trends
	• **Financial performance and utilization trends** for:
	  • Physician and clinician services
	  • Pharmacy and medical supplies
	  • Long-term care, including home health
	  • Non acute, specialty hospitals
	
	• **Access to care**, including health inequities and disparities
	
	• **Quality and outcomes trends** across RI, CT and MA

Data Limitations

This study was conducted over an approximately ten-week period between December 2023 to February 2024 to establish baseline facts about RI's health care system using publicly available data. It also identifies areas where additional research using private data sources and more in-depth analytics may be able to answer other pressing questions about regional health care financial, utilization and outcomes dynamics.

Using publicly available data inherently comes with several limitations. While the authors have sought to present a cohesive narrative where possible, acknowledging data gaps and other considerations throughout the study, a few key limitations persist, including:

- **Limited and Fragmented Nature of Publicly Available Data.** Given the fragmented nature of publicly available data, the data presented in this study may not align seamlessly with other public reports, such as those published by the RI Office of the Health Insurance Commissioner.

- **Inconsistent Timelines and Methodologies Used in Comparable Cross-State Data.** Although some data from federal and state-level sources such as CMS' National Health Expenditure Accounts and RAND's Hospital Price Transparency Study provide comparable cross-state data, other metrics required state-by-state compilation (e.g., state-level acute care hospital discharges). This resulted in comparisons of data using different timelines (e.g., calendar year vs. state fiscal year vs. federal fiscal year) and different definitions. Harmonization of definitions, where possible, was attempted to illustrate comparable trends.

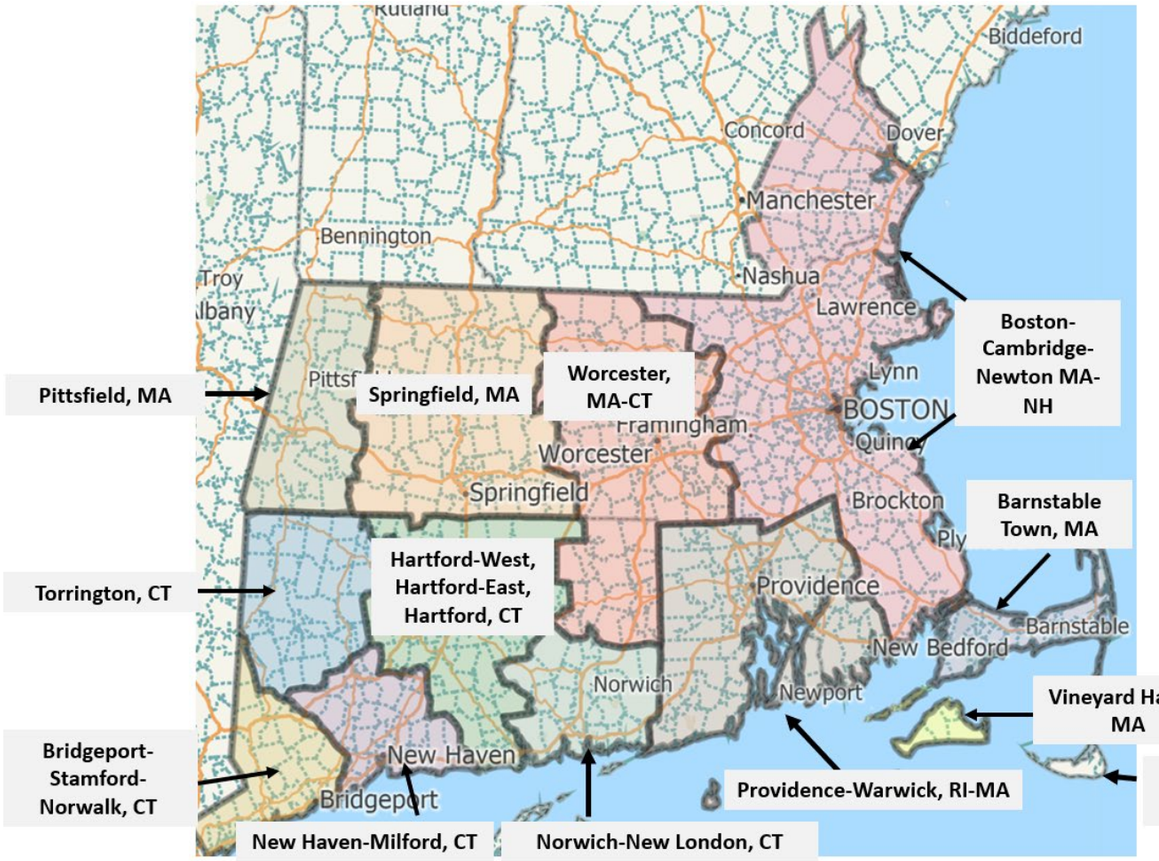
- **Impact of the COVID-19 Pandemic.** The COVID-19 pandemic between 2020-2022 introduced several "shocks" to the health care system that make it difficult to establish consistent and meaningful data trends (e.g., sharp declines in utilization of non-COVID-19-related inpatient services).

- **RI-Specific Challenges.** As a small state positioned among and within health care service areas of larger neighboring states, the competition for patients and workforce is of particular concern to RI. The limited scope of the study also does not fully reflect market context (e.g., patient case mix).

Opportunities for further analysis, including the use of private data and conducting original analyses, are listed at the conclusion of the study.

Regional Geographic Markets by Core Based Statistical Areas (CBSAs)

RI, CT and MA comprise 13 Core Based Statistical Areas (CBSAs). To the extent data allow, this study compares all metrics at the state level and a select number of demographic and acute hospital metrics at the CBSA level.



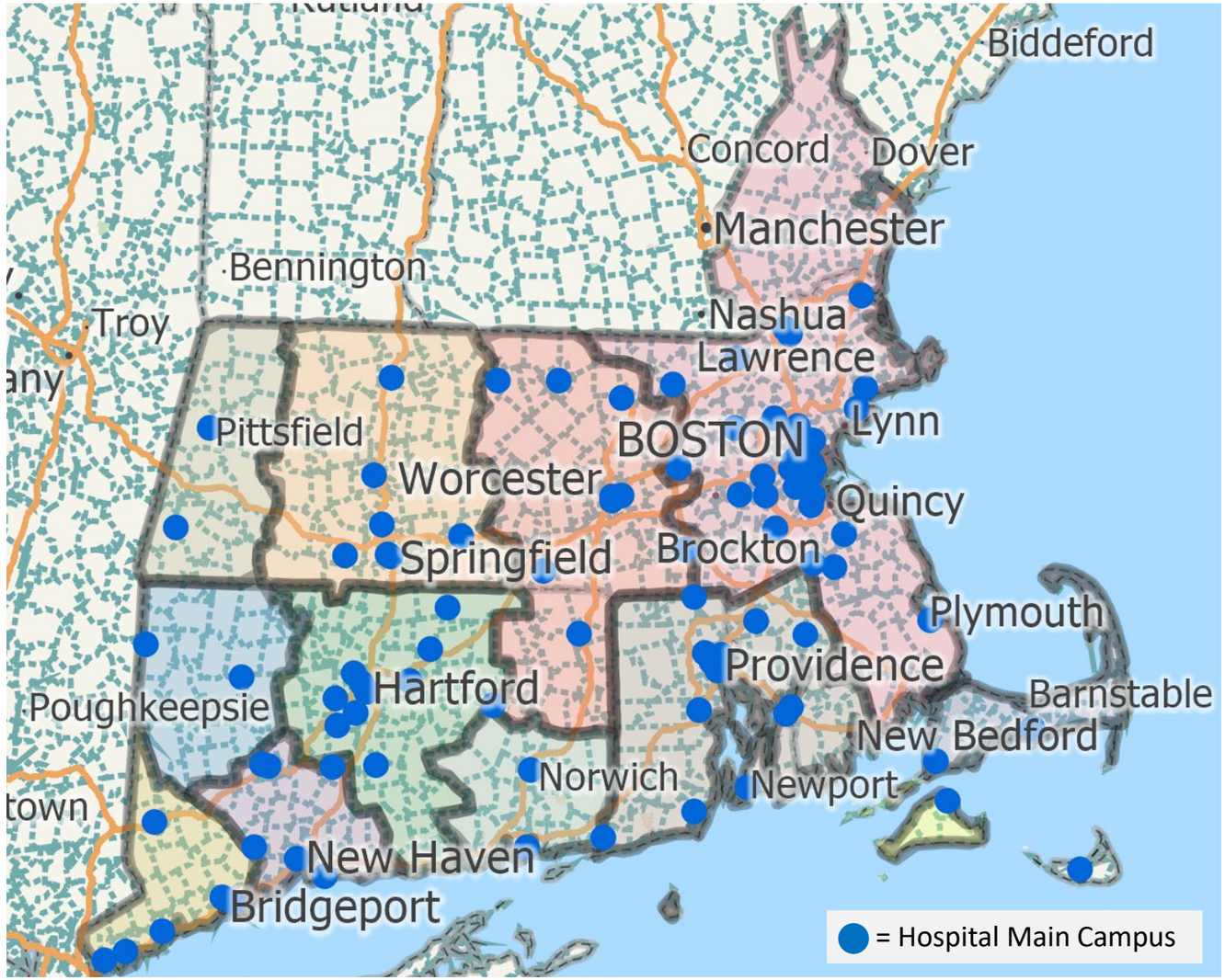
Defining regional geographic markets by CBSA allows for a more nuanced regional view, reflecting regional economies, demographics and Medicare wage index.

CBSA Title	Number of Hospitals in the CBSA
Boston-Cambridge-Newton, MA-NH	36
Providence-Warwick, RI-MA	14
Hartford-West Hartford-East Hartford, CT	11
New Haven-Milford, CT	4
Bridgeport-Stamford-Danbury, CT	6
Worcester, MA-CT	8
Springfield, MA	8
Norwich-New London-Willimantic, CT	3
Barnstable Town, MA	2
Pittsfield, MA	2
Torrington, CT	2
Vineyard Haven, MA	1
Nantucket, MA	1
Total	**98**

Note: Three CBSAs cross state lines: Worcester, MA-CT, Boston-Cambridge-Newton, MA-NH, and Providence-Warwick, RI-MA.

Source: U.S. Census Bureau, "Core Based Statistical Areas (CBSAs), Metropolitan Divisions, and Combined Statistical Areas (CSAs), July 2023"

Acute Care Hospitals by CBSA



98 acute care hospitals across RI. CT and MA were each assigned to one of the 13 CBSAs based on the hospital's main campus zip code.

The 98 hospitals were grouped by:

1. COTH Member Hospitals
2. Community Hospitals
   - Community Hospitals with FY22 Operating Revenue over $300M
   - Community Hospitals with FY22 Operating Revenue under $300M

COTH member hospitals were grouped to reflect their higher acuity clinical mix and additional revenues and costs associated with their academic missions. Community hospitals were split into the 2 groups to reflect their scale of annual operating revenue.

Each of these hospitals submitted Medicare Cost Reports and/or submitted acute care hospital-level audited financials to their respective states (or via data request), which are publicly available and were used for this study.

Specialty hospitals such as behavioral health and rehabilitation hospitals were not included.

Note: A complete list of all hospitals included can be found in Appendix D.

Several CBSAs cross state lines, such as the Providence-Warwick RI-MA CBSA. When the CBSA groupings are applied to the data metrics, please be aware that the Providence-RI CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital and Sturdy Memorial Hospital.

Sources: Data Request to Member Hospitals and Health Systems of the Hospital Association of Rhode Island (HARI); CT Office of Health Strategy (OHS), "Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, FY 2020, FY 2021, FY 2022; MA Center for Health Information and Analysis (CHIA), *"Massachusetts Acute Hospital Case Mix Hospital Inpatient Discharge Databases (HIDD), 2016-2021"*

Data Metrics by Core Based Statistical Areas (CBSAs)

Comparative analyses between RI, CT, and MA are conducted at the state-level for all data metrics and at the CBSA-level for select acute care hospital pricing and financial metrics.

Data Metric	Data Source
Average hospital private employer-sponsored health plans' standardized facility inpatient and outpatient prices	RAND Hospital Price Transparency Study Round 4
Average hospital private employer-sponsored health plans' relative facility prices	
Acute hospital operating margins	Audited hospital financial reports, NASHP + RI hospital data request
Acute hospital net revenue/adjusted discharge	
Acute hospital operating expense/adjusted discharge	
Acute hospital Direct patient care labor costs/adjusted discharge	

Note:

[1] Several CBSAs cross state lines, such as the Providence-Warwick RI-MA CBSA. When the CBSA groupings are applied to the data metrics, please be aware that the Providence-RI CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital and Sturdy Memorial Hospital.

Source: U.S. Census Bureau, "Core Based Statistical Areas (CBSAs), Metropolitan Divisions, and Combined Statistical Areas (CSAs), July 2023"

3. Market Overview

Overview of the Market

The market is defined at both the state and region-level, with regions defined by CBSA. Metrics used to define the market include population, median household income, and payer mix.

Market Metrics Tracked

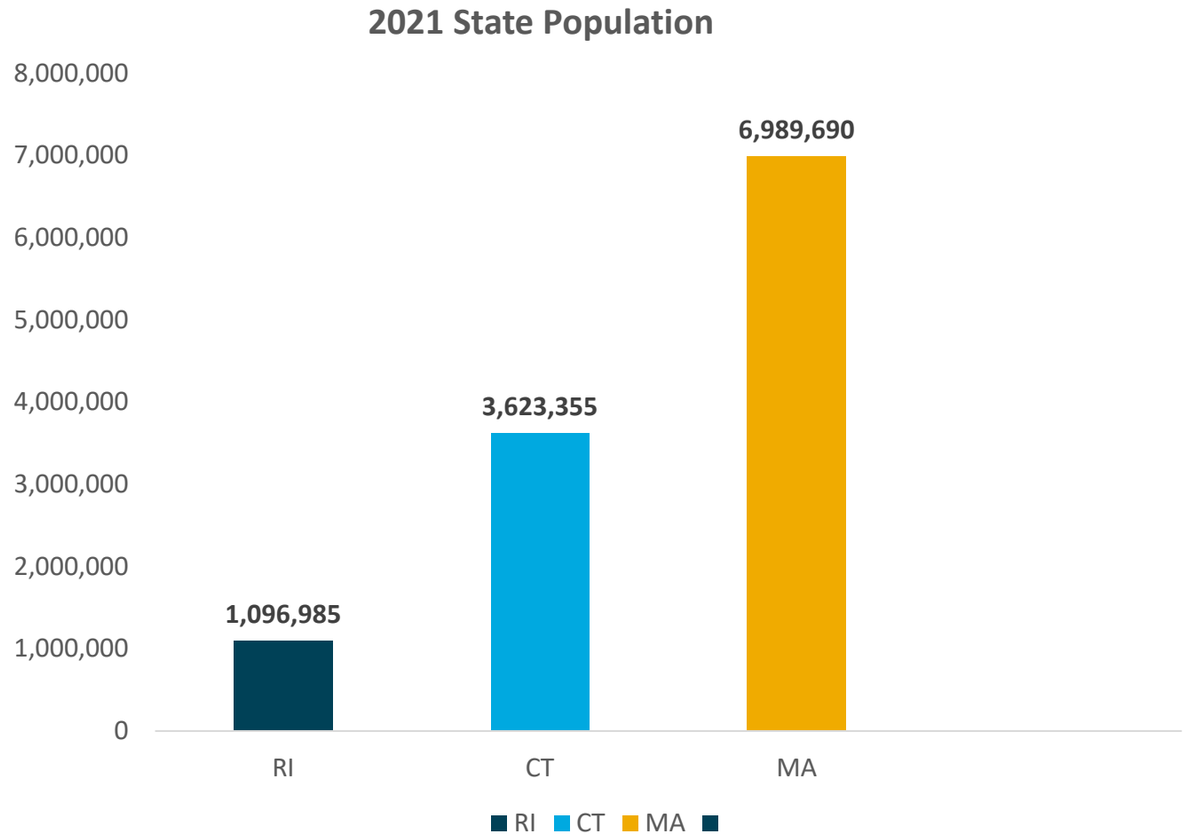
- Population (2021) and Median Household Income (2018-2022 Average) by State
- Population Distribution by Age Cohort by State (2021)
- Average Acute Care Hospital Payer Mix (2021)
- RI Commercially-Insured Patient Outmigration to MA for Inpatient Care (2021)
- Staffed Acute Care Beds by CBSA (2022)
- Population by Zip Code and CBSA (2021)

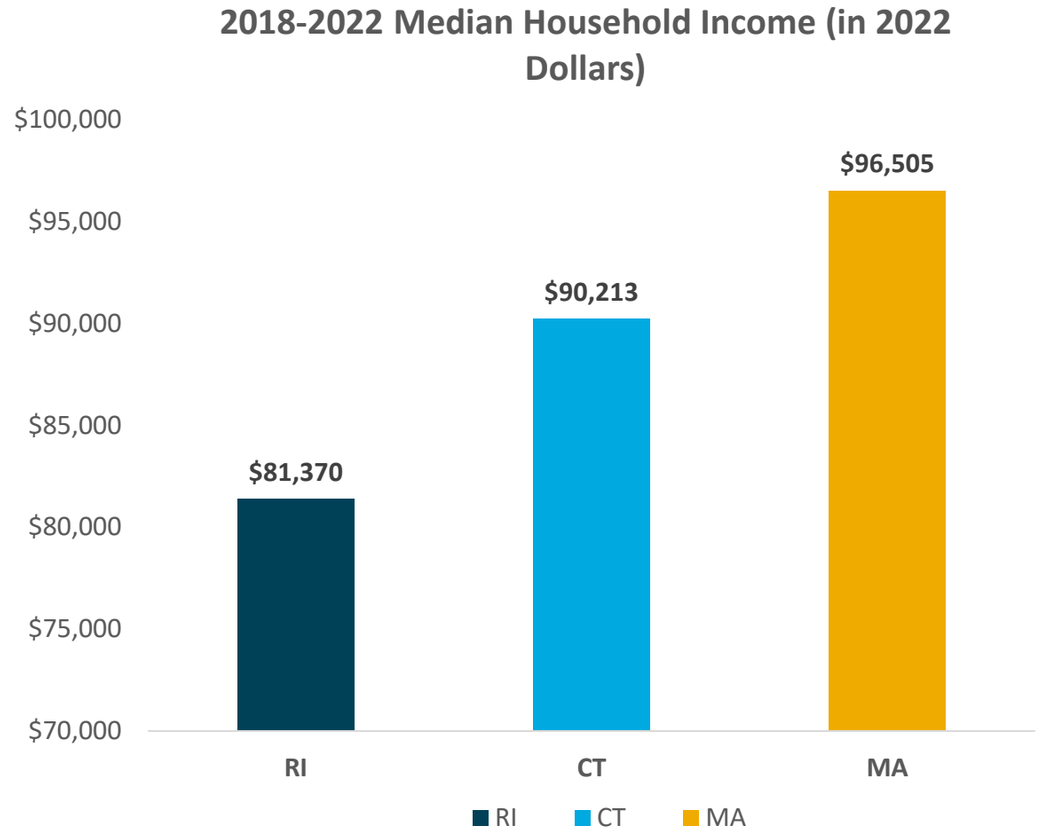
Publicly Available Data Sources Used

State	Financial Performance & Metrics Data Sources
RI	• U.S. Census Bureau, "Annual Estimates of the Resident Population by Single Year of Age and Sex, April 1, 2020 to July 1, 2022" • US Census Bureau, "QuickFacts" (2022) • RI Department of Health (DOH), "Hospital Discharge Data 2016 – 2021" • RI OHIC Internal Report, "Summary Analysis of 2021 Care Migration Patterns" (2023) • American Hospital Directory, "Staffed Beds" (as reported in each hospital's most recent Medicare Cost Reports) • US Census Bureau, American Community Survey • US Census Bureau, "Income in the United States: 2022"
CT	• U.S. Census Bureau, "Annual Estimates of the Resident Population by Single Year of Age and Sex, April 1, 2020 to July 1, 2022" • US Census Bureau, "QuickFacts" (2022) • CT Office of Health Strategy (OHS), "Annual Report on the Financial Status of Connecticut Short Term Acute Care Hospitals for FY 2018, FY 2020, FY 2021, FY 2022 • American Hospital Directory, "Staffed Beds" (as reported in each hospital's most recent Medicare Cost Reports) • US Census Bureau, American Community Survey • US Census Bureau, "Income in the United States: 2022"
MA	• U.S. Census Bureau, "Annual Estimates of the Resident Population by Single Year of Age and Sex, April 1, 2020 to July 1, 2022" • US Census Bureau, "QuickFacts" (2022) • MA Center for Health Information and Analysis (CHIA), *"Massachusetts Acute Hospital Case Mix Hospital Inpatient Discharge Databases (HIDD), 2016-2021"* • American Hospital Directory, "Staffed Beds" (as reported in each hospital's most recent Medicare Cost Reports) • US Census Bureau, American Community Survey • US Census Bureau, "Income in the United States: 2022"

Population and Median Household Income by State

RI has a population that is 16% of the MA population and 30% of the CT population. RI's household median income is 11% and 19% below that of CT and MA, respectively.

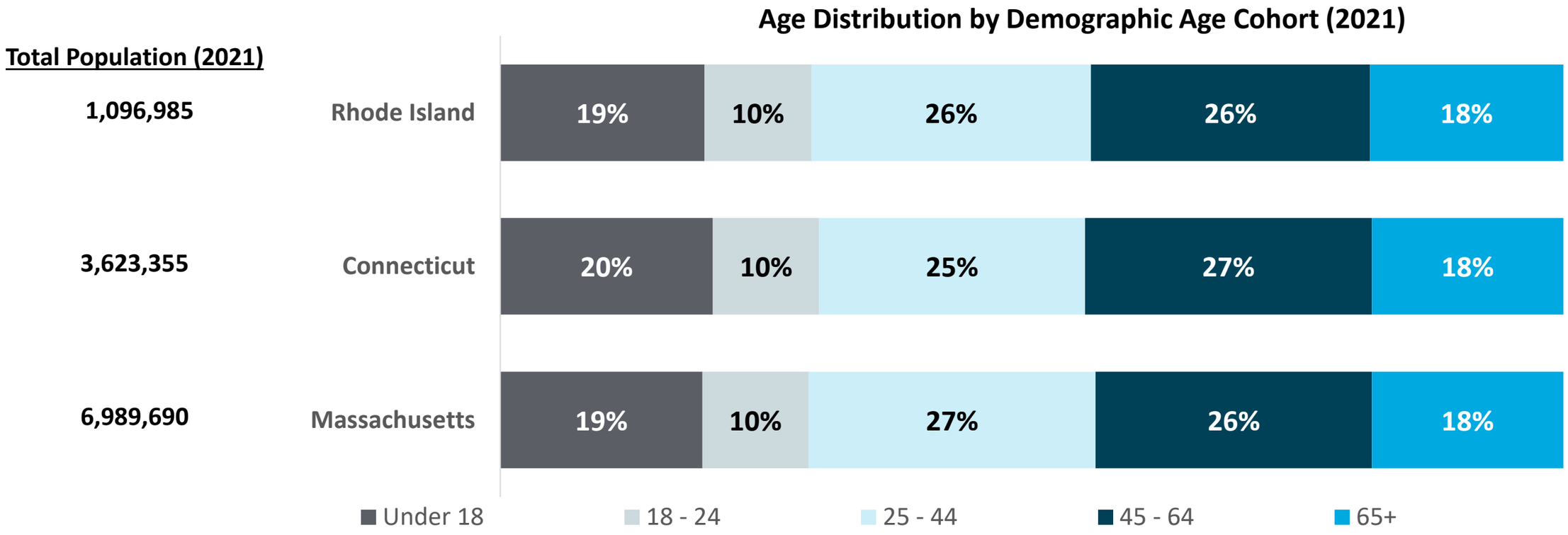




Source: U.S. Census Bureau, "Annual Estimates of the Resident Population by Single Year of Age and Sex, April 1, 2020 to July 1, 2022"; "QuickFacts for MA, CT, RI, and US"

2021 Population Distribution by Age Cohort, by State

RI, MA, and CT share a similar population distribution by age cohort.



Source: U.S. Census Bureau, “Annual Estimates of the Resident Population by Single Year of Age and Sex, April 1, 2020 to July 1, 2022”

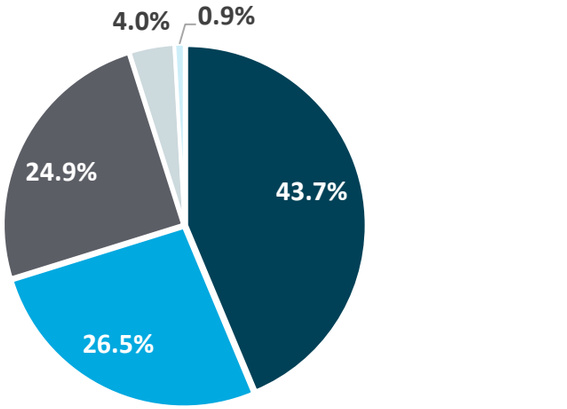
Average Acute Care Hospital Payer Mix by State (2021)

In 2021, RI acute hospitals had a combined statewide Medicare + Medicaid payer mix of 70.2%, higher than CT and MA.

Statewide 2021/FY 2021 Acute Hospital Inpatient Payer Mix[1] for RI, CT and MA

Payer Mix Based on Volume of Acute Care Adult & Pediatric Discharges[2]

RI 2021 Acute Care Hospital Payer Mix

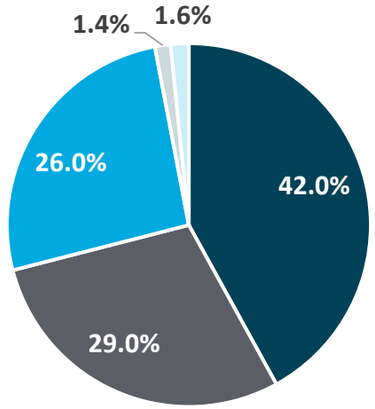


Medicare + Medicaid = 70.2%

Medicare | Medicaid | Private Insurance | Self Pay | Other

Total Discharges = 101,669

CT FY 2021 Acute Care Hospital Payer Mix[3]

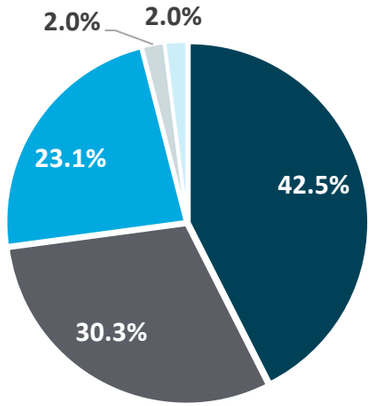


Medicare + Medicaid = 68%

Medicare | Non-Government | Medicaid | Uninsured | Other

Total Discharges = 369,044

MA FFY 2021 Acute Care Hospital Payer Mix



Medicare + Medicaid = 65.6%

Medicare | Commercial | Medicaid | Other | Self Pay

Total Discharges = 744,628

Notes:

[1] Includes births in the discharge counts.

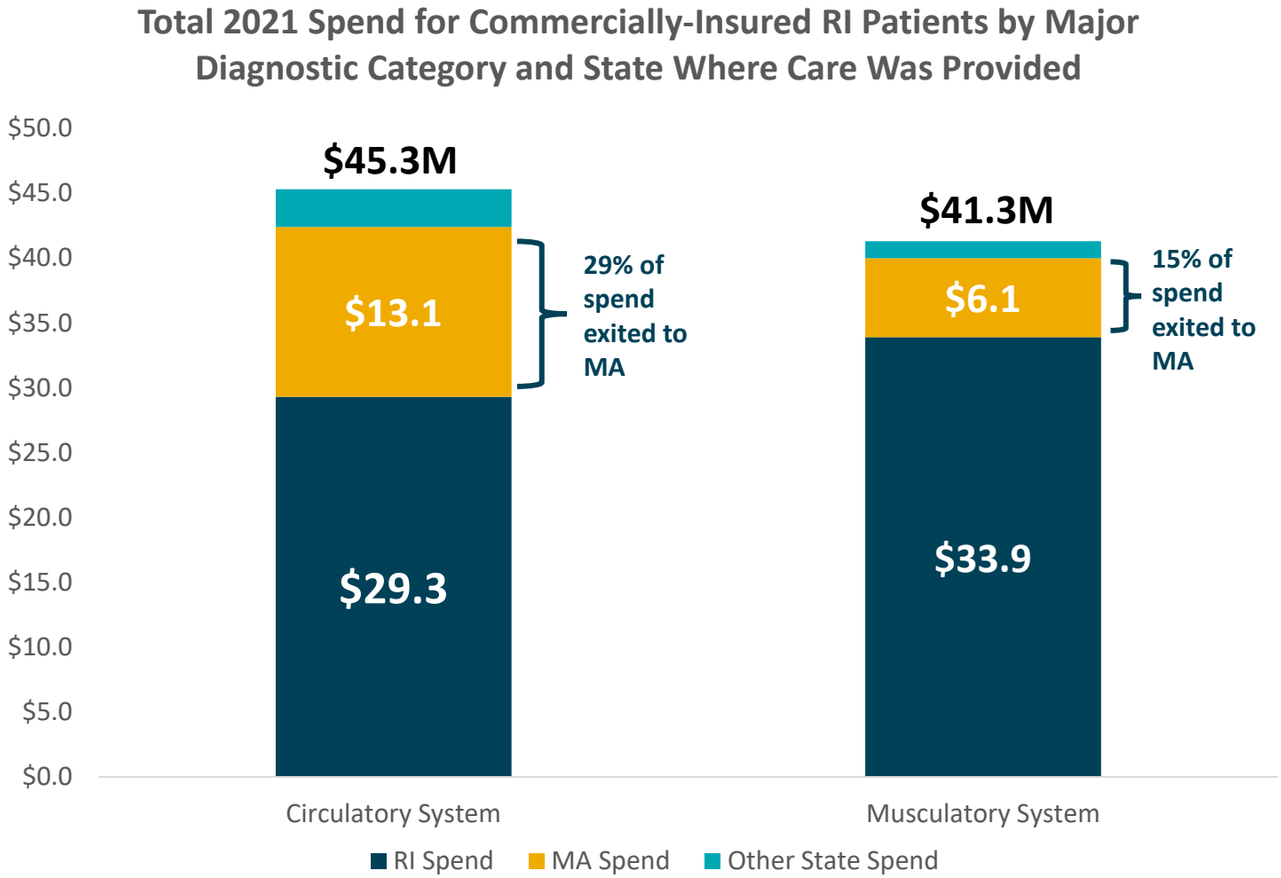
[2] All statewide hospital payer mix calculations exclude specialty hospitals, including behavioral health and rehabilitation hospitals.

[3] Non-government insurance is defined as commercial and employer self-funded insurance.

Sources: RI DOH, "Hospital Discharge Data 2016 – 2021"; CT OHS, "Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2021"; MA CHIA, "Massachusetts Acute Hospital Case Mix Hospital Inpatient Discharge Databases (HIDD), 2016-2021"

RI Commercially-Insured Patient Outmigration to MA for Inpatient Care (2021)

Each year, RI patients seek care from health systems in other states, or "migrate" to receive care. A recent RI OHIC care migration review found that cardiovascular and orthopedic inpatient services comprised over $19M in 2021 spending for commercially-insured RI patients who left the state to receive inpatient care at MA providers.



Top 3 Cardiovascular higher cost DRG commercial volumes out-migrating to MA:

- Percutaneous coronary intervention (PCI) with acute myocardial infarction (AMI)
- Cardiac valve procedures without AMI or complex principal diagnosis (PDX)
- PCI without AMI
  - These 3 DRGs represented $4.2M in MA spend
  - These 3 DRGs' price per unit (PPU) ranged from 21 – 26% higher in MA, when compared to RI PPU

Top 3 Orthopedic higher cost DRG commercial volumes out-migrating to MA:

- Dorsal & lumbar fusion procedure except for curvature of the back
- Elective knee joint replacement
- Elective hip joint replacement
  - These 3 DRGs represented $3.3M in MA spend
  - These 3 DRGs' PPU ranged from 7.5% (knee replacement) to 20.6% (dorsal & lumbar fusion) higher in MA, when compared to RI PPU

For further information on employer-sponsored health plan pricing to hospitals, please refer to Section 5.

Note: The R All Payer Claims Data (APCD) does not contain data from all self-insured employers. The total spending and proportion by state reflects the insured groups that contribute to the APCD.

Source: RI OHIC Internal Report, "Summary Analysis of 2021 Care Migration Patterns" (2023)

Staffed Acute Care Beds by CBSA

The RI, MA, and CT markets examined for this study comprised of 98 acute care hospitals and almost 25,000 staffed beds.

CBSA Title	Number of Acute Care Hospitals[1]	Total Staffed Beds [3]	Total FY 2022 Acute Care Hospital Operating Revenues	Acute Hospital FY22 Operating Revenue/Staffed Bed
Boston-Cambridge-Newton, MA-NH	36	9,413	$28,879,920,370	$3.07M
Providence-Warwick, RI-MA[2]	14	3,408	$5,970,983,366	$1.75M
Hartford-West Hartford-East Hartford, CT	11	2,903	$5,964,132,417	$2.05M
New Haven-Milford, CT	4	2,649	$4,578,777,156	$1.73M
Bridgeport-Stamford-Danbury, CT	6	1,836	$3,713,706,054	$2.02M
Worcester, MA-CT	8	1,630	$3,672,166,578	$2.25M
Springfield, MA	8	1,605	$2,682,936,434	$1.67M
Norwich-New London-Willimantic, CT	3	488	$1,020,920,771	$2.09M
Barnstable Town, MA	2	340	$834,464,055	$2.45M
Pittsfield, MA	2	296	$710,367,566	$2.40M
Torrington, CT	2	191	$226,555,345	$1.19M
Vineyard Haven, MA	1	25	$125,507,000	$5.02M
Nantucket, MA	1	14	$72,091,000	$5.15M
Total	**98**	**24,798**	**$58,452,528,102**	**$2.36M**

Note:

[1] NH hospitals within the Boston-Cambridge-Newton, MA-NH CBSA are not included in this analysis

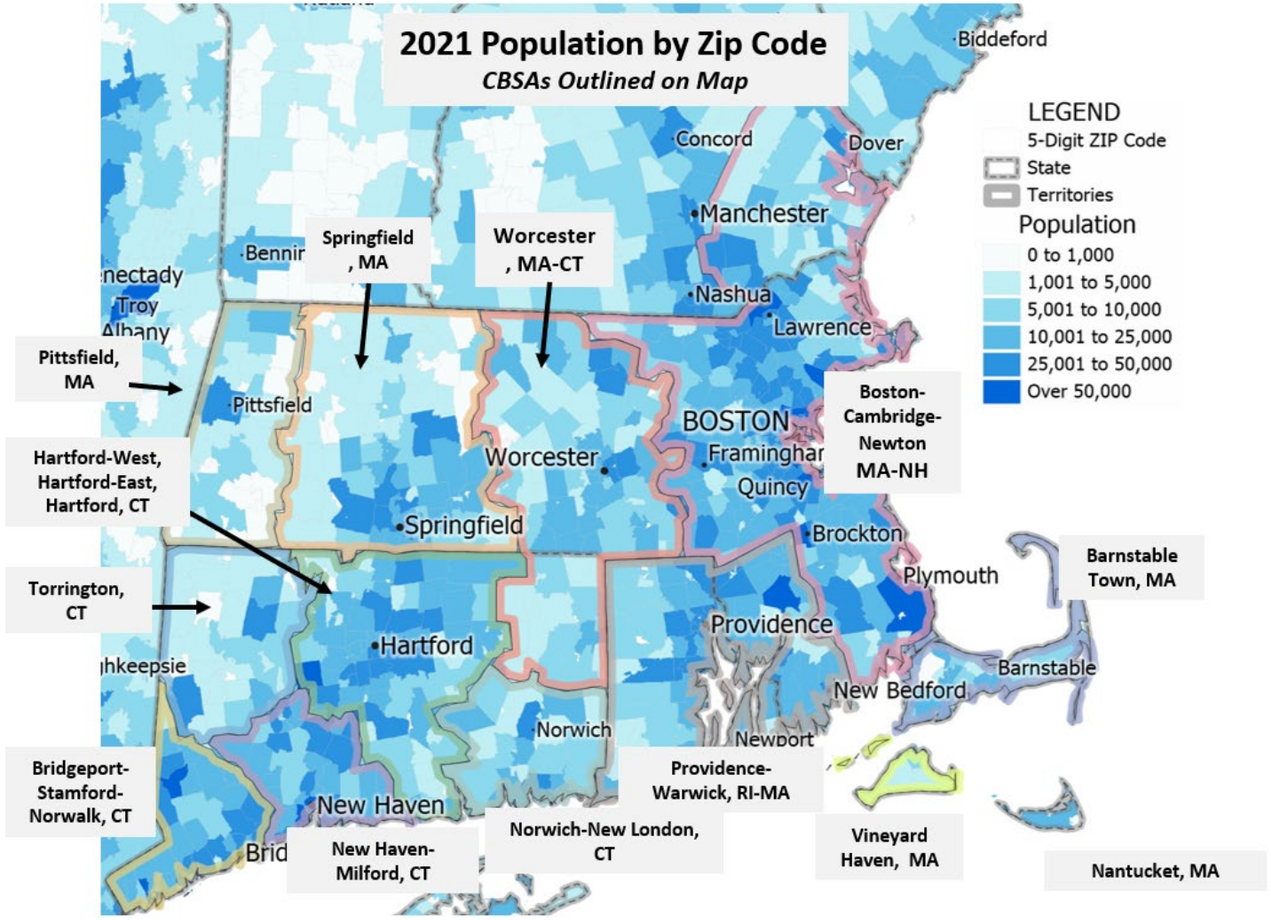
[2] Providence-Warwick CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital and Sturdy Memorial Hospital.

[3] Landmark Hospital's (Providence Warwick CBSA) staffed acute care beds were not included in this table, as Prime/Landmark did not provide operating revenue and expenses to the Study.

Source: American Hospital Directory, "Staffed Beds" (as reported in each hospital's most recent Medicare Cost Reports).

Population by Zip Code and CBSA (2021)

Among the 13 CBSAs in RI, MA and CT, the Providence-Warwick, RI-MA CBSA had the 2nd highest population (1.67M in 2021).



Population by Core Based Statistical Area (CBSA) (2021)

CBSA Title	2021 Estimated Population	Number of Acute Care Hospitals
Boston-Cambridge-Newton, MA-NH	4,900,550	36
Providence-Warwick, RI-MA	1,673,802	14
Hartford-West Hartford-East Hartford, CT	1,221,725	11
Worcester, MA-CT	980,137	8
Bridgeport-Stamford-Danbury, CT	962,946	6
New Haven-Milford, CT	869,527	4
Springfield, MA	694,523	8
Norwich-New London, CT	268,681	3
Barnstable Town, MA	232,457	2
Torrington, CT	186,116	2
Pittsfield, MA	127,859	2
Vineyard Haven, MA	20,868	1
Nantucket, MA	14,421	1
TOTAL	**12,153,612**	**98**

Source: US Census Bureau, “American Community Survey”; Maptitude mapping software

4. Health Care Premiums and Expenditures

Overview of Health Care Expenditures & Premium Metrics

Manatt reviewed health care expenditure and premium trends across RI, MA, and CT, as available from public data.

Health Care Expenditure & Premium Measures Tracked

- Total Personal Health Care (PHC)[1] expenditures by payer type in RI, CT, and MA (2016-2019)
- PHC expenditures per enrollee by payer type in RI (2016-2019)
- Statewide average Small Group market premiums paid per member per month (PMPM) in RI and New England average (2019-2022)
- Statewide average Small Group market actuarial values in RI and New England (2022)
- Statewide average Individual Group market premiums paid per member per month (PMPM) in RI and New England (2019-2022)
- Statewide average Individual Group market actuarial values in RI and New England average (2022)

Publicly Available Data Sources Used

State	Data Sources
RI	• Centers for Medicare & Medicaid Services (CMS), "National Health Expenditure Accounts (State Level by Residence)" • RI OHIC, Rhode Island 2024 Market Summary - CMS Risk Adjustment Report Appendix A for 2019, 2020, 2021, 2022 benefit years • MACPAC, "MACStats: Medicaid and CHIP Data Book" (2023)
MA	
CT	

Note:

[1] Personal Health Care (PHC) comprises of all revenue received by health care providers and retail establishments for medical goods and services, as well as all non-patient and non-operating revenue, grants, subsidies, and philanthropy received by health care providers. These include hospital care; professional services; other health, residential, and personal care; home health care; nursing care facilities and continuing care retirement communities; and retail outlet sales of medical products. PHC does not include expenditures on administration and net cost of health insurance, government public health activities, investment in noncommercial research (e.g. NIH, NSF, etc.), structures and equipment.

Key Highlights of Health Care Premiums & Expenditures

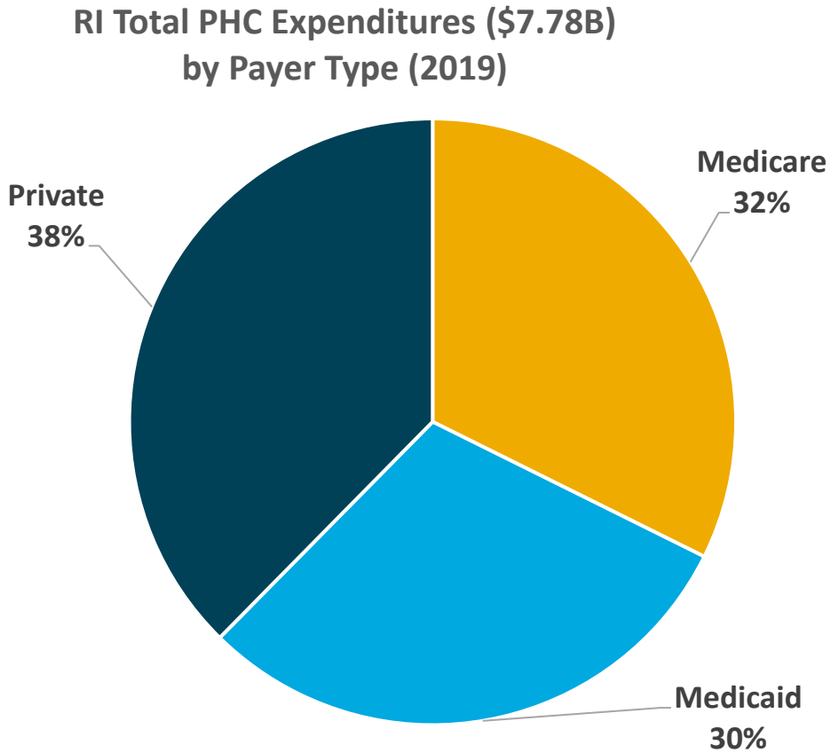
- RI government payer Personal Health Care (PHC) expenditures per enrollee increased by 3% between 2016 and 2019, while private health PHC expenditures per enrollee decreased by 2% over the same period.
- Between 2016 and 2019, RI's Medicare expenditures per enrollee grew at a lower rate than those in MA and CT. RI private expenditures have declined slightly, while those of MA and CT have increased over time, particularly between 2016 and 2017.
- Over the 2018 – 2022 timeframe, RI's average Individual market and Small Group market premiums remained below the New England averages
  - In 2022, RI's average Small Group market premium was $571 Per Member Per Month (PMPM), compared to $575 for MA and $719 for CT
  - RI has the lowest individual market premiums among New England states and had one of the lowest individual market premiums in the country in 2022.
  - RI has higher average metal actuarial values, compared to its New England peers

Notes:
CMS National Health Care Expenditure data differs from the cost trends analyses conducted through the Rhode Island Health Spending Accountability and Transparency Program. This is due to several methodological differences, including specific cost outlier, age/sex and other adjustments applied during the cost trends analyses.

Release of the updated CMS National Health Expenditure Accounts (NHEA) State-level data in 2025 will provide insights into RI's post-COVID era health care expenditure trends.

RI Personal Health Care Expenditures (PHC) by Payer Type (2019)

Government payers accounted for 62% of RI Personal Health Care (PHC)[1] expenditures in 2019.



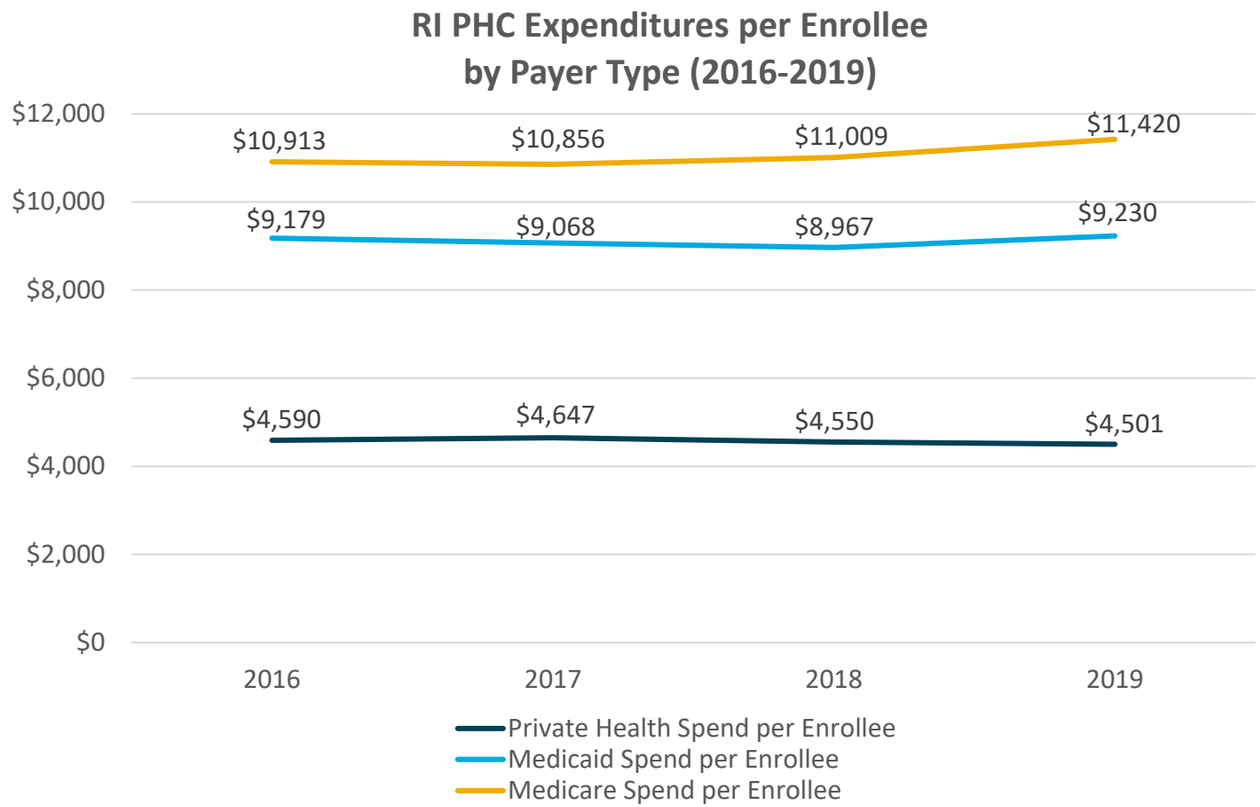
PHC expenditure data is available through 2020 but was excluded from this analysis to avoid comparative abnormalities due to the COVID-19 pandemic.

Notes:
[1] Personal Health Care (PHC) comprises all revenue received by health care providers and retail establishments for medical goods and services, as well as all non-patient and non-operating revenue, grants, subsidies, and philanthropy received by health care providers. These include hospital care; professional services; other health, residential, and personal care; home health care; nursing care facilities and continuing care retirement communities; and retail outlet sales of medical products. PHC does not include expenditures on administration and net cost of health insurance, government public health activities, investment in noncommercial research, structures and equipment.
Private insurance includes fully insured commercial plans and self-insured plans.

Source: CMS National Health Expenditure Accounts by State (Residence) (2016-2019)

RI Personal Health Care Expenditures (PHC) by Payer Type (2016-2019)

RI PHC[1] expenditures per Medicare and Medicaid enrollee was more than double than that for individuals covered by private insurance.



Between 2018 and 2019, Medicare and Medicaid PHC expenditures per enrollee increased by 3% and 4%, respectively, while private PHC expenditures decreased by 1%.

Notes:

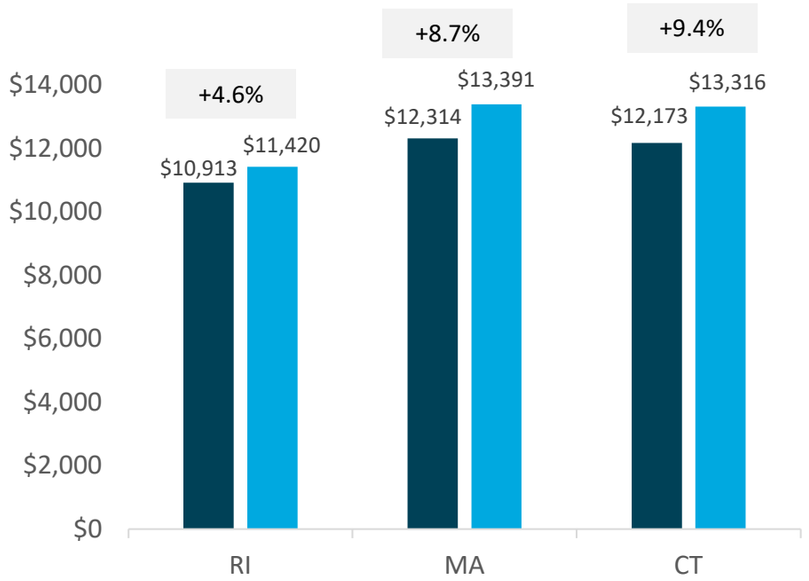
[1] Personal Health Care (PHC) comprises all revenue received by health care providers and retail establishments for medical goods and services, as well as all non-patient and non-operating revenue, grants, subsidies, and philanthropy received by health care providers. These include hospital care; professional services; other health, residential, and personal care; home health care; nursing care facilities and continuing care retirement communities; and retail outlet sales of medical products. PHC does not include expenditures on administration and net cost of health insurance, government public health activities, investment in noncommercial research, structures and equipment.

Source: CMS National Health Expenditure Accounts by State (Residence) (2016-2019)

PHC Expenditures by Government Payers (2016-2019)

Between 2016 and 2019, RI's Medicare expenditures per enrollee grew at a lower rate than those in MA and CT.

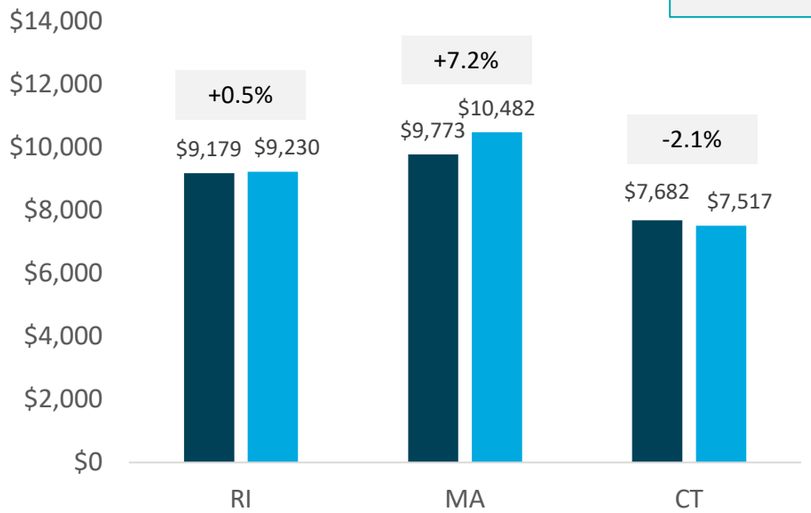
Medicare Per Enrollee PHC Expenditures (2016-2019)



Includes Medicare Fee-for-Service and Medicare Advantage

Medicaid Per Enrollee PHC Expenditures (2016-2019)

Medicaid expenditures hold through 2022.[1]



Includes Medicaid Fee-for-Service and Medicaid Managed Care

2016 2019

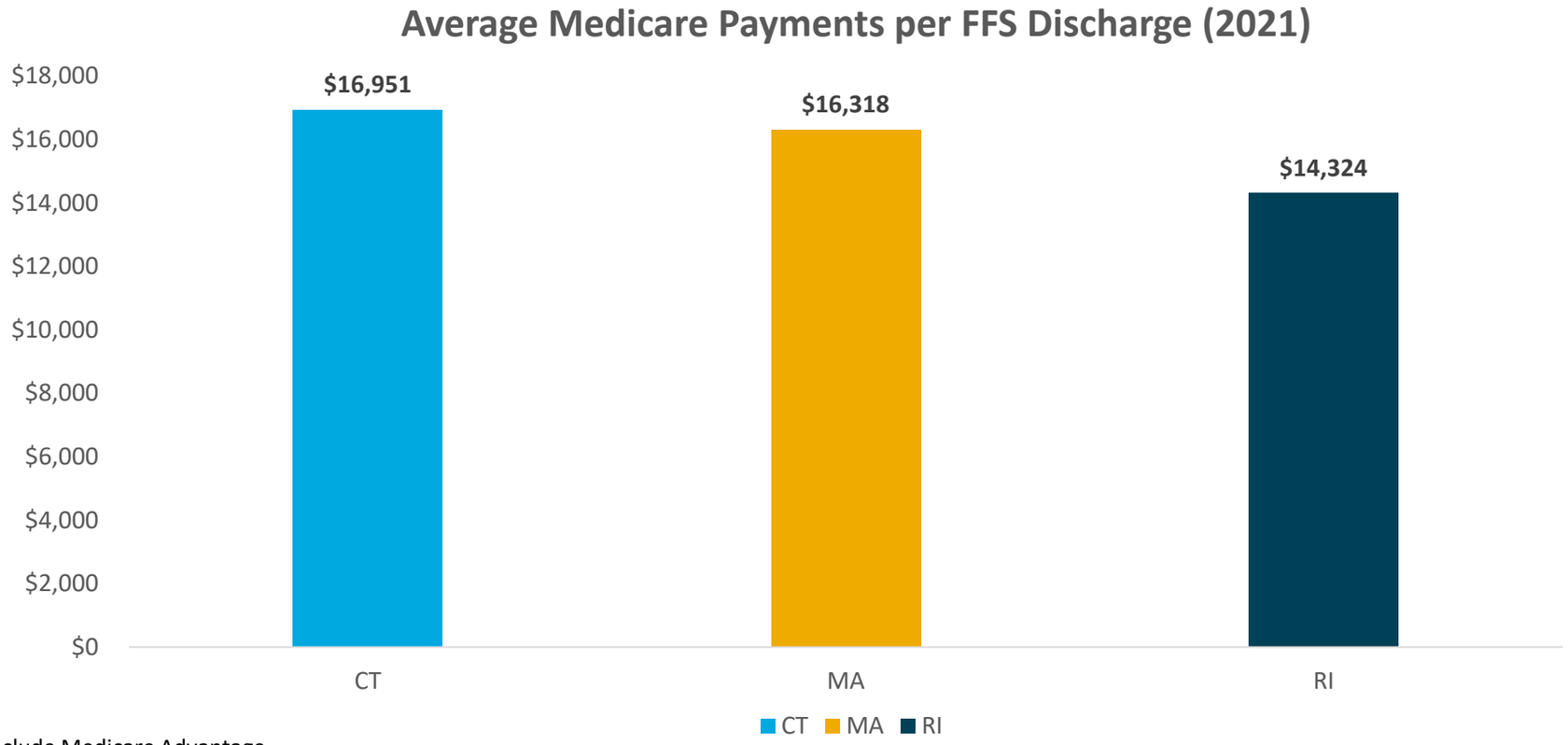
Note:

[1] Per data from MACPAC "MACStats: Medicaid and CHIP Data Book (FY 2022)," Medicaid benefit spending per full-year equivalent enrollee in FY 2022 for RI was $9,888, $8,585 in CT, and $10,034 in MA.

Source: CMS National Health Expenditure Accounts by State (Residence) (2016-2019)

Medicare Payments (Fee-for-Service) per Discharge to Acute Care Hospitals (2021)

In 2021, RI acute care hospitals were paid $14,324 per Medicare Fee for Service (FFS)[1,2] discharge while CT and MA hospitals were paid more than $16,000 per Medicare FFS discharge.



Note:

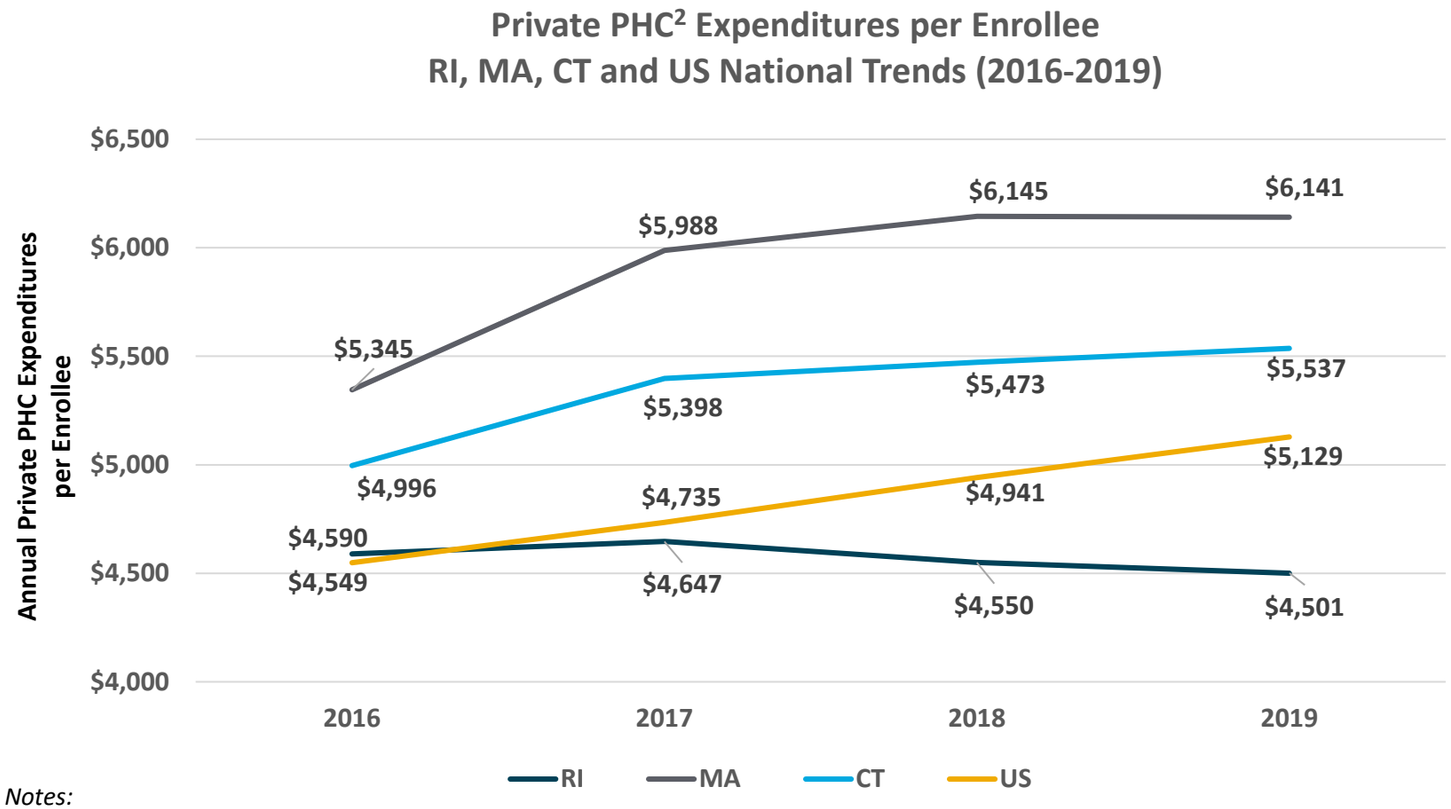
[1] Medicare FFS payments do not include Medicare Advantage.

[2]Medicare's geographic Hospital Wage Index by CBSA informs Medicare's payments to a hospital, resulting in adjustments to Medicare payments. Stakeholders in lower-wage areas have expressed concern to the CMS about the fairness of the wage index due to the differences between relatively low and high hospital wage areas. As a result, some hospitals receive an annual wage index reclassification or adjustment.

Source: CMS, "CMS Program Statistics – Medicare Inpatient Hospital" (2021)

Comparative Annual Per Capita Private Health PHC Expenditures (2016-2019)

RI private[1] expenditures have declined slightly, while those of MA and CT have increased over time, particularly between 2016 and 2017.



	Percentage Change (Average Annual Growth)		
Region	**2016-2017**	**2017-2018**	**2018-2019**
RI	+1.2%	-2.1%	-1.1%
MA	+12%	+2.6%	-0.01%
CT	+8.1%	+2.2%	+1.1%
US	+4.1%	+4.4%	+3.8%

Notes:

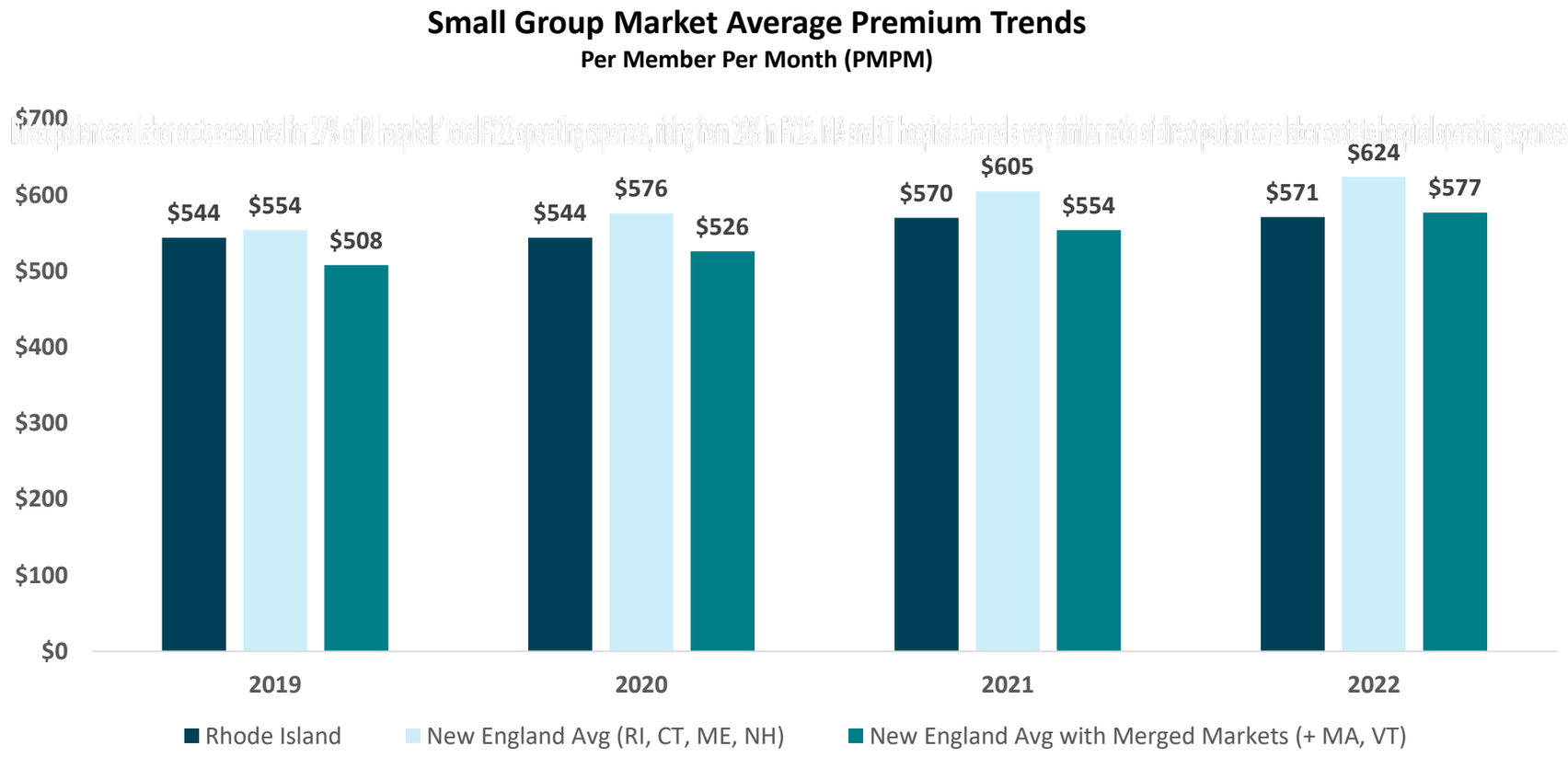
[1] Private includes fully insured commercial plans and self-insured plans.

[2]Personal Health Care (PHC) comprises all revenue received by health care providers and retail establishments for medical goods and services, as well as all non-patient and non-operating revenue, grants, subsidies, and philanthropy received by health care providers. These include hospital care; professional services; other health, residential, and personal care; home health care; nursing care facilities and continuing care retirement communities; and retail outlet sales of medical products. PHC does not include expenditures on administration and net cost of health insurance, government public health activities, investment in noncommercial research, structures and equipment.

Source: CMS National Health Expenditure Accounts by State (Residence) (2016-2019)

Comparison of Small Group Market Average Premiums (2022)

RI's small group market premiums have grown at a slower rate, on average, compared to other New England states.



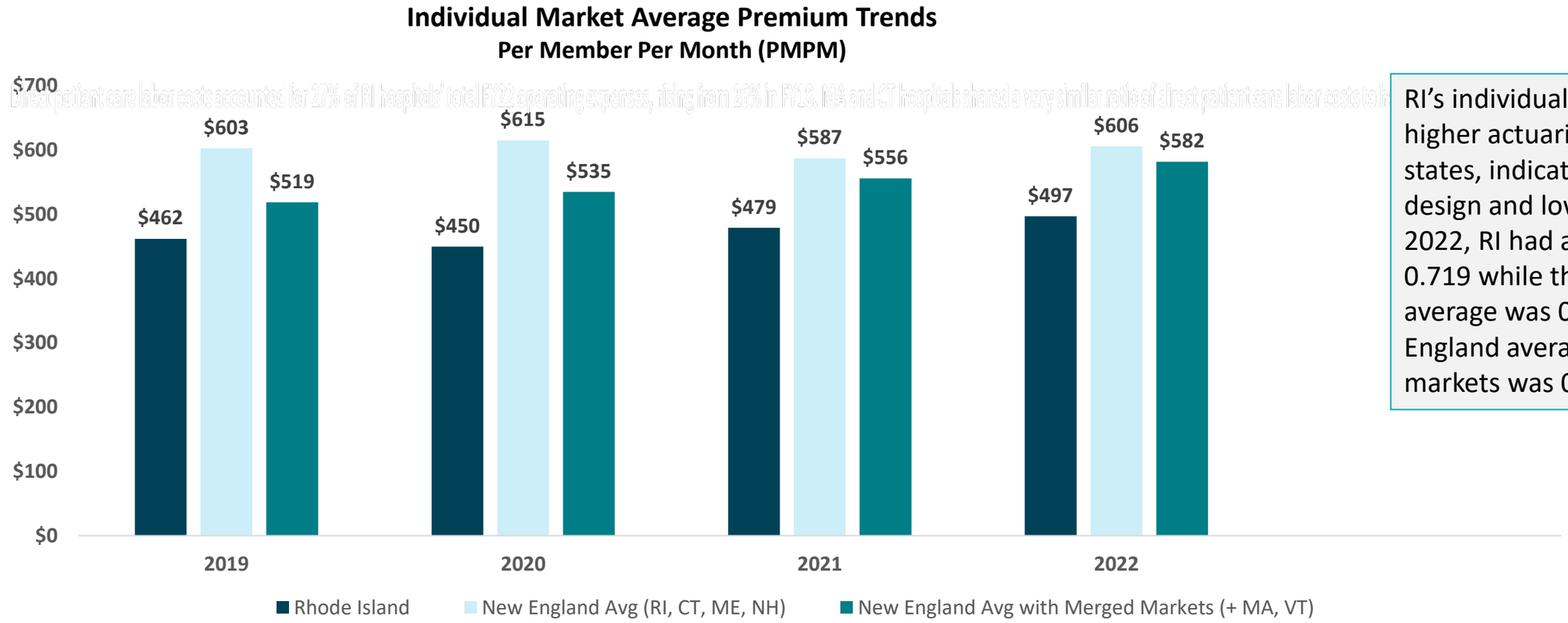
RI's small group market also has higher actuarial values than peer states, indicating richer plan benefit design and lower plan retention. In 2022, RI had an average actuarial value of 0.812 compared to the New England average (0.748). The New England average with merged markets was 0.734.

Note:
MA represents a merged market in all years; VT represents a merged market in 2019, 2020, and 2021 but was unmerged in 2022

Source: RI OHIC RI 2024 Market Summary (Oliver Wyman); CMS Risk Adjustment Report Appendix A for 2019, 2020, 2021, 2022 benefit years.

Comparison of Individual Group Market Average Premiums (2022)

RI has the lowest individual market premiums among New England states and had one of the lowest individual market premiums in the country in 2022.



RI's individual group market also has higher actuarial values than peer states, indicating richer plan benefit design and lower plan retention. In 2022, RI had an actuarial value of 0.719 while the New England average was 0.680. The New England average including merged markets was 0.713.

Note:
MA represents a merged market in all years; VT represents a merged market in 2019, 2020, and 2021 but was unmerged in 2022

Source: RI OHIC RI 2024 Market Summary (Oliver Wyman); CMS Risk Adjustment Report Appendix A for 2019, 2020, 2021, 2022 benefit years.

5. Employer Health Plan Acute Hospital Prices

Overview of Employer Health Plan Price Trends

Manatt reviewed the RAND 4.0 "Prices Paid to Hospitals by Private Health Plans" study ("Pricing Study") and Medicare fee-for-service payments per discharge to comparatively track private health plan prices at RI, CT and MA acute hospitals by state and by CBSA.

Acute Care Hospital Price Measures Tracked

- Average Standardized Inpatient Price per Stay Paid and Outpatient Service Paid by Private Employer-Sponsored Health Plans in RI, MA & CT (2020)
- Average Inpatient Facility Prices Paid and Outpatient Facility Services Paid by Private Employer-Sponsored Health Plans by CBSA (2018-2020) to
  - COTH Member Hospitals
  - All Community Hospitals
    - Community Hospitals with FY 2022 operating revenue >$300M
    - Community Hospitals with FY 2022 operating revenue <$300M
- Average Relative Price Ratio for Inpatient and Outpatient Facility Services in RI, MA & CT (2020)
- Average Relative Price Ratio for Inpatient Facility Prices Paid and Outpatient Facility Services by CBSA (2018-2020) to
  - COTH Member Hospitals
  - All Community Hospitals
    - Community Hospitals with FY 2022 operating revenue >$300M
    - Community Hospitals with FY 2022 operating revenue <$300M

Key Definitions

Term	Definition
Standardized Price	The allowed amount paid by the private health plan per service, standardized using Medicare's case mix grouping and relative weights.[1] [2] State-level standardized prices include both facility and professional fees.
Relative Price	The ratio of the actual private allowed amount divided by the Medicare allowed amount for the same services provided by the same hospital
COTH Member Hospital	Teaching hospital that is a member of the Association of American Medical Colleges' Council of Teaching Hospitals (COTH)

Notes:

[1] Case mix standardization does not reflect the pricing of outlier cases that fall outside of the allowed amount threshold.

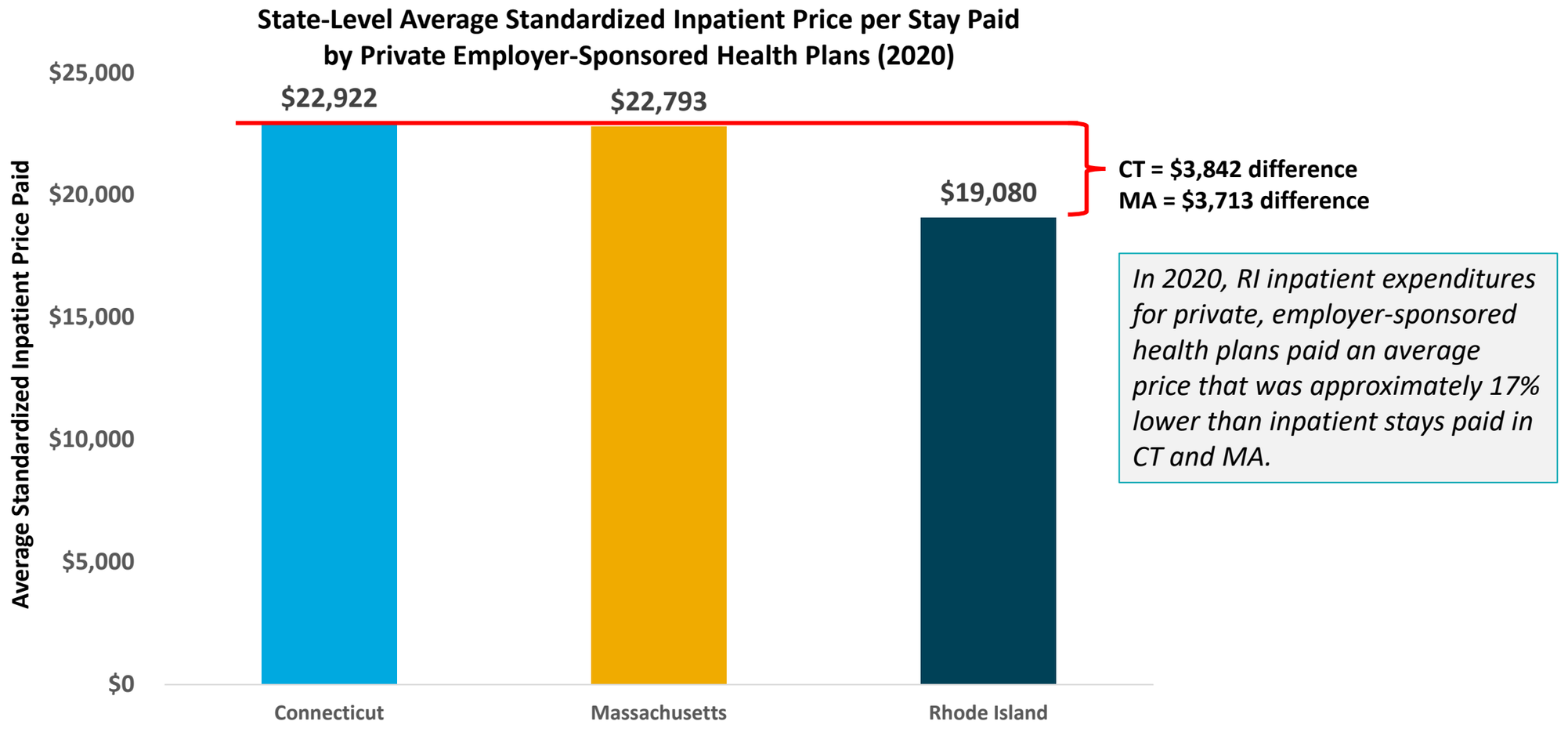
[2] RI 2020 prices may not fully reflect implementation of the OHIC Inpatient Median adjustment.

Key Highlights of the Employer Health Plan Price Trends

- Hospitals in RI experienced a 17% lower average standardized inpatient price per stay paid by private employer-sponsored health plans in 2020 when compared to hospitals in MA and CT.
- Compared to hospitals in CT and MA, hospitals in RI experienced a 29% to 7% lower average standardized outpatient 2020 price per service paid by private employer-sponsored health plans.
- COTH member hospitals and community hospitals in the Providence – Warwick RI –MA CBSA were generally in the lower range of average standardized inpatient and outpatient facility prices paid per stay by private employer-sponsored health plans.
- In 2020, Employer-sponsored health plans paid an average 202% of Medicare allowed costs for inpatient facility services at RI acute hospitals. This is termed as the “relative price” to Medicare.
  - Comparatively, CT’s average “relative price” was over 3% greater than that of RI.
  - MA average “relative price” was 11% lower than that of RI.
- In 2020, employer-sponsored health plans paid an average 196% of Medicare allowed costs for outpatient facility services at RI acute hospitals.
  - Comparatively, CT’s average “relative price” was 22% greater than that of RI acute care hospitals.
  - MA’s average “relative price” was 6% lower than that of RI.
- COTH member hospitals and community hospitals in the Providence – Warwick RI –MA CBSA were generally in the middle range of average employer-sponsored health plan inpatient and outpatient prices paid, relative to their allowable Medicare costs.

Average Inpatient Prices Paid (Reimbursements) by Private Employer-Sponsored Health Plans (2020)

Compared to hospitals in CT and MA, hospitals in RI had an approximately $4,000 lower average inpatient price per stay paid by private employer-sponsored health plans in 2020.



In 2020, RI inpatient expenditures for private, employer-sponsored health plans paid an average price that was approximately 17% lower than inpatient stays paid in CT and MA.

Source: RAND, "Prices Paid to Hospitals by Private Health Plans: Findings from Round 4 of an Employer-Led Transparency Initiative – Table 3. States"

Overview of Average **Standardized Inpatient & Outpatient** Facility Prices Paid to Hospitals by CBSA

RI, CT and MA hospitals[1] participating in the RAND 4.0 Pricing Study were categorized to comparatively track average standardized inpatient and outpatient facility prices paid by private Employer-Sponsored Health Plans by CBSA.

Hospital Category Groupings

1. COTH member hospital
2. All community acute care hospitals
   - Community acute care hospitals with an FY 2022 operating revenue greater than $300M
   - Community acute care hospitals with an FY 2022 operating revenue under $300M

Key Definitions

Term	Definition
Average Standardized Facility Price	The allowed amount paid by the private health plan per service, standardized using Medicare's case mix grouping and relative weights.[2] [3] State-level standardized prices include both facility and professional fees.
Relative Price	The ratio of the actual private allowed amount divided by the Medicare allowed amount for the same services provided by the same hospital
COTH Member Hospital	Teaching hospital that is a member of the Association of American Medical Colleges' Council of Teaching Hospitals (COTH)

Notes:

[1] Acute care hospitals are assigned to a CBSA based on the zip code of hospital's main campus.

2 Case mix standardization does not reflect the pricing of outlier cases that fall outside of the allowed amount threshold. This may cause the average standardized price for a hospital to skew higher, depending on the volume of outlier cases.

[3] RI prices between 2018-2020 may not fully reflect implementation of the OHIC Inpatient Median adjustment.

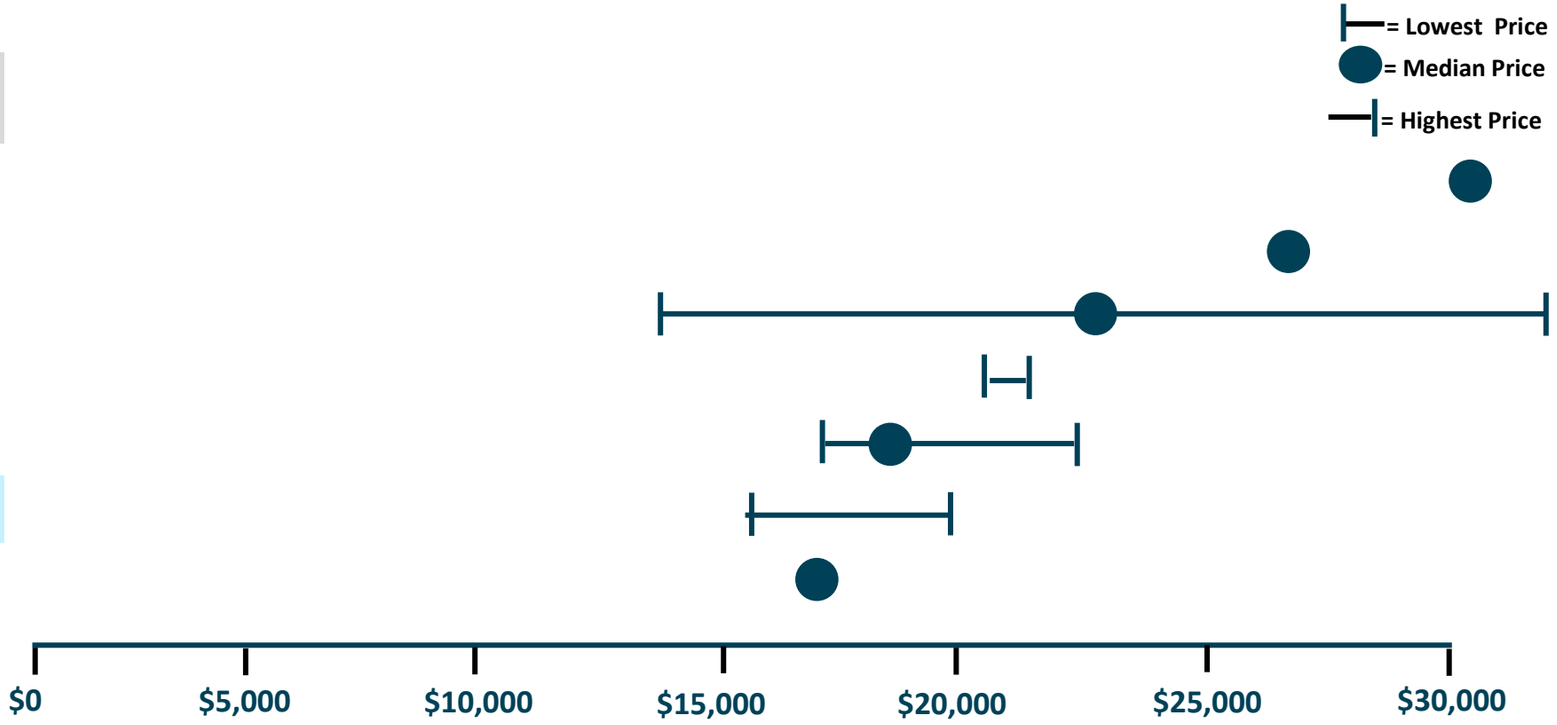
[4] Several CBSAs cross state lines, such as the Providence-Warwick RI-MA CBSA. When the CBSA groupings are applied to the data metrics, please be aware that the Providence-RI CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital and Sturdy Memorial Hospital.

Average Inpatient Facility Prices Paid to **COTH Member Hospitals** by Private Employer-Sponsored Health Plans by CBSA (2018-2020)

Compared to a majority of regional markets, AAMC/COTH hospitals in the Providence-Warwick, RI-MA CBSA generated a lower range of inpatient facility prices paid by private employer-sponsored health plans.

Average Standardized Inpatient Facility Prices Paid by Private Employer-Sponsored Health Plans to COTH Member Hospitals by CBSA (2018-2020)

CBSAs with COTH Member Hospitals	# of Hospitals
New Haven-Milford, CT	1
Worcester, MA-CT	1
Boston-Cambridge-Newton, MA-NH	8
Bridgeport-Stamford-Danbury, CT	2
Hartford-West Hartford-East Hartford, CT	3
Providence-Warwick, RI-MA	2
Springfield, MA	1
TOTAL COTH Member Hospitals	**18**



Range of Average Standardized Inpatient Facility Prices Paid by CBSA

Several CBSAs cross state lines, such as the Providence-Warwick RI-MA CBSA. When the CBSA groupings are applied to the data metrics, please be aware that the Providence-RI CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital and Sturdy Memorial Hospital.

Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without COTH member hospitals participating in the RAND 4.0 Study are not included.

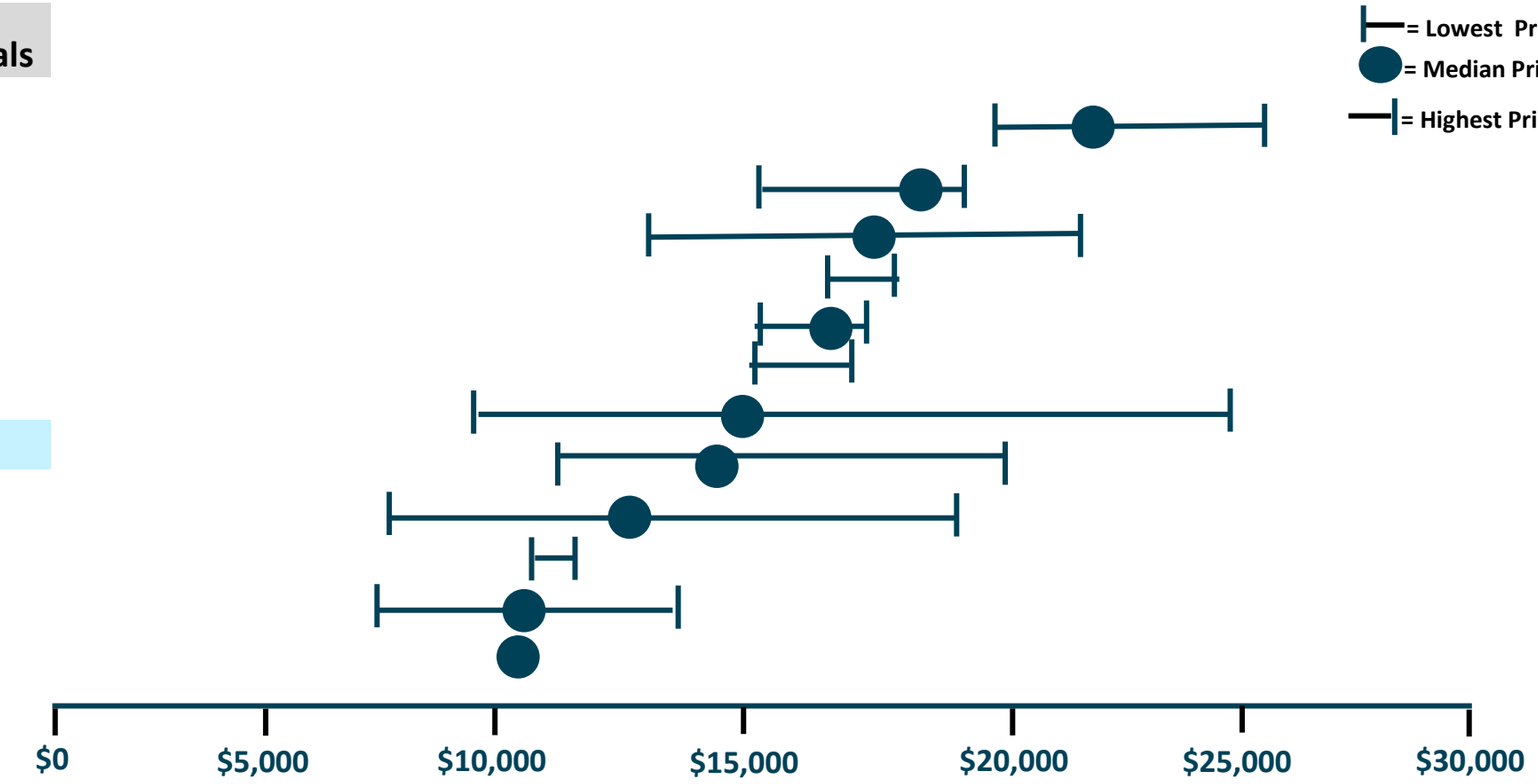
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1"

Average Inpatient Facility Prices Paid to **All Community Hospitals** by Private Employer-Sponsored Health Plans

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA resided in the middle range of inpatient facility prices paid by private employer-sponsored health plans.

Average Standardized Inpatient Facility Prices Paid by Private Employer-Sponsored Health Plans to Community Hospitals by CBSA (2018-2020)

CBSA Title	# of Hospitals
Bridgeport-Stamford-Danbury-CT	4
Norwich-New London-Willimantic, CT	3
Hartford-West Hartford-East Hartford, CT	7
Barnstable Town, MA	2
New Haven-Milford, CT	3
Pittsfield, MA	2
Boston-Cambridge-Newton, MA-NH	23
Providence-Warwick, RI-MA	11
Worcester, MA-CT	6
Torrington, CT	2
Springfield, MA	6
Vineyard Haven, MA	1
TOTAL Community Hospitals	**70**



Range of Average Standardized Inpatient Facility Prices Paid by CBSA

Note: The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without Community Hospitals with operating revenues <$300M participating in the RAND 4.0 study are not included.

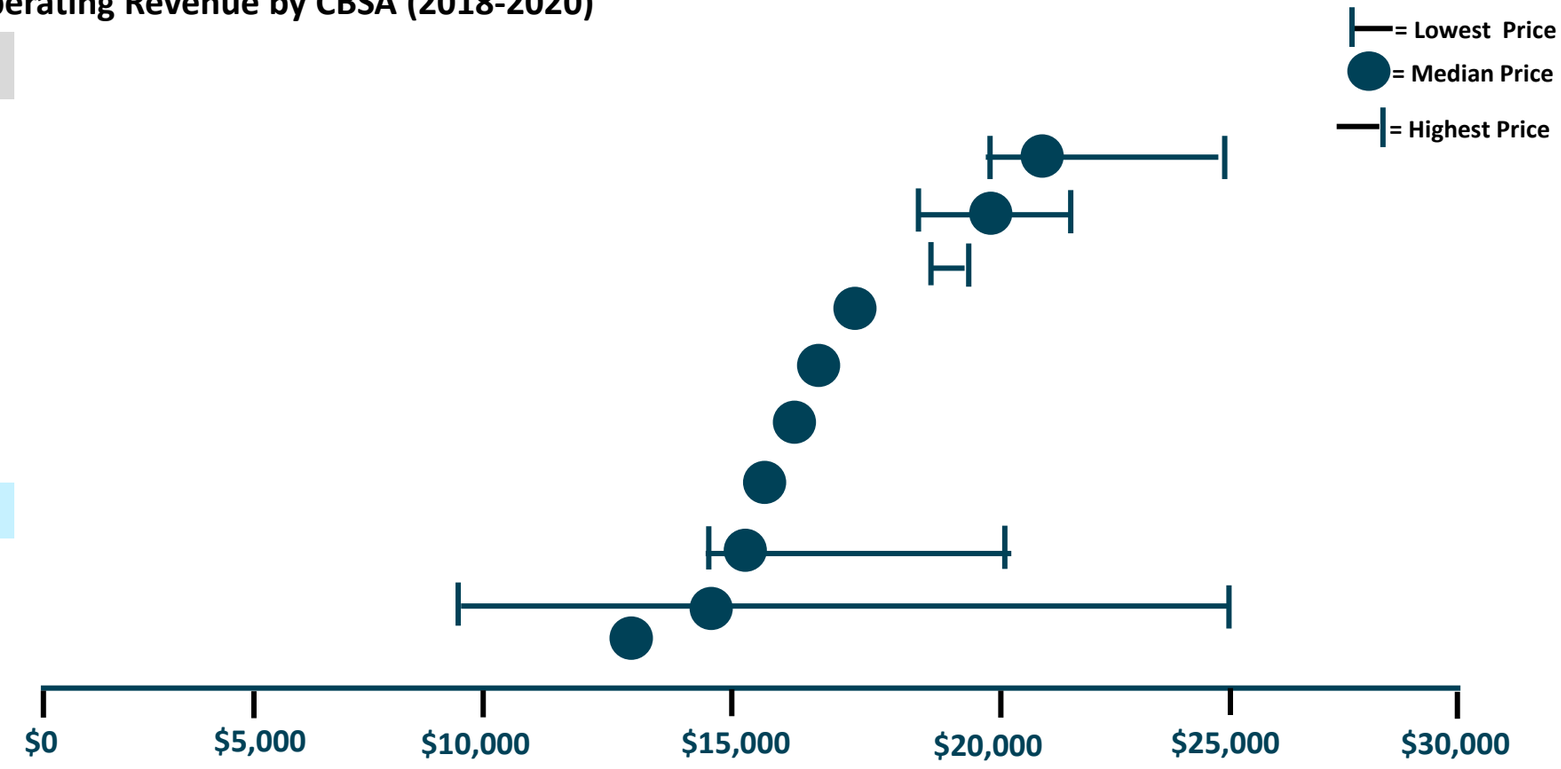
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1".

Average Inpatient Facility Prices Paid to **Community Hospitals with >$300M in Operating Revenue** by Private Employer-Sponsored Health Plans

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with >$300M in operating revenue generated a lower range of inpatient facility prices paid by private employer-sponsored health plans.

Average Standardized Inpatient Facility Prices Paid by Private Employer-Sponsored Health Plans to Community Hospitals with >$300M in Operating Revenue by CBSA (2018-2020)

CBSA Title	# of Hospitals
Bridgeport-Stamford-Danbury, CT	4
Hartford-West Hartford-East Hartford, CT	3
Norwich-New London-Willimantic, CT	2
Worcester, MA-CT	1
Pittsfield, MA	1
New Haven-Milford, CT	1
Barnstable Town, MA	1
Providence-Warwick, RI-MA	3
Boston-Cambridge-Newton, MA-NH	13
Springfield, MA	1
TOTAL Community Hospitals w/ Operating Revenue >$300M	**30**



Range of Average Standardized Inpatient Facility Prices Paid by CBSA

Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without member hospitals with operating revenues >$300M participating in the RAND 4.0 Study are not included.

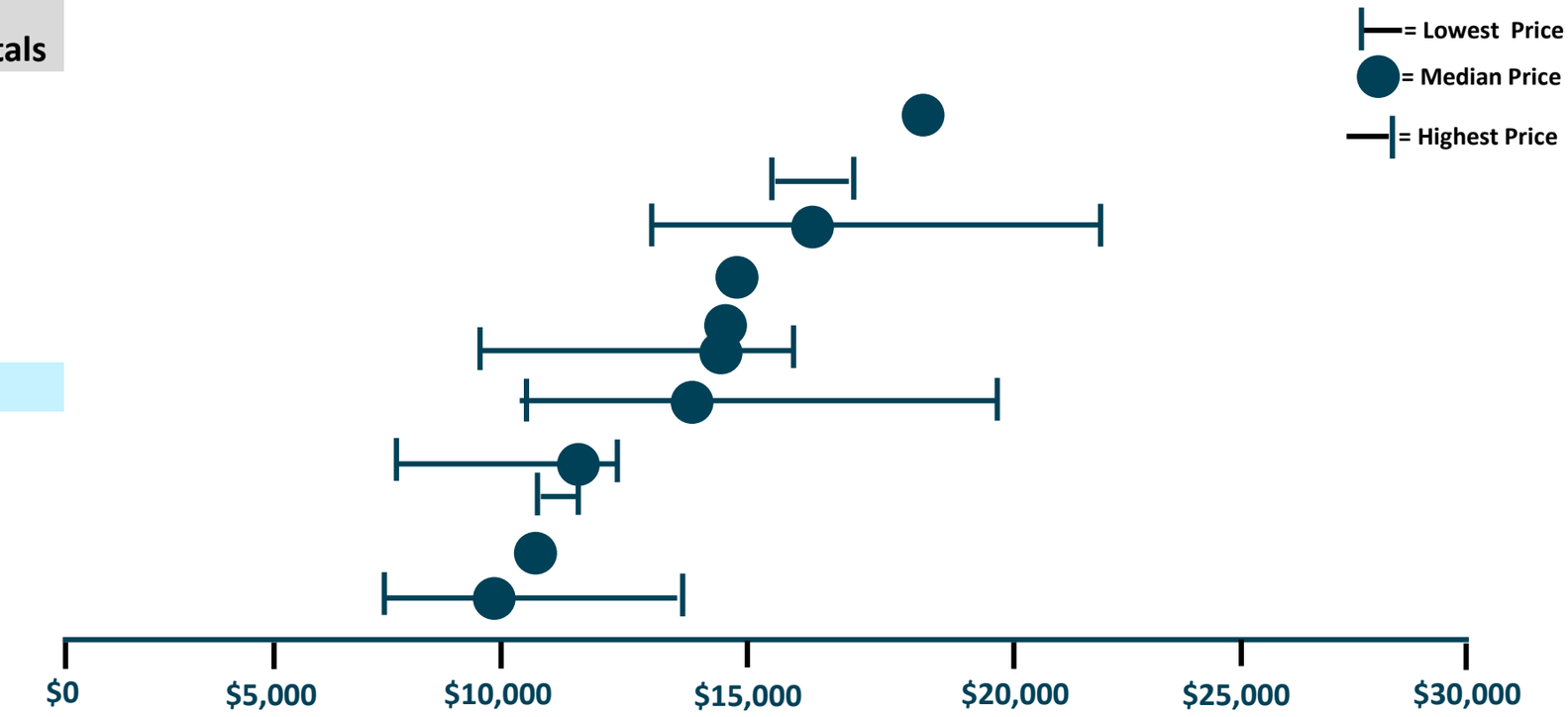
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1"

Average Inpatient Facility Prices Paid to **Community Hospitals with <$300M in Operating Revenue** by Private Employer-Sponsored Health Plans

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with <$300M In operating revenue resided in the middle range of inpatient facility prices paid by private employer-sponsored health plans.

Average Standardized Inpatient Facility Prices Paid by Private Employer-Sponsored Health Plans to Community Hospitals with <$300M in Operating Revenue by CBSA (2018-2020)

CBSA Title	# of Hospitals
Barnstable Town, MA	1
New Haven-Milford, CT	2
Hartford-West Hartford-East Hartford, CT	4
Norwich-New London-Willimantic, CT	1
Pittsfield, MA	1
Boston-Cambridge-Newton, MA-NH	10
Providence-Warwick, RI-MA	8
Worcester, MA	5
Torrington, CT	2
Vineyard Haven, MA	1
Springfield, MA	5
TOTAL Community Hospitals w/ Operating Revenue <$300M	**40**



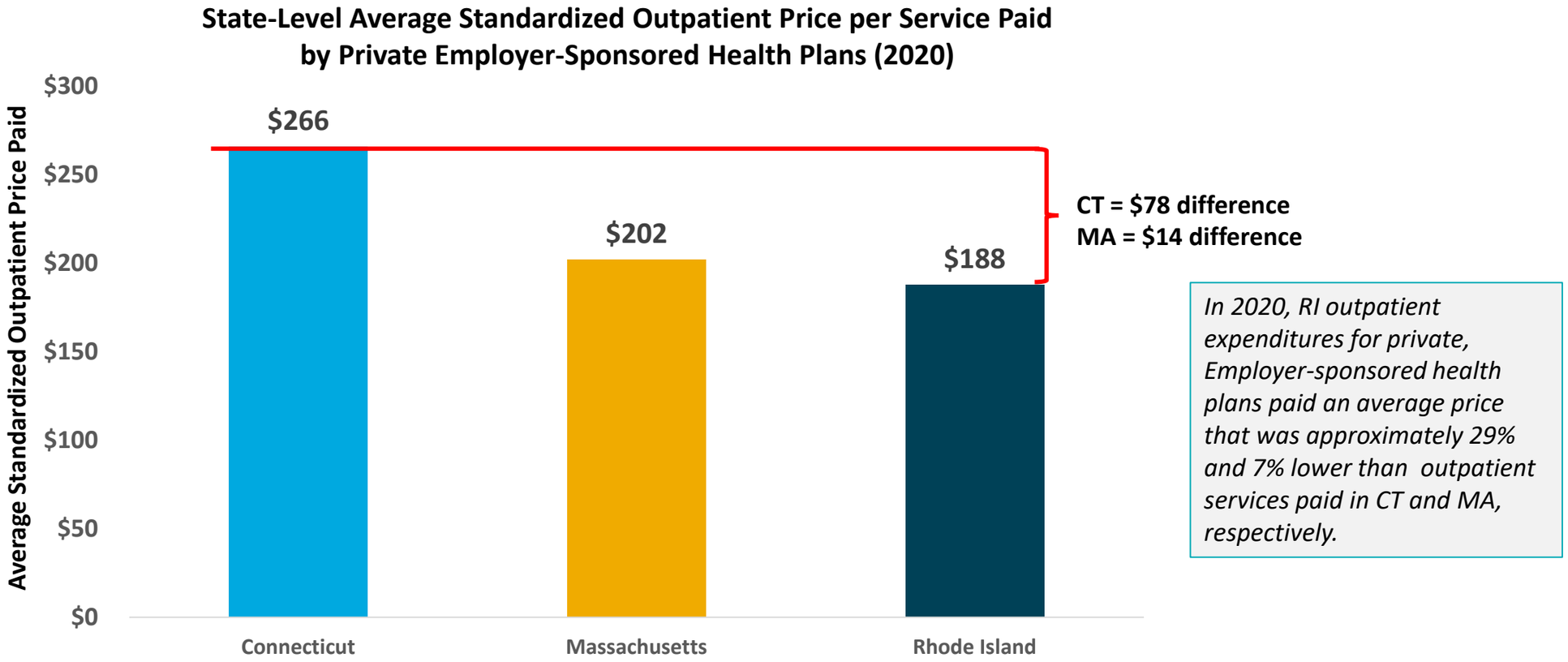
Range of Average Standardized Inpatient Facility Prices Paid by CBSA

Note: The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without Community Hospitals with operating revenues <$300M participating in the RAND 4.0 study are not included.

Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1".

Average Outpatient Prices Paid (Reimbursements) by Private Employer-Sponsored Health Plans (2020)

Compared to hospitals in CT, hospitals in the Providence-Warwick, RI-MA CBSA generated lower average outpatient price per service paid by private employer-sponsored health plans.



In 2020, RI outpatient expenditures for private, Employer-sponsored health plans paid an average price that was approximately 29% and 7% lower than outpatient services paid in CT and MA, respectively.

Note
While the RAND 4.0 research reports discusses data collected from 4,000 ambulatory surgical centers (ASCs), the publicly available data found in the RAND 4.0 Supplemental Materials does not include state-level standardized and relative prices paid by private employer-sponsored health plans for outpatient services conducted in ASCs. Figure 3.11 in the RAND 4.0 research reports graphs state-level ASC commercial prices relative to Medicare by state, but this data was not available in the Supplemental Materials.

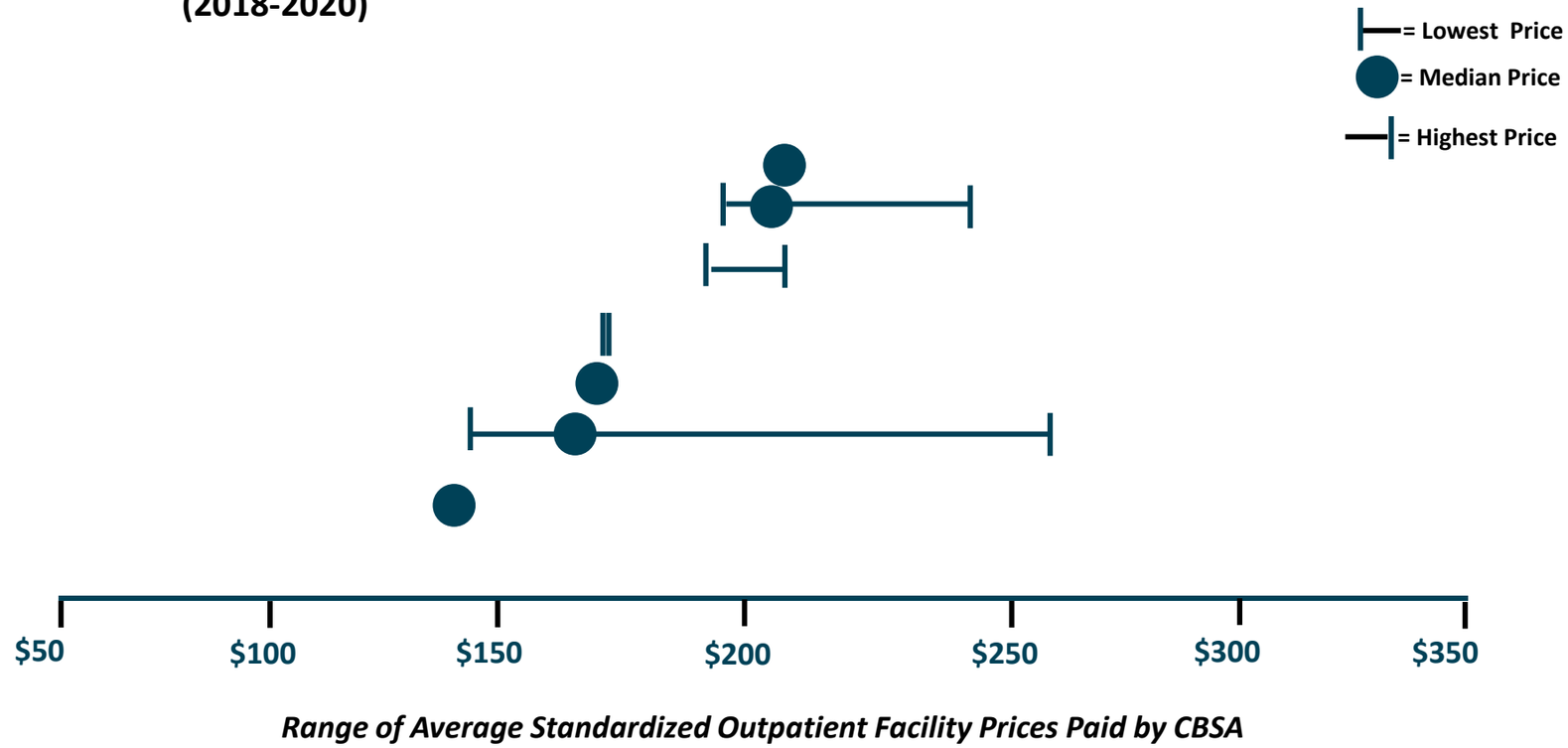
Source: RAND 4.0, "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

Average Outpatient Facility Prices Paid to **COTH Member Hospitals** by Private Employer-Sponsored Health Plans by CBSA (2018-2020)

Compared to other CBSAs, COTH member hospitals in the Providence-Warwick, RI-MA CBSA resided in the middle range of outpatient facility prices paid by private employer-sponsored health plans.

Average Standardized Outpatient Facility Prices Paid by Private Employer-Sponsored Health Plans to AAMC/COTH Hospitals by CBSA (2018-2020)

CBSA Title	# of Hospitals
New Haven-Milford, CT	1
Hartford-West Hartford-East Hartford, CT	3
Bridgeport-Stamford-Danbury, CT	2
Providence-Warwick, RI-MA	2
Worcester, MA-CT	1
Boston-Cambridge-Newton, MA-NH	8
Springfield, MA	1
TOTAL COTH Member Hospitals	**18**



Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without AAMC/COTH member hospitals participating in the RAND 4.0 Study are not included.

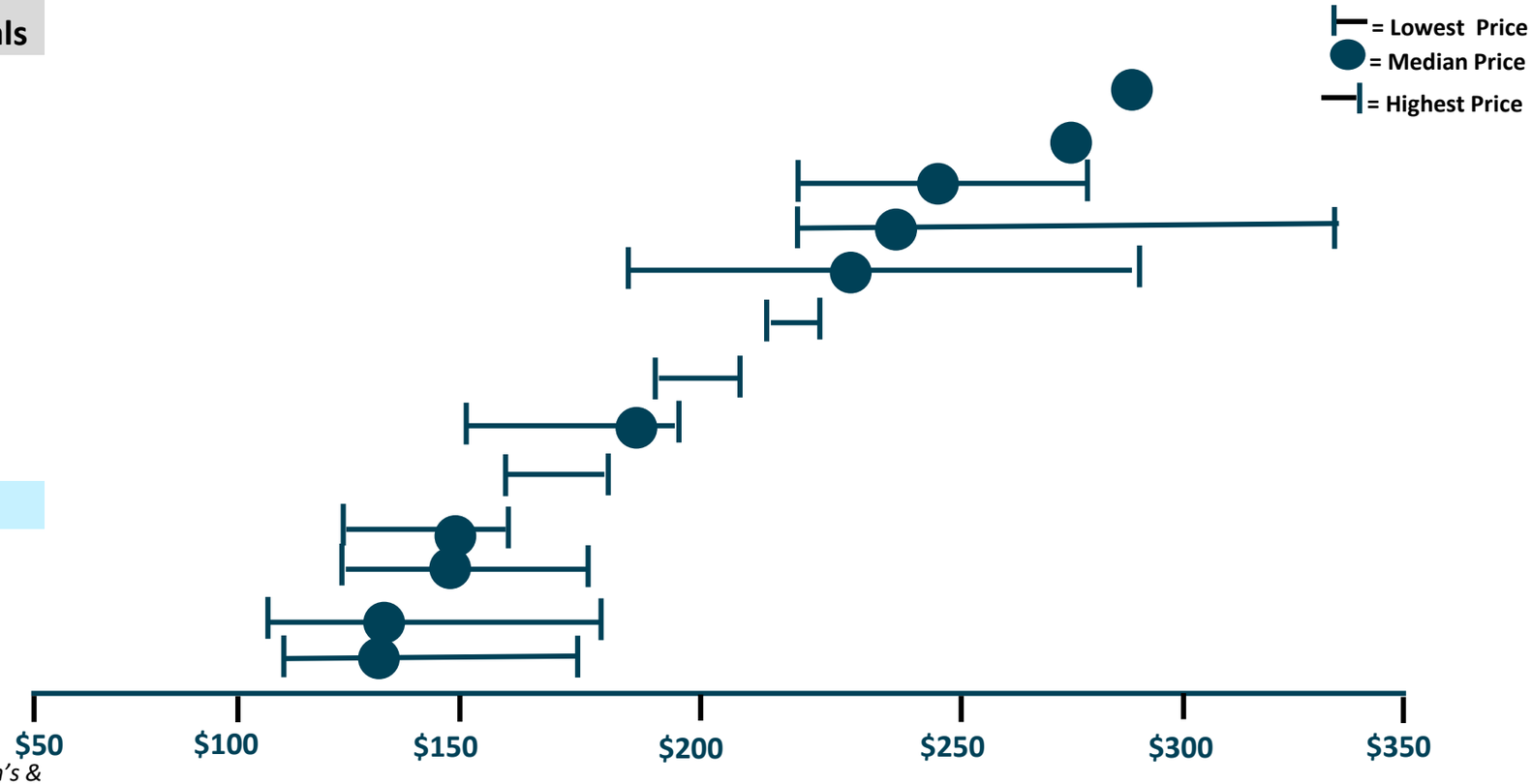
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1"

Average Outpatient Facility Prices Paid to **All Community Hospitals** by Private Employer-Sponsored Health Plans by CBSA (2018-2020)

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA resided in the lower range of outpatient facility prices paid by private employer-sponsored health plans.

Average Standardized Outpatient Facility Prices Paid by Private Employer-Sponsored Health Plans to Community Hospitals by CBSA (2018-2020)

CBSA Title	# of Hospitals
Vineyard Haven, MA	1
Nantucket, MA	1
Norwich-New London-Willimantic, CT	3
Bridgeport-Stamford-Danbury-CT	4
Hartford-West Hartford-East Hartford, CT	7
Pittsfield, MA	2
Barnstable Town, MA	2
New Haven-Milford, CT	3
Torrington, CT	2
Providence-Warwick, RI-MA	11
Boston-Cambridge-Newton, MA-NH	23
Worcester, MA-CT	6
Springfield, MA	6
TOTAL Community Hospitals	**71**



Note: The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without Community Hospitals with operating revenues <$300M participating in the RAND 4.0 study are not included.

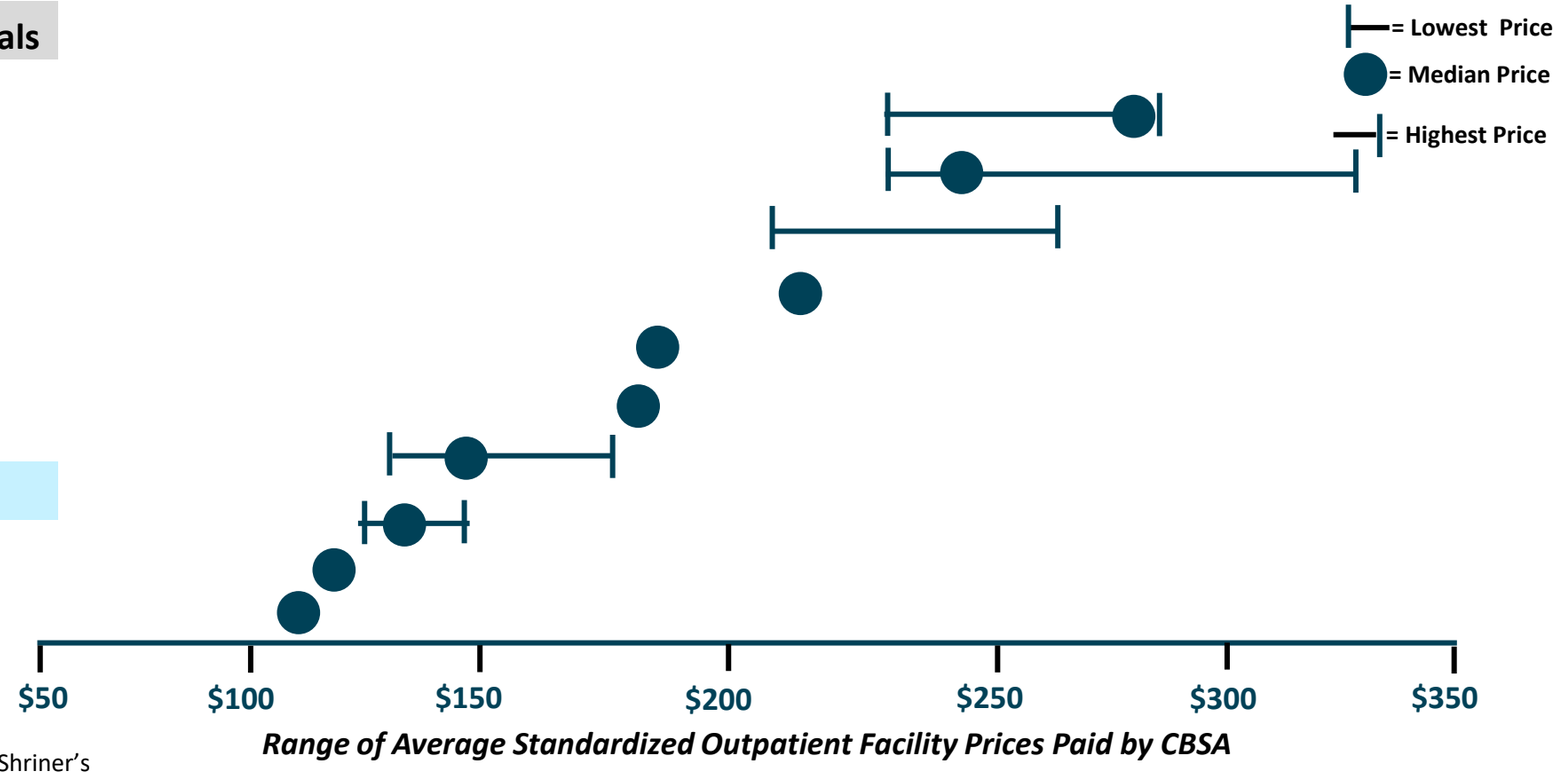
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1".

Average Outpatient Facility Prices Paid to **Community Hospitals with >$300M in Operating Revenue** by Private Employer-Sponsored Health Plans by CBSA

Compared to a majority of regional markets, large community hospitals in the Providence-Warwick, RI-MA CBSA generated a lower range of outpatient facility prices paid by private employer-sponsored health plans.

Average Standardized Outpatient Facility Prices Paid by Private Employer-Sponsored Health Plans to Community Hospitals by CBSA (2018-2020)
Hospitals with >$300M in Operating Revenue

CBSA Title	# of Hospitals
Hartford-West Hartford-East Hartford, CT	3
Bridgeport-Stamford-Danbury, CT	4
Norwich-New London-Willimantic, CT	2
Pittsfield, MA	1
New Haven-Milford, CT	1
Barnstable Town, MA	1
Boston-Cambridge-Newton, MA-NH	13
Providence-Warwick, RI-MA	3
Worcester, MA-CT	1
Springfield, MA	1
TOTAL Community Hospitals w/ Operating Revenue >$300M	**30**



Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without member hospitals with operating revenues >$300M participating in the RAND 4.0 Study are not included.

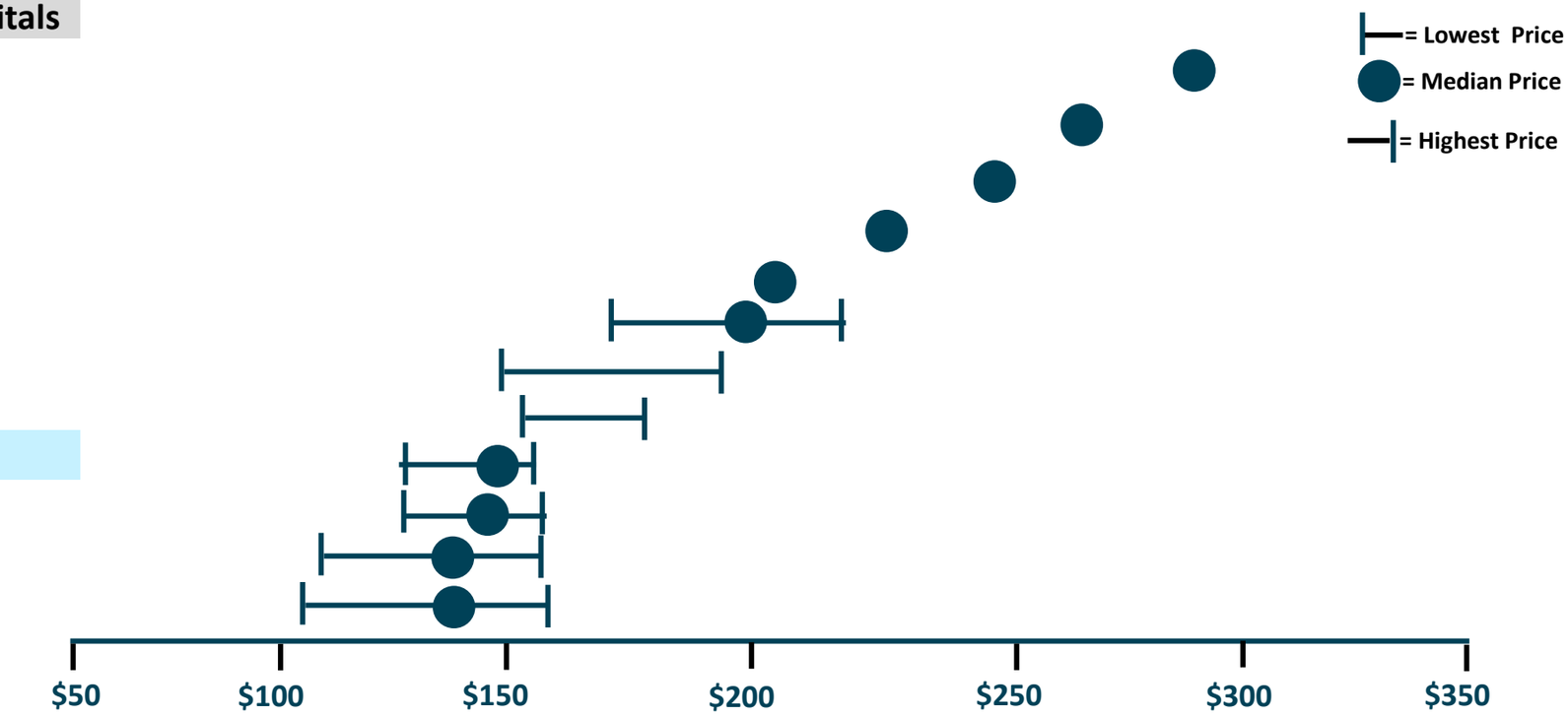
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1"

Average Outpatient Facility Prices Paid to **Community Hospitals with Operating Revenue <$300M** by Private Employer-Sponsored Health Plans by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with <$300M in operating revenue generated a lower range of outpatient facility prices paid by private employer-sponsored health plans.

Average Standardized Outpatient Facility Prices Paid by Private Employer-Sponsored Health Plans to Community Hospitals by CBSA (2018-2020); Hospitals with <$300M in Operating Revenue

CBSA Title	# of Hospitals
Vineyard Haven, MA	1
Nantucket, MA	1
Norwich-New London-Willimantic, CT	1
Pittsfield, MA	1
Barnstable Town, MA	1
Hartford-West Hartford-East Hartford, CT	4
New Haven-Milford, CT	2
Torrington, CT	2
Providence-Warwick, RI-MA	8
Boston-Cambridge-Newton, MA-NH	10
Springfield, MA	5
Worcester, MA-CT	5
TOTAL Community Hospitals w/ Operating Revenue <$300M	**41**



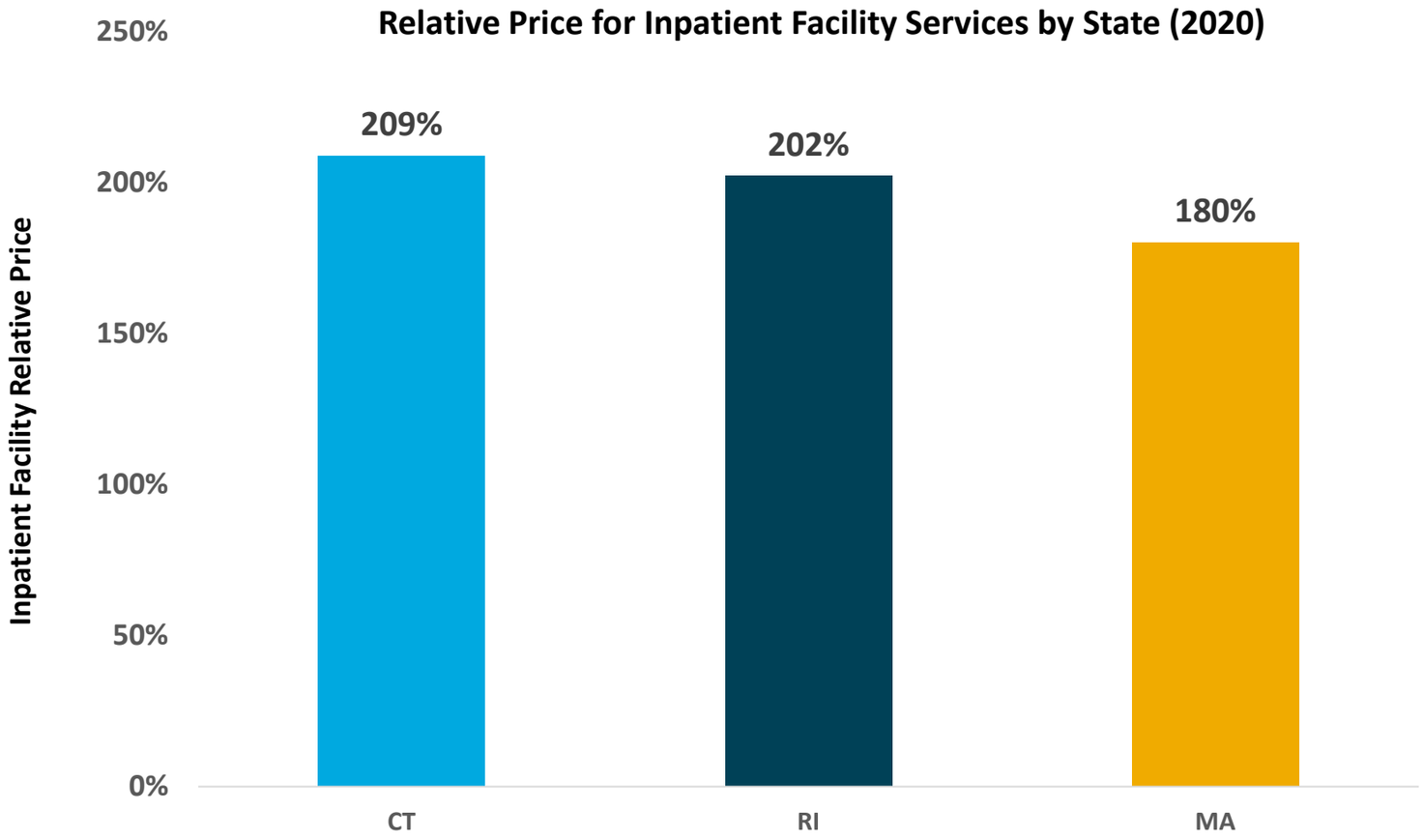
Range of Average Standardized Outpatient Facility Prices Paid by CBSA

Note: The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without Community Hospitals with operating revenues <$300M participating in the RAND 4.0 study are not included.

Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1".

Relative Price for Inpatient Facility Services by State (2020)

RI had a state-level relative price ratio of 202% for inpatient facility services in 2020, lower than CT and higher than MA.



In 2020, employer-sponsored health plans paid an average 202% of Medicare allowed costs for inpatient facility services at RI acute hospitals. This metric is defined as the "relative price" to Medicare and is used to estimate how much an employer-health plan is paying for the same service at the same hospital, relative to Medicare payments.

CT's average "relative price" was over 3% greater than that of RI. MA's average "relative price" was 11% lower than that of RI.

Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals.

Medicare rates vary at the state and regional levels. As noted on slide 33 of this study, RI's 2021 average Medicare FFS payment/discharge was $1,994 less than that of CT and $2,627 less than that of MA.

Source: RAND 4.0, "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

Overview of Average **Relative Inpatient & Outpatient** Facility Prices Paid to Hospitals by CBSA

RI, CT and MA hospitals[1] participating in the RAND 4.0 Pricing Study were categorized to comparatively track average inpatient and outpatient facility prices paid by private Employer-Sponsored Health Plans relative to Medicare's allowed amount by CBSA.

Hospital Category Groupings

1. COTH member hospital
2. All community acute care hospitals
   - Community acute care hospitals with an FY 2022 operating revenue greater than $300M
   - Community acute care hospitals with an FY 2022 operating revenue under $300M

Key Definitions

Term	Definition
Average Standardized Facility Price	The allowed amount paid by the private health plan per service, standardized using Medicare's case mix grouping and relative weights.[2] [3] State-level standardized prices include both facility and professional fees.
Relative Price	The ratio of the actual private allowed amount divided by the Medicare allowed amount for the same services provided by the same hospital, representing the allowed amount paid by the private plan as a percentage of what Medicare would have paid to the same hospital for the same services.[4]
COTH Member Hospital	Teaching hospital that is a member of the Association of American Medical Colleges' Council of Teaching Hospitals (COTH)

Notes:

[1] Acute care hospitals are assigned to a CBSA based on the zip code of hospital's main campus.

[2] Case mix standardization does not reflect the pricing of outlier cases that fall outside of the allowed amount threshold. This may cause the average standardized price for a hospital to skew higher, depending on the volume of outlier cases.

[3] RI prices between 2018-2020 may not fully reflect implementation of the OHIC Inpatient Median adjustment.

[4] Medicare's geographic Hospital Wage Index by CBSA informs Medicare's payments to a hospital, resulting in adjustments to Medicare payments. Stakeholders in lower-wage areas have expressed concern to the CMS about the fairness of the wage index due to the differences between relatively low and high hospital wage areas. As a result, some hospitals receive an annual wage index reclassification or adjustment. As noted on slide 33 of this study, RI's 2021 average Medicare FFS payment/discharge was $1,994 less than that of CT and $2,627 less than that of MA.

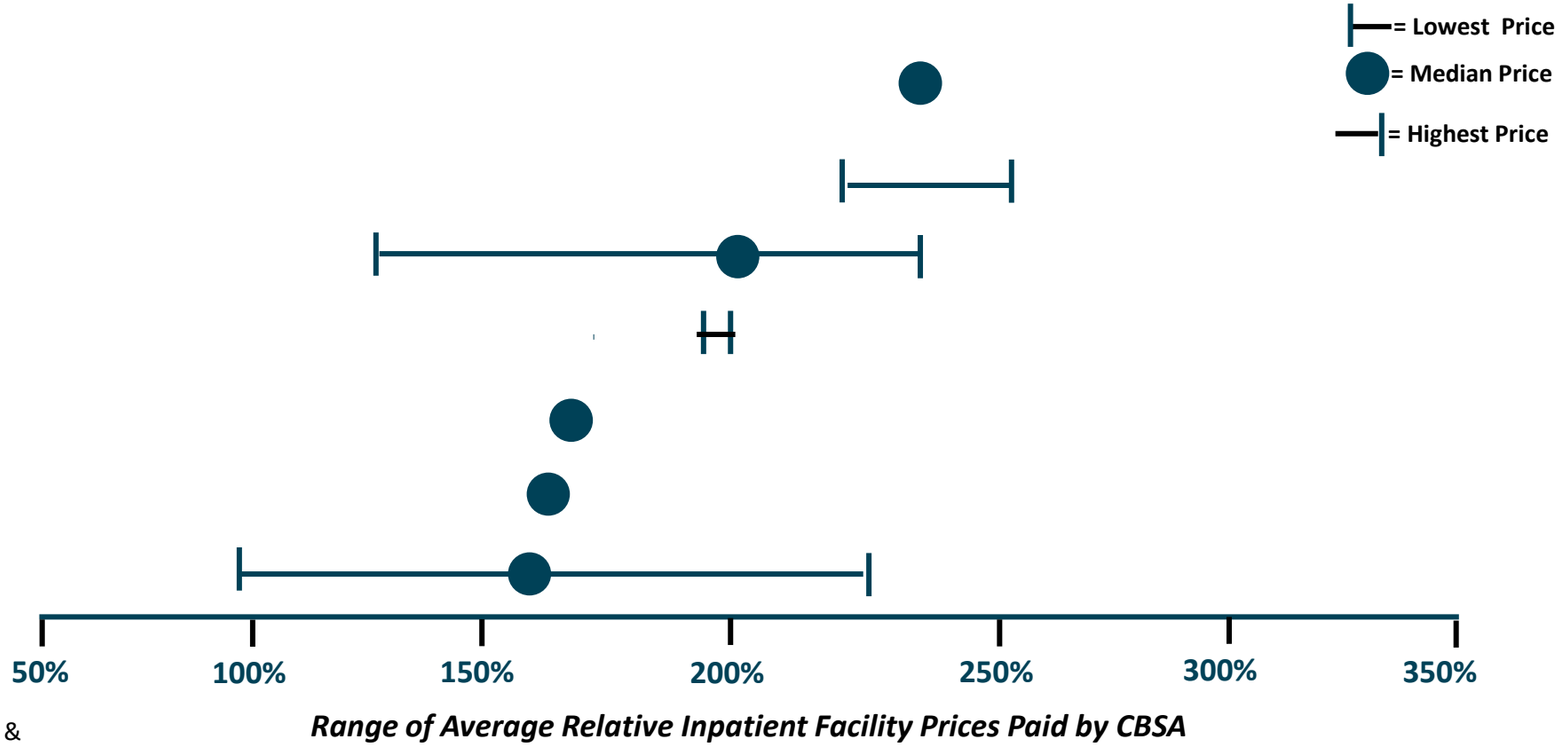
[5] Several CBSAs cross state lines, such as the Providence-Warwick RI-MA CBSA. When the CBSA groupings are applied to the data metrics, please be aware that the Providence-RI CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital and Sturdy Memorial Hospital.

Inpatient Facility Relative Prices Across **COTH Member Hospitals** (2018 - 2020) by CBSA

Compared to a majority of regional markets, COTH member hospitals in the Providence-Warwick, RI-MA CBSA resided in the middle range of inpatient facility relative prices.

Inpatient Facility Average Relative Prices Across COTH Member Hospitals and by CBSA (2018 – 2020)

CBSA Title	# of Hospitals
New Haven-Milford, CT	1
Bridgeport-Stamford-Danbury, CT	2
Hartford-West Hartford-East Hartford, CT	3
Providence-Warwick, RI-MA	2
Worcester, MA-CT	1
Springfield, MA	1
Boston-Cambridge-Newton, MA-NH	8
TOTAL COTH Member Hospitals	**18**



Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without COTH member hospitals participating in the RAND 4.0 Study are not included.

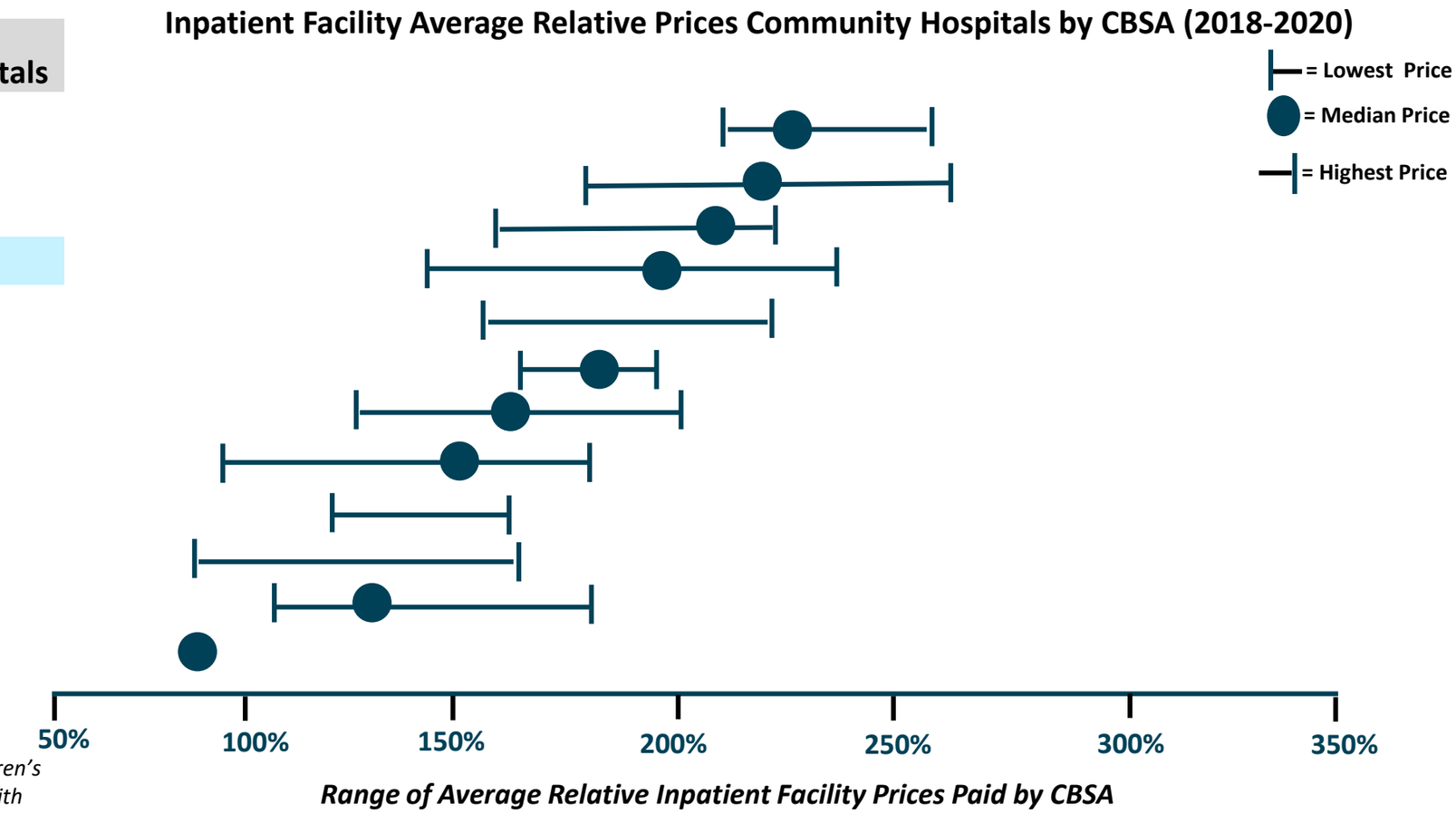
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

Inpatient Facility Average Relative Prices Across **All Community Hospitals** (2018 - 2020) by CBSA

UPDATED SCALE

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA resided in the middle range of inpatient facility relative prices.

CBSA Title	# of Hospitals
Bridgeport-Stamford-Danbury-CT	4
Hartford-West Hartford-East Hartford, CT	7
Norwich-New London-Willimantic, CT	3
Providence-Warwick, RI-MA	11
Barnstable Town, MA	2
New Haven-Milford, CT	3
Boston-Cambridge-Newton, MA-NH	23
Worcester, MA-CT	6
Torrington, CT	2
Pittsfield, MA	2
Springfield, MA	6
Vineyard Haven, MA	1
TOTAL Community Hospitals	**70**



Note: The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without Community Hospitals with operating revenues <$300M participating in the RAND 4.0 study are not included.

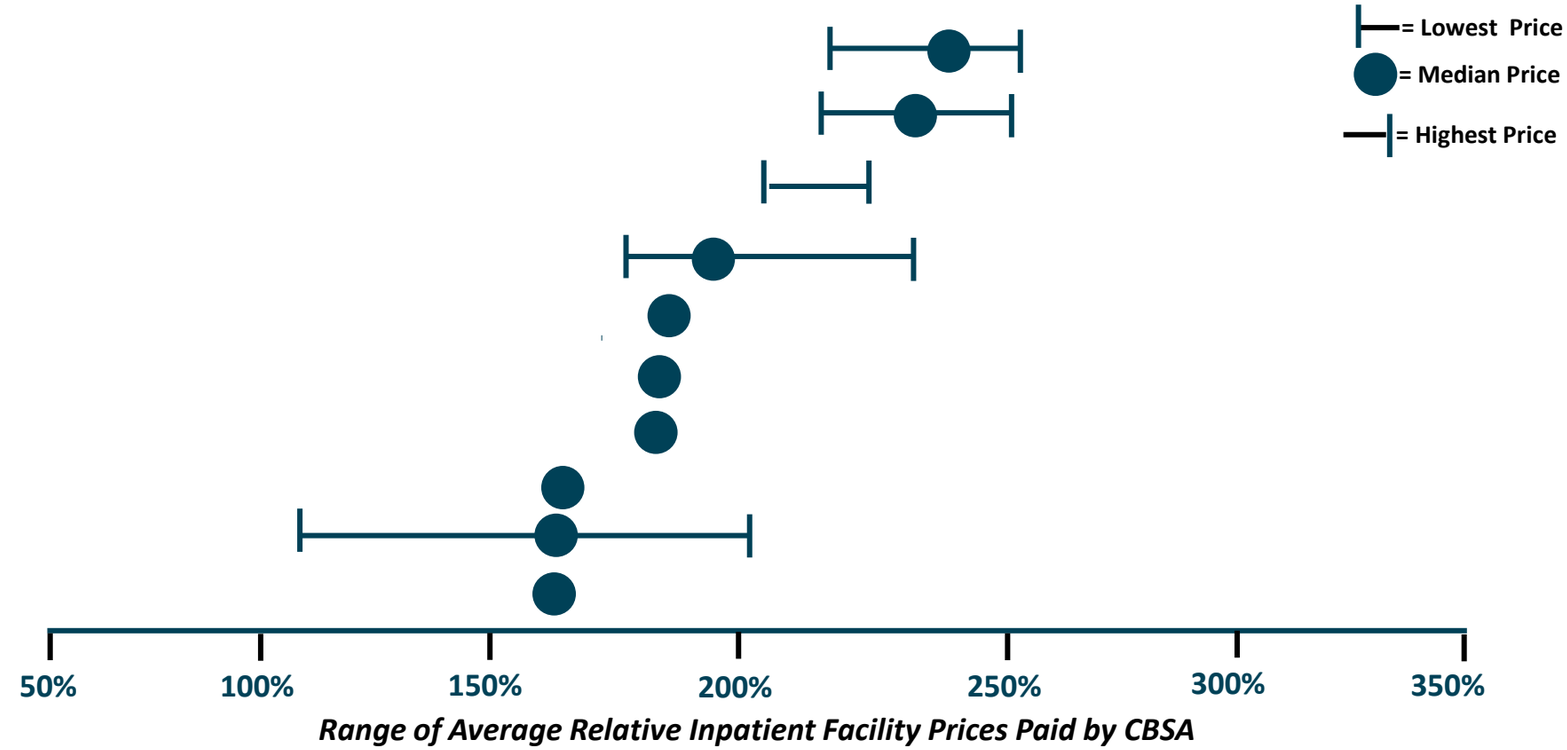
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1".

Inpatient Facility Relative Prices Across **Community Hospitals with >$300M in Operating Revenue** (2018 - 2020) by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with >$300M in operating revenue resided in the middle range of inpatient facility relative prices.

Inpatient Facility Average Relative Prices Across Community Hospitals with >$300M in Operating Revenue by CBSA (2018-2020)

CBSA Title	# of Hospitals
Hartford-West Hartford-East Hartford, CT	3
Bridgeport-Stamford-Danbury, CT	4
Norwich-New London-Willimantic, CT	2
Providence-Warwick, RI-MA	3
Worcester, MA-CT	1
New Haven-Milford, CT	1
Pittsfield, MA	1
Springfield, MA	1
Boston-Cambridge-Newton, MA-NH	13
Barnstable Town, MA	1
TOTAL Community Hospitals w/ Operating Revenue >$300M	**30**



Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without community hospitals with operating revenues >$300M participating in the RAND 4.0 Study are not included.

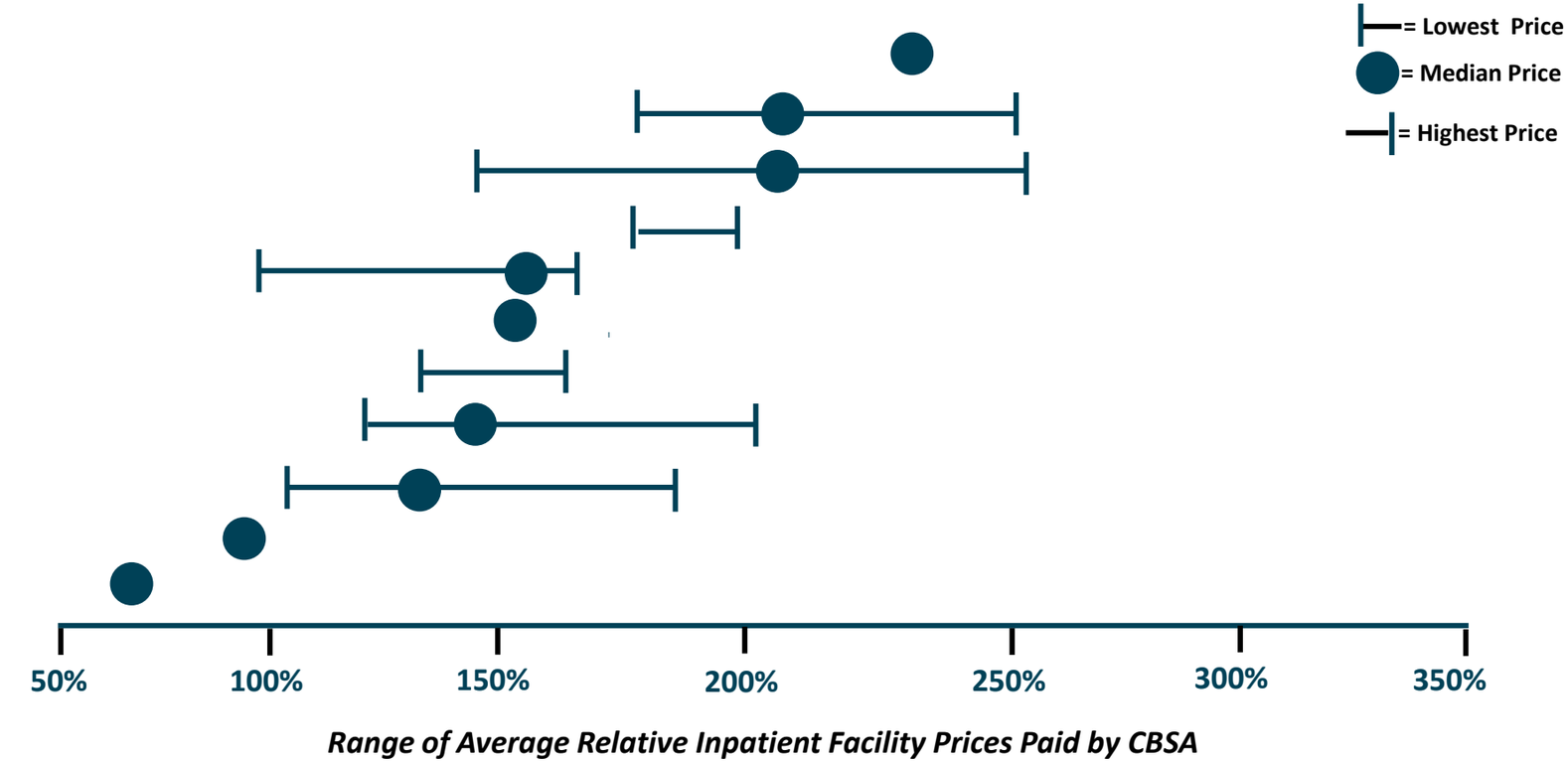
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

Inpatient Facility Relative Prices Across **Community Hospitals with <$300M in Operating Revenue** (2018 - 2020) by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with operating revenue <$300M resided in the upper range of inpatient facility relative prices.

Inpatient Facility Average Relative Prices Across Community Hospitals with <$300M in Operating Revenue by CBSA (2018-2020)

CBSA Title	# of Hospitals
Barnstable Town, MA	1
Hartford-West Hartford-East Hartford, CT	4
Providence-Warwick, RI-MA	8
New Haven-Milford, CT	2
Worcester, MA-CT	5
Norwich-New London-Willimantic, CT	1
Torrington, CT	2
Boston-Cambridge-Newton, MA-NH	10
Springfield, MA	5
Pittsfield, MA	1
Vineyard Haven, MA	1
TOTAL Community Hospitals w/ Operating Revenue <$300M	**40**

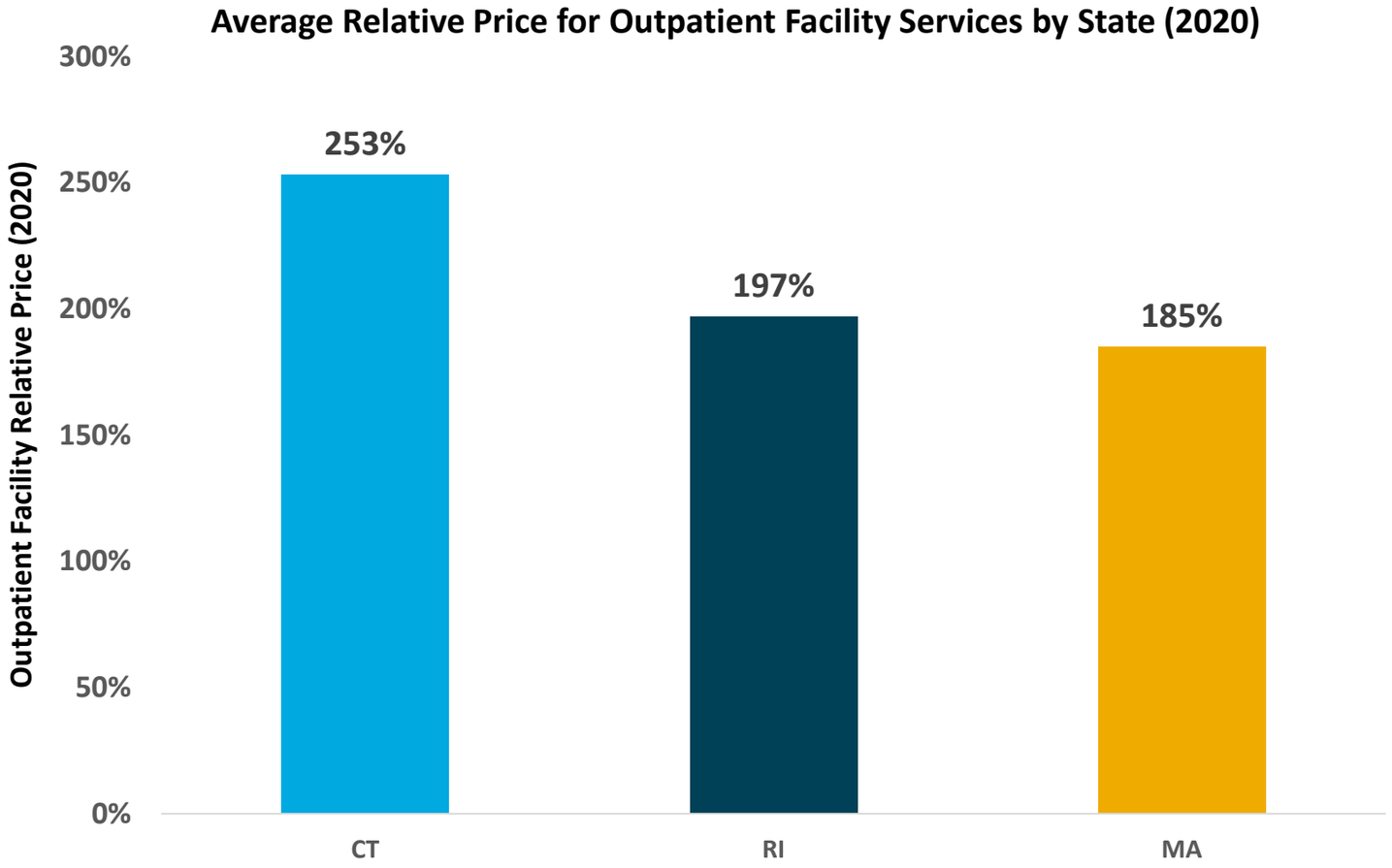


Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without community hospitals with operating revenues >$300M participating in the RAND 4.0 Study are not included.

Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

Relative Price for Outpatient Facility Services by State (2020)

RI had a state-level relative price ratio of 197% for outpatient facility services in 2020, lower than CT and slightly higher than MA.



In 2020, employer-sponsored health plans paid an average 197% of Medicare allowed costs for outpatient facility services at RI acute hospitals. This is termed as the "relative price" to Medicare. This price transparency metric is used to estimate how much an employer-health plan is paying for the same service at the same hospital, relative to Medicare payments.

Comparatively, CT's average "relative price" was over 22% greater than that of RI. MA average "relative price" was 6% lower than that of RI.

Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without community hospitals with operating revenues >$300M participating in the RAND 4.0 Study are not included.

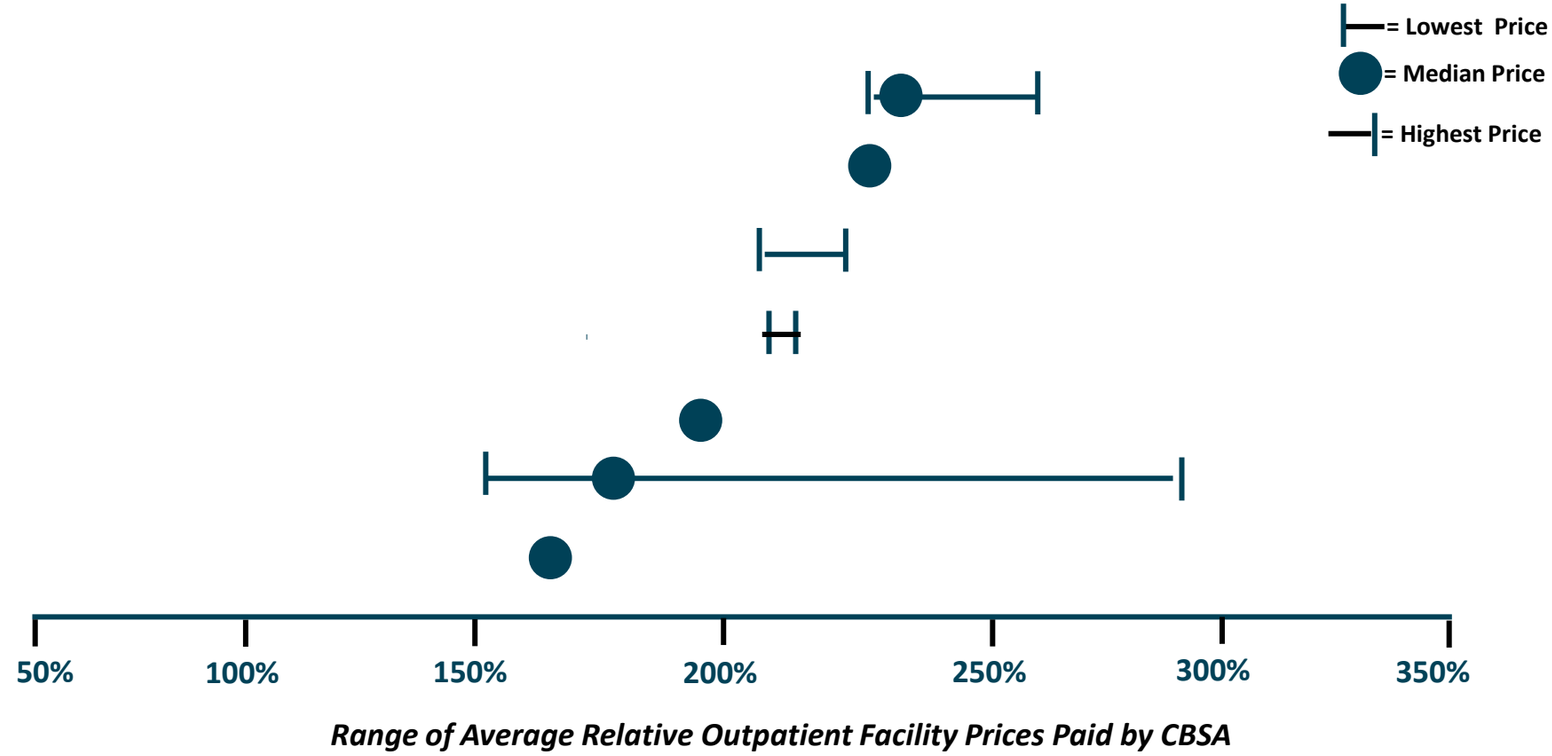
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

Outpatient Facility Average Relative Prices Across **COTH Member Hospitals** (2018 - 2020) by CBSA

Compared to a majority of regional markets, COTH member hospitals in the Providence-Warwick, RI-MA CBSA resided in the middle range of outpatient facility relative prices.

Outpatient Facility Average Relative Prices Across COTH Member Hospitals and by CBSA (2018-2020)

CBSA Title	# of Hospitals
Hartford-West Hartford-East Hartford, CT	3
New Haven-Milford, CT	1
Bridgeport-Stamford-Danbury, CT	2
Providence-Warwick, RI-MA	2
Worcester, MA-CT	1
Boston-Cambridge-Newton, MA-NH	8
Springfield, MA	1
TOTAL COTH Member Hospitals	**18**



Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without AAMC/COTH member hospitals participating in the RAND 4.0 Study are not included.

Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

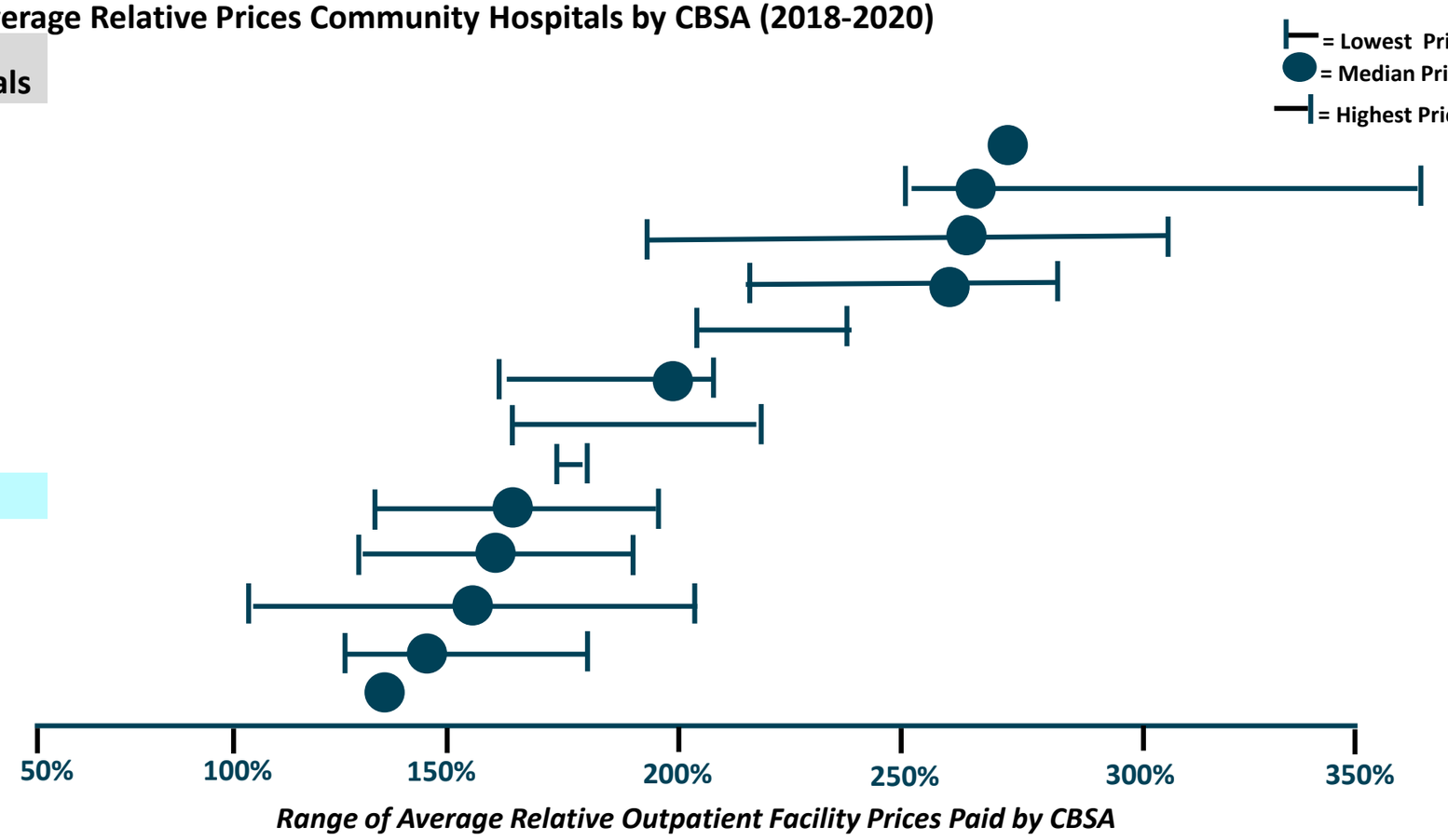
Outpatient Facility Average Relative Prices Across **All Community Hospitals** (2018-2020) by CBSA

UPDATED SCALE

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA resided in the middle range of outpatient facility relative prices.

Outpatient Facility Average Relative Prices Community Hospitals by CBSA (2018-2020)

CBSA Title	# of Hospitals
Nantucket, MA	1
Bridgeport-Stamford-Danbury-CT	4
Hartford-West Hartford-East Hartford, CT	7
Norwich-New London-Willimantic, CT	3
Barnstable Town, MA	2
New Haven-Milford, CT	3
Pittsfield, MA	2
Torrington, CT	2
Providence-Warwick, RI-MA	11
Boston-Cambridge-Newton, MA-NH	23
Worcester, MA-CT	6
Springfield, MA	6
Vineyard Haven, MA	1
TOTAL Community Hospitals	**71**



Note: The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without Community Hospitals with operating revenues <$300M participating in the RAND 4.0 study are not included.

Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 1".

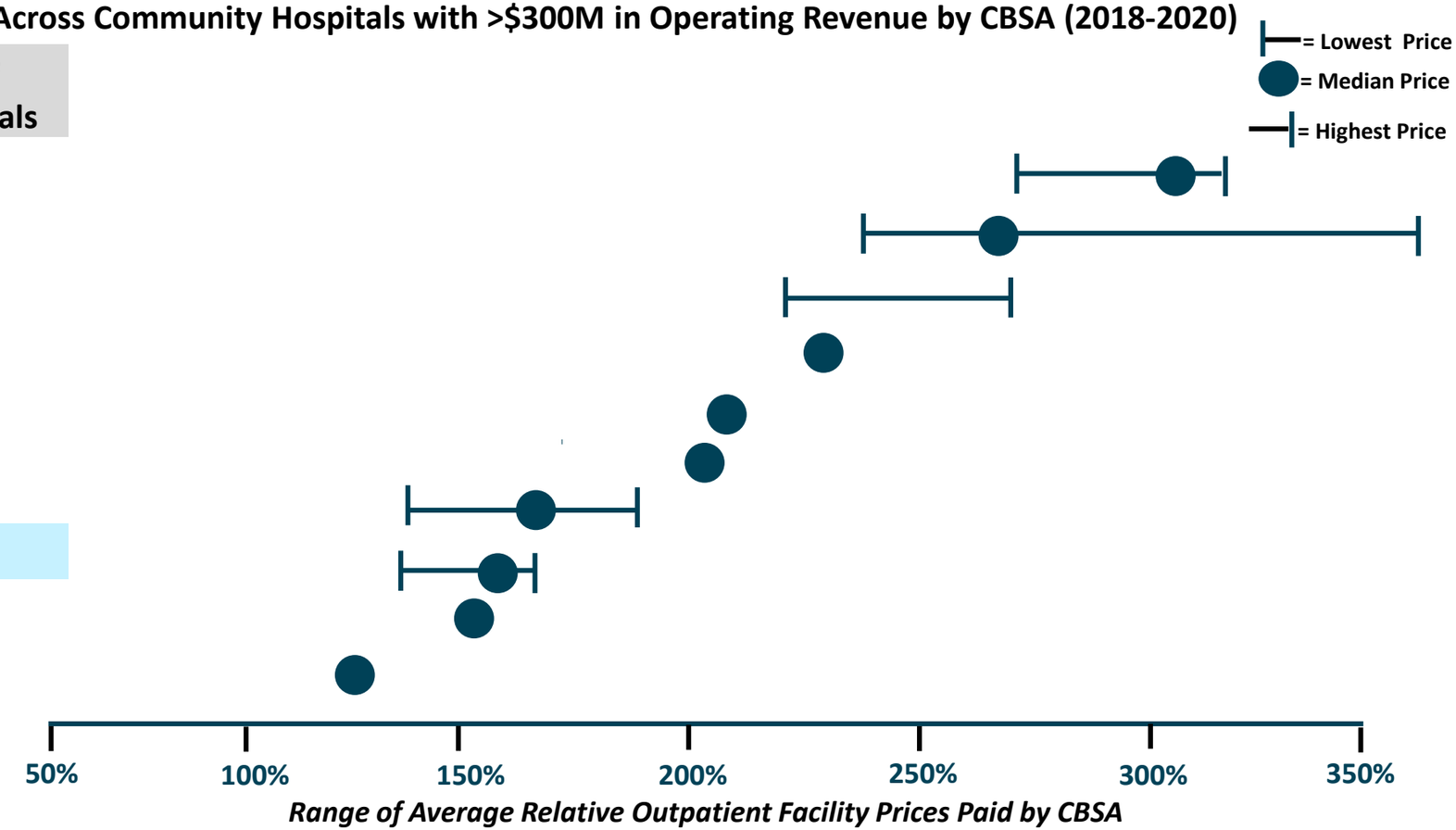
Outpatient Facility Average Relative Prices Across **Community Hospitals with >$300M in Operating Revenue** (2018 - 2020) by CBSA

UPDATED SCALE

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with operating revenue >$300M resided in the lower range of outpatient facility relative prices.

Outpatient Facility Average Relative Prices Across Community Hospitals with >$300M in Operating Revenue by CBSA (2018-2020)

CBSA Title	# of Hospitals
Hartford-West Hartford-East Hartford, CT	3
Bridgeport-Stamford-Danbury, CT	4
Norwich-New London-Willimantic, CT	2
Pittsfield, MA	1
Barnstable Town, MA	1
New Haven-Milford, CT	1
Boston-Cambridge-Newton, MA-NH	13
Providence-Warwick, RI-MA	3
Worcester, MA-CT	1
Springfield, MA	1
TOTAL Community Hospitals w/ Operating Revenue >$300M	**30**



Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without community hospitals with operating revenues >$300M participating in the RAND 4.0 Study are not included.

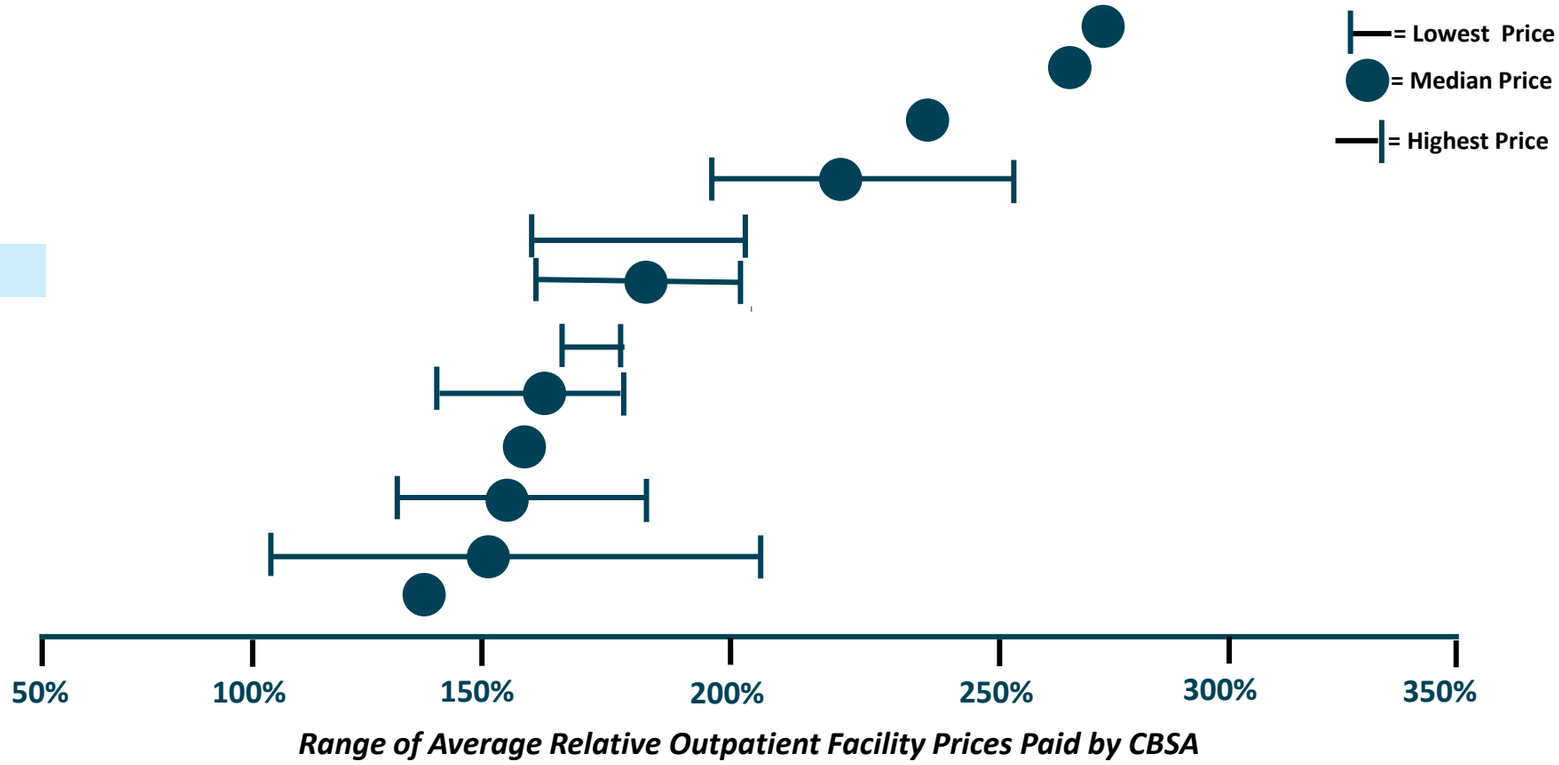
Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

Outpatient Facility Relative Prices Across **Community Hospitals with <$300M in Operating Revenue** (2018 - 2020) by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with <$300M in operating revenue resided in the middle range of outpatient facility relative prices.

Outpatient Facility Average Relative Prices Across Community Hospitals with <$300M in Operating Revenue by CBSA, 2018 - 2020

CBSA Title	# of Hospitals
Nantucket, MA	1
Norwich-New London-Willimantic, CT	1
Barnstable Town, MA	1
Hartford-West Hartford-East Hartford, CT	4
New Haven-Milford, CT	2
Providence-Warwick, RI-MA	8
Torrington, CT	2
Boston-Cambridge-Newton, MA-NH	10
Pittsfield, MA	1
Springfield, MA	5
Worcester, MA-CT	5
Vineyard Haven, MA	1
TOTAL Community Hospitals w/ Operating Revenue <$300M	**41**



Note:
The data does not include children's hospitals (i.e., Boston Childrens, CT Children's & Shriner's Children) nor specialty hospitals. CBSAs without community hospitals with operating revenues <$300M participating in the RAND 4.0 Study are not included.

Source: RAND 4.0 "Prices Paid to Hospitals by Private Health Plans, Table 3. States"

6. Health System and Acute Care Hospital Financial Trends & Metrics

Overview of Health System Financial Trends & Metrics

Manatt examined the 5-year operating margin trends of health systems across RI, CT, and MA between FY 2018-2022. Key health system financial performance metrics were tracked for FY 2022.

Health System Financial Performance Measures Tracked

- FY 2018, 2020 and 2022 operating margins for health systems
- FY 2018, 2020 and 2022 operating revenues and expenses for health systems

The following metrics can be found in Appendix C:

- FY 2022 average age of plant for health systems (RI, MA)
- FY 2022 days cash on hand for health systems (RI, CT)
- FY 2022 equity financing ratio for health systems
- Latest Fitch, Standard & Poor's, and Moody's health system credit ratings (where issued)

Publicly Available Data Sources Used

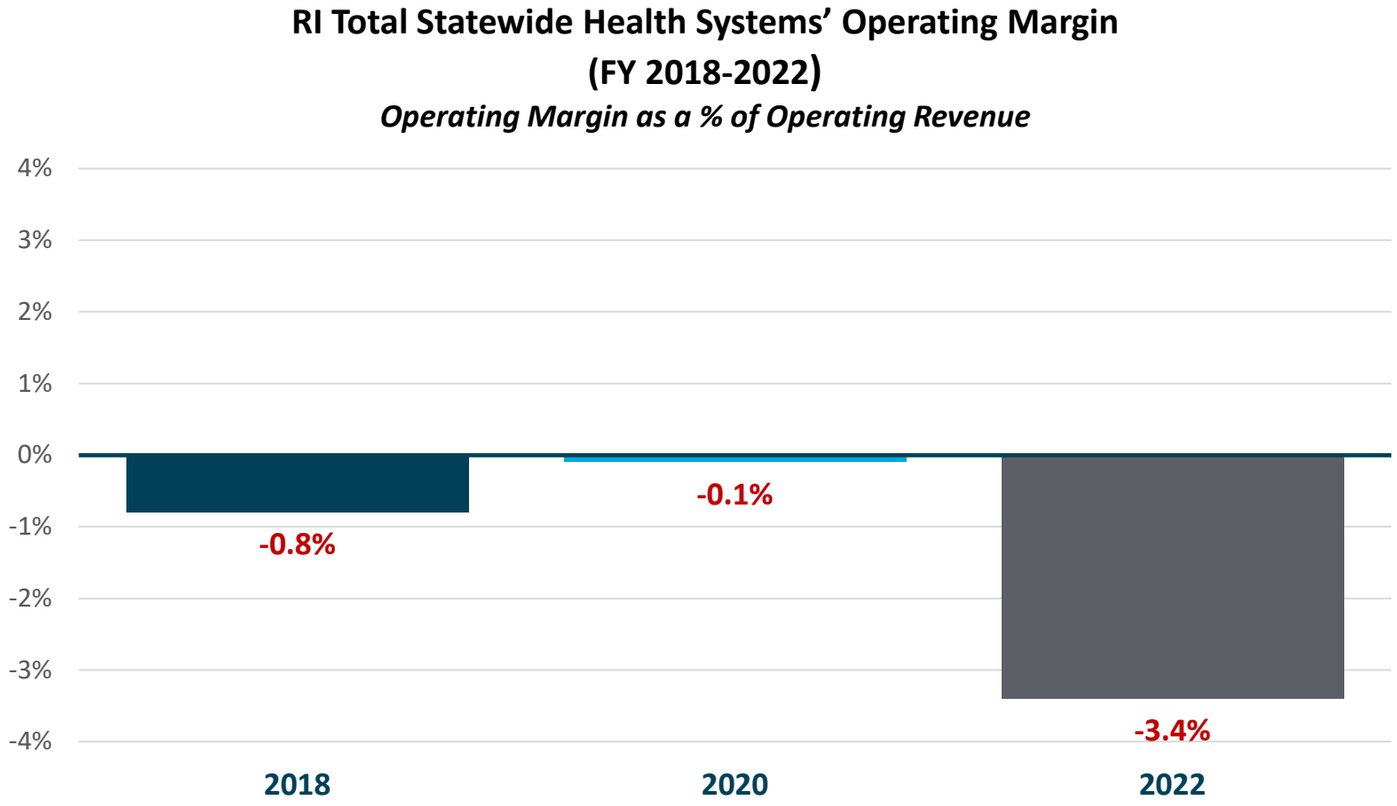
State	Financial Performance & Metrics Data Sources
RI	• RI health system audited financial statements (FY 2018, 2020, 2022) • Data request to the Hospital Association of Rhode Island (HARI) • Fitch, Standard & Poor's and Moody's rating actions
MA	• MA CHIA, "Massachusetts Acute Hospital and Health System Financial Performance Databook" (FY 2018, FY 2020 and FY 2022) • Fitch, Standard & Poor's and Moody's rating actions
CT	• CT Office of Health Strategy (OHS), "Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, FY 2020, FY 2022 • Fitch, Standard & Poor's and Moody's rating actions

Key Highlights of Health System Financial Trends & Metrics

- **Health System Operating Margins continue to decline for RI, MA and CT hospital & health systems from 2018 to 2022.**
  - RI Health System statewide operating margin declined from -0.8% in FY 2018 to -3.4% in FY 2022.
  - MA Health System statewide operating margin declined from -0.2% in FY 2018 to -4.5% in FY 2022.
  - CT Health System statewide operating margin declined from -0.1% in FY 2018 to -3.8% in FY 2022.
- **The State's largest RI-based health systems currently have bond ratings that reflect the current challenging financial environment.**
- **Acute care hospital FY 2022 operating profitability varied significantly across and within regional Core Based Statistical Area (CBSA) markets.**
  - Providence-Warwick's, RI-MA median FY 2022 acute care hospital operating margin of -0.8% ranked in the middle of the 13 CBSAs across RI, MA and CT.

Operating Margin Generated by RI Health Systems (FY 2018 - 2022)

Over the past five years, RI's health systems' operating margin experienced a significant downward shift, declining from a -0.8% operating loss in FY18 to a -3.4% operating loss in FY 2022.



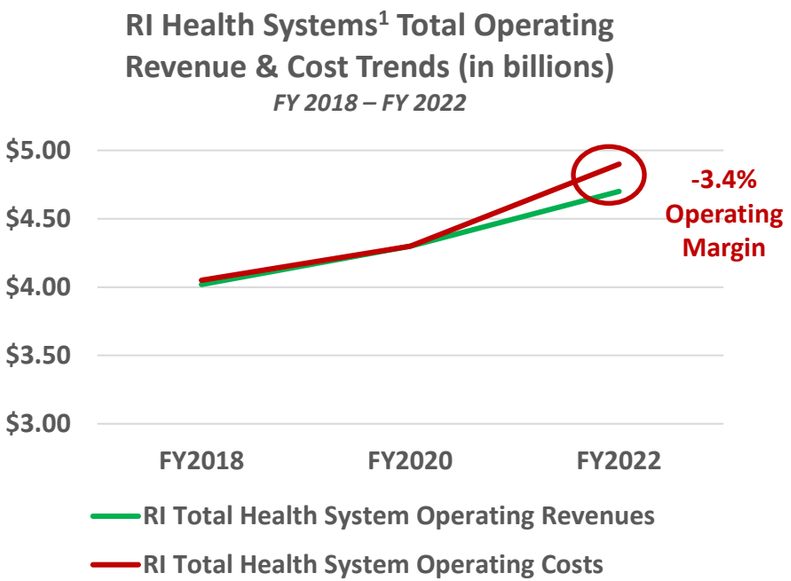
Notes:
The RI statewide operating margin analysis includes Yale New Haven Health operating revenue and expense financials only for The Westerly Hospital. Prime Healthcare Services did not submit financial information.
See Appendix C for the RI Health Systems included in this analysis.

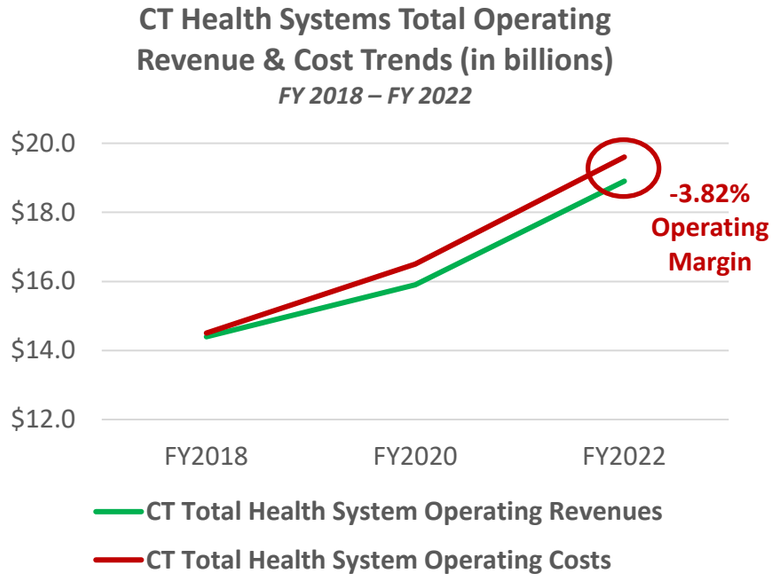
Source: Data Request to HARI Hospitals and Health Systems; Care New England Audited Financial Statements for FY 2018, FY 2020 and FY 20222

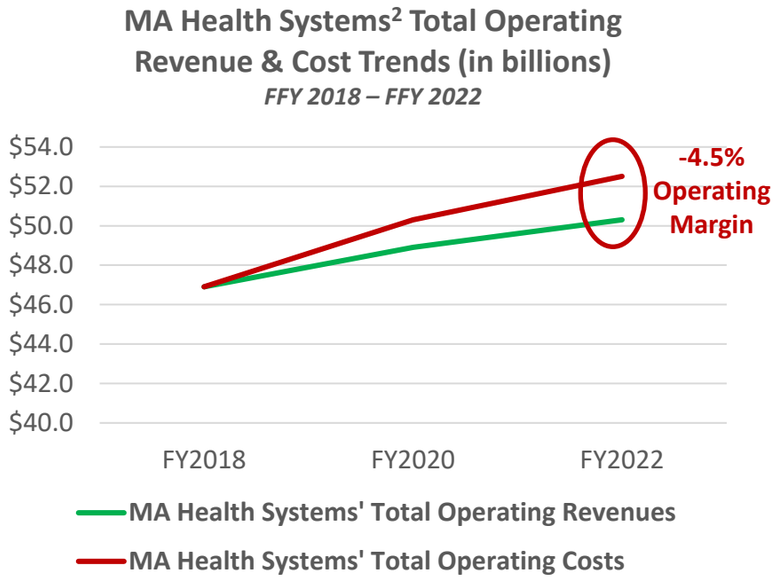
Health System Operating Revenue and Costs: 5-Year Comparative Trends by State

Health systems in RI, MA and CT also saw their operating margins decline between FY 2018-2022, with all three states experiencing statewide operating losses in FY 2022.

Total Statewide Health System Operating Revenues and Cost Trends (FY 2018 – 2022); Operating Margins calculated as a % of Operating Revenue







Notes:

[1] The RI statewide operating margin analysis includes Yale New Haven Health operating revenue and expense financials only for The Westerly Hospital. Prime Healthcare Services did not submit financial information.

[2] This analysis does not include Tenet nor Trinity Health operating revenue, expense and operating margin financials as these were reported for the organizations' entire national health systems to Massachusetts-CHIA Acute Hospital and Health System FY2018, 20 and 22 Financial Performance Databooks.

See Appendix C for RI, CT, and MA Health Systems included in this analysis.

Sources: Data Request to HARI Hospitals and Health Systems; CHIA - Massachusetts Acute Hospital and Health System Financial Performance Databook, FY2018, 20 and 22; Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, 2022, and 2022.

Overview of Acute Hospital Financial Metrics Tracked

Manatt examined the 5-year net patient revenue, operating expenses, operating margin and direct patient care labor cost trends of acute hospitals across RI, CT and MA between FY 2018-2022.

Acute Hospital Financial Performance Metrics Tracked

- FY 2018 and FY 2022 average net patient revenue/adjusted discharge
- Average Medicare Fee-for-Service Payment per Discharge in RI, CT, and MA (2021)
- FY 2018 and FY 2022 average operating expenses/adjusted discharge
- FY 2018 and FY 2022 operating margins
- FY 2018 and FY 2022 direct patient care labor costs[1]/adjusted discharge
- FY 2018 and FY 2022 direct patient care labor costs* as a percentage of operating expenses

Publicly Available Data Sources Used

State	Financial Trends & Metrics Data Sources
RI	• Data request to Hospital Associate of Rhode Island (HARI) (Operating Margin) • National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023) • "CMS Program Statistics – Medicare Inpatient Hospital" (2021)
MA	• CHIA, "Massachusetts Acute Hospital and Health System Financial Performance Databook, FYs 2018 & 2022 (Operating Margin)" • National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023) • "CMS Program Statistics – Medicare Inpatient Hospital" (2021)
CT	• CT Office of Health Strategy (OHS), "Annual Report on the Financial Status of Connecticut Short Term Acute Care Hospitals for FYs 2018 & 2022 (Operating Margin)" • National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023) • "CMS Program Statistics – Medicare Inpatient Hospital" (2021)

Note:

[1] Includes hospital-employed and contracted direct patient care labor costs.

[2] While the majority of acute care hospitals in this study are part of larger health systems, the financial metric analyses in this section were performed for each acute care hospital individually.

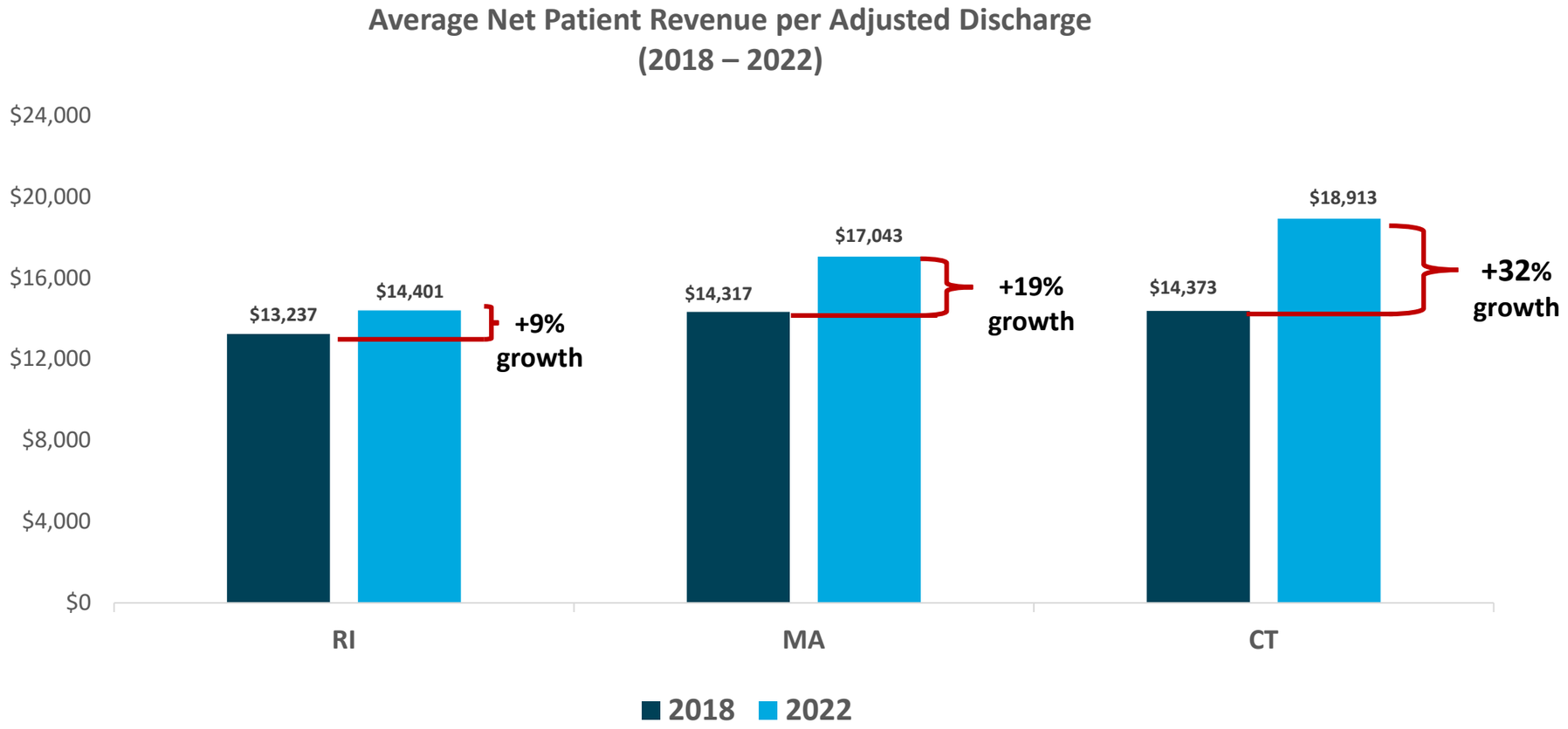
[3] Several CBSAs cross state lines, such as the Providence-Warwick RI-MA CBSA. When the CBSA groupings are applied to the data metrics, please be aware that the Providence-RI CBSA includes 4 MA hospitals: Morton Hospital, Southcoast Hospitals Group, Steward St Anne's Hospital and Sturdy Memorial Hospital.

Key Highlights of the Acute Hospital Financial Trends

- Across all 3 States (RI, MA & CT), the average operating expenses/adjusted discharge rose at a faster rate between FY 2018 and FY 2022 than net patient revenue/adjusted discharge over the same timeframe
  - RI's average operating expenses/adjusted discharge rose by 17% between FY 2018 – 2022, whereas its average net revenue/adjusted discharge rose by only 9% over the same timeframe.
- All 3 states experienced declines in hospital acute hospital operating margins between FY 2018 and FY 2022. MA and CT saw the steepest deterioration in acute hospital operating margins.
  - RI experienced a statewide acute hospital operating margin drop from 1.07% in FY18 to 0.17% in FY 2022
  - CT and MA acute hospitals experienced more significant FY 2018 – 2022 margin deterioration, with MA shifting from a 3.26% operating margin to a -1.18% operating loss and CT operating margins dropping from 4.43% in FY18 to a -1.32% in FY 2022
- RI experienced a 21% increase in direct patient care labor costs/adjusted discharge between FY 2018 and FY 2022; RI acute hospitals had an average direct patient care labor costs/adjusted discharge of $4,680 in FY 2022
  - MA and CT both had higher FY 2022 direct patient care labor costs/adjusted discharge at $5,835 and $5,831, respectively
  - MA acute hospitals saw an average 34% increase in direct patient care labor costs/adjusted discharge between FY 2018 and FY 2022
  - CT acute hospitals saw an average 38% increase in direct patient care labor costs/adjusted discharge over the same time frame
- Direct patient care labor costs accounted for 27% of RI hospitals' total FY 2022 operating expenses, rising from 26% in FY 2018. MA and CT hospitals shared a very similar ratio of direct patient care labor costs to hospital operating expenses at 27% and 28%, respectively

Average Acute Hospital Net Patient Revenue per Adjusted Discharge Trends by State

RI acute care hospitals experienced a 9% increase in net patient revenue per adjusted discharge between 2018 and 2022. This growth was smaller compared to MA and CT over the same timeframe.



Notes:

[1] Statewide averages were calculated by dividing the state's total acute hospital net patient revenues and total operating expenses by the state's total adjusted discharges.

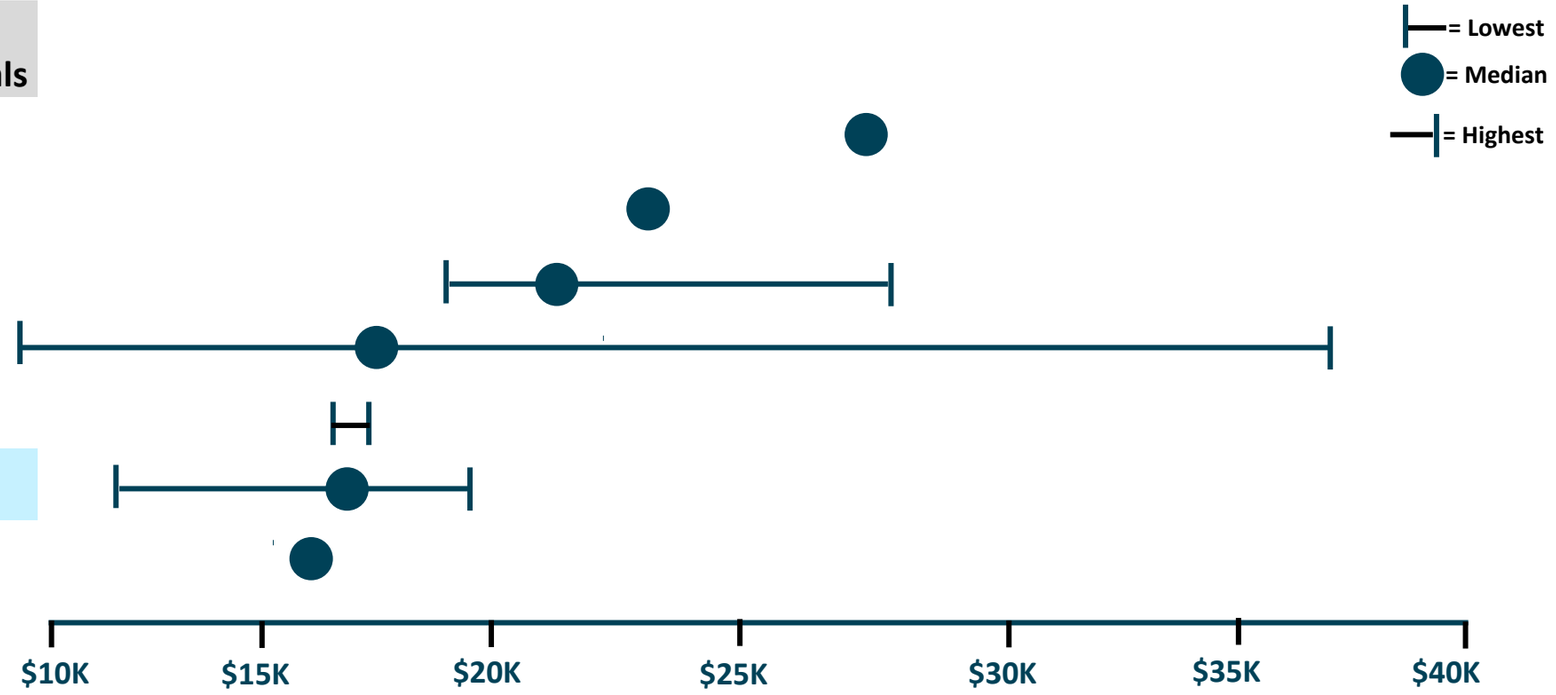
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY22 Net Patient Revenue per Adjusted Discharge Generated **by COTH Member Hospitals** by CBSA

Compared to a majority of regional markets, COTH member hospitals in the Providence-Warwick, RI-MA CBSA resided in the lower range of FY22 net patient revenue per adjusted discharge.

Average FY22 Net Patient Revenue per Adjusted Discharge - AAMC/COTH Hospitals by CBSA

CBSA Title	# of Hospitals
New Haven-Milford, CT	1
Worcester, MA-CT	1
Hartford-West Hartford-East Hartford, CT	3
Boston-Cambridge-Newton, MA-NH	8
Bridgeport-Stamford-Danbury, CT	2
Providence-Warwick, RI-MA	3
Springfield, MA	1
TOTAL COTH Member Hospitals	**19**



Notes:
[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

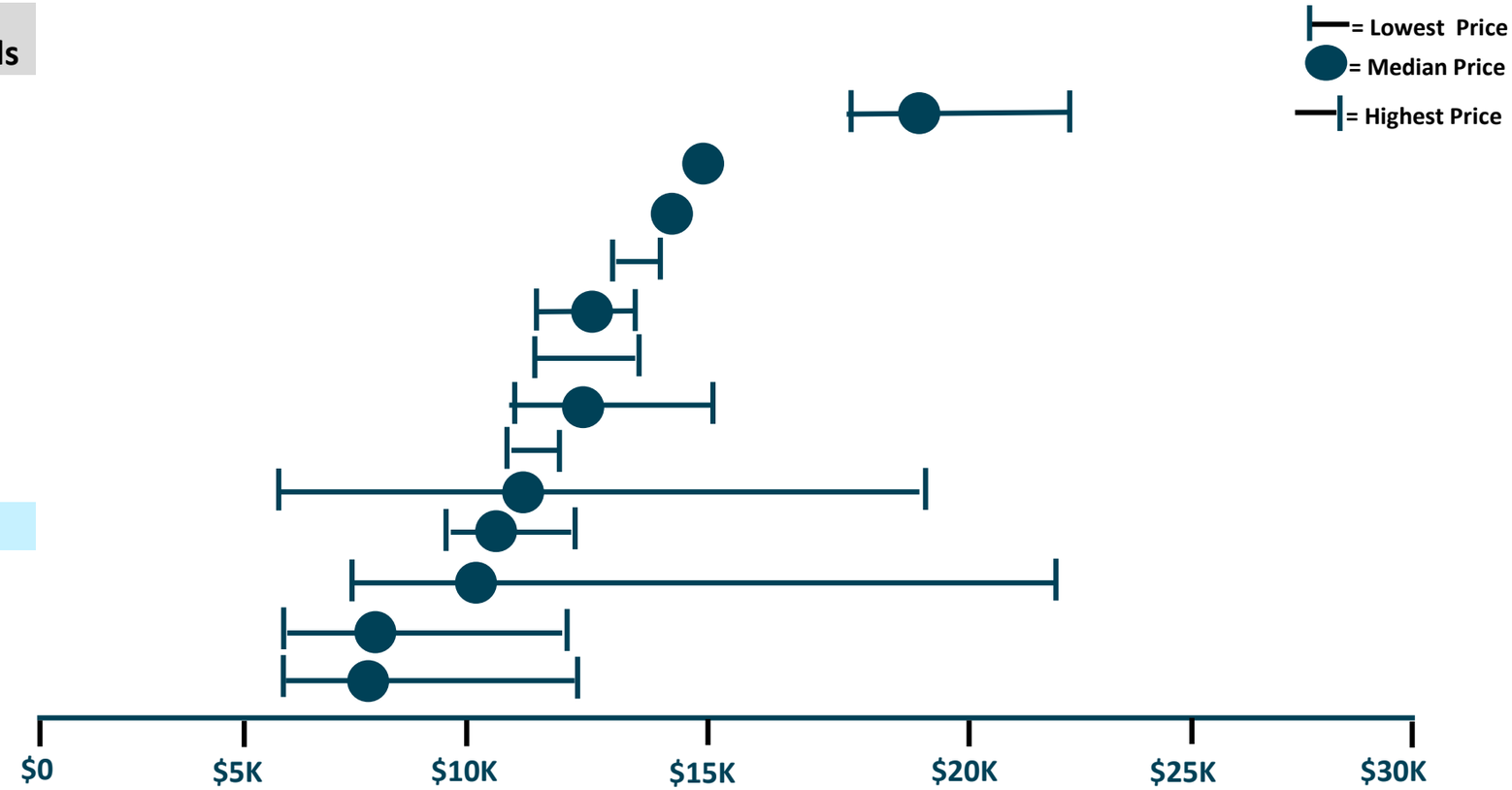
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY22 Net Patient Revenue per Adjusted Discharge Generated **by All Community Hospitals** by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA resided in the lower range of FY22 net patient revenue per adjusted discharge.

Average FY22 Net Patient Revenue per Adjusted Discharge - All Community Hospitals by CBSA

CBSA Title	# of Hospitals
Bridgeport-Stamford-Danbury-CT	4
Nantucket, MA	1
Vineyard Haven, MA	1
Pittsfield, MA	2
New Haven-Milford, CT	3
Barnstable Town, MA	2
Norwich-New London-Willimantic, CT	3
Torrington, CT	2
Hartford-West Hartford-East Hartford, CT	7
Providence-Warwick, RI-MA	11
Boston-Cambridge-Newton, MA-NH	23
Springfield, MA	6
Worcester, MA-CT	6
TOTAL Community Hospitals	**73**



Range of Average FY 2022 Net Patient Revenue per Adjusted Discharge by CBSA

Notes:

[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

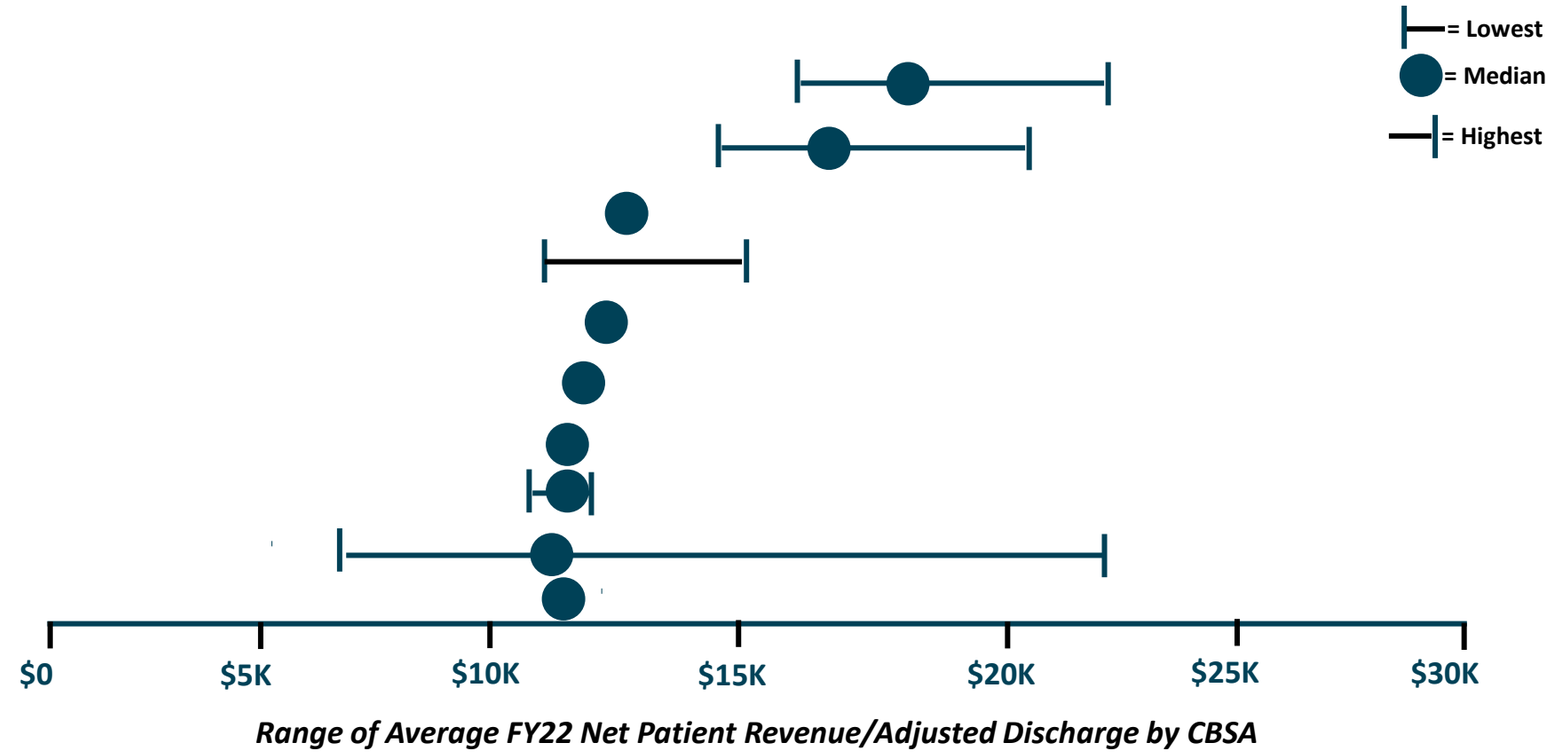
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY22 Net Patient Revenue per Adjusted Discharge Generated by **Community** Hospitals with >$300M in Operating Revenue, by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with >$300M in operating revenue resided in the lower range of FY22 net patient revenue per adjusted discharge.

Average FY22 Net Patient Revenue per Adjusted Discharge - Community Hospitals with >$300M in Operating Revenue by CBSA

CBSA Title	# of Hospitals
Bridgeport-Stamford-Danbury, CT	4
Hartford-West Hartford-East Hartford, CT	3
Barnstable Town, MA	1
Norwich-New London-Willimantic, CT	2
New Haven-Milford, CT	1
Pittsfield, MA	1
Worcester, MA-CT	1
Providence-Warwick, RI-MA	3
Boston-Cambridge-Newton, MA-NH	14
Springfield, MA	1
TOTAL Community Hospitals w/ Operating Revenue >$300M	**31**



Notes:

[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

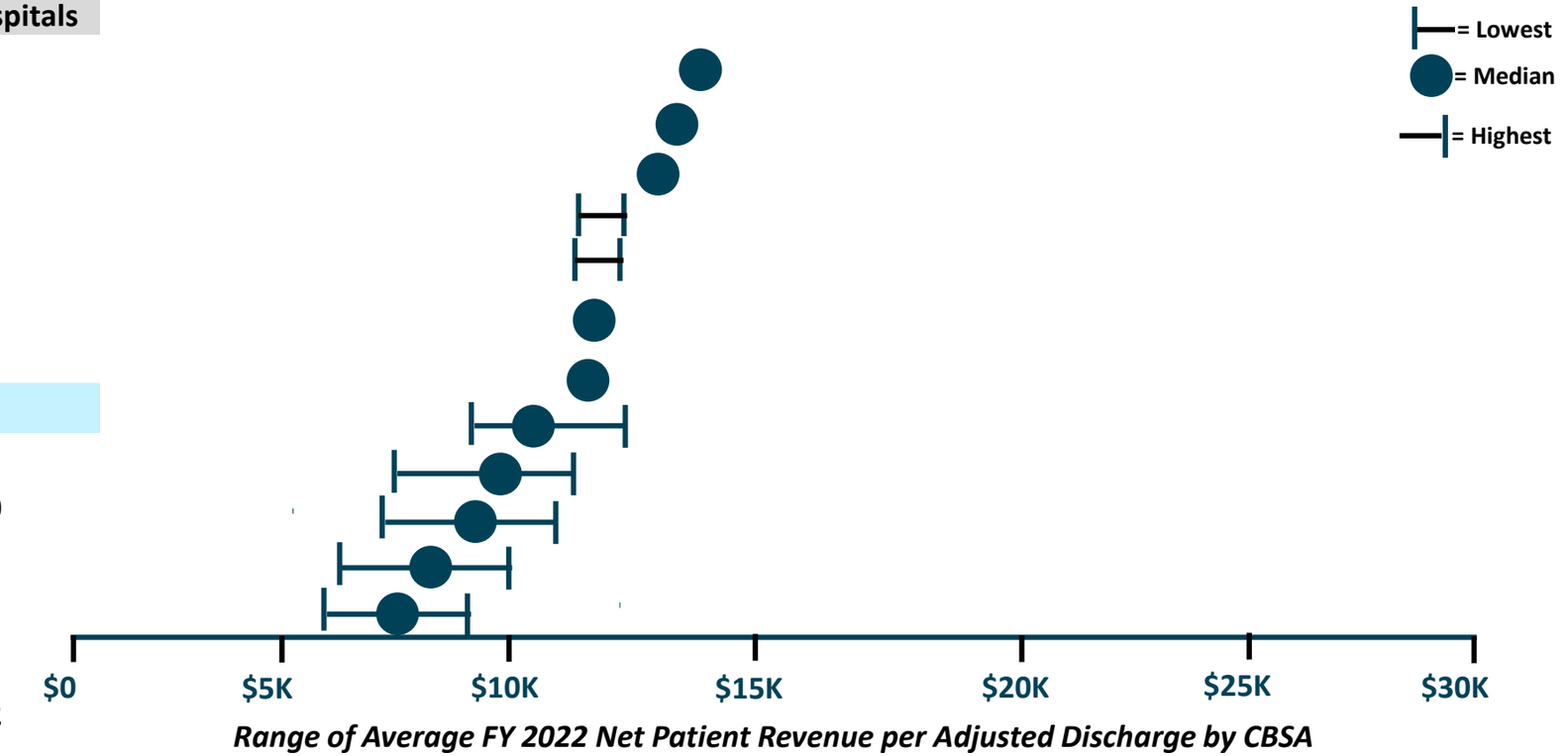
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY 2022 Net Patient Revenue per Adjusted Discharge Generated by **Community Hospitals with <$300M in Operating Revenue** by CBSA

Compared among regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with <$300M in operating revenue resided in the middle range of FY 2022 net patient revenue per adjusted discharge.

Average FY 2022 Net Patient Revenue per Adjusted Discharge[1] for Community Hospitals with <$300M in Operating Revenue by CBSA

CBSA Title	# of Hospitals
Nantucket, MA	1
Vineyard Haven, MA	1
Pittsfield, MA	1
New Haven-Milford, CT	2
Torrington, CT	2
Norwich-New London-Willimantic, CT	1
Barnstable Town, MA	1
Providence-Warwick, RI-MA	8
Hartford-West Hartford-East Hartford, CT	4
Boston-Cambridge-Newton, MA-NH	10
Worcester, MA-CT	6
Springfield, MA	5
Total Community Hospitals w/ Operating Revenue <$300M	**42**



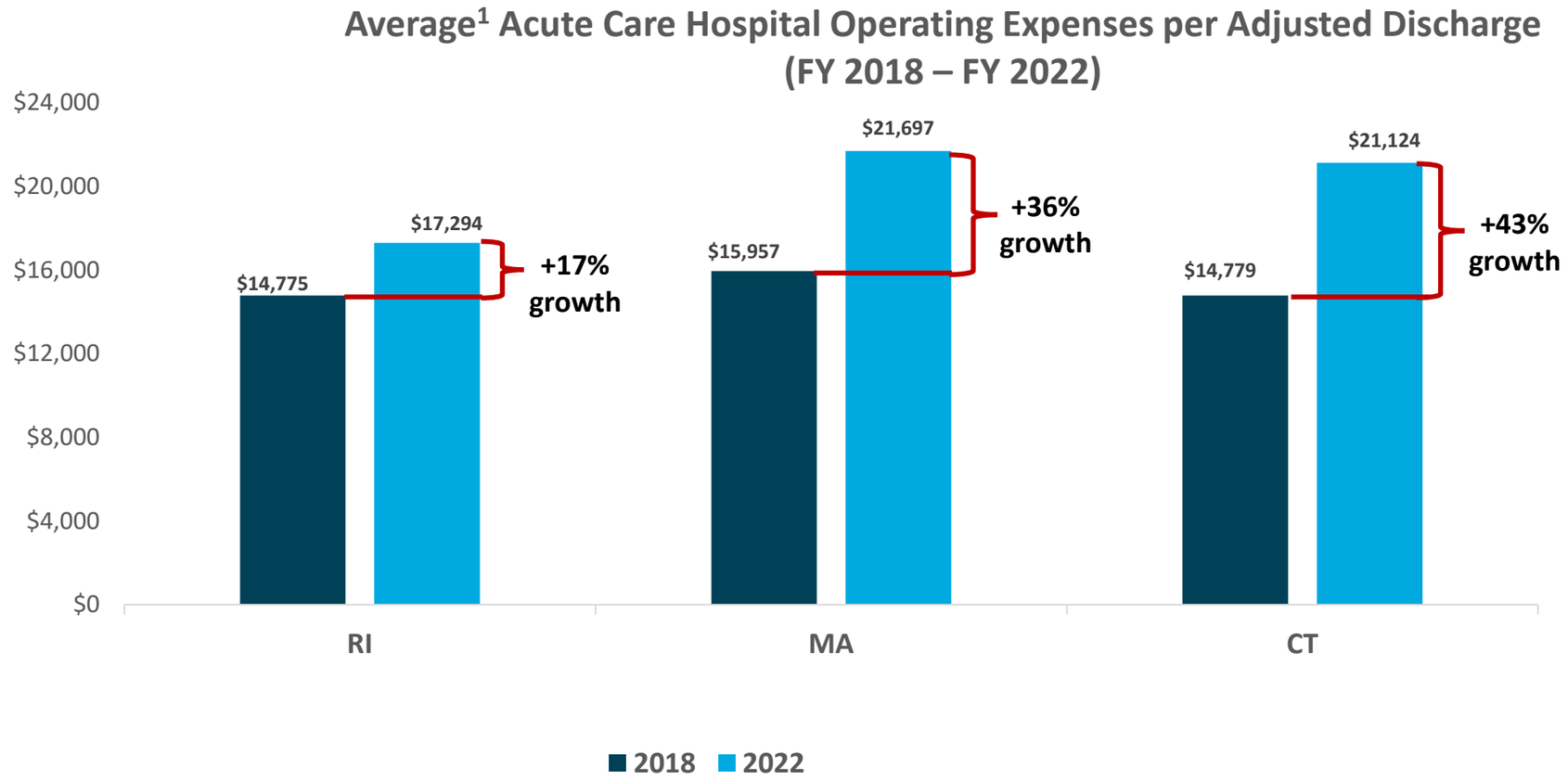
Notes:

[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average Acute Hospital Operating Expenses per Adjusted Discharge Trends by State

Across all three states, the average operating costs per adjusted discharge rose at a faster rate than net patient revenue/adjusted discharge between FY 2018 and FY 2022. RI experienced the smallest increases in operating expenses per adjusted discharge, compared to MA and CT.



Notes:

[1] Statewide averages were calculated by dividing the state's total acute hospital net patient revenues and total operating expenses by the state's total adjusted discharges.

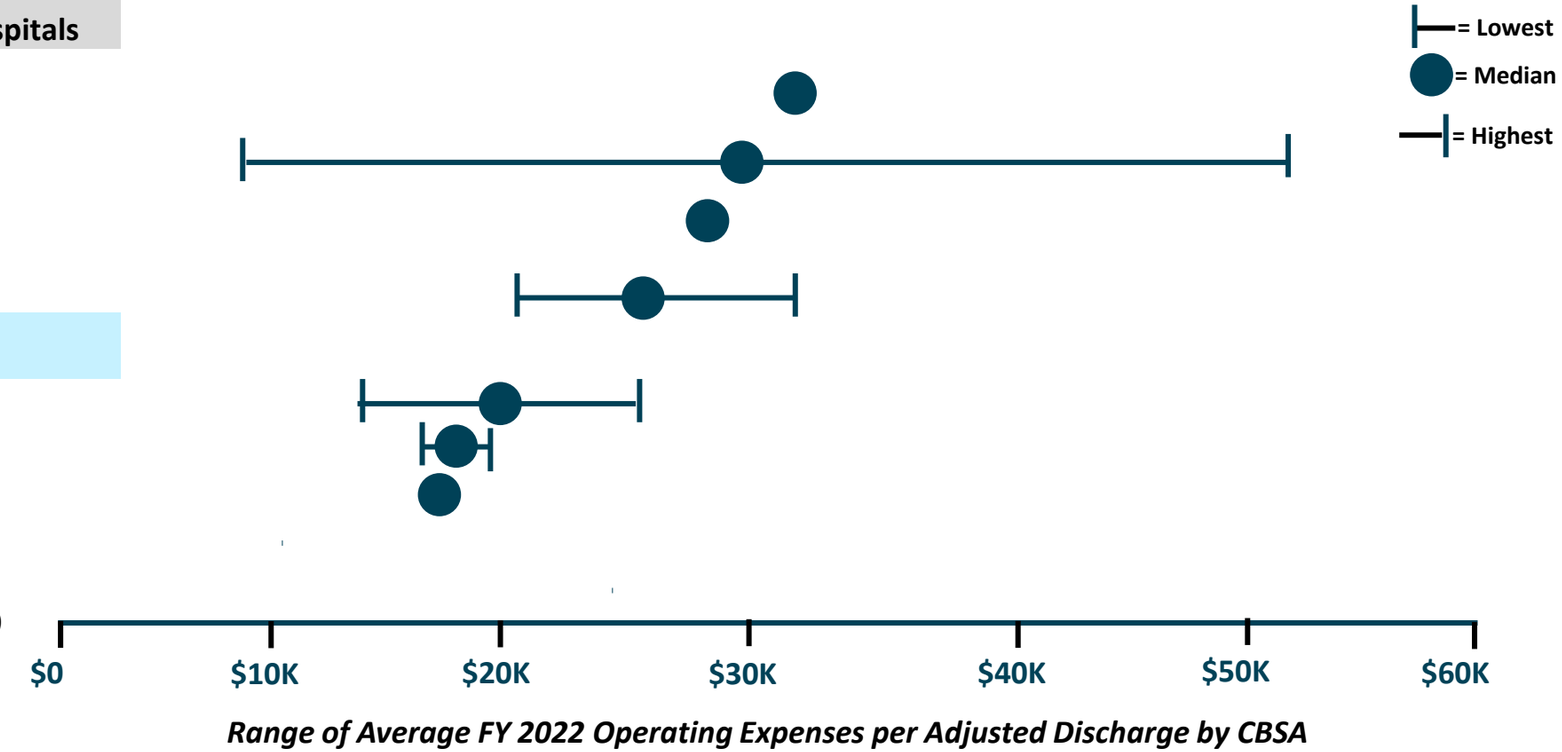
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY 2022 Operating Expenses per Adjusted Discharge Generated by **COTH Member Hospitals** by CBSA

Compared to a majority of regional markets, COTH member hospitals in the Providence-Warwick, RI-MA CBSA resided in the lower range of FY 2022 operating expenses per adjusted discharge.

Average FY 2022 Operating Expenses per Adjusted Discharge for AAMC/COTH Hospitals by CBSA

CBSA Title	# of Hospitals
New Haven-Milford, CT	1
Boston-Cambridge-Newton, MA-NH	8
Worcester, MA-CT	1
Hartford-West Hartford-East Hartford, CT	3
Providence-Warwick, RI-MA	3
Bridgeport-Stamford-Danbury, CT	2
Springfield, MA	1
Total COTH Member Hospitals	**19**



Notes:
[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

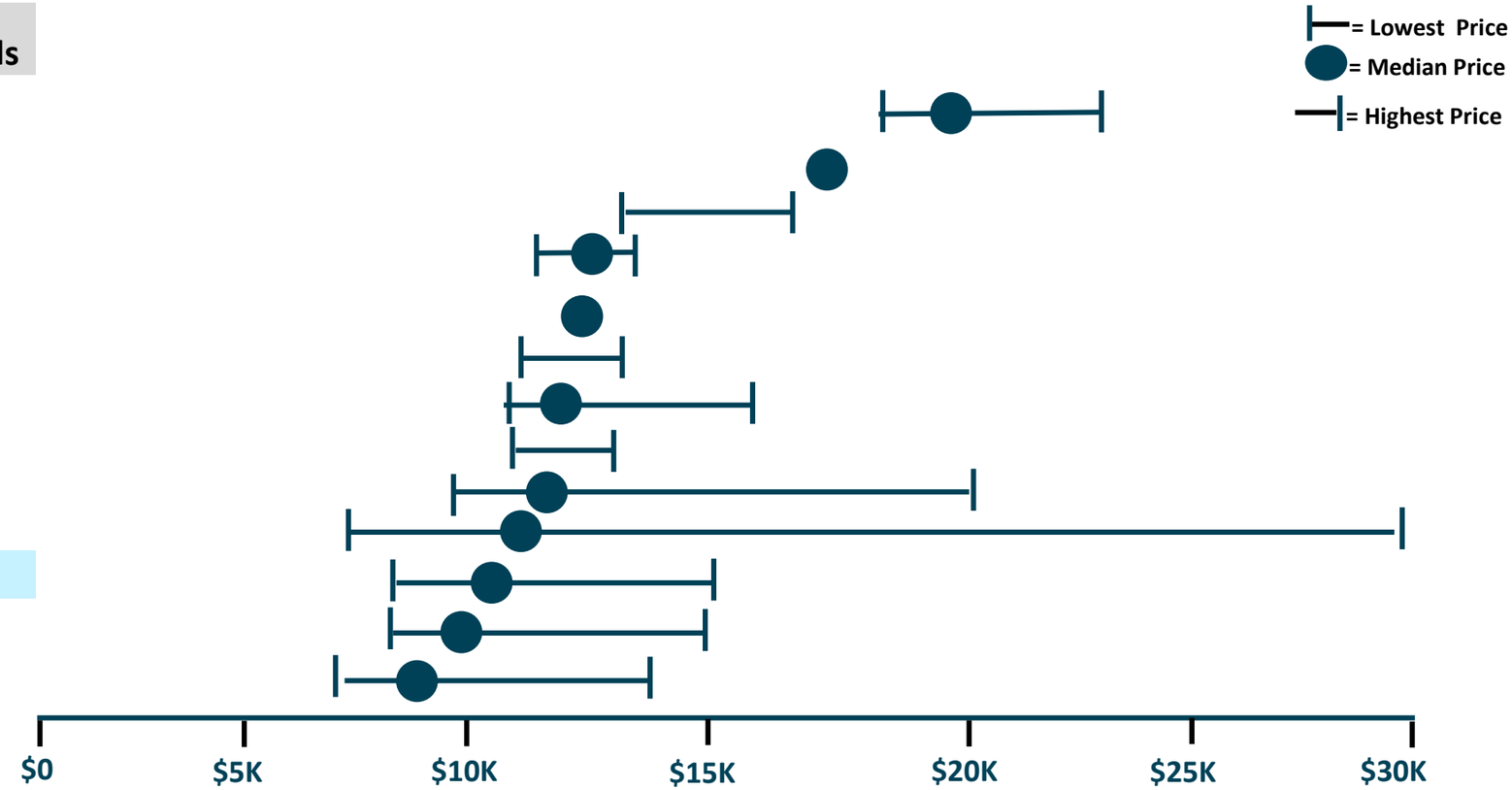
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY 2022 Operating Expense per Adjusted Discharge Generated **by All Community Hospitals** by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA resided in the lower range of FY 2022 operating expenses per adjusted discharge.

Average FY 2022 Operating Expense per Adjusted Discharge - All Community Hospitals by CBSA

CBSA Title	# of Hospitals
Bridgeport-Stamford-Danbury-CT	4
Nantucket, MA	1
Torrington, CT	2
New Haven-Milford, CT	3
Vineyard Haven, MA	1
Barnstable Town, MA	2
Norwich-New London-Willimantic, CT	3
Pittsfield, MA	2
Hartford-West Hartford-East Hartford, CT	7
Boston-Cambridge-Newton, MA-NH	23
Providence-Warwick, RI-MA	11
Worcester, MA-CT	7
Springfield, MA	6
TOTAL Community Hospitals	**73**



Range of Average FY 2022 Operating Expense per Adjusted Discharge by CBSA

Notes:

[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

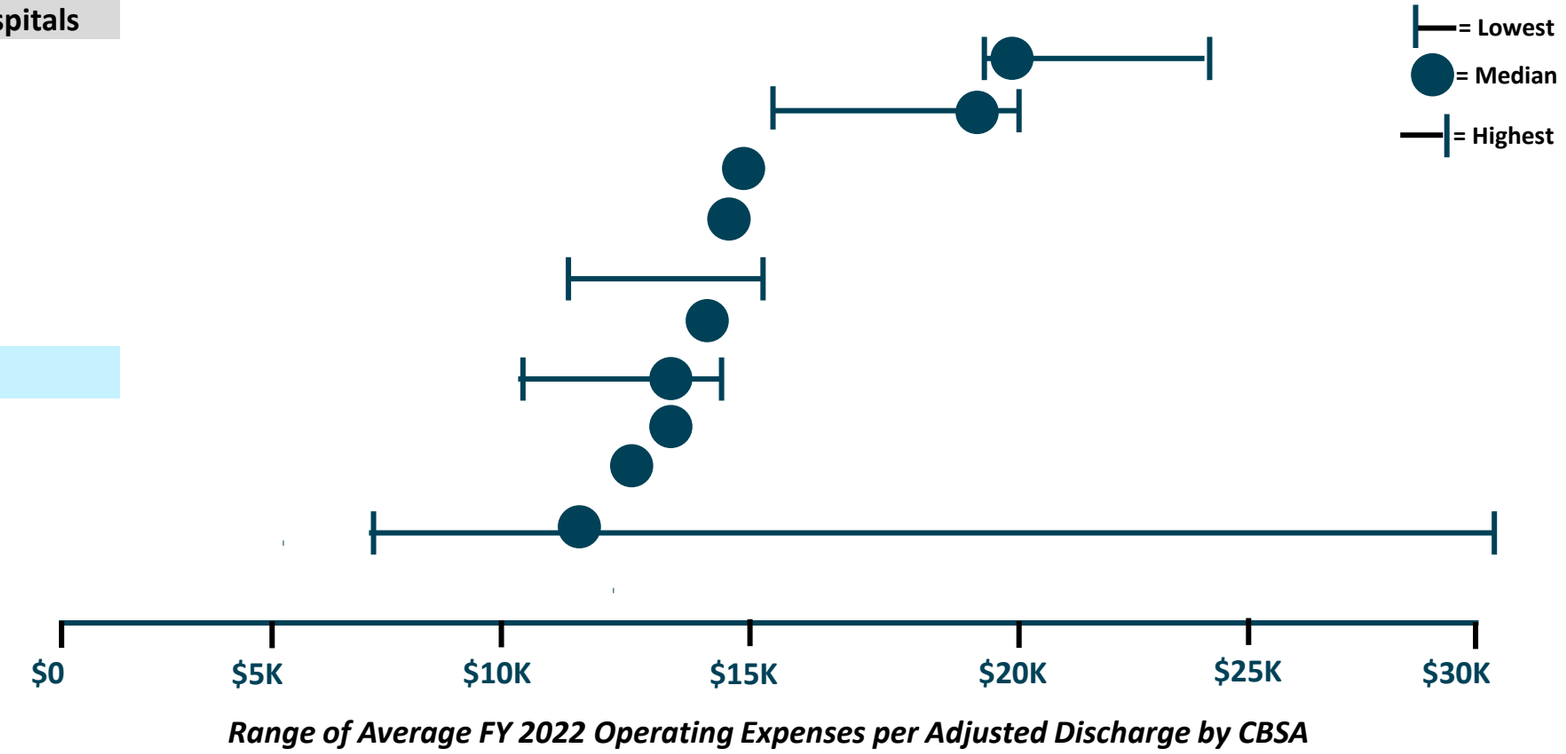
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY 2022 Operating Expenses per Adjusted Discharge Generated by **Community Hospitals with Operating Revenue >$300M** by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA generating operating revenue >$300M resided in the lower range of FY 2022 operating expenses per adjusted discharge.

Average FY 2022 Operating Expenses per Adjusted Discharge for Community Hospitals with >$300M in Operating Revenue by CBSA

CBSA Title	# of Hospitals
Bridgeport-Stamford-Danbury, CT	4
Hartford-West Hartford-East Hartford, CT	3
Worcester, MA-CT	1
Pittsfield, MA	1
Norwich-New London-Willimantic, CT	2
Barnstable Town, MA	1
Providence-Warwick, RI-MA	3
Springfield, MA	1
New Haven-Milford, CT	1
Boston-Cambridge-Newton, MA-NH	14
Total Community Hospitals with Operating Revenue >$300M	**31**



Notes:
[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

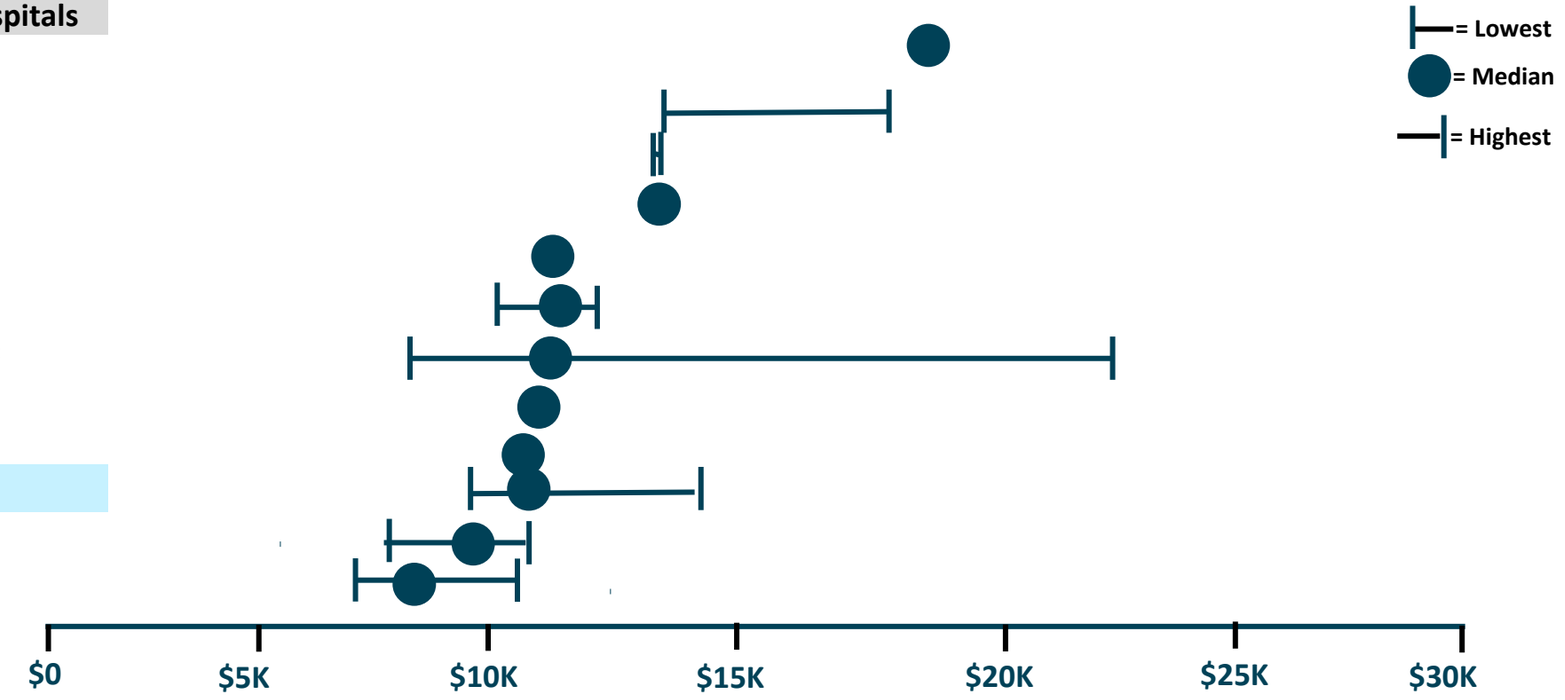
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY22 Operating Expenses per Adjusted Discharge Generated by **Community Hospitals with Operating Revenue <$300M** by CBSA

Compared among regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with <$300M in operating revenue resided in the lower range of FY22 operating expenses per adjusted discharge.

Average FY 2022 Operating Expenses per Adjusted Discharge for Community Hospitals with <$300M in Operating Revenue by CBSA

CBSA Title	# of Hospitals
Nantucket, MA	1
Torrington, CT	2
New Haven-Milford, CT	2
Vineyard Haven, MA	1
Barnstable Town, MA	1
Hartford-West Hartford-East Hartford, CT	4
Boston-Cambridge-Newton, MA-NH	10
Pittsfield, MA	1
Norwich-New London-Willimantic, CT	1
Providence-Warwick, RI-MA	8
Worcester, MA-CT	6
Springfield, MA	5
Total Community Hospitals with Operating Expenses <$300M	**42**



Range of Average FY 2022 Operating Expenses per Adjusted Discharge by CBSA

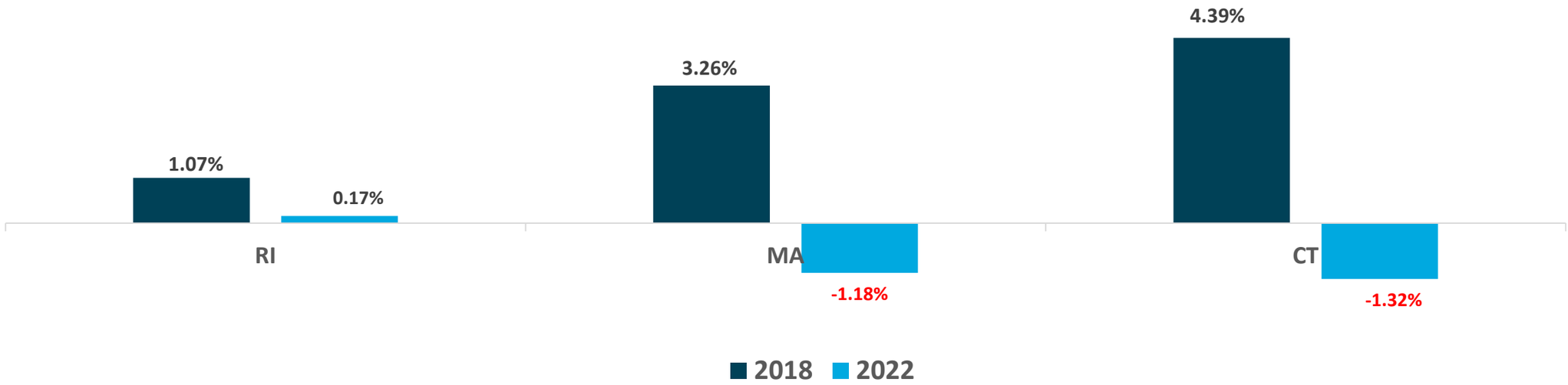
Notes:
[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Acute Care Hospital Operating Margins – 5 Year Trends by State

All three states experienced declines in hospital acute hospital operating margins between FY 2018 and FY2022. MA and CT saw the steepest decline in acute hospital operating margins.

Acute Care Hospital Audited Operating Margins[1] as a Percentage of Operating Revenue (FY 2018 and FY 2022)



Notes:

[1] Operating margins were calculated by subtracting operating expenses from hospital operating revenue, expressed above as a percent of operating net revenue.

[2] The RI analysis does not include Prime Healthcare Services financial information. RI statewide operating margin analysis includes Yale New Haven Health operating revenue and expense financials ONLY for The Westerly Hospital. Lifespan acute hospitals' FY 2022 operating revenue and operating margin excludes costs of $56.8M related to joint venture losses from Lifespan Physician Group. These costs are reported as a reduction to operating revenue in FY 2018 and FY 2020 but reported as an equity transfer if FY 2022.

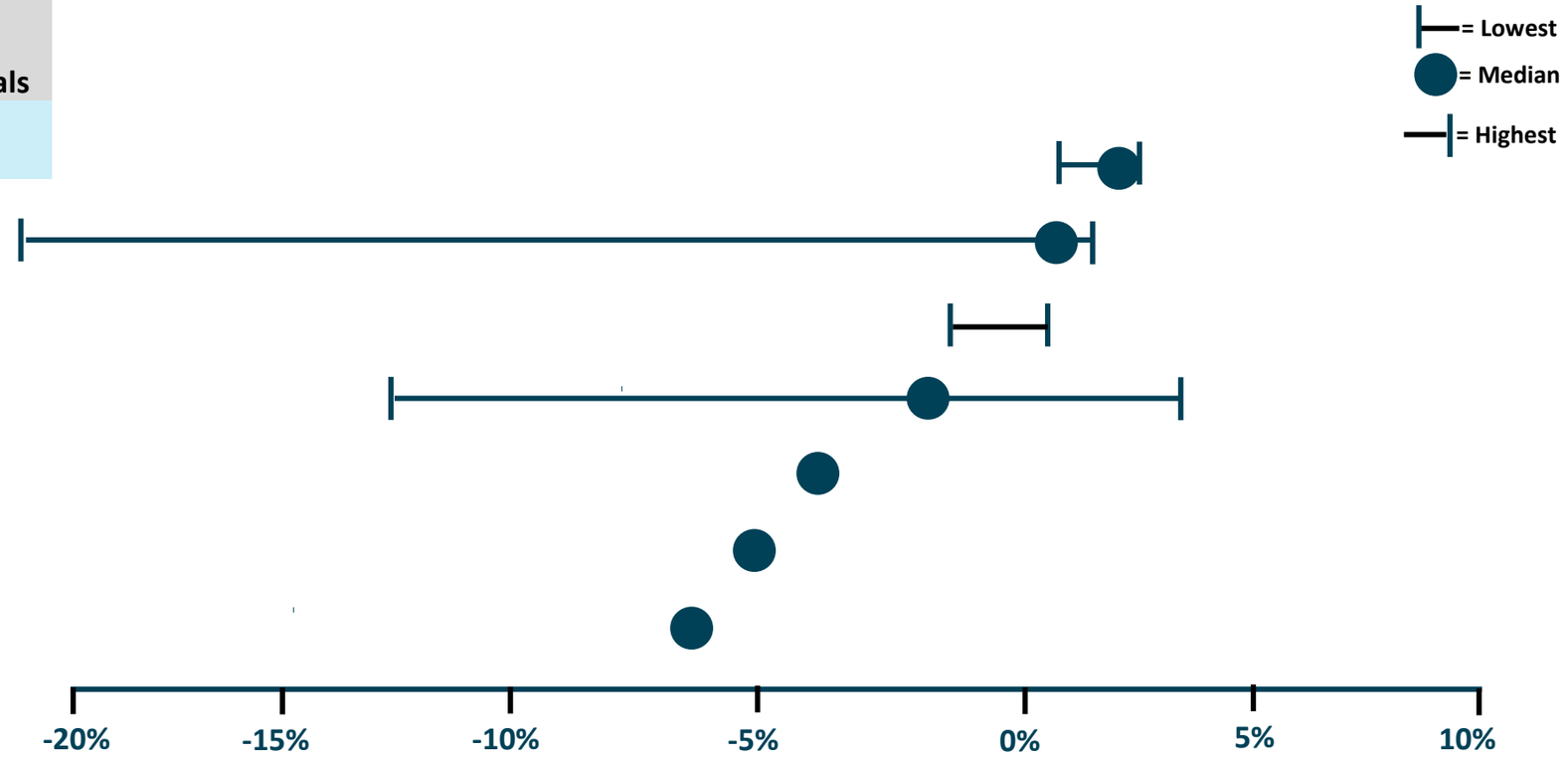
Sources: Data Request to HARI Hospitals and Health Systems; CHIA - MA Acute Hospital and Health System Financial Performance Databook, FY2018, 20 and 22; Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, 2022, and 2022.

Average FY 2022 Operating Margin Generated by **COTH Member Hospitals** by CBSA[80]

Compared to a majority of regional markets, COTH member hospitals in the Providence-Warwick, RI-MA CBSA resided in the upper range of FY 2022 operating margin earned.

Average FY 2022 Operating Margin of COTH Member Hospitals by CBSA

CBSA Title	# of Hospitals
Providence-Warwick, RI-MA	3
Hartford-West Hartford-East Hartford, CT	3
Bridgeport-Stamford-Danbury, CT	2
Boston-Cambridge-Newton, MA-NH	10
Worcester, MA-CT	1
Springfield, MA	1
New Haven-Milford, CT	1
Total AAMC/COTH Hospitals in the Study	**21**



Notes:

[1] Lifespan acute hospitals' FY 2022 operating revenue and operating margin excludes costs of $56.8M related to joint venture losses from Lifespan Physician Group. These costs are reported as a reduction to operating revenue in FY 2018 and FY 2020 but reported as an equity transfer if FY 2022.

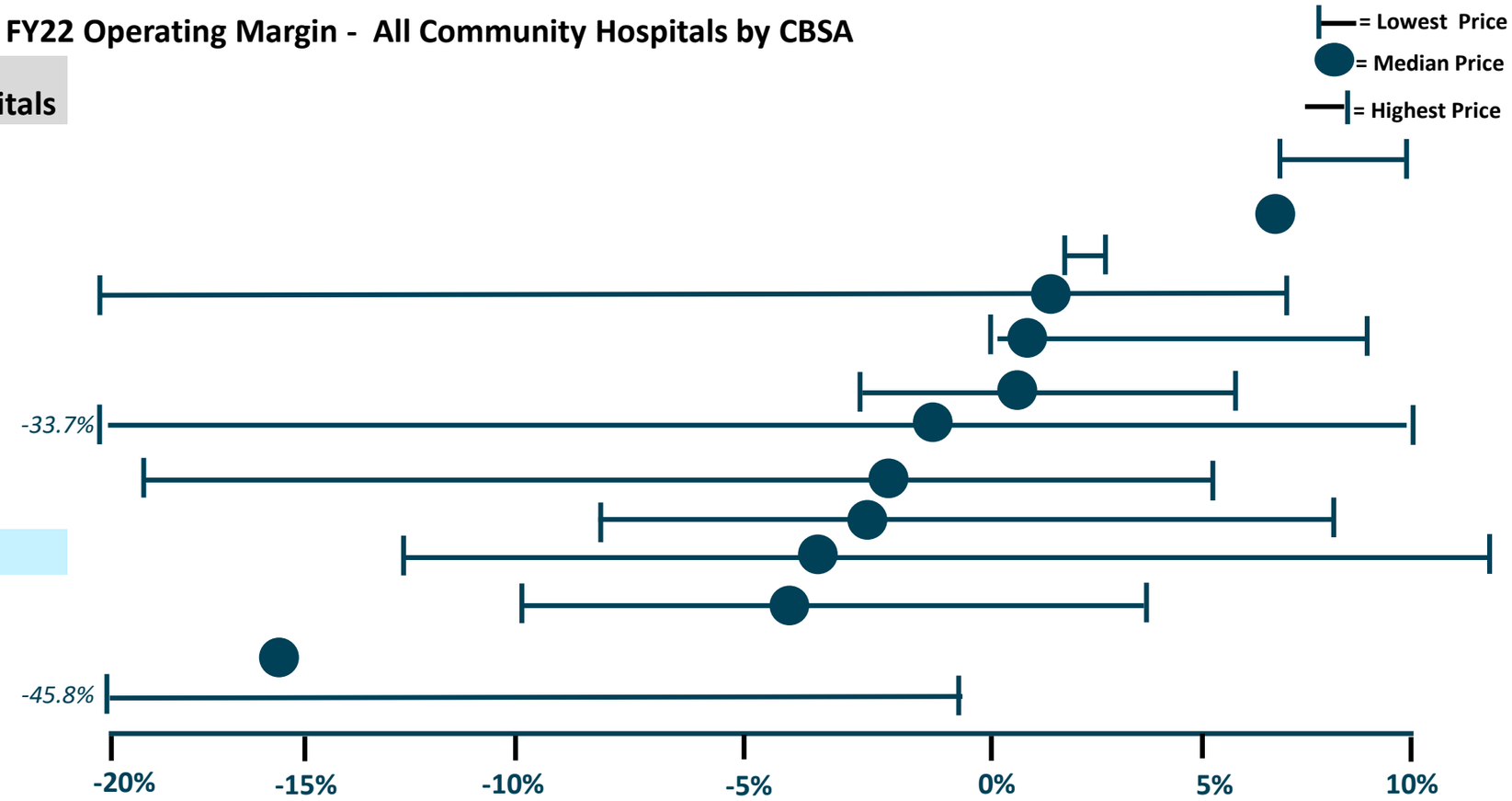
Sources: Data Request to HARI Hospitals and Health Systems; CHIA - Massachusetts Acute Hospital and Health System Financial Performance Databook, FY2018, 20 and 22; Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, 2022, and 2022.

Average FY22 Operating Margin Generated **by All Community Hospitals** by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA resided in the lower range of FY 2022 operating margin earned.

Average FY22 Operating Margin - All Community Hospitals by CBSA

CBSA Title	# of Hospitals
Pittsfield, MA	2
Vineyard Haven, MA	1
Barnstable Town, MA	2
Hartford-West Hartford-East Hartford, CT	8
Norwich-New London-Willimantic, CT	3
New Haven-Milford, CT	3
Boston-Cambridge-Newton, MA-NH	25
Worcester, MA-CT	7
Bridgeport-Stamford-Danbury-CT	4
Providence-Warwick, RI-MA	10
Springfield, MA	6
Nantucket, MA	1
Torrington, CT	2
TOTAL Community Hospitals	**74**



Range of Average FY 2022 Operating Margin % by CBSA

Notes:

[1] Lifespan acute hospitals' FY 2022 operating revenue and operating margin excludes costs of $56.8M related to joint venture losses from Lifespan Physician Group. These costs are reported as a reduction to operating revenue in FY 2018 and FY 2020 but reported as an equity transfer if FY 2022.

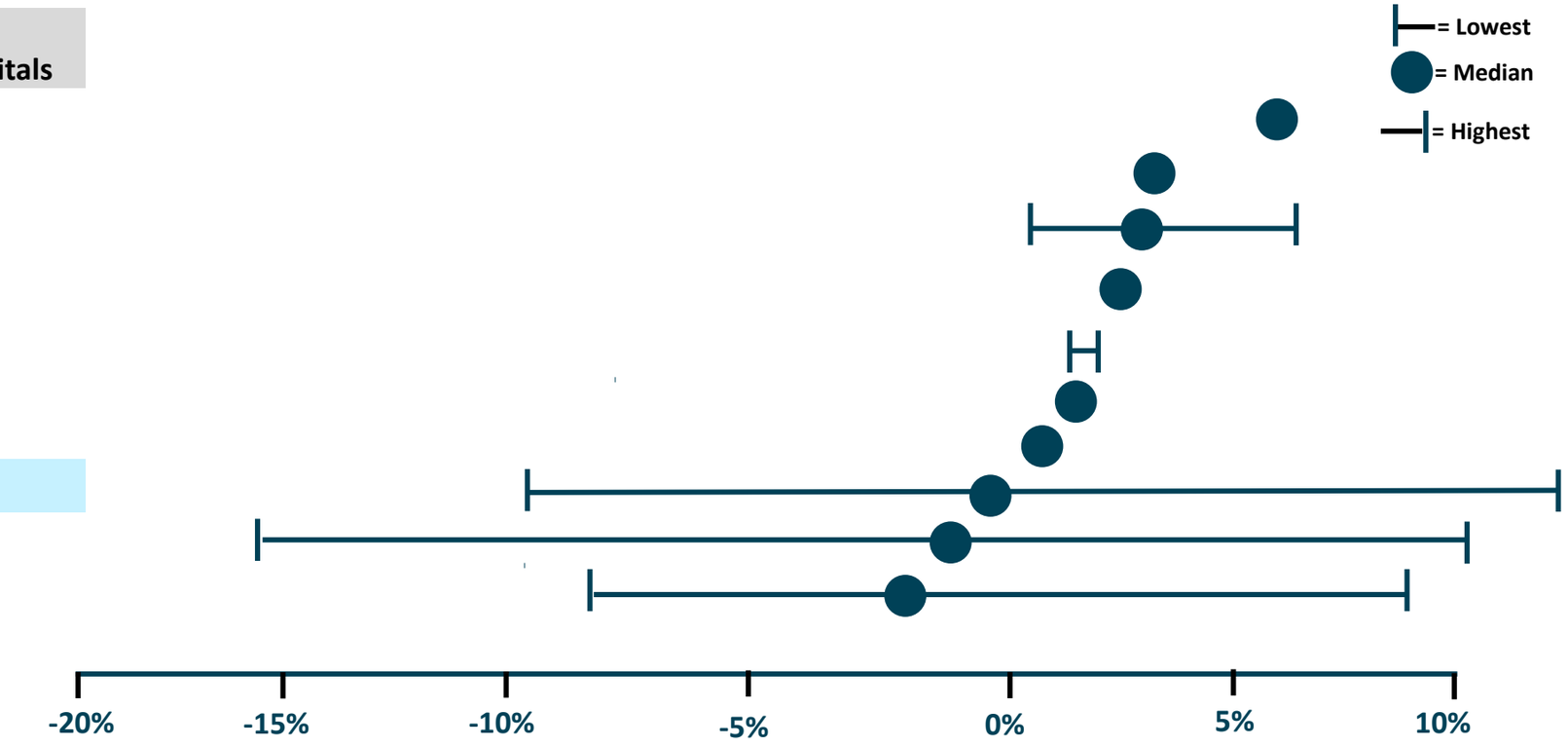
Sources: Data Request to HARI Hospitals and Health Systems; MA CHIA, "Massachusetts Acute Hospital and Health System Financial Performance Databook, FY 2018, FY 2020 and FY 2022"; CT OHS "Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, 2022, and 2022."

Average FY 2022 Operating Margin Generated by **Community Hospitals with Operating Revenues >$300M** by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with operating revenues greater than $300M resided in the lower range of FY 2022 operating margin earned.

Average FY 2022 Operating Margin – Community Hospitals with Operating Revenues >$300M, by CBSA

CBSA Title	# of Hospitals
Pittsfield, MA	1
Worcester, MA-CT	1
Hartford-West Hartford-East Hartford, CT	4
Barnstable Town, MA	1
Norwich-New London-Willimantic, CT	2
Springfield, MA	1
New Haven-Milford, CT	1
Providence-Warwick, RI-MA	3
Boston-Cambridge-Newton, MA-NH	14
Bridgeport-Stamford-Danbury, CT	4
Total Community Hospitals with Operating Revenue >$300M	**32**



Notes:

[1] Lifespan acute hospitals' FY 2022 operating revenue and operating margin excludes costs of $56.8M related to joint venture losses from Lifespan Physician Group. These costs are reported as a reduction to operating revenue in FY 2018 and FY 2020 but reported as an equity transfer if FY 2022.

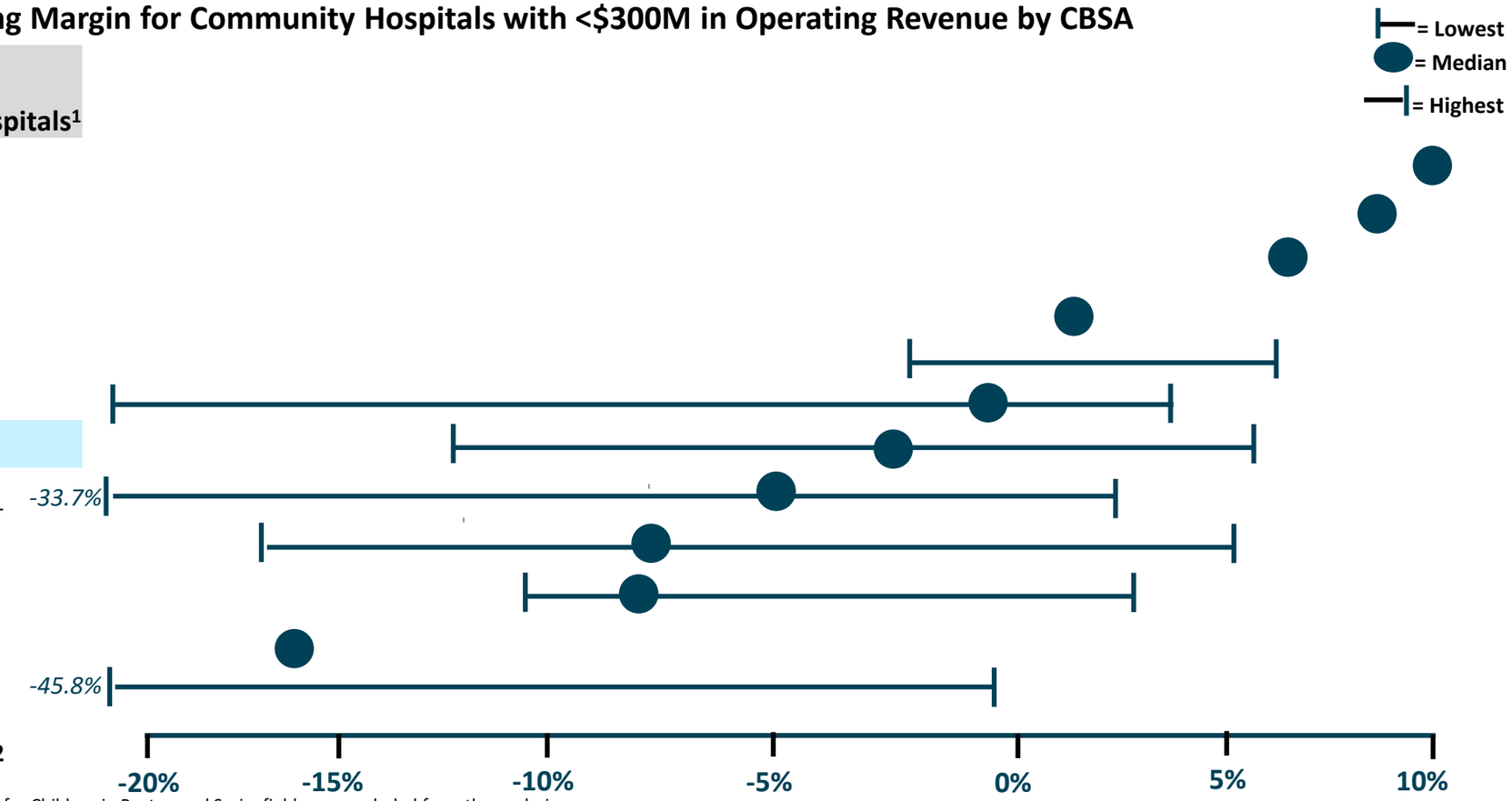
Sources: Data Request to HARI Hospitals and Health Systems; MA CHIA, "Massachusetts Acute Hospital and Health System Financial Performance Databook, FY 2018, FY 2020 and FY 2022"; CT OHS "Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, 2022, and 2022."

Average FY 2022 Operating Margin Generated by **Community Hospitals with Operating Revenue <$300M** by CBSA

Compared among regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with operating revenue <$300M resided in the middle range of FY 2022 operating margin earned.

Average FY22 Operating Margin for Community Hospitals with <$300M in Operating Revenue by CBSA

CBSA Title\-	# of Hospitals[1]
Pittsfield, MA	1
Norwich-New London-Willimantic, CT	1
Vineyard Haven, MA	1
Barnstable Town, MA	1
New Haven-Milford, CT	2
Hartford-West Hartford-East Hartford, CT	4
Providence-Warwick, RI-MA[2]	7
Boston-Cambridge-Newton, MA-NH	11
Worcester, MA-CT	6
Springfield, MA	5
Nantucket, MA	1
Torrington, CT	2
Total Community Hospitals with Operating Revenue <$300M	**42**



Notes:

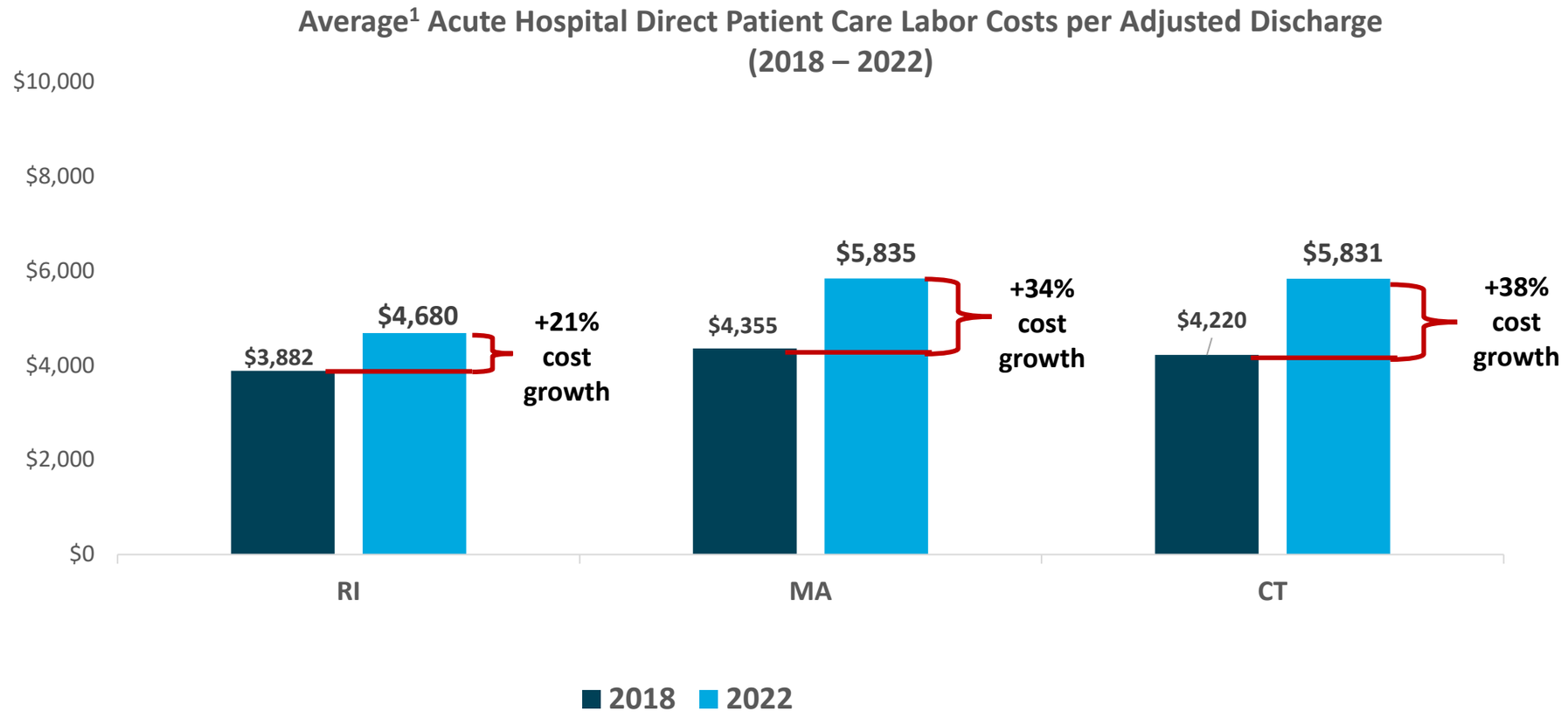
[1] Operating margin data does not include Landmark Medical Center. Shriner's Hospital for Children in Boston and Springfield were excluded from the analysis.

[2] Lifespan acute hospitals' FY 2022 operating revenue and operating margin excludes costs of $56.8M related to joint venture losses from Lifespan Physician Group. These costs are reported as a reduction to operating revenue in FY2018 and FY2020 but reported as an equity transfer if FY2022.

Sources: Data Request to HARI Hospitals and Health Systems; MA CHIA, "Massachusetts Acute Hospital and Health System Financial Performance Databook, FY 2018, FY 2020 and FY 2022"; CT OHS "Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, 2022, and 2022."

Average Acute Hospital Direct Patient Care Labor Costs per Adjusted Discharge Trends by State

RI experienced the smallest 5-year increase in direct patient care labor costs per adjusted discharge at 21%, compared to MA and CT.



Direct patient care labor costs accounted for 27% of RI hospitals' total FY 2022 operating expenses, rising from 26% in FY 2018.

MA and CT hospitals shared a very similar statewide ratio of direct patient care labor costs to hospital operating expenses in FY 2022 (27% and 28%, respectively).

Note:

[1] Statewide averages were calculated by dividing the state's acute hospital total direct patient care labor expenses by the state's total adjusted discharges. Includes both hospital employed and contracted labor costs.

Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

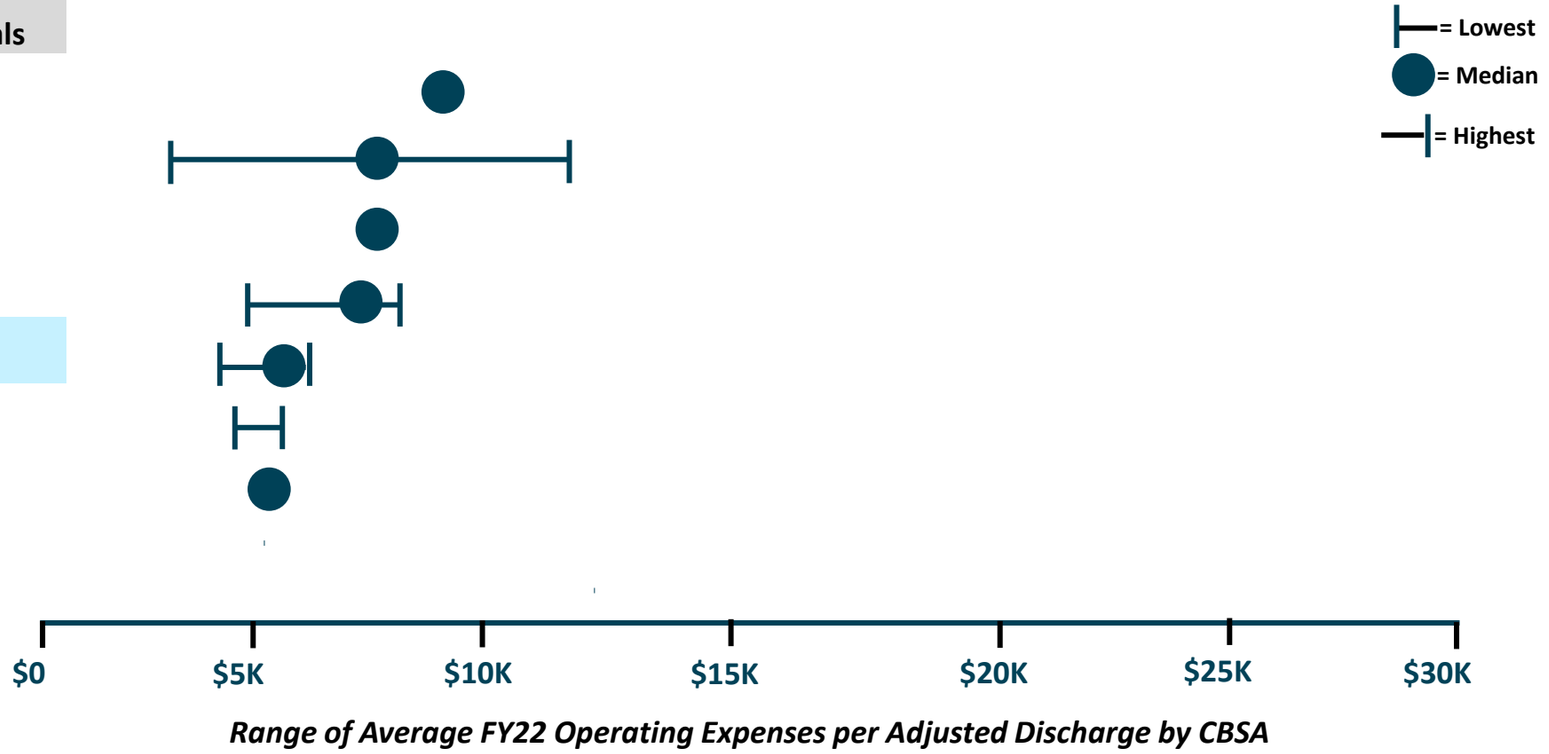
Average FY 2022 Direct Patient Care Labor Costs per Adjusted Discharge Generated **by COTH Member Hospitals** by CBSA

Among comparable regional markets, COTH member hospitals in the Providence-Warwick, RI-MA CBSA resided in the mid-range of FY 2022 direct patient care labor costs per adjusted discharge.

Average FY 2022 Direct Patient Care Labor Costs per Adjusted Discharge – COTH Member Hospitals by CBSA

CBSA Title	# of Hospitals
New Haven-Milford, CT	1
Boston-Cambridge-Newton, MA-NH	8
Worcester, MA-CT	1
Hartford-West Hartford-East Hartford, CT	3
Providence-Warwick, RI-MA	3
Bridgeport-Stamford-Danbury, CT	2
Springfield, MA	1
Total COTH Member Hospitals	**19**

Note: CBSAs are ranked in descending order of the FY 2022 median value. For CBSAs with 2 participating hospitals, the average data point per each CBSA was calculated to inform ranking.



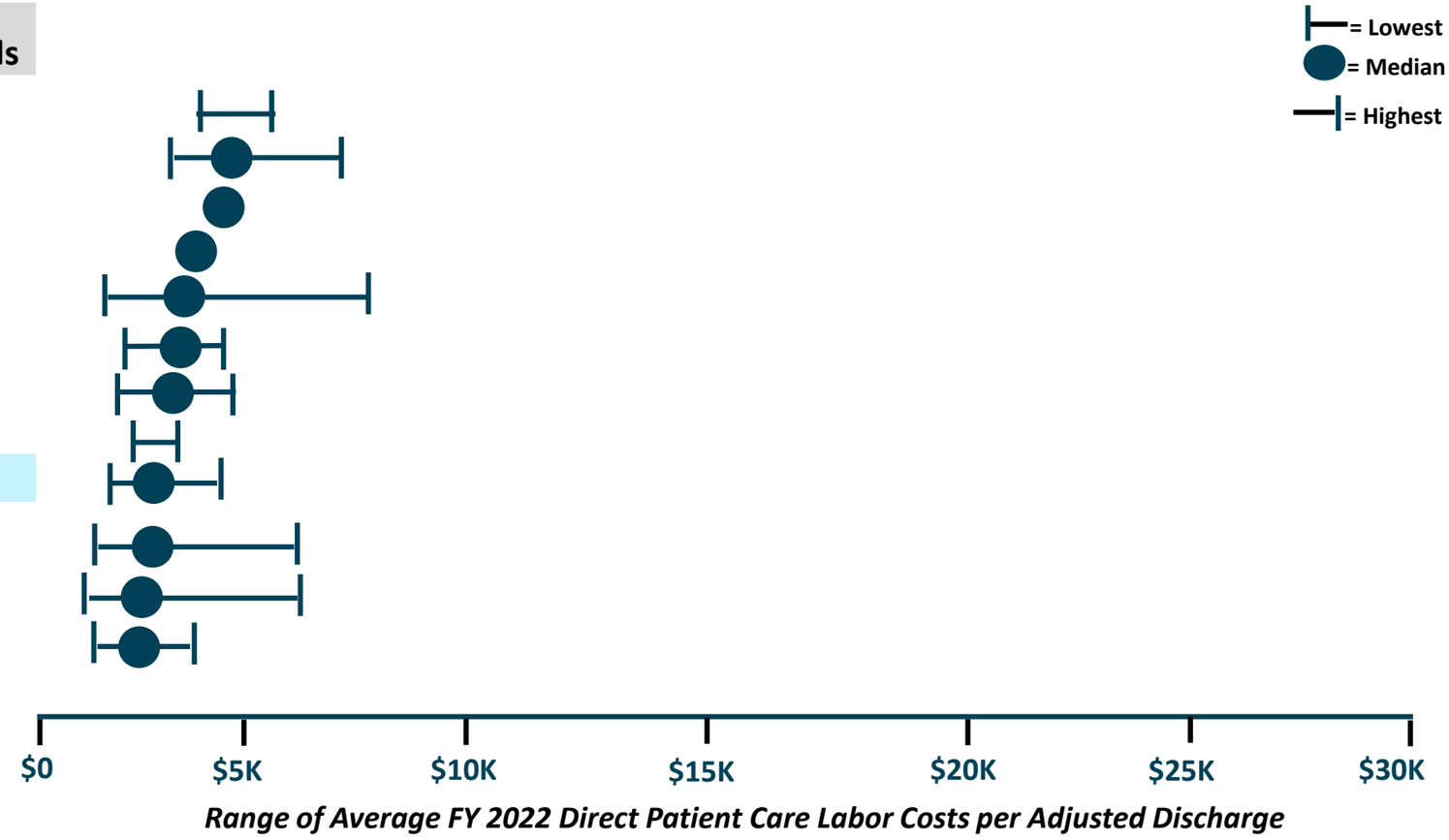
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY 2022 Direct Patient Care Labor Costs per Adjusted Discharge Generated **by All Community Hospitals** by CBSA

Compared to a majority of regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA resided in the mid-range of FY 2022 direct patient care labor costs per adjusted discharge.

Average FY 2022 Direct Patient Care Labor Costs per Adjusted Discharge - All Community Hospitals by CBSA

CBSA Title	# of Hospitals
Torrington, CT	2
Bridgeport-Stamford-Danbury-CT	4
Nantucket, MA	1
Pittsfield, MA	1
Boston-Cambridge-Newton, MA-NH	24
New Haven-Milford, CT	3
Norwich-New London-Willimantic, CT	3
Barnstable Town, MA	2
Providence-Warwick, RI-MA	11
Worcester, MA-CT	6
Hartford-West Hartford-East Hartford, CT	7
Springfield, MA	6
TOTAL Community Hospitals	**70**



Notes:

[1] Adjusted Discharges = Calculated inpatient and outpatient hospital discharges. Computed by multiplying inpatient volume by an outpatient factor. Outpatient Factor = Hospital Charges divided by Inpatient Hospital Charges.

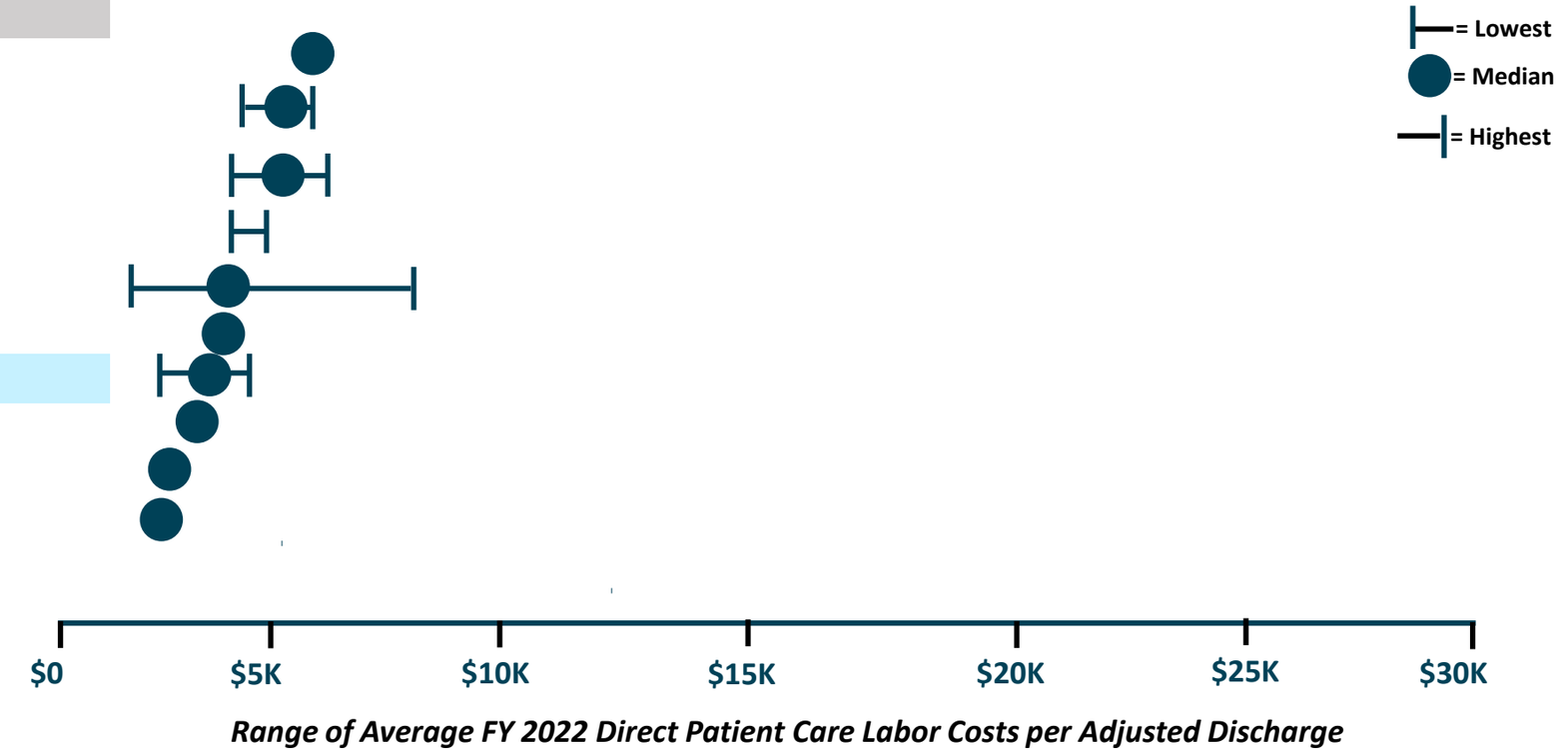
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY 2022 Direct Patient Care Labor Costs per Adjusted Discharge Generated by **Community Hospitals with >$300M in Operating Revenue** by CBSA

Compared to other regional markets, community hospitals in the Providence-Warwick, RI-MA CBSA with >$300M in operating revenue resided in the mid-range of FY 2022 direct patient care labor costs per adjusted discharge.

Average FY 2022 Direct Patient Care Labor Costs per Adjusted Discharge for Community Hospitals with >$300M in Operating Revenue

CBSA Title	# of Hospitals
Worcester, MA-CT	1
Hartford-West Hartford-East Hartford, CT	3
Bridgeport-Stamford-Danbury, CT	4
Norwich-New London-Willimantic, CT	2
Boston-Cambridge-Newton, MA-NH	14
Pittsfield, MA	1
Providence-Warwick, RI-MA	3
Barnstable Town, MA	1
New Haven-Milford, CT	1
Springfield, MA	1
Total Community Hospitals with Operating Revenue >$300M	**31**



Note: CBSAs are ranked in descending order of the FY 2022 median value. For CBSAs with 2 participating hospitals, the average data point per each CBSA was calculated to inform ranking.

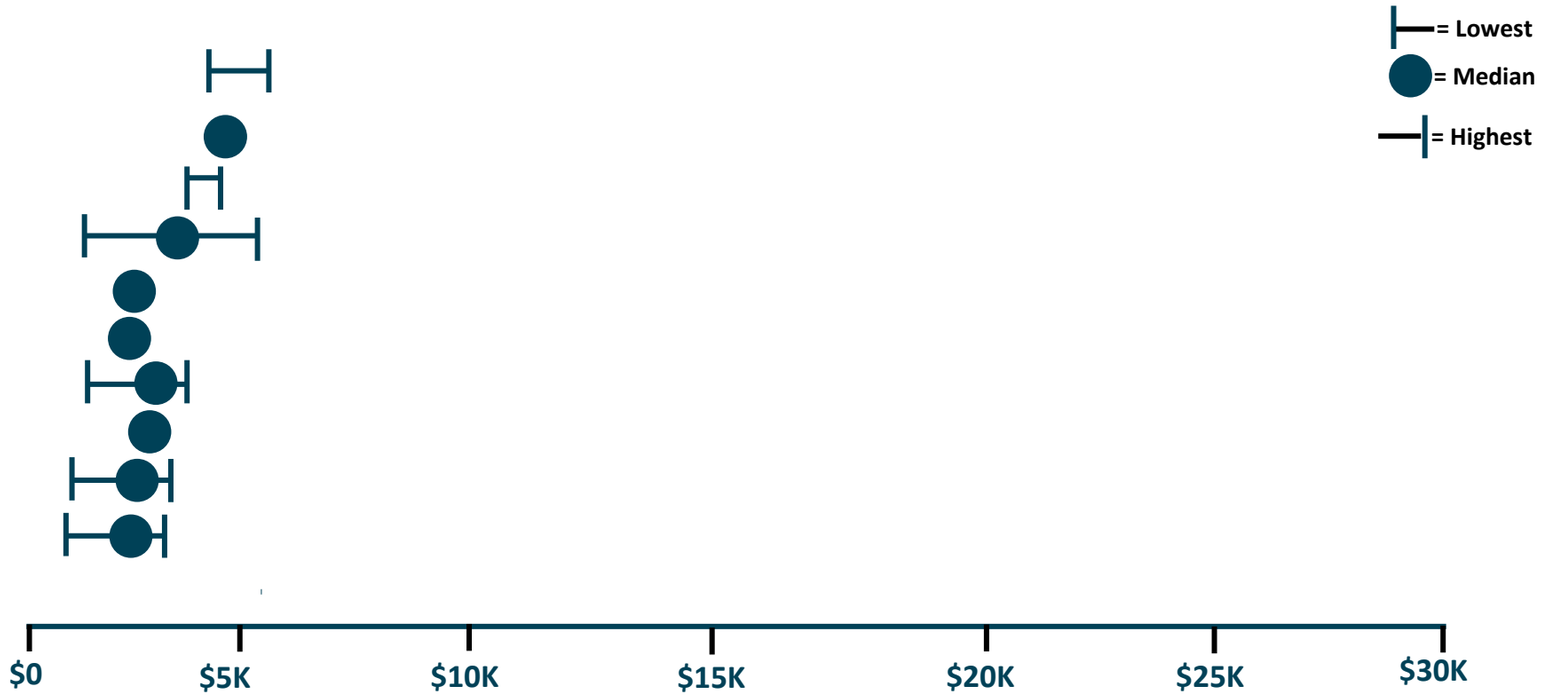
Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

Average FY 2022 Direct Patient Care Labor Costs per Adjusted Discharge Generated by **Community Hospitals with Operating Revenue <$300M** by CBSA

Among comparable regional markets, community hospitals with <$300 million in operating revenue in the Providence-Warwick, RI-MA CBSA resided in the mid-range of FY22 direct patient care labor costs/adjusted discharge.

Average FY 2022 Direct Patient Care Labor Costs per Adjusted Discharge for Community Hospitals with <$300M in Operating Revenue (by CBSA)

CBSA Title	# of Hospitals
Torrington, CT	2
Nantucket, MA	1
New Haven-Milford, CT	2
Boston-Cambridge-Newton, MA-NH	10
Barnstable Town, MA	1
Worcester, MA-CT	5
Providence-Warwick, RI-MA	8
Norwich-New London-Willimantic, CT	1
Springfield, MA	5
Hartford-West Hartford-East Hartford, CT	4
Total Community Hospitals with Operating Revenue <$300M	**39**



Note: CBSAs are ranked in descending order of the FY 2022 median value. For CBSAs with 2 participating hospitals, the average data point per each CBSA was calculated to inform ranking.

Source: Medicare Cost Report data as made available by the National Academy for State Health Policy (NASHP), "Hospital Cost Tool Hospital-Level Dataset" (2023)

7. Acute Care Hospital Inpatient & Emergency Department Utilization

Overview of Acute Care Hospital Inpatient & Emergency Department (ED) Utilization

Manatt evaluated acute care hospital inpatient and ED utilization trends, age-adjusted from 2017 to 2021, for RI, CT, and MA. Age-specific utilization and utilization by payer type for both acute care hospitals and EDs were calculated for RI and MA.

Utilization Metrics Tracked

- **Acute Care Hospital Inpatient Utilization**
  - Staffed beds per 1,000 population (2022)
  - Age-adjusted total acute care hospital inpatient utilization in RI, CT, and MA (2017-2021)
  - Age-specific total acute care hospital inpatient utilization in RI and MA (2021)
- **Acute Care Hospital Emergency Department (ED) Utilization**
  - Age-adjusted total ED utilization in RI, CT, and MA (2017-2021)*
  - Age-specific ED utilization in RI and MA (2021)

Publicly Available Data Sources Used

State	Data Sources
RI	• American Hospital Directory, "Staffed Beds" (as reported in each hospital's most recent Medicare Cost Report) • RI Department of Health, "Hospital Discharge Data 2016-2021" • US Census, "State Population by Characteristics: 2010-2019" and "State Population by Characteristics: 2020-2023" – Annual Estimates of the Resident Population by Single Year of Age and Sex
MA	• American Hospital Directory, "Staffed Beds" (as reported in each hospital's most recent Medicare Cost Report) • Massachusetts Center for Health Information and Analysis (CHIA), "Massachusetts Acute Care Hospital Inpatient Discharge Data (FFY 2016-2021)" • Massachusetts CHIA, "Massachusetts Acute Care Hospital Emergency Department Data – Quarterly Update October 2018 through June 2023" • US Census, "State Population by Characteristics: 2010-2019" and "State Population by Characteristics: 2020-2023" – Annual Estimates of the Resident Population by Single Year of Age and Sex
CT	• American Hospital Directory, "Staffed Beds" (as reported in each hospital's most recent Medicare Cost Report) • CT State Department of Public Health, "Hospitalization Statistics" (2017-2021) • CT Office of Health Strategy, "CT Emergency Room Visits FY 2016-2021" US Census, "State Population by Characteristics: 2010-2019" and "State Population by Characteristics: 2020-2023" – Annual Estimates of the Resident Population by Single Year of Age and Sex

Notes:
State populations were standardized to the 2000 U.S. population using age-adjustment weights calculated in Klein and Schoenborn, "Age Adjustment Using the 2000 Projected U.S. Population" (2001) for all age-adjusted and age-specific calculations.

Key Highlights of Acute Care Hospital Inpatient & ED Utilization

- **Acute Care Hospital Inpatient Utilization**
  - RI, CT, and MA all experienced between 1-3% declines in age-adjusted acute hospital inpatient utilization between 2017-2019.
  - All three states experienced a significant decline in acute care inpatient hospitalizations between 2019 and 2020 (i.e., during the COVID-19 pandemic), but RI experienced the greatest decrease in utilization with a 13% decrease in discharges compared to an 8% decrease in both CT and MA. Between 2020 and 2021, RI and CT both experienced a 3% uptick in acute care while utilization in MA decreased by 3%.
  - RI, CT, and MA all had approximately 2 staffed beds per 1,000 in 2022. RI had slightly fewer (2.23) staffed beds than CT (2.25) but had more staffed beds than MA (2.05 per 1,000).
  - Age-specific acute care hospital utilization in RI was lower than in MA across all age groups in 2021[1]. This utilization difference is particularly notable among older populations (i.e., 65 – 74 and 75+ age cohorts).
  - RI experienced lower acute hospital utilization rates by Private/Commercial and Medicare patients than MA but comparable utilization among Medicaid patients.
- **Acute Care Hospital ED Utilization**
  - Age-adjusted utilization in RI, CT, and MA slowly declined between 2017-2019, with RI experiencing a 5% decrease in ED visits. All three states experienced sharp declines in ED utilization between 2019 and 2020. RI's ED utilization from 2019 to 2020 declined by 26%, while CT's decreased by 16%, and MA's decreased by 60%.
  - However, age-adjusted ED utilization in RI sharply increased by 12% between 2020 and 2021 while CT ED utilization increased by 3% during the same time frame. ED utilization in MA remained unchanged between 2020 and 2021.
  - RI's ED utilization for patients covered by Medicare was slightly higher than MA's, but utilization by Medicaid, commercial, and self-pay patients was equal to MA's. Utilization by patients with other sources of health coverage was slightly lower in RI than MA.

Notes:

[1] Comparisons with CT were not feasible due to lack of comparable age cohorts in CT's acute care hospital data.

Staffed Beds at Acute Care Hospitals

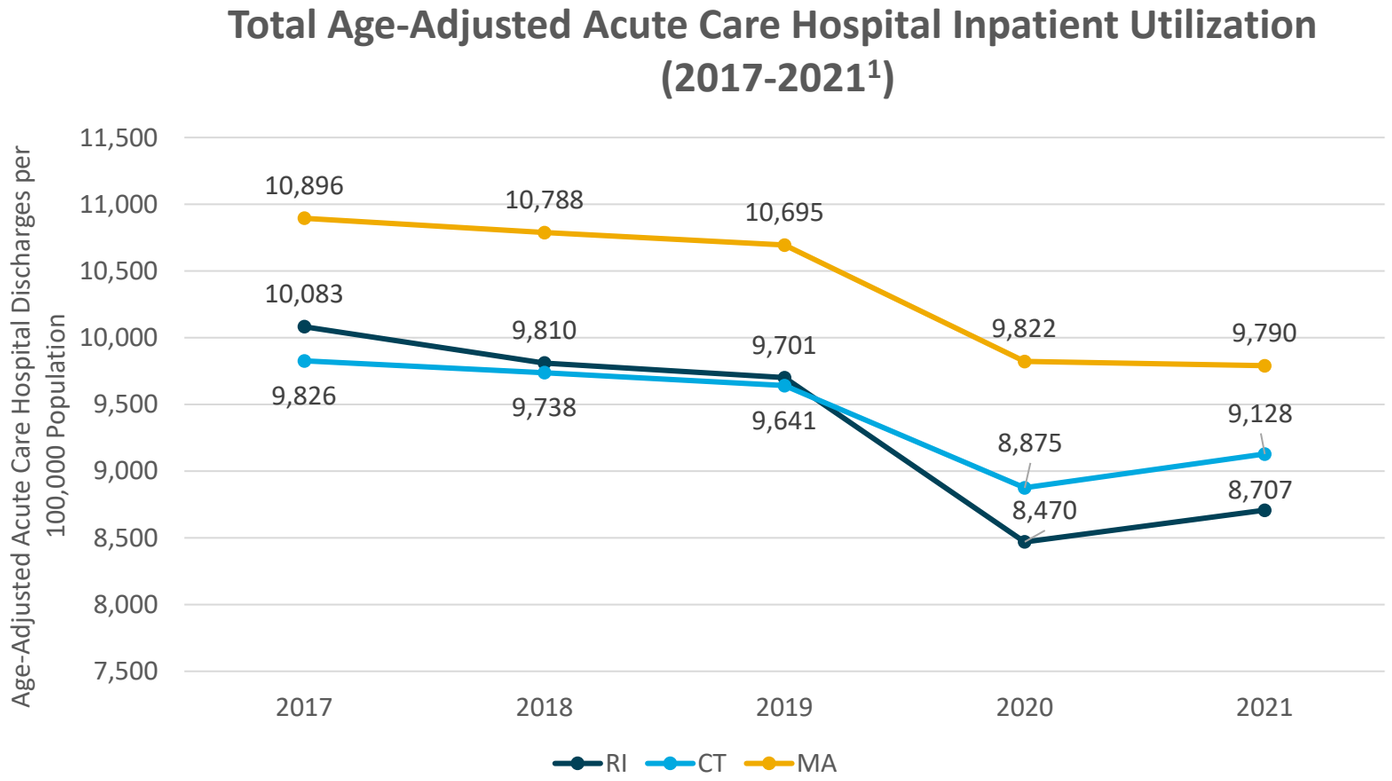
RI, CT, and MA all had approximately the same number of staffed beds in acute care hospitals per 1,000 population in 2022. In RI, there were 2.23 staffed beds per 1,000.

State	Total Number of Staffed Beds	2022 Population	Staffed Beds per 1,000 Population
RI	2,436	1,093,734	2.23
CT	8,171	3,626,205	2.25
MA	14,328	6,981,974	2.05

Sources:
Staffed Beds Data: American Hospital Directory, "Staffed Beds" (as reported in each RI, MA, and CT hospital's most recent Medicare Cost Report).
Population Data: US Census, "State Population by Characteristics: 2020-2023" – Annual Estimates of the Resident Population by Single Year of Age and Sex.

Age-Adjusted Total Acute Care Hospital Inpatient Utilization (2017-2021)

While all three states experienced decreasing acute care hospital inpatient utilization from 2017-2020, RI's inpatient utilization declined at a greater rate than CT and MA in 2020, contributing to a 5% and 12% lower inpatient utilization in CT and MA, respectively, in 2021.



	% Change Year-over-Year		
Year	**RI**	**CT**	**MA**
2017-2018	-3%	-1%	-1%
2018-2019	-1%	-1%	-1%
2019-2020	-13%	-8%	-8%
2020-2021	+3%	+3%	-3%
Total	**-14%**	**-7%**	**-10%**

Notes:

[1] Data on acute hospital discharges in RI is organized by calendar year (January 1-December 31). CT's data is structured by the state's fiscal year (July 1-June 30) while MA's data is compiled by federal fiscal year (October 1-September 30).

Sources:

State Acute Hospital Discharge Data: RI Department of Health, "Hospital Discharge Data 2016-2021;" CT State Department of Public Health, "Hospitalization Statistics" (2017-2021);" Massachusetts Center for Health Information and Analysis (CHIA), "Massachusetts Acute Care Hospital Inpatient Discharge Data (FFY 2016-2021)"

Population Data: US Census, "State Population by Characteristics: 2010-2019" and "State Population by Characteristics: 2020-2022" – Annual Estimates of the Resident Population by Single Year of Age and Sex; Klein and Schoenborn, "Age Adjustment Using the 2000 Projected U.S. Population" (2001).

Age-Specific Total Acute Care Hospital Inpatient Utilization (2021)

Acute care hospital utilization in RI was lower than acute care hospital utilization in MA across all age groups in 2021. This utilization difference is notable among older populations (ages 65+).

Total Acute Hospital Discharges per 100,000 Population

Age Cohort	RI (CY 2021)	MA (FFY 2021)	CT [1]	% Difference between RI & MA
Under 18 years	1,746	1,766		-1%
18-44 years	2,384	2,525		-6%
45-64 years	1,891	2,130		-11%
65-74 years	967	1,180		-18%
75 years and over	1,720	2,188		-21%
Total	8,707	9,790		-11%

Notes:

[1] CT's inpatient acute hospital utilization data uses different age cohorts (0-4, 5-14, 15-24, 25-44, 45-64, and 65+), which prevents a true "apples to apples" comparison of age-specific acute hospital discharges per 100,000 population with RI and MA.

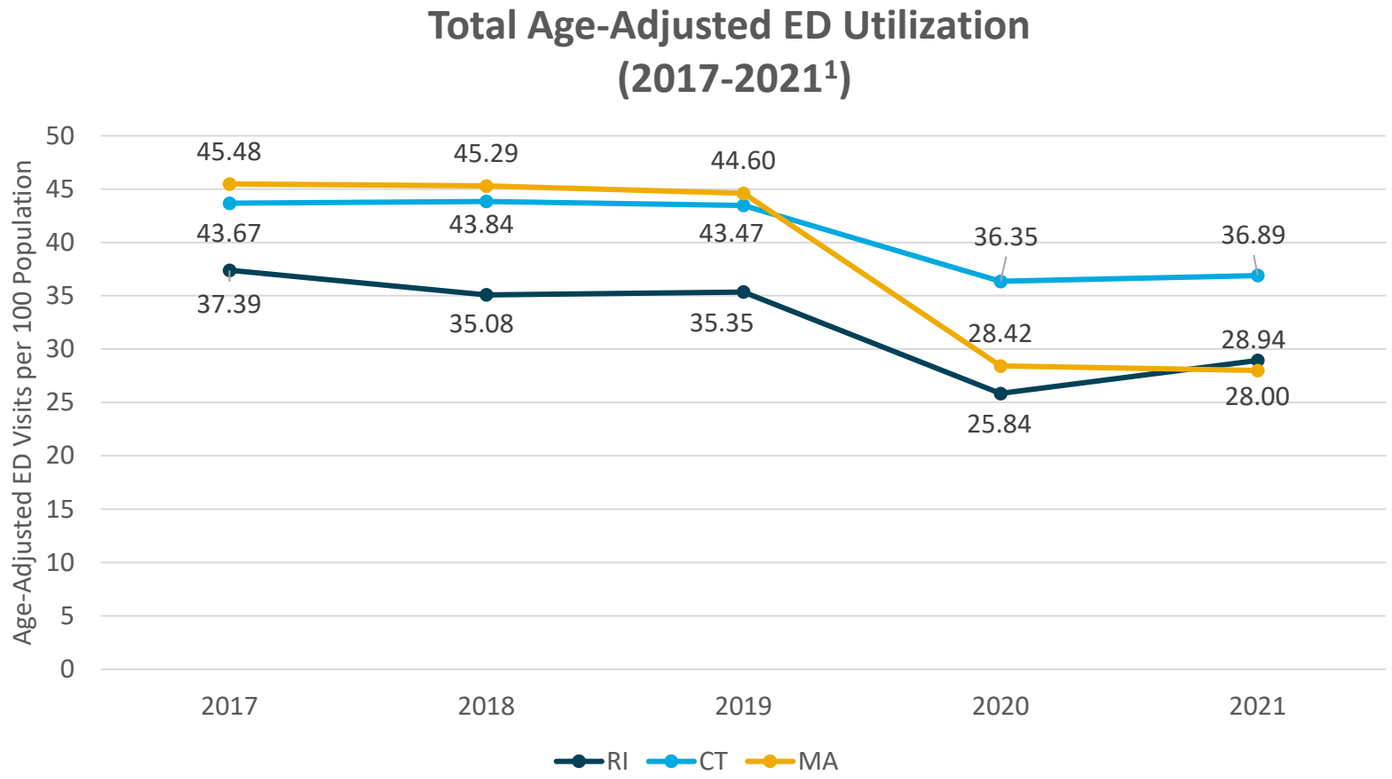
Sources:

State Acute Hospital Discharge Data: RI Department of Health, "Hospital Discharge Data 2016-2021;" Massachusetts Center for Health Information and Analysis (CHIA), "Massachusetts Acute Care Hospital Inpatient Discharge Data (FFY 2016-2021)"

Population Data: US Census, "State Population by Characteristics: 2020-2022" – Annual Estimates of the Resident Population by Single Year of Age and Sex.

Age-Adjusted ED Utilization (2017-2021)

ED utilization in RI increased by 12% from 2020 to 2021 while CT and MA's ED utilization stayed relatively constant from 2020 to 2021. All three states experienced sharp declines in ED utilization between 2019 and 2020. ED utilization in RI and MA slowly declined from 2017-2019 while utilization in CT remained relatively steady from 2017-2019.



	% Change Year-over-Year		
Year	**RI**	**CT**	**MA**
2017-2018	-6%	+0.3%	-0.4%
2018-2019	+1%	-1%	-2%
2019-2020	-27%	-16%	-36%
2020-2021	+12%	+1%	-1%
Total	**-23%**	**-16%**	**-38%**

Note:
[1] Data on ED visits in RI is organized by calendar year (January 1-December 31). CT's data is structured by the state's fiscal year (July 1-June 30) while MA's data is compiled by federal fiscal year (October 1-September 30).

Sources:

ED Utilization Data: RI Department of Health, "Hospital Discharge Data 2016-2021;" CT State Department of Public Health, "Hospitalization Statistics" (2017-2021);" Massachusetts Center for Health Information and Analysis (CHIA), "Massachusetts Acute Care Hospital Inpatient Discharge Data (FFY 2016-2021)"

Population Data: US Census, "State Population by Characteristics: 2010-2019" and "State Population by Characteristics: 2020-2022" – Annual Estimates of the Resident Population by Single Year of Age and Sex; Klein and Schoenborn, "Age Adjustment Using the 2000 Projected U.S. Population" (2001).

Age-Specific ED Utilization in RI & MA (2021)

ED utilization in RI was slightly higher than ED utilization in MA across all age groups in 2021.

Total Annual ED Visits per 100 Population

Age Cohort	RI (CY 2021)	MA (FY 2021)	CT[1]	% Difference Between RI and MA
Under 18 years	5.79	5.33		+9%
18-44 years	12.91	12.68		+2%
45-64 years	6.22	6.17		+1%
65-74 years	1.71	1.63		+5%
75 years and over	2.32	2.19		+6%
Total	**28.94**	**28**		**+4%**

Note:
[1] CT's emergency department utilization data uses different age cohorts (0-4, 5-14, 15-24, 25-44, 45-64, and 65+), preventing a true "apples to apples" comparison of age-specific acute hospital discharges per 100 persons with RI and MA. RI and MA's populations are standardized to the US 2000 population and expressed as visits per 100 persons.

Sources:
ED Utilization Data: RI Department of Health, "Hospital Discharge Data 2016-2021";"Massachusetts Acute Care Hospital Emergency Department Data – Quarterly Update October 2018 through June 2023"
Population Data: US Census, "State Population by Characteristics: 2010-2019" and "State Population by Characteristics: 2020-2022" – Annual Estimates of the Resident Population by Single Year of Age and Sex; Klein and Schoenborn, "Age Adjustment Using the 2000 Projected U.S. Population" (2001).

8. Physician & Health Care Workforce Supply

Overview of Physician & Health Care Workforce Supply

Manatt calculated the number of primary care physicians and select specialty physicians per 100,000 population in RI, CT, and MA. The number of select health care workers per 100,000 and their average annual salaries in 2022 were also identified.

Workforce Supply Metrics Tracked

- **Physician Workforce Supply**
  - Primary Care Physicians per 100,000 (2020)
  - Physicians per 100,000 by Select Specialty (2020)
  - Number and Percent of Physicians Ages 60+ by Select Specialty (2020)

  Specialties include General Surgery, Cardiovascular, Neurology, Hematology & Oncology, Orthopedic Surgery, Obstetrics & Gynecology (OB-GYN), and Emergency Medicine

- **Health Care Workforce Supply**
  - Health Care Workers per 100,000 for Select Job Titles (2022)
  - Average Annual Salary of Health Care Workers for Select Job Titles (2022)

  Health care worker job titles include Licensed Practical Nurses, Nurse Practitioners, Nursing Assistants, Home Health and Personal Care Aides, Physician Assistants, and Registered Nurses

Publicly Available Data Sources Used

State	Data Sources
RI	• Association of American Medical Colleges (AAMC), "2021 State Physician Workforce Data Report" (2022) • U.S. Census Bureau, "Annual Estimates of the Resident Population by Single Year of Age and Sex" (by State) (2020) • U.S. Bureau of Labor Statistics, "Occupational Employment and Wage Estimates" (2022)
MA	• Association of American Medical Colleges (AAMC), "2021 State Physician Workforce Data Report" (2022) • U.S. Census Bureau, "Annual Estimates of the Resident Population by Single Year of Age and Sex" (by State) (2020) • U.S. Bureau of Labor Statistics, "Occupational Employment and Wage Estimates" (2022)
CT	• Association of American Medical Colleges (AAMC), "2021 State Physician Workforce Data Report" (2022) • U.S. Census Bureau, "Annual Estimates of the Resident Population by Single Year of Age and Sex" (by State) (2020) • U.S. Bureau of Labor Statistics, "Occupational Employment and Wage Estimates" (2022)

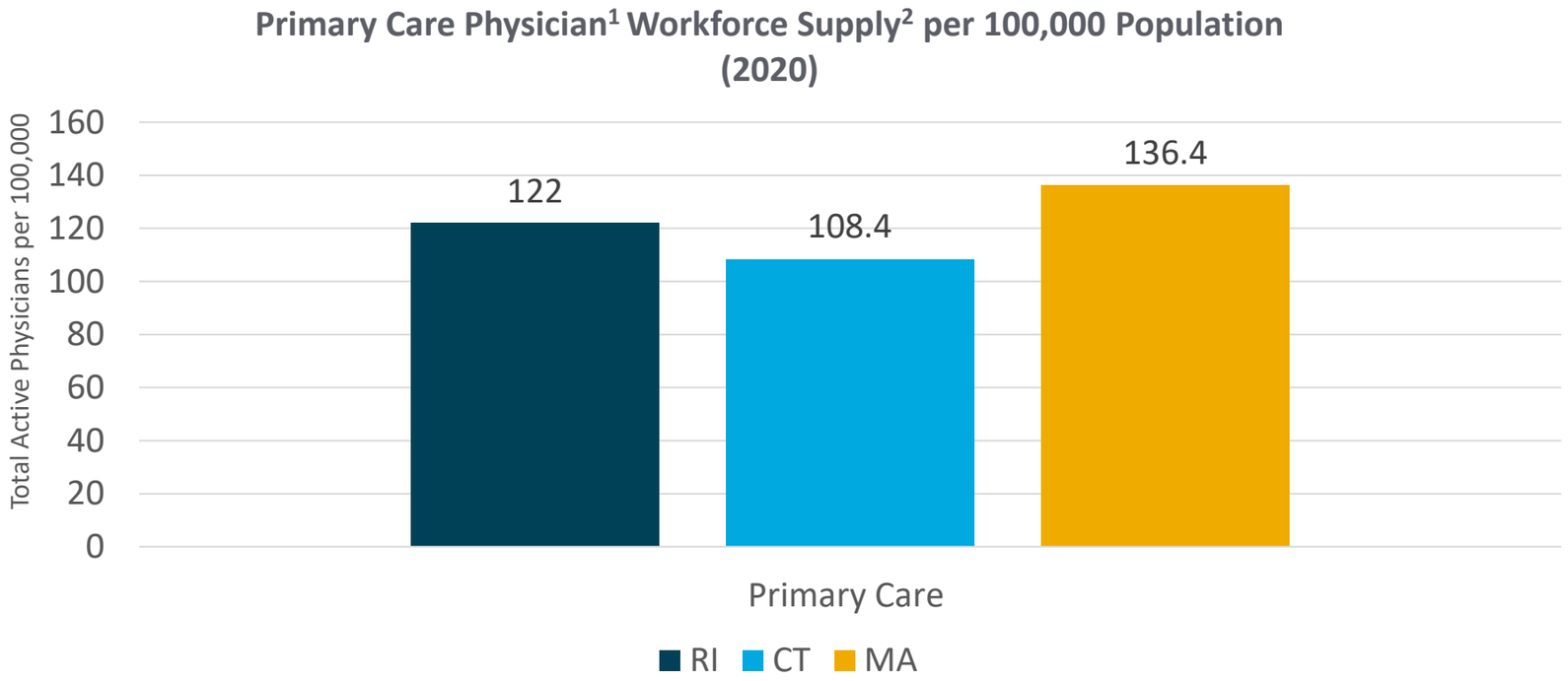
Key Highlights of Physician & Health Care Workforce Supply

- **Physician Workforce**
  - RI has 122 primary care physicians per 100,000 while MA has 136 primary care physicians per 100,000. CT has the lowest number of primary care physicians per 100,000 at around 108 primary care physicians per 100,000.
  - RI and CT have similar numbers of general surgery, cardiovascular, neurology, hematology and oncology, orthopedic surgery, and OB-GYN physicians per 100,000. CT has slightly more cardiovascular and OB-GYN physicians than RI, but RI has more neurology and emergency medicine physicians than CT.
  - RI has the most emergency physicians per 100,000 compared to CT and MA.
- **Health Care Workforce**
  - RI has a notably higher supply of nursing assistants and a higher number of nurse practitioners per 100,000 than CT and MA. However, RI has the lowest supply of licensed practical nurses, home health and personal care aides, and physician assistants compared to CT and MA.
  - In RI, health care workers – except for licensed practical nurses and nursing assistants – were paid less than their peers in both CT and MA in 2022. Health care workers in MA received the highest salaries for all health care positions except for physician assistants, where CT pays about $11,000 more per year.

Notes:
Rhode Island's Executive Office of Health and Human Services is currently developing new analytic tools incorporating both public and proprietary data sources, including licensing data, to develop a more comprehensive review of Rhode Island's health workforce.

Primary Care Physician Workforce Supply (2020)

In 2020, RI had 122 primary care physicians per 100,000 compared to around 108 primary care physicians per 100,000 in CT and 136 per 100,000 in MA.



Notes:

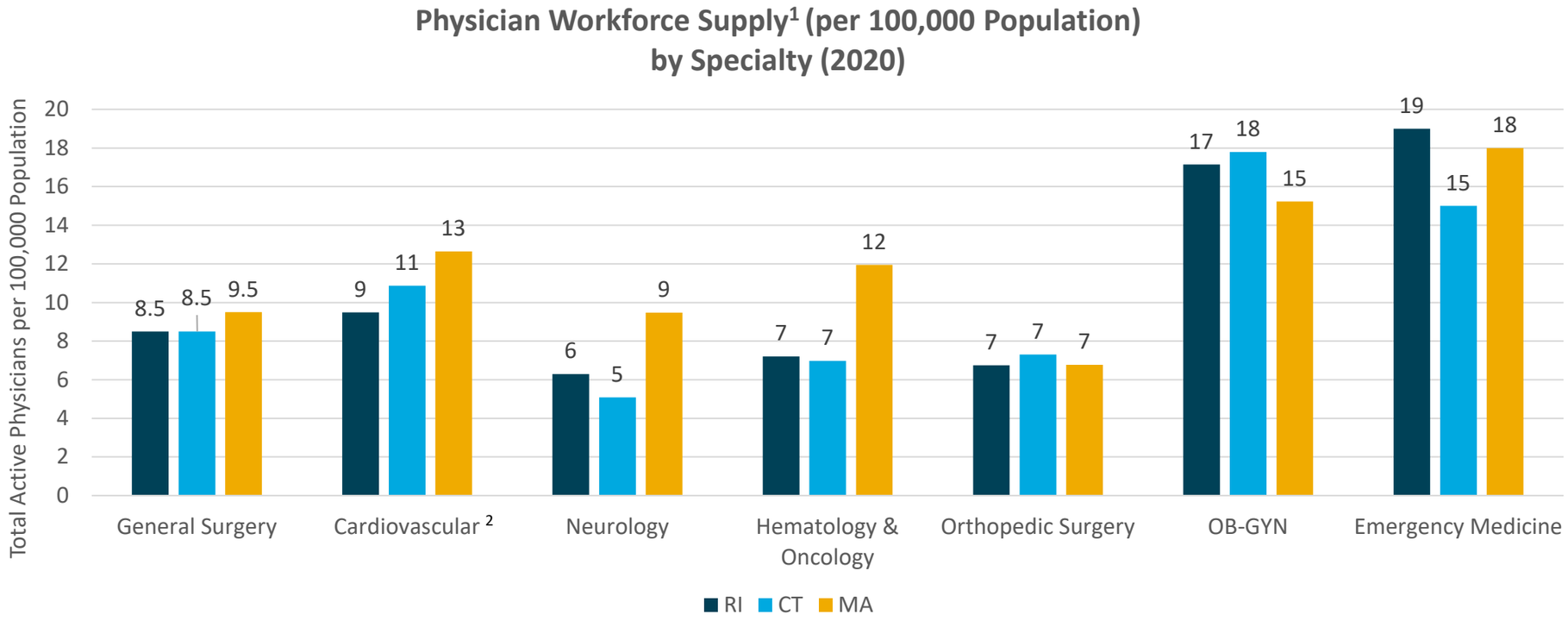
[1] Primary care physicians are physicians whose self-designated specialty is one of the following: adolescent medicine (pediatrics), family medicine, general practice, geriatric medicine (family practice), geriatric medicine (internal medicine), internal medicine, internal medicine/ pediatrics, or pediatrics.

[2] Physician workforce is defined as active physicians in the state. Active physicians (both federal and non-federal) are licensed by a state and work at least 20 hours per week. Active physicians also include those working in nonpatient care activities (e.g., medical teaching or research) and include both doctors of medicine (MD) and doctors of osteopathic medicine (DO).

Sources: AAMC, “2021 State Physician Workforce Data Report” (2022); U.S. Census Bureau, “Annual Estimates of the Resident Population by Single Year of Age and Sex” (by State) (2020)

Physician Workforce Supply by Select Specialty (2020)

RI and CT's physician workforce supply are approximately the same per 100,000 across all specialties except emergency medicine. RI has the most emergency physicians per 100,000 but the lowest number of cardiovascular physicians per 100,000 of RI, CT, and MA.



Notes:

[1]Physician workforce is defined as active physicians in the state for select specialties. **Active physicians** (both federal and non-federal) are licensed by a state and work at least 20 hours per week. Active physicians also include those working in nonpatient care activities (e.g., medical teaching or research) and include both doctors of medicine (MD) and doctors of osteopathic medicine (DO). Physician workforce supply is not adjusted for non-clinical time per FTE.

[2] Cardiovascular physicians do not include cardiothoracic surgeons. AAMC specialty groupings and corresponding AMA physician professional data specialties included can be accessed here.

Sources: AAMC, "2021 State Physician Workforce Data Report" (2022); U.S. Census Bureau, "Annual Estimates of the Resident Population by Single Year of Age and Sex" (by State) (2020)

Number and Percent of Physicians Ages 60+ by Select Specialty (2020)

Over half of all orthopedic surgeons in RI and CT are ages 60 and older. RI also has the highest proportion of neurology specialists (43.5%) ages 60 and older compared to CT (39.9%) and MA (39.8%).

Cardiovascular[1]

State	# of Physicians 60+	% of Physicians 60+
RI	46	44.2%
CT	167	42.7%
MA	394	44.5%

Hematology & Oncology

State	# of Physicians 60+	% of Physicians 60+
RI	27	34.2%
CT	86	34.3%
MA	244	29.2%

OB-GYN

State	# of Physicians 60+	% of Physicians 60+
RI	53	28.2%
CT	234	36.6%
MA	352	33.0%

Neurology

State	# of Physicians 60+	% of Physicians 60+
RI	30	43.5%
CT	73	39.9%
MA	264	39.8%

Orthopedic Surgery

State	# of Physicians 60+	% of Physicians 60+
RI	42	56.8%
CT	150	57.0%
MA	217	45.8%

Emergency Medicine

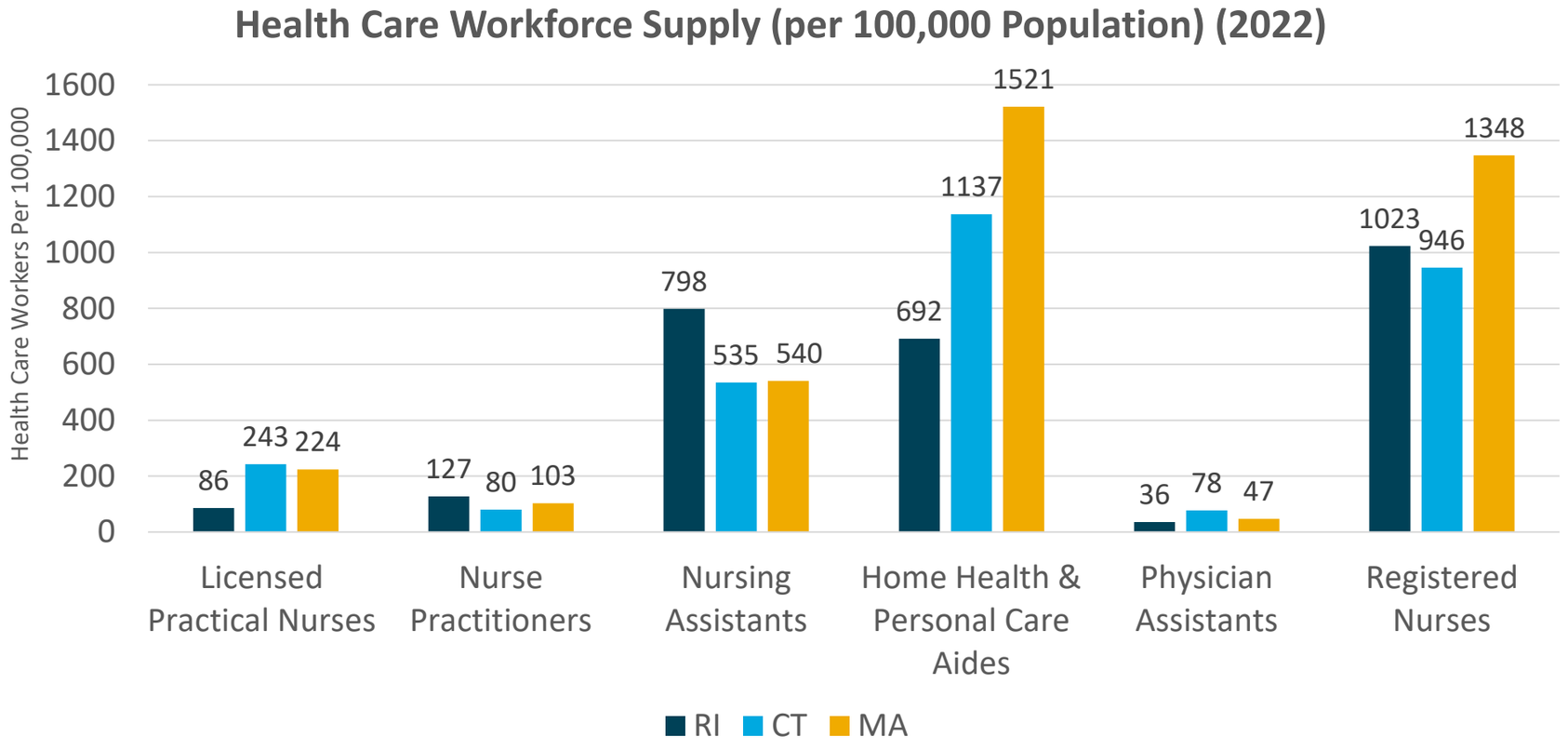
State	# of Physicians 60+	% of Physicians 60+
RI	34	16.6%
CT	145	27.0%
MA	324	25.6%

Notes:
[1] Cardiovascular physicians do not include cardiothoracic surgeons.
AAMC specialty groupings and corresponding AMA physician professional data specialties included can be accessed here.

Source: AAMC, "2021 State Physician Workforce Data Report" (2022)

Health Care Workforce Supply (Select Job Titles) (2022)

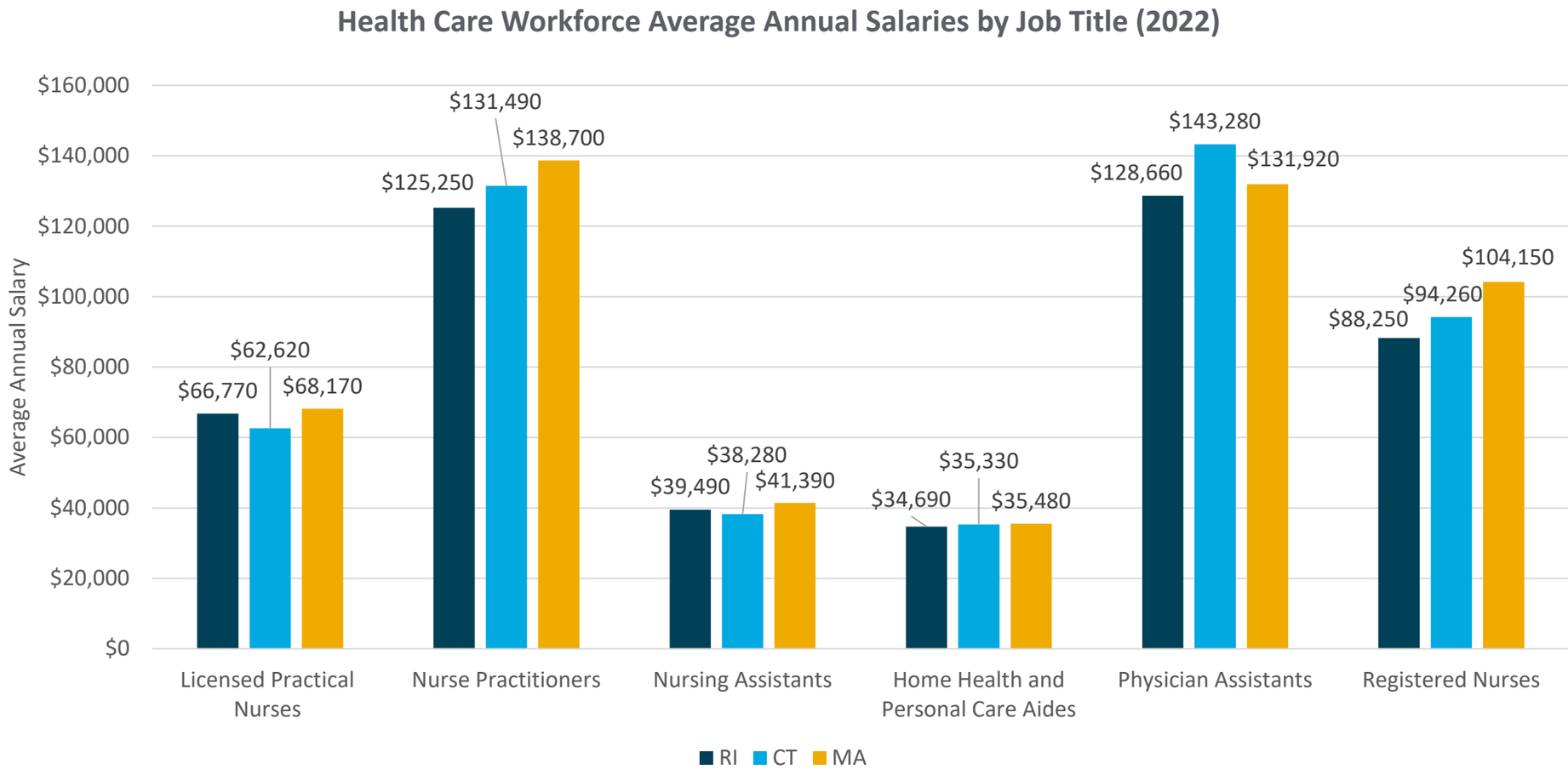
RI has a notably higher supply of nursing assistants per 100,000 population than CT and MA. RI has the lowest supply of licensed practical nurses, home health and personal care aides, and physician assistants compared to CT and MA. RI also has a lower supply of registered nurses per 100,000 compared to MA.



Source: U.S. Bureau of Labor Statistics, “Occupational Employment and Wage Estimates” (2022)

Average Annual Salaries of Health Care Workers (Select Job Titles) (2022)

In RI, health care workers except for licensed practical nurses and nursing assistants are paid less than their peers in both CT and MA. Health care workers in MA received the highest salaries for all health care positions except for physician assistants, where CT pays about $11,000 more per year.



Source: U.S. Bureau of Labor Statistics, “Occupational Employment and Wage Estimates” (2022)

Opportunities for Further Investigation

Opportunities for Further Investigation

The purpose of this study was to compile baseline, publicly available statistics about the Rhode Island's hospitals and health systems and those of its neighboring states. Through this exercise, several areas were identified for potential further, follow-up investigation to provide deeper insights into RI's health care ecosystem.

Opportunities for Further Analytic Investigation:

- **Further explore the health care premium distribution across the full spectrum of services** (i.e. hospitals, non-hospital based ambulatory surgery, physician, pharmacy and others)
- **Obtain a deeper, more current understanding of how RI, CT and MA employer-based health plan hospital pricing compares by clinical service line and selected procedures**. This could be accomplished through review of each state's All Payer Claims Data, (APCD) 3rd party pricing data provider and/or review of the RAND 5.0 employer-based health plan pricing survey (release date TBD)
- **Explore health care disparities, inequities and impacts upon RI communities** and how these compare with those of MA and CT
- **Evaluate RI, MA and CT inpatient care outmigration trends across multiple service lines**, assessing provider access, expertise and care coordination requirements to reduce the flow of higher acuity and higher cost care out of state.
- **Conduct a deeper analysis of Medicaid reimbursements and utilization (i.e. by service line, by procedures, by visits)** across the 3 states via APCD to identify significant gaps and differences in reimbursement and utilization.
- **Incorporate outcomes metrics among RI, CT and MA,** including quality of care, access, safety and health status measures

Appendix

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Appendix A. Providence - Warwick, RI-MA CBSA

Hospital-Level Metrics

Average Inpatient Prices Paid (Reimbursements) by Private Employer-Sponsored Health Plans to Acute Hospitals in the Providence-Warwick, RI-MA CBSA (2020)

Average Standardized Inpatient Facility Price per Stay Paid by Private Employer-Sponsored Health Plans to Acute Hospitals in the Providence-Warwick, RI-MA CBSA (2020)

Standardized prices represent the allowed amount paid by the private health plan per service, standardized using Medicare's case mix grouping and relative weights.

Note: The data does not include Women & Infants Hospital who did not submit data to the RAND 4.0 Study

Source: RAND, "Prices Paid to Hospitals by Private Health Plans: Findings from Round 4 of an Employer-Led Transparency Initiative – Table 3. States"

Average Outpatient Prices Paid (Reimbursements) by Private Employer-Sponsored Health Plans to Acute Hospitals in the Providence-Warwick, RI-MA CBSA (2020)

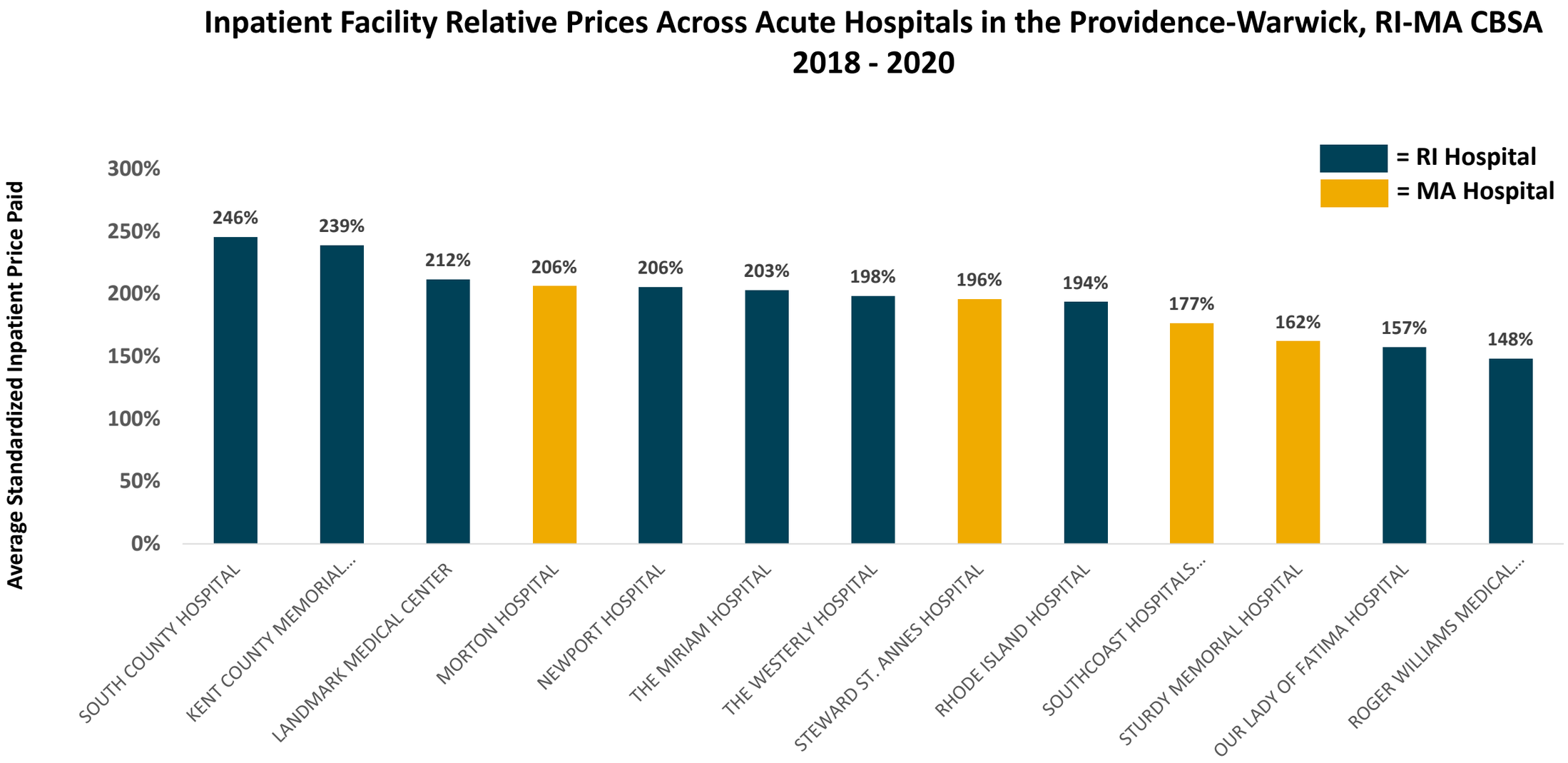
Average Standardized Outpatient Facility Price per Service Paid by Private Employer-Sponsored Health Plans to Acute Hospitals in the Providence-Warwick, RI-MA CBSA (2020)

Standardized prices represent the allowed amount paid by the private health plan per service, standardized using Medicare's case mix grouping and relative weights.

Note: The data does not include Women & Infants Hospital who did not submit data to the RAND 4.0 Study

Source: RAND, "Prices Paid to Hospitals by Private Health Plans: Findings from Round 4 of an Employer-Led Transparency Initiative – Table 3. States"

Inpatient Facility Relative Prices Across Acute Hospitals in the Providence-Warwick, RI-MA CBSA (2018-2020)

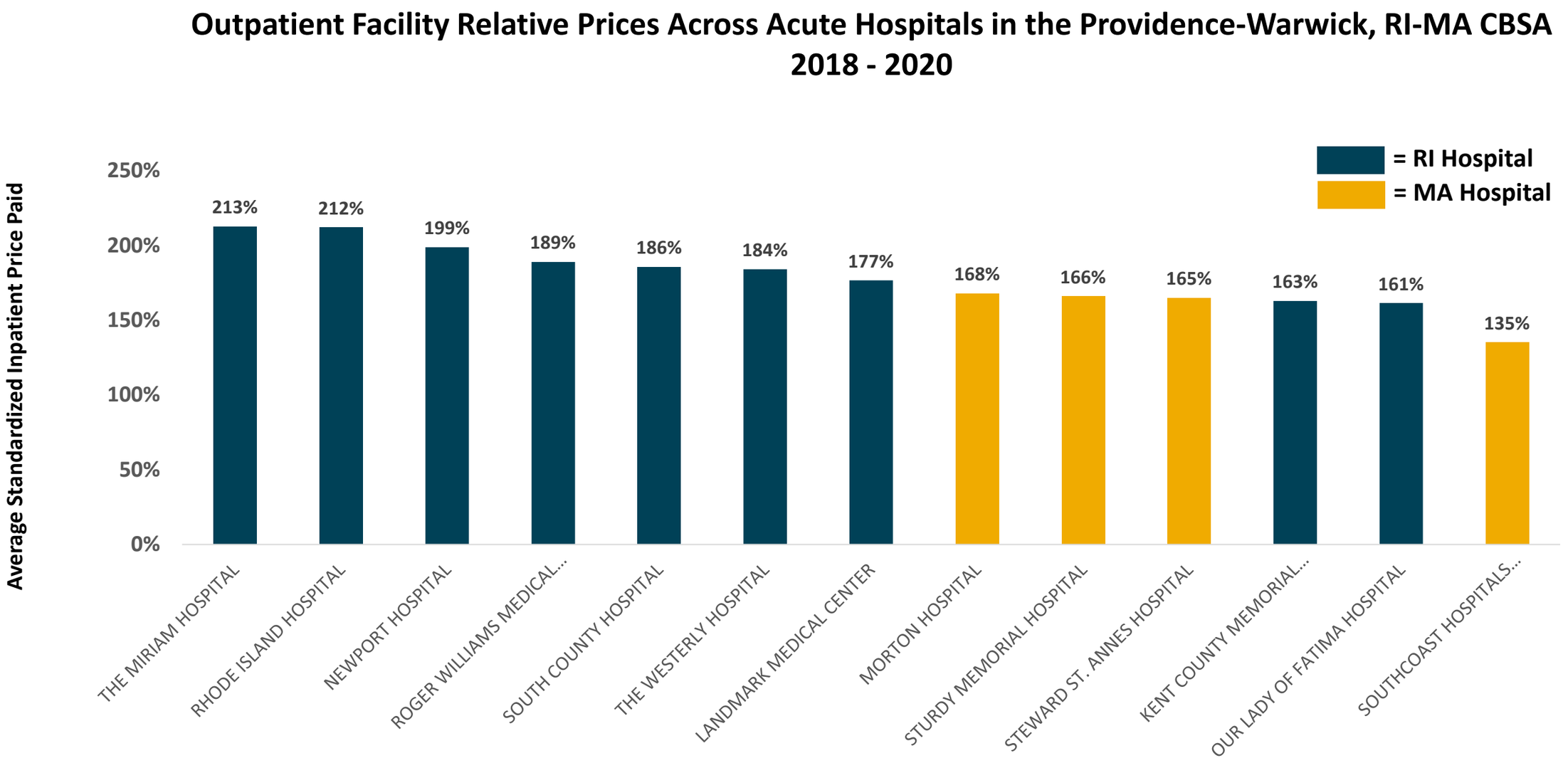


Relative Price = the ratio of the actual private allowed amount divided by the Medicare allowed amount for the same services provided by the same hospital, as calculated by the RAND 4.0 Study

Note: The data does not include Women & Infants Hospital who did not submit data to the RAND 4.0 Study

Source: RAND, "Prices Paid to Hospitals by Private Health Plans: Findings from Round 4 of an Employer-Led Transparency Initiative – Table 3. States"

Outpatient Facility Relative Prices Across Acute Hospitals in the Providence-Warwick, RI-MA CBSA (2018-2020)



Relative Price = the ratio of the actual private allowed amount divided by the Medicare allowed amount for the same services provided by the same hospital, as calculated by the RAND 4.0 Study

Note: The data does not include Women & Infants Hospital who did not submit data to the RAND 4.0 Study

Source: RAND, "Prices Paid to Hospitals by Private Health Plans: Findings from Round 4 of an Employer-Led Transparency Initiative – Table 3. States"

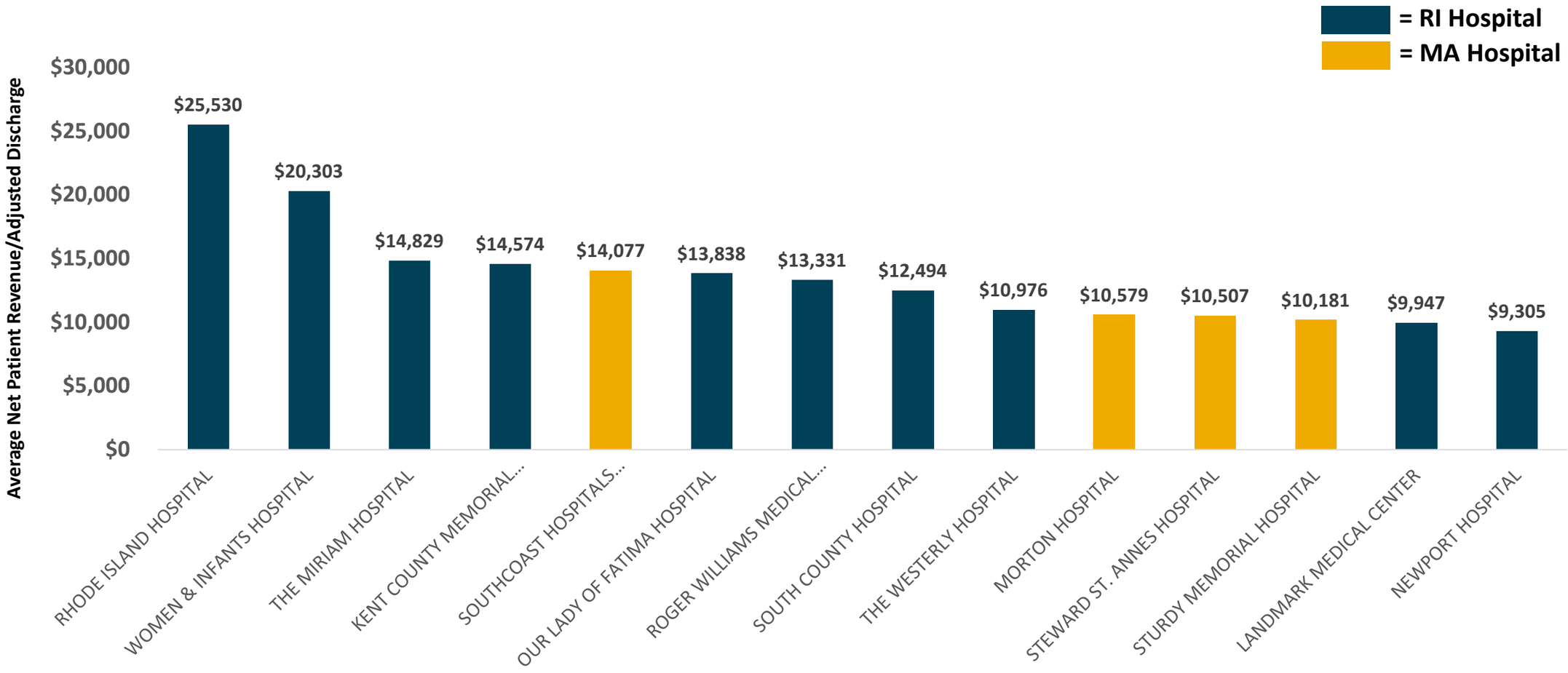
Average Net Patient Revenue/Adjusted Discharge for Acute Hospitals in the Providence-Warwick, RI-MA CBSA – FY 2022

Average FY 2022 Net Patient Revenue/Adjusted Discharge for Acute Hospitals in the Providence-Warwick, RI-MA CBSA

Source: NASHP Hospital Cost Tool – December 2023 Hospital level dataset; https://tool.nashp.org/

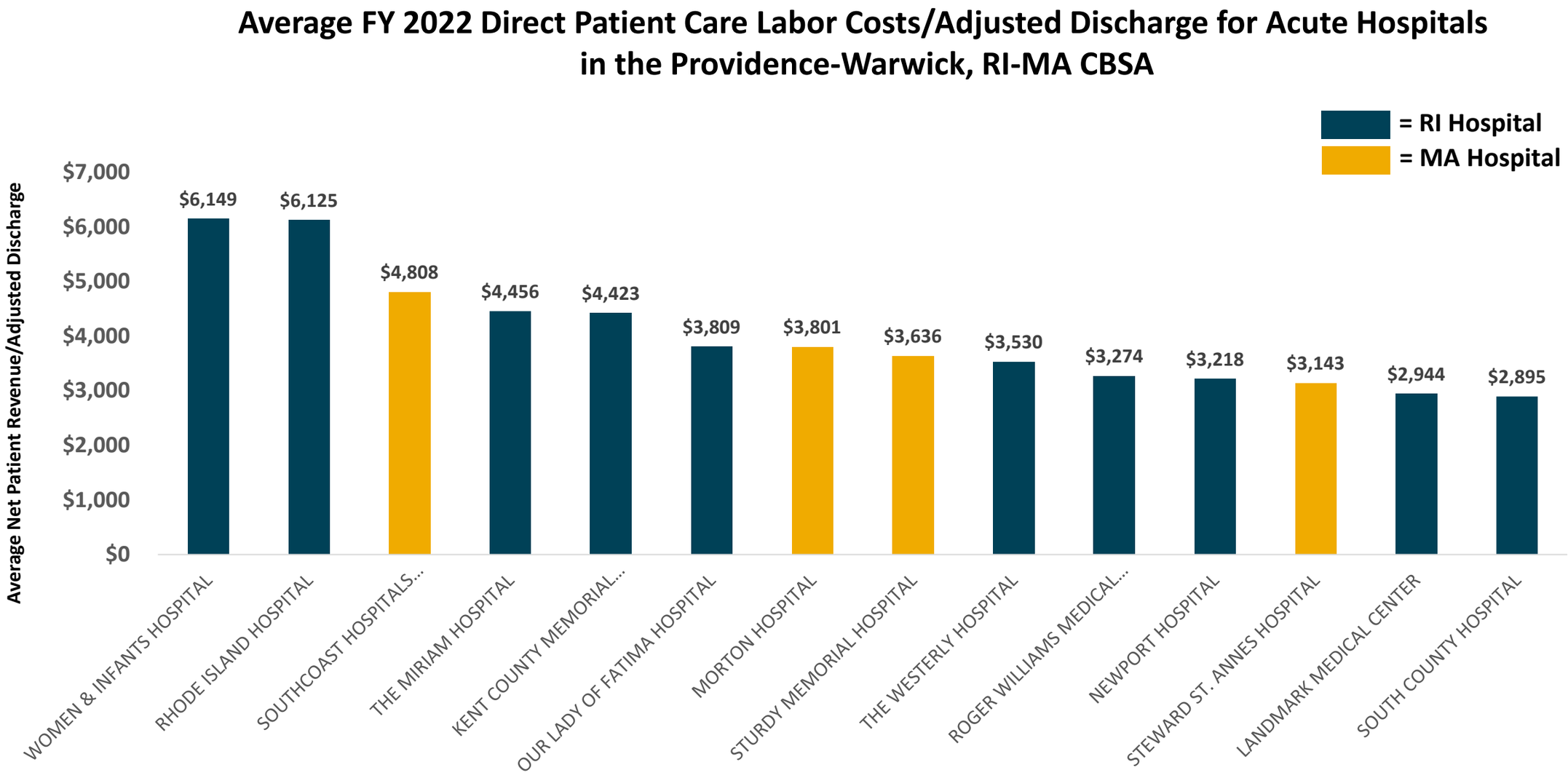
Average Operating Expense/Adjusted Discharge for Acute Hospitals in the Providence-Warwick, RI-MA CBSA – FY2022

Average FY 2022 Operating Expense/Adjusted Discharge for Acute Hospitals in the Providence-Warwick, RI-MA CBSA



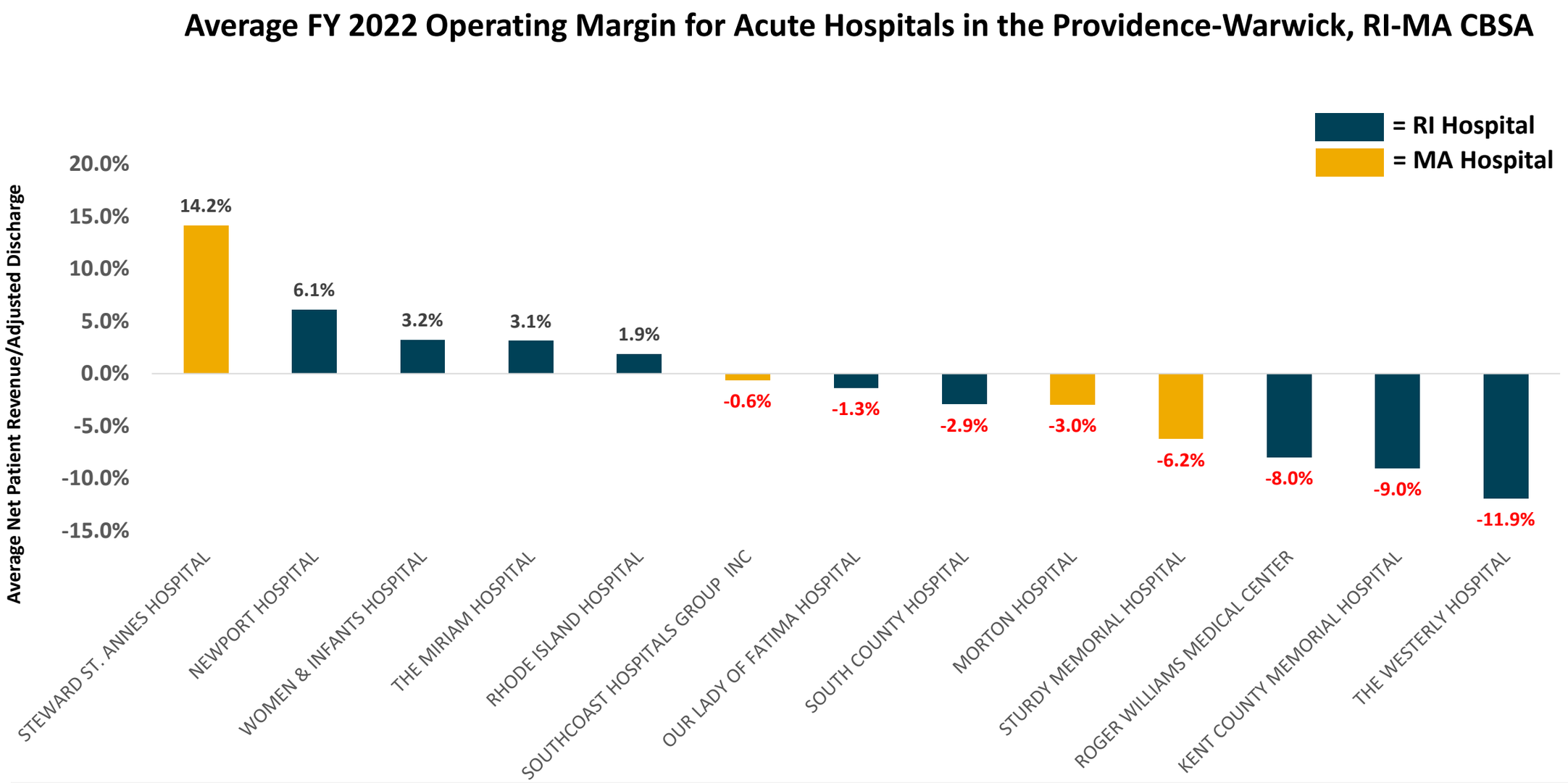
Source: NASHP Hospital Cost Tool – December 2023 Hospital level dataset; https://tool.nashp.org/

Average Direct Patient Care Labor Costs/Adjusted Discharge for Acute Hospitals in the Providence-Warwick, RI-MA CBSA – FY2022



Source: NASHP Hospital Cost Tool – December 2023 Hospital level dataset; https://tool.nashp.org/

Average Operating Margin for Acute Hospitals in the Providence-Warwick, RI-MA CBSA – FY2022



Notes:

- *The RI analysis does not include Prime Healthcare Services financial information.*
- *Lifespan acute hospitals' FY 2022 operating revenue and operating margin excludes costs of $56.8M related to joint venture losses from Lifespan Physician Group. These costs are reported as a reduction to operating revenue in FY2018 and FY2020 but reported as an equity transfer if FY2022..*

Sources: Data Request to HARI Hospitals and Health Systems; CHIA - Massachusetts Acute Hospital and Health System Financial Performance Databook, FY2018, 20 and 22; Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2018, 2022, and 2022.

Appendix B. Health System Financial Metrics

RI Health System FY 2022 Financial Metrics

In FY 2022, all health systems across RI experienced negative operating margins, as reported in their audited financial statements. The state's largest RI-based health systems have less favorable bond ratings than their MA and CT peers.

RI Health System Financial Metrics for FY 2022

Health System	Total Operating Revenue	Total Operating Expenses	Total Operating Margin %	Days Cash on Hand	Equity Financing Ratio	Average Age of Plant	Latest Bond Rating
Care New England Health System	$1,230,400,000	$1,289,005,177	-4.8%	50.7	50%	19.2	Fitch: BB-; S&P: B+
Lifespan	$2,827,881,000	$2,883,898,000	-2.0%	110.4	56%	9.6	Fitch: BBB+; S&P: BBB+
CharterCare	$350,315,000	$377,787,000	-7.8%	N/A	-10%	25	N/A
South County Health	$222,504,152	$228,981,110	-2.9%	113	36%	15.9	N/A
Yale New Haven (Westerly Hospital *ONLY*)	$114,421,000	$128,051,000	-11.9%				
Total RI Health Systems	**$4,745,563,669**	**$4,907,722,287**	**-3.4%**				

Notes:

- *The RI analysis does not include Prime Healthcare Services financial information in this Data Report.*
- *The RI statewide operating margin analysis includes Yale New Haven Health operating revenue and expense financials ONLY for The Westerly Hospital.*

Source: Data Request to HARI Hospitals and Health Systems; Care New England Audited Financial Statements for FY 2018, FY 2020 and FY 20222

MA Health System Financial Metrics (FY 2022)

Massachusetts Health System Financial Metrics for FY 2022

Health System	Total Operating Revenue	Total Operating Expenses	Total Operating Margin	Equity Financing Ratio	Average Age of Plant	Latest Bond Rating
Berkshire Health Systems, Inc.	$777,190,432	$756,877,470	2.6%	71.8%	15	Fitch: AA-; Moody's: A3
Emerson Health System, Inc. and Subsidiaries	$349,436,190	$348,236,207	0.3%	37.0%	21	
Valley Health System, Inc.	$245,383,613	$244,912,895	0.2%	29.7%	19	
Boston Medical Center Health System, Inc.	$4,824,430,000	$4,823,547,000	0%	48.4%	11	Moody's: Baa2
Cape Cod Healthcare, Inc.	$1,032,034,831	$1,038,344,587	-0.6%	71.2%	14	Fitch: AA; S&P: A
Boston Children's Hospital and Subsidiaries	$3,127,496,000	$3,176,142,000	-1.6%	69.7%	15	S&P: AA
Signature Healthcare Corporations	$425,195,788	$435,736,408	-2.5%	33.6%	12	
Mass General Brigham	$16,710,367,000	$17,142,029,000	-2.6%	55.8%	9	Moody's: Aa3
Beth Israel Lahey Health	$7,067,832,000	$7,267,359,000	-2.8%	47.0%	17	S&P: A; Moody's: A3
Milford Regional Medical Center, Inc. and Affiliates	$361,215,387	$375,429,042	-3.9%	34.0%	10	
South Shore Health and Educational Corporation and Subsidiaries	$877,602,295	$912,266,910	-3.9%	47.0%	10	Fitch: BBB; S&P: BBB; Moody's: Baa2
Southcoast Health Systems, Inc.	$1,226,826,320	$1,279,868,874	-4.3%	59.0%	10	Fitch: A-; S&P: BBB+; Moody's: Baa1

Notes: Steward Health Care Systems, LLC does not report financial data to MA-CHIA.

This analysis does not include Tenet nor Trinity Health operating revenue, expense and operating margin financials as these were reported for the organizations' entire national market to MA-CHIA Acute Hospital and Health System FY2018, 20 and 22 Financial Performance Databooks.

Manatt used the following columns to calculate Total Operating Expenses for MA Health Systems (HHS): Salary and Benefit Expense; Outside Medical and Pharmacy Services; Depreciation and Amortization Expense; Interest Expense; Health Safety Net Assessment; Other Operating Expenses. Operating Margin was calculated by Manatt as (Total Operating Revenue –Total Operating Expenses)/Total Operating Revenue.

Source: MA CHIA, Massachusetts Acute Hospital and Health System FY 2022 Financial Performance Databook, September 2023

MA Health System Financial Metrics (FY 2022)

Massachusetts Health System Financial Metrics for FY2022						
Health System	**Total Operating Revenue**	**Total Operating Expenses**	**Total Operating Margin**	**Equity Financing Ratio**	**Average Age of Plant**	**Latest Bond Rating**
Cambridge Health Alliance	$807,104,572	$847,340,156	-5.0%	39.5%	18	
Lawrence General Hospital and Affiliates	$328,166,000	$347,331,000	-5.8%	14.9%	13	S&P B-
Baystate Health, Inc.	$2,866,368,000	$3,044,020,000	-6.2%	41.6%	17	Fitch: A+; S&P: A
Dana-Farber Cancer Institute, Inc. and Subsidiaries	$2,387,975,276	$2,571,430,228	-7.7%	65.0%	12	S&P: A Moody's: A1
UMass Memorial Health Care. Inc.	$3,317,335,000	$3,608,293,000	-8.8%	38.6%	11	Fitch: A-; S&P: BBB+
Sturdy Memorial Foundation, Inc. and Affiliates	$281,880,341	$310,679,626	-10.2%	91.0%	14	
Heywood Healthcare System, Inc.	$197,742,567	$230,973,263	-16.8%	11.4%	15	
Wellforce, Inc.	$2,288,691,000	$2,687,242,000	-17.4%	18.3%	0	Fitch: BBB
Shriners Hospitals for Children	$770,152,000	$1,053,274,000	-36.8%	92.0%	0	
TOTAL All MA Health Systems	**$50.3B**	**$52.5B**	**-4.5%**			

Notes: Steward Health Care Systems, LLC does not report financial data to MA-CHIA.

This analysis does not include Tenet nor Trinity Health operating revenue, expense and operating margin financials as these were reported for the organizations' entire national market to MA-CHIA Acute Hospital and Health System FY2018, 20 and 22 Financial Performance Databooks.

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Source: MA CHIA, Massachusetts Acute Hospital and Health System FY 2022 Financial Performance Databook, September 2023.

CT Health System Financial Metrics (FY 2022)

CT Health System Financial Metrics for FY 2022						
Health System	**Total Operating Revenue**	**Total Operating Expenses**	**Total Operating Margin %**	**Days Cash on Hand**	**Equity Financing Ratio**	**Latest Bond Rating**
CCMC Corporation	$591,612,917	$570,317,056	3.60%	136	57%	Fitch: A+; Moody's: A3
Griffin Health Services Corp	$301,206,860	$292,849,633	2.77%	91	19.9%	S&P: BB+
Hartford Healthcare Corp	$5,403,735,000	$5,343,021,000	1.12%	42	55.5%	Fitch: A+; S&P: A
Stamford Health Inc	$832,041,000	$827,122,000	0.59%	69	43.4%	Fitch: BBB+; S&P: BBB+
Middlesex Health System Inc	$507,473,574	$508,376,000	-0.18%	49	70.4%	Moody's: A3
Day Kimball Healthcare	$145,557,387	$147,485,102	-1.32%	21	-13.1%	N/A
Trinity Health NE	$1,775,754,000	$1,822,458,000	-2.63%	30	42%	N/A
Prospect Health CT	$593,694,040	$613,627,767	-3.36%	1	-3.4%	N/A
Nuvance Health Inc	$1,370,409,000	$1,421,321,000	-3.72%	17	51.2%	S&P: BBB; Moody's: Baa3
Yale-New Haven Health Services Corp	$6,075,121,000	$6,309,163,000	-3.85%	208	49.3%	Fitch: A+; S&P: AA-; Moody's: A1
Bristol Hospital & Healthcare Group	$209,215,185	$225,758,684	-7.91%	10	-9.5%	N/A
University of Connecticut Health Center	$1,048,412,336	$1,492,179,356	-42.33%	79	-39.4%	N/A
TOTAL All CT Health Systems	**$18.9B**	**$19.6B**	**-3.82%**			

Source: CT Office of Health Strategy (OHS), Annual Report on the Financial Status of CT Short Term Acute Care Hospitals for FY 2022.

Appendix C. Acute Care Hospitals by State, Hospital Category, and CBSA

Acute Care Hospitals by State, Hospital Category, and CBSA

Rhode Island

Hospital Name	Hospital Category	CBSA
Kent County Memorial Hospital	CH w/ >$300M operating revenue	Providence-Warwick, RI-MA
Landmark Medical Center	CH w/ <$300M operating revenue	Providence-Warwick, RI-MA
Newport Hospital	CH w/ <$300M operating revenue	Providence-Warwick, RI-MA
Our Lady Of Fatima Hospital	CH w/ <$300M operating revenue	Providence-Warwick, RI-MA
Rhode Island Hospital	COTH Member	Providence-Warwick, RI-MA
Roger Williams Medical Center	CH w/ <$300M operating revenue	Providence-Warwick, RI-MA
South County Hospital	CH w/ <$300M operating revenue	Providence-Warwick, RI-MA
The Miriam Hospital	COTH Member	Providence-Warwick, RI-MA
The Westerly Hospital	CH w/ <$300M operating revenue	Providence-Warwick, RI-MA
Women & Infants Hospital	COTH Member	Providence-Warwick, RI-MA

Connecticut

Hospital Name	Hospital Category	CBSA
Bridgeport Hospital	COTH Member	Bridgeport-Stamford-Danbury, CT
Bristol Hospital Inc	CH w/ <$300M operating revenue	Hartford-West Hartford-East Hartford, CT
Charlotte Hungerford Hospital	CH w/ <$300M operating revenue	Torrington, CT
Connecticut Children’s Medical Center	CH w/ >$300M operating revenue	Hartford-West Hartford-East Hartford, CT
Danbury Hospital	CH w/ >$300M operating revenue	Bridgeport-Stamford-Danbury, CT
Day Kimball Hospital	CH w/ <$300M operating revenue	Worcester, MA-CT
Greenwich Hospital	COTH Member	Bridgeport-Stamford-Danbury, CT
Hartford Hospital	COTH Member	Hartford-West Hartford-East Hartford, CT

Acute Hospitals by State, Hospital Category, and CBSA

Connecticut (continued)

Hospital Name	Hospital Category	CBSA
John Dempsey Hospital	COTH Member	Hartford-West Hartford-East Hartford, CT
Johnson Memorial Hospital Inc.	CH w/ <$300M operating revenue	Hartford-West Hartford-East Hartford, CT
Lawrence & Memorial Hospital	CH w/ >$300M operating revenue	Norwich-New London-Willimantic, CT
Manchester Memorial Hospital	CH w/ <$300M operating revenue	Hartford-West Hartford-East Hartford, CT
Middlesex Hospital	CH w/ >$300M operating revenue	Hartford-West Hartford-East Hartford, CT
Midstate Medical Center	CH w/ >$300M operating revenue	Hartford-West Hartford-East Hartford, CT
Norwalk Hospital	CH w/ >$300M operating revenue	Bridgeport-Stamford-Danbury, CT
Rockville General Hospital Inc.	CH w/ <$300M operating revenue	Hartford-West Hartford-East Hartford, CT
Saint Francis Hospital	COTH Member	Hartford-West Hartford-East Hartford, CT
Sharon Hospital	CH w/ <$300M operating revenue	Torrington, CT
St. Mary's Hospital	CH w/ >$300M operating revenue	New Haven-Milford, CT
St. Vincent's Medical Center	CH w/ >$300M operating revenue	Bridgeport-Stamford-Danbury, CT
The Griffin Hospital	CH w/ <$300M operating revenue	New Haven-Milford, CT
The Hospital Of Central Connecticut	CH w/ >$300M operating revenue	Hartford-West Hartford-East Hartford, CT
The Stamford Hospital	CH w/ >$300M operating revenue	Bridgeport-Stamford-Danbury, CT
The William W. Backus Hospital	CH w/ >$300M operating revenue	Norwich-New London-Willimantic, CT
Waterbury Hospital	CH w/ <$300M operating revenue	New Haven-Milford, CT
Windham Community Memorial Hospital	CH w/ <$300M operating revenue	Norwich-New London-Willimantic, CT
Yale-New Haven Hospital	COTH Member	New Haven-Milford, CT

Acute Hospitals by State, Hospital Category, and CBSA

Massachusetts

Hospital Name	Hospital Category	CBSA
Anna Jaques Hospital	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Athol Memorial Hospital	CH w/ <$300M operating revenue	Worcester, MA-CT
Baystate Franklin Medical Center	CH w/ <$300M operating revenue	Springfield, MA
Baystate Medical Center	COTH Member	Springfield, MA
Baystate Noble Hospital	CH w/ <$300M operating revenue	Springfield, MA
Baystate Wing Hospital & Medical Ctr	CH w/ <$300M operating revenue	Springfield, MA
Berkshire Medical Center	CH w/ >$300M operating revenue	Pittsfield, MA
Beth Israel Deaconess - Plymouth	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Beth Israel Deaconess Hospital- Need	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Beth Israel Deaconess Medical Center	COTH Member	Boston-Cambridge-Newton, MA-NH
Beverly Hospital	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Bidmc-Milton Hospital Inc	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Boston Children'S Hospital	COTH Member	Boston-Cambridge-Newton, MA-NH
Boston Medical Center	COTH Member	Boston-Cambridge-Newton, MA-NH
Brigham And Womens Hospital	COTH Member	Boston-Cambridge-Newton, MA-NH
Brockton Hospital Inc.	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Cambridge Health Alliance	COTH Member	Boston-Cambridge-Newton, MA-NH
Cape Cod Hospital	CH w/ >$300M operating revenue	Barnstable Town, MA
Cooley Dickinson Hospital	CH w/ <$300M operating revenue	Springfield, MA

Acute Hospitals by State, Hospital Category, and CBSA

Massachusetts (continued)

Hospital Name	Hospital Category	CBSA
Dana-Farber Cancer Institute	COTH Member	Boston-Cambridge-Newton, MA-NH
Emerson Hospital	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Fairview Hospital	CH w/ <$300M operating revenue	Pittsfield, MA
Falmouth Hospital	CH w/ <$300M operating revenue	Barnstable Town, MA
Faulkner Hospital	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Good Samaritan Medical Center	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Harrington Memorial Hospital	CH w/ <$300M operating revenue	Worcester, MA-CT
Healthalliance-Clinton	CH w/ <$300M operating revenue	Worcester, MA-CT
Henry Heywood Memorial Hospital	CH w/ <$300M operating revenue	Worcester, MA-CT
Holyoke Medical Center	CH w/ <$300M operating revenue	Springfield, MA
Lahey Clinic Hospital Inc.	COTH Member	Boston-Cambridge-Newton, MA-NH
Lawrence General Hospital	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Lowell General Hospital	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Marlborough Hospital	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Martha’s Vineyard Hospital	CH w/ <$300M operating revenue	Vineyard Haven, MA
Massachusetts Eye And Ear Infirmary	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Massachusetts General Hospital	COTH Member	Boston-Cambridge-Newton, MA-NH
Melrosewakefield Healthcare Inc	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Metrowest Medical Center	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Milford Regional Medical Center Inc	CH w/ <$300M operating revenue	Worcester, MA-CT
Morton Hospital	CH w/ <$300M operating revenue	Providence-Warwick, RI-MA

Acute Hospitals by State, Hospital Category, and CBSA

Massachusetts (continued)

Hospital Name	Hospital Category	CBSA
Mount Auburn Hospital	COTH Member	Boston-Cambridge-Newton, MA-NH
Nantucket Cottage Hospital	CH w/ <$300M operating revenue	Nantucket, MA
Nashoba Valley Hospital	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
New England Baptist Hospital	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Newton Wellesley Hospital	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
North Shore Medical Center	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Saint Vincent Hospital	CH w/ >$300M operating revenue	Worcester, MA-CT
South Shore Hospital	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Southcoast Hospitals Group Inc	CH w/ >$300M operating revenue	Providence-Warwick, RI-MA
Steward Carney Hospital Inc	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Steward Holy Family Hospital	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Steward Norwood Hospital	CH w/ <$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Steward St. Annes Hospital	CH w/ >$300M operating revenue	Providence-Warwick, RI-MA
Steward St. Elizabeths Medical Ctr	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH
Sturdy Memorial Hospital	CH w/ <$300M operating revenue	Providence-Warwick, RI-MA
The Mercy Hospital	CH w/ >$300M operating revenue	Springfield, MA
Tufts Medical Center	COTH Member	Boston-Cambridge-Newton, MA-NH
Umass Memorial Medical Center	COTH Member	Worcester, MA-CT
Winchester Hospital	CH w/ >$300M operating revenue	Boston-Cambridge-Newton, MA-NH

Sources: Data Request to HARI Hospitals and Health Systems; CHIA - Massachusetts Acute Hospital and Health System Financial Performance Databook, FY2018, 20 and 22; Annual Report on the Financial Status of Connecticut Short Term Acute Care Hospitals for FY 2018, 2022, and 2022.

Appendix D. Participating Hospitals in the RAND Hospital Price Transparency Study Round 4 & Reported Metrics

RI Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Roger Williams Hospital	✓	✓	✓	✓
Our Lady Of Fatima Hospital	✓	✓	✓	✓
Newport Hospital	✓	✓	✓	✓
Rhode Island Hospital	✓	✓	✓	✓
South County Hospital	✓	✓	✓	✓
Kent County Memorial Hospital	✓	✓	✓	✓
Landmark Medical Center	✓	✓	✓	✓
The Miriam Hospital	✓	✓	✓	✓
The Westerly Hospital	✓	✓	✓	✓

RI Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Saint Francis Hospital	✓	✓	✓	✓
Day Kimball Hospital	✓	✓	✓	✓
Sharon Hospital	✓	✓	✓	✓
Waterbury Hospital	✓	✓	✓	✓
The Stamford Hospital	✓	✓	✓	✓
Lawrence & Memorial Hospital	✓	✓	✓	✓
Johnson Memorial Hospital Inc.	✓	✓	✓	✓
Bridgeport Hospital	✓	✓	✓	✓
Charlotte Hungerford Hospital	✓	✓	✓	✓
Rockville General Hospital Inc.	✓	✓	✓	✓
St. Mary’s Hospital	✓	✓	✓	✓

CT Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Midstate Medical Center	✓	✓	✓	✓
Greenwich Hospital	✓	✓	✓	✓
Middlesex Hospital	✓	✓	✓	✓
Windham Community Memorial Hospital	✓	✓	✓	✓
The William W. Backus Hospital	✓	✓	✓	✓
Manchester Memorial Hospital	✓	✓	✓	✓
St. Vincent's Medical Center	✓	✓	✓	✓
Bristol Hospital Inc	✓	✓	✓	✓
The Griffin Hospital	✓	✓	✓	✓
Danbury Hospital	✓	✓	✓	✓
Norwalk Hospital	✓	✓	✓	✓

CT Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Midstate Medical Center	✓	✓	✓	✓
Greenwich Hospital	✓	✓	✓	✓
Middlesex Hospital	✓	✓	✓	✓
Windham Community Memorial Hospital	✓	✓	✓	✓

Note: Women & Infants' Hospital did not participate in the RAND 4.0 study.

MA Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Baystate Medical Center	✓	✓	✓	✓
Beth Israel Deaconess Medical Center	✓	✓	✓	✓
Health Alliance	✓	✓	✓	✓
Mount Auburn Hospital	✓	✓	✓	✓
Sturdy Memorial Hospital	✓	✓	✓	✓
Lawrence General Hospital	✓	✓	✓	✓
Cambridge Health Alliance	✓	✓	✓	✓
Cape Cod Hospital	✓	✓	✓	✓
Cooley Dickinson Hospital	✓	✓	✓	✓
Baystate Franklin Medical Center	✓	✓	✓	✓
Steward Carney Hospital	✓	✓	✓	✓

MA Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Harrington Memorial Hospital Inc	✓	✓	✓	✓
Steward St. Annes Hospital	✓	✓	✓	✓
Holyoke Medical Center	✓	✓	✓	✓
Anna Jacques Hospital	✓	✓	✓	✓
Baystate Wing Hospital & Medical Ctr	✓	✓	✓	✓
Boston Medical Center	✓	✓	✓	✓
Beverly Hospital	✓	✓	✓	✓
North Shore Medical Center	✓	✓	✓	✓
Steward St. Elizabeths Medical Ctr	✓	✓	✓	✓
Berkshire Medical Center	✓	✓	✓	✓
Marlborough Hospital	✓	✓	✓	✓

MA Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Brockton Hospital Inc.	✓	✓	✓	✓
Beth Israel Deaconess - Plymouth	✓	✓	✓	✓
Lowell General Hospital	✓	✓	✓	✓
Baystate Noble Hospital	✓	✓	✓	✓
The Mercy Hospital	✓	✓	✓	✓
Hallmark Health System	✓	✓	✓	✓
Brigham and Women’s Hospital	✓	✓	✓	✓
Morton Hospital	✓	✓	✓	✓
Southcoast Hospitals Group	✓	✓	✓	✓
Steward Holy Family Hospital	✓	✓	✓	✓
Beth Israel Deaconess Hospital-Needham	✓	✓	✓	✓

MA Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Emerson Hospital	✓	✓	✓	✓
Massachusetts General Hospital	✓	✓	✓	✓
Milford Regional Medical Center Inc	✓	✓	✓	✓
Henry Heywood Memorial Hospital	✓	✓	✓	✓
Nashoba Valley Hospital	✓	✓	✓	✓
South Shore Hospital	✓	✓	✓	✓
Newton Wellesley Hospital	✓	✓	✓	✓
Winchester Hospital	✓	✓	✓	✓
BEDMC-Milton Hospital Inc	✓	✓	✓	✓
Tufts Medical Center	✓	✓	✓	✓
Good Samaritan Medical Center	✓	✓	✓	✓

MA Participating Hospitals in the RAND 4.0 Study

Hospital Name	Inpatient Facility Price	Outpatient Facility Price	Inpatient Facility Relative Price	Outpatient Facility Relative Price
Faulkner Hospital	✓	✓	✓	✓
Steward Norwood Hospital	✓	✓	✓	✓
Falmouth Hospital	✓	✓	✓	✓
UMass Memorial Medical Center	✓	✓	✓	✓
Lahey Clinic Hospital Inc.	✓	✓	✓	✓
Metrowest Medical Center	✓	✓	✓	✓
Saint Vincent Hospital	✓	✓	✓	✓
Nantucket Cottage Hospital	✗	✓	✗	✓
Martha's Vineyard Hospital	✓	✓	✓	✓
Fairview Hospital	✓	✓	✓	✓
Athol Memorial Hospital	✓	✓	✓	✓