

CENTER FOR HEALTH INFORMATION AND ANALYSIS

RELATIVE PRICE

PROVIDER PRICE VARIATION
IN THE MASSACHUSETTS
COMMERCIAL MARKET

MAY 2017



Table of Contents

About this Report	1	Physician Group Payer-Specific Relative Price	
Executive Summary	2	Distribution of Physician Group Commercial Payments by RP Quartile, 2011-2014.	12
Acute Hospital Payer-Specific Relative Price		Distribution of Physician Group Commercial RP Among Top 6 Payers, 2014	13
Distribution of Acute Hospital Commercial Payments by Relative Price (RP) Quartile, 2012-2015	3	Physician Group Share of Commercial Payments and Composite RP Percentile, 2014	14
Distribution of Acute Hospital Commercial RP Among Top 7 Payers, 2015.	4		
Acute Hospital Statewide (Cross-Payer) Relative Price			
Distribution of Acute Hospital S-RP by Insurance Category, 2015	5		
Acute Hospital S-RP and Share of Commercial Payments by Cohort, 2015	6		
Acute Hospital S-RP and Share of Commercial Payments by System, 2015.	7		
Academic Medical Center Share of Commercial Payments and S-RP, 2015	8		
Teaching Hospital Share of Commercial Payments and S-RP, 2015	9		
Community Hospital Share of Commercial Payments and S-RP, 2015	10		
Community-High Public Payer Hospital Share of Commercial Payments and S-RP, 2015	11		

About this Report

In 2016, the Center for Health Information and Analysis (CHIA) developed a new metric, **statewide relative price (S-RP)**, to facilitate analysis of provider price variation across payers. CHIA's previous publications on provider price variation used payer-specific relative prices (RP) to compare provider prices within a payer's network. S-RP allows for provider price comparison across payers within an insurance category.

A hospital's S-RP is calculated using payer-specific inpatient payments per case-mix adjusted discharge and payer-specific outpatient RP values. For each hospital, CHIA converted these payer-specific values into cross-payer relativities and then blended these inpatient and outpatient values together to achieve a single S-RP value. When blending across payers and across inpatient and outpatient spending categories, CHIA weighted these elements according to the provider-specific share of payments. A commercial S-RP for a given acute hospital of 1.20 indicates that the hospital is paid 20 percent higher than average S-RP among acute hospitals across commercial payers. For additional information on the S-RP methodology, see CHIA's *Methodology for the Calculation of Statewide Relative Prices*, available [here](#).

This publication includes analysis of acute hospital CY 2015 S-RPs within the Commercial, Medicaid Managed Care Organization, and Medicare Advantage insurance categories. S-RP values are calculated for individual acute hospitals, and average S-RP values are calculated for multi-acute hospital systems, and acute hospital cohorts. This report also includes information on payer-specific acute hospital RP and physician group RP.

For detailed data, please see accompanying [databook](#). For questions on Statewide or Payer-Specific RP, please contact Erin Bonney, Manager of Payer-Provider Performance, at (617) 701-8235 or at erin.bonney@state.ma.us.

¹ RP data is reported to CHIA by private and public health care payers pursuant to [957 CMR 2.00: Payer Data Reporting](#). Instructions for data submission are detailed in the [data specification manual](#).

Executive Summary

Pursuant to Massachusetts General Laws Chapter 12C, Section 10, CHIA reports annually on relative price to examine provider price variation in the Massachusetts commercial market. Relative price (RP) standardizes the calculation of provider prices to account for differences in patient acuity, the types of services providers deliver to patients and the different product types that payers offer to their members. CHIA calculates both payer-specific RP and cross-payer statewide relative price (S-RP).

In 2015, \$8.7 billion was paid to acute care hospitals in Massachusetts for inpatient and outpatient services provided to patients with commercial insurance plans. Of those payments, 76.7% were to hospitals with above-average RP. This proportion was slightly smaller than in prior years; in 2012, 80.6% of payments were to hospitals with above-average RP. For four of the top seven commercial payers, the majority of commercial payments went to hospitals with RP values within 20% of the average of their network.

Across the three reported insurance categories (Commercial, Medicaid MCOs, Medicare Advantage), the majority of payments went to acute hospitals with S-RPs within 20% of the average. However, the share of payments to hospitals with S-RPs greater than 20% of the average was more than double for Commercial insurance (38%) than Medicaid MCOs (19%) or Medicare Advantage (14%). Among acute hospitals, Academic Medical Centers had the highest average commercial S-RP (1.17) and community-High Public Payer (HPP) hospitals had the lowest (0.93).

In 2014, the most recent data year available, \$5.5 billion was paid to physician groups for services provided to patients with commercial insurance plans. Of that, 86% of the payments went to physician groups with above-average RP values. This trend reflects a 5.0 percentage point increase from 2011, during which 81% of commercial payments to physicians were concentrated among higher-than-average providers. The top 23 provider organizations represented 96% of total commercial payments to physicians in 2014.

Note: Physician payments includes only payments made to physician groups that were included in the relative price calculation after payment thresholds were applied, accounting for 90% of total commercial payments to physician groups. An additional \$0.58 billion was paid to individual physicians and groups for which relative prices were not computed.

ACUTE HOSPITALS

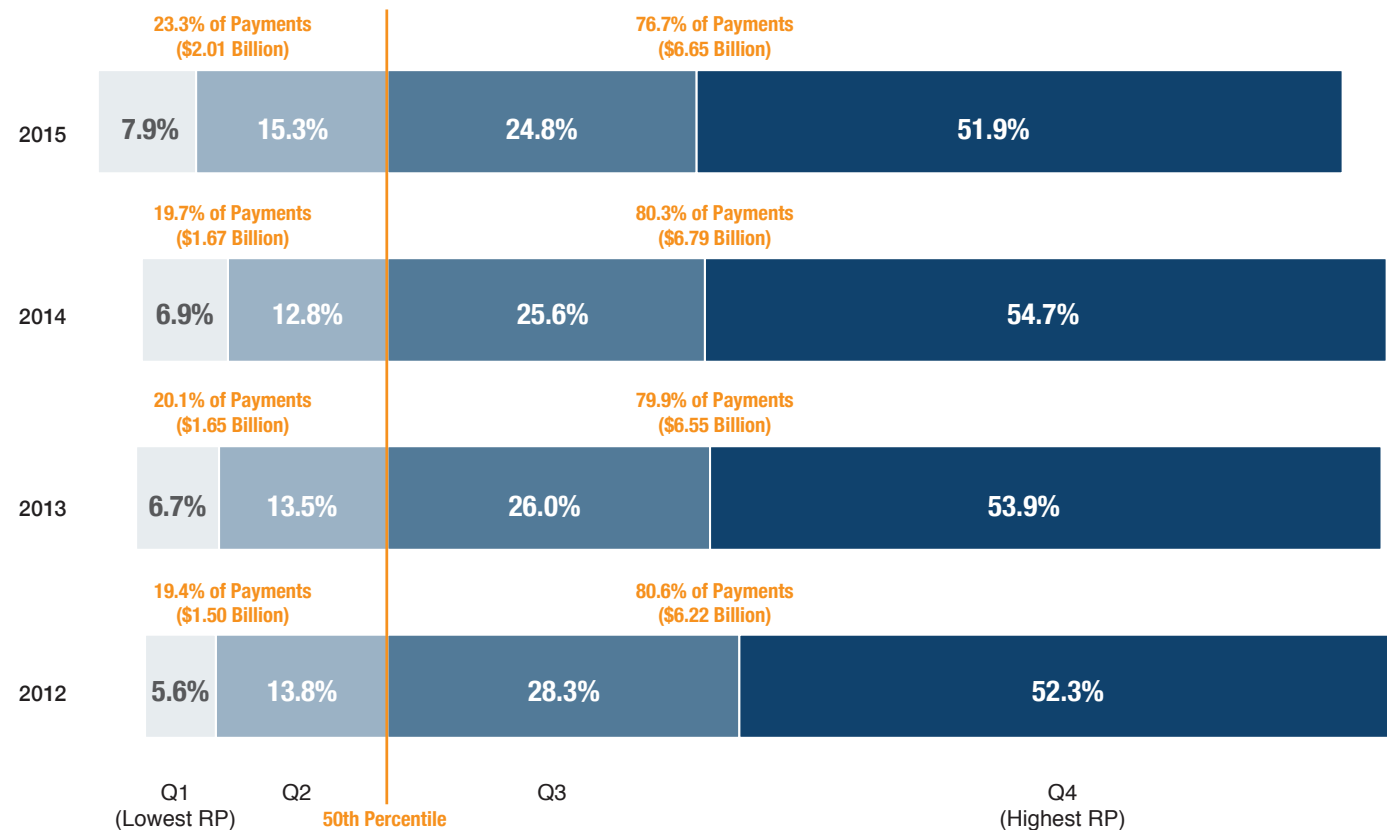
PAYER-SPECIFIC RP

Since 2012, commercial payments to acute hospitals have been concentrated among the highest-price hospitals (Q4). More than fifty percent of commercial payments to acute hospitals went to providers in the highest relative price quartile.

In recent years, however, the share of payments to hospitals in Q3 and Q4 (hospitals with above-average prices) declined slightly from 80.6% in 2012 to 76.7% in 2015—a 3.8 percentage point decrease.

The share of payments to the lowest-paid hospitals (Q1) has steadily increased from 5.6% of total payments in 2012 to 7.9% in 2015.

Distribution of Acute Hospital Commercial Payments by Relative Price (RP) Quartile, 2012-2015



Source: Payer reported data to CHIA

Notes: Within each payer's network, hospitals are ordered by blended relative price, and grouped into quartiles such that each quartile contains an equal (or as close to equal as possible) number of providers. For each payer, the first quartile (Q1) contains hospitals with the lowest RP values while Q4 contains those with the highest RP values in the network. Payments to hospitals assigned to Q1 are then summed across all payers to calculate total Q1 payments. Note that a specific hospital may be assigned to different quartiles in different payer networks.

This figure includes only payments made to acute hospitals that were included in the relative price calculation after payment thresholds were applied, accounting for 99.1% of total commercial payments to acute hospitals. An additional \$78 million was paid to hospitals for which relative prices were not computed in at least some payer networks. Percentages may not sum to 100% due to rounding.

ACUTE HOSPITALS

PAYER-SPECIFIC RP

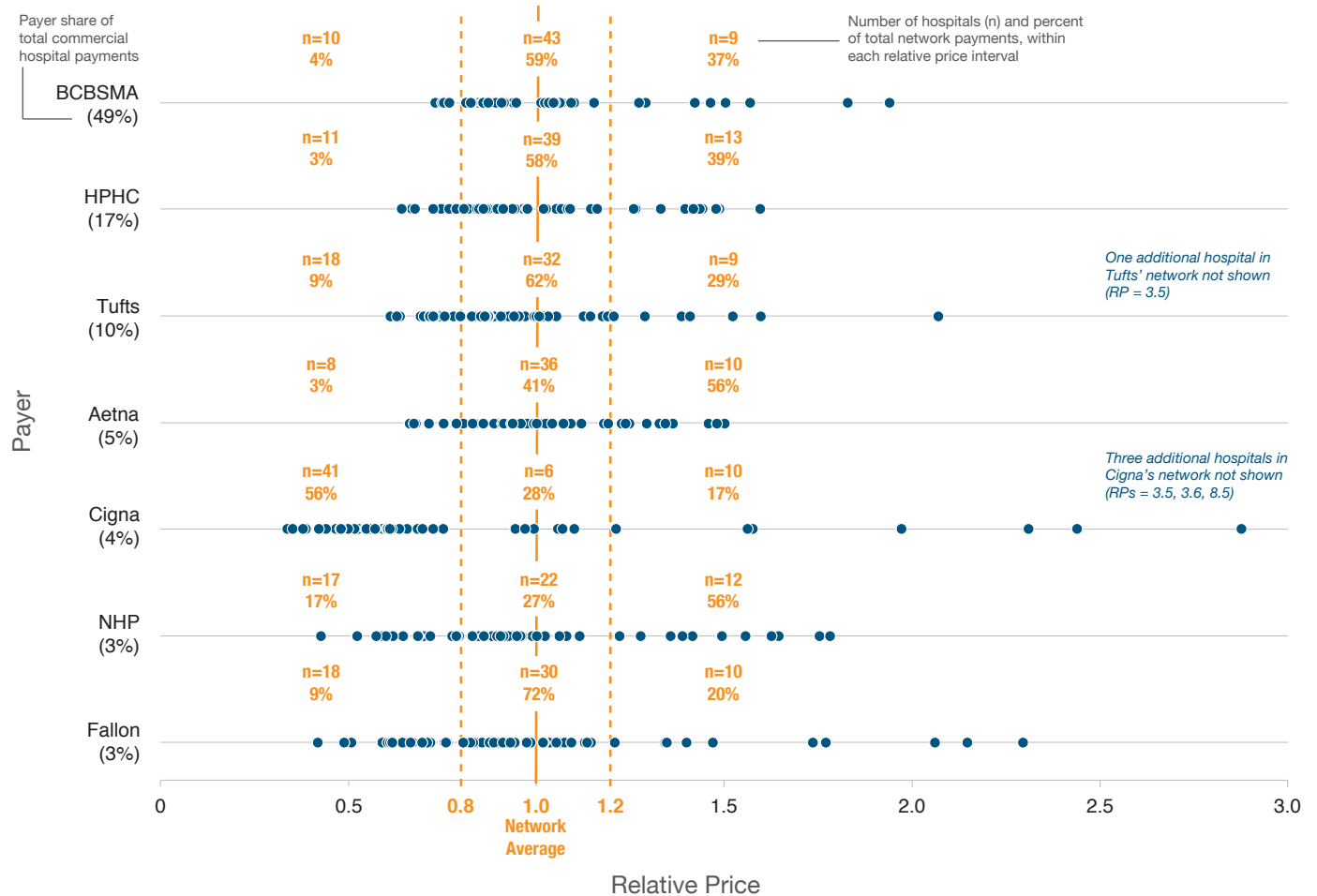
Distribution of Acute Hospital Commercial RP Among Top 7 Payers, 2015

For four of the top seven commercial payers, more than one-third of total payments to acute hospitals went to hospitals with RPs at least 20% higher than average. For two payers, (Aetna and Neighborhood Health Plan—both reporting 56%), this reflected the majority of their commercial payments to acute hospitals.

Cigna (17%) and Fallon (20%) reported the smallest share of commercial payments to acute hospitals with RPs more than 20% above average.

For most payers, the majority of commercial payments were to acute hospitals with RPs within 20% of average.

In Cigna's network, the majority (56%) of commercial payments to acute hospitals were concentrated among hospitals with RPs more than 20% below average. This trend was influenced by high-RP outliers. Neighborhood Health Plan also reported a larger share of payments to lower-priced acute hospitals (17%).



Source: Payer reported data to CHIA

Notes: Percentages may not sum to 100% due to rounding. Top payers were determined by the payer's share of total commercial payments to acute hospitals in 2015.

ACUTE HOSPITALS

STATEWIDE (CROSS-PAYER) RP

In 2015, the majority of payments went to acute hospitals within 20% of average across the reported insurance categories: Commercial (58%), Medicaid MCOs (75%), and Medicare Advantage (83%).

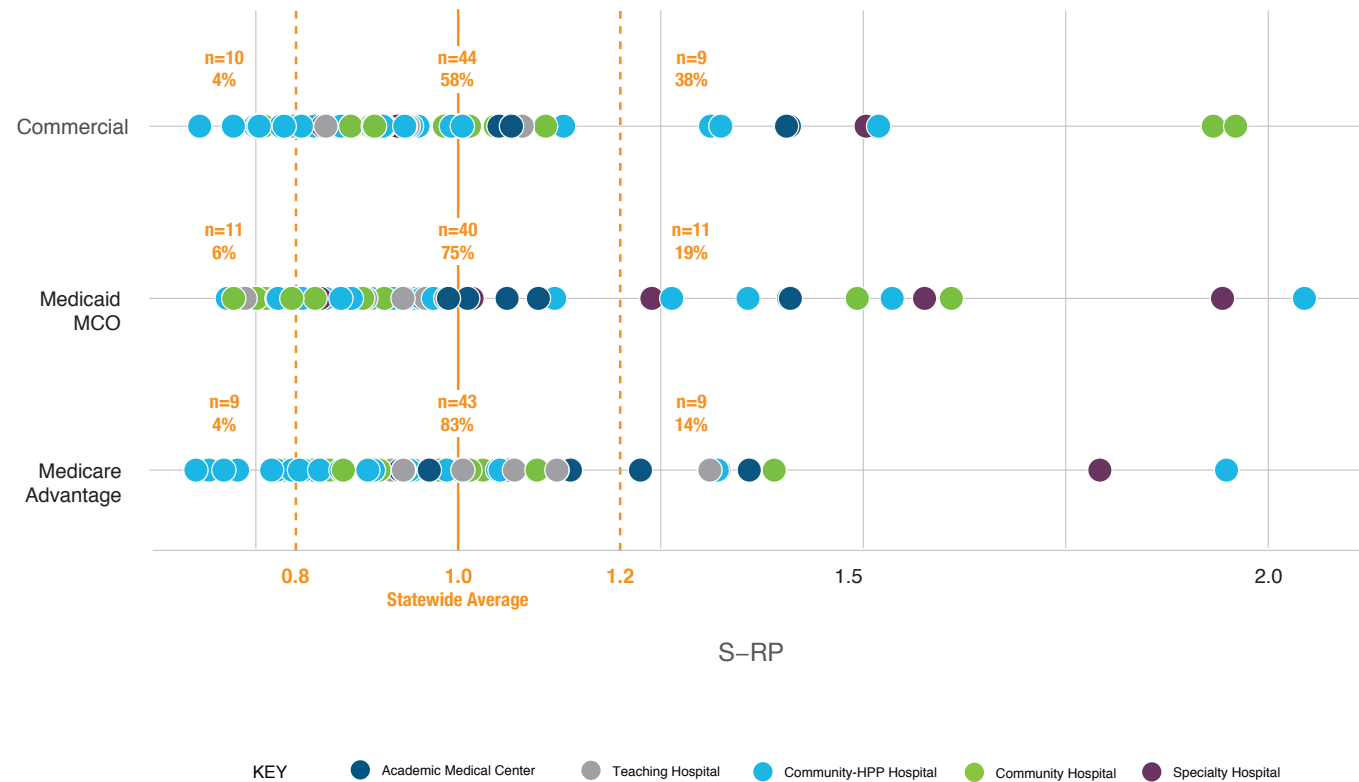
The share of payments to acute hospitals with S-RPs more than 20% above average varied across insurance categories: Commercial (38%), Medicaid MCOs (19%), and Medicare Advantage (14%).

In all reported insurance categories, the ratio of the highest S-RP and lowest S-RP was 2.9.

Among commercial plans, the hospitals with the highest S-RPs were community/geographically isolated hospitals. Among Medicare Advantage and Medicaid MCO plans, the hospitals with the highest S-RPs were specialty and community-High Public Payer (community-HPP) hospitals.

Among commercial and Medicare Advantage plans, nine acute hospitals had S-RPs more than 20% above average. Among Medicaid MCO plans, 11 acute hospitals had S-RPs more than 20% above average.

Distribution of Acute Hospital S-RP by Insurance Category, 2015



Source: Payer reported data to CHIA

Notes: Statewide RP (S-RP) represents a cross-payer relativity within a given insurance category. For more information on how S-RP is computed, see *Methodology for the Calculation of Statewide Relative Prices*, available at <http://www.chiamass.gov/assets/docs/g/S-RP-Methods-Memo-2017.pdf>.

ACUTE HOSPITALS

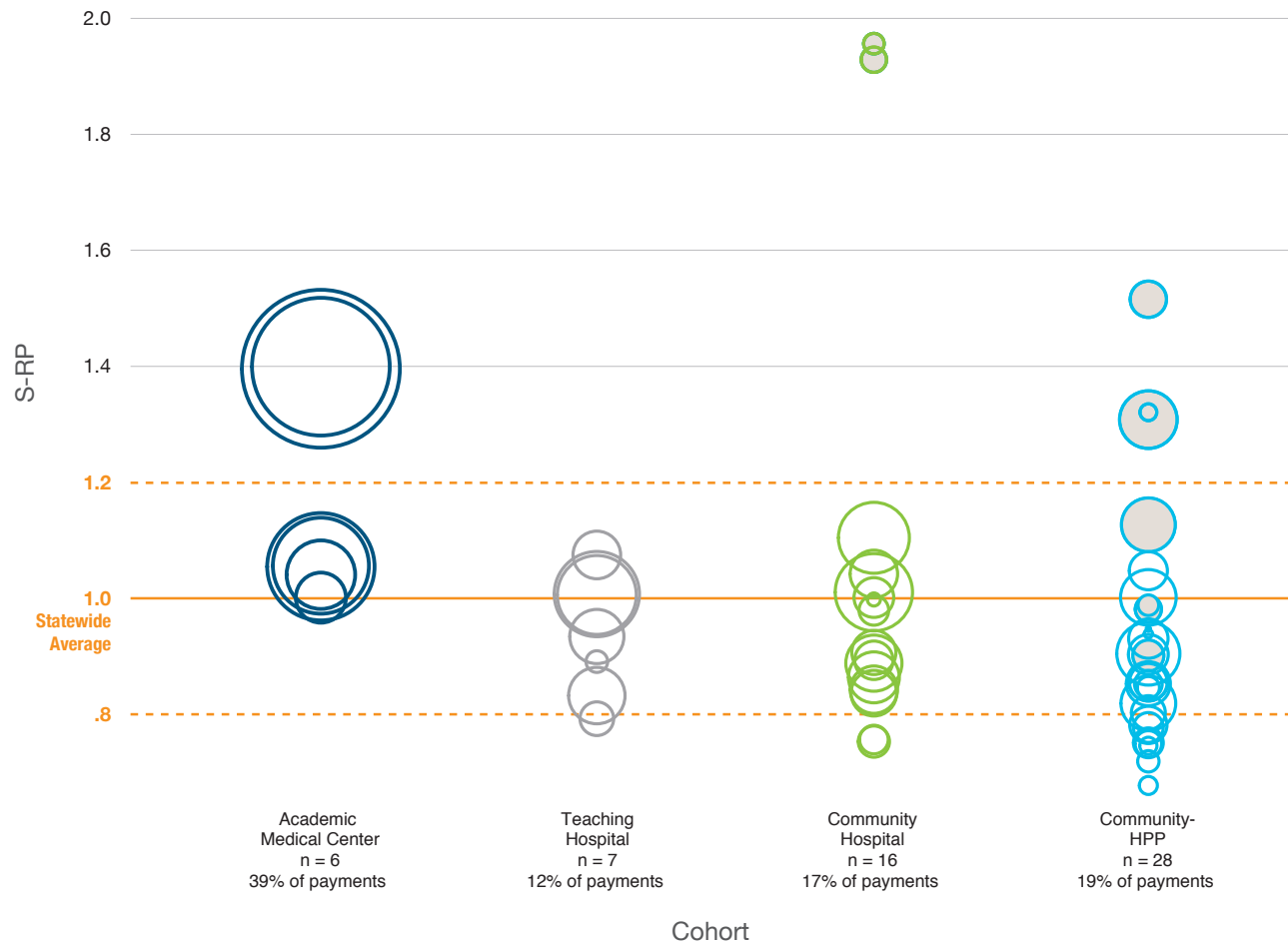
STATEWIDE (CROSS-PAYER) RP

Acute Hospital S-RP and Share of Commercial Payments by Cohort, 2015

The Academic Medical Center cohort was the only cohort in which all hospitals had S-RP values above the statewide average across commercial payers.

Among hospital cohorts, Academic Medical Centers had the highest average commercial S-RP value (1.17), while the community-High Public Payer hospital cohort had the lowest (0.93).

The community and teaching hospital cohorts had average S-RP values of 1.05 and 0.94, respectively.



● Geographically Isolated Hospitals

Source: Payer reported data to CHIA

Notes: Statewide RP (S-RP) represents a cross-payer relativity within a given insurance category. For more information on how S-RP is computed, see *Methodology for the Calculation of Statewide Relative Prices*, available at <http://www.chiamass.gov/assets/docs/g/S-RP-Methods-Memo-2017.pdf>.

For hospital cohort definitions, see <http://www.chiamass.gov/massachusetts-acute-hospital-cohort-profiles/>.

Specialty Hospitals are omitted because they serve a specific patient population, based on age or type of medical condition, and are not considered comparable to other hospital cohorts; therefore percentages will not add to 100%.

ACUTE HOSPITALS

STATEWIDE (CROSS-PAYER) RP

Three systems had S-RP values for all their hospitals at or above the commercial statewide average: Partners HealthCare System (n=8), Cape Cod Healthcare (n=2), and Berkshire Health Systems (n=2).

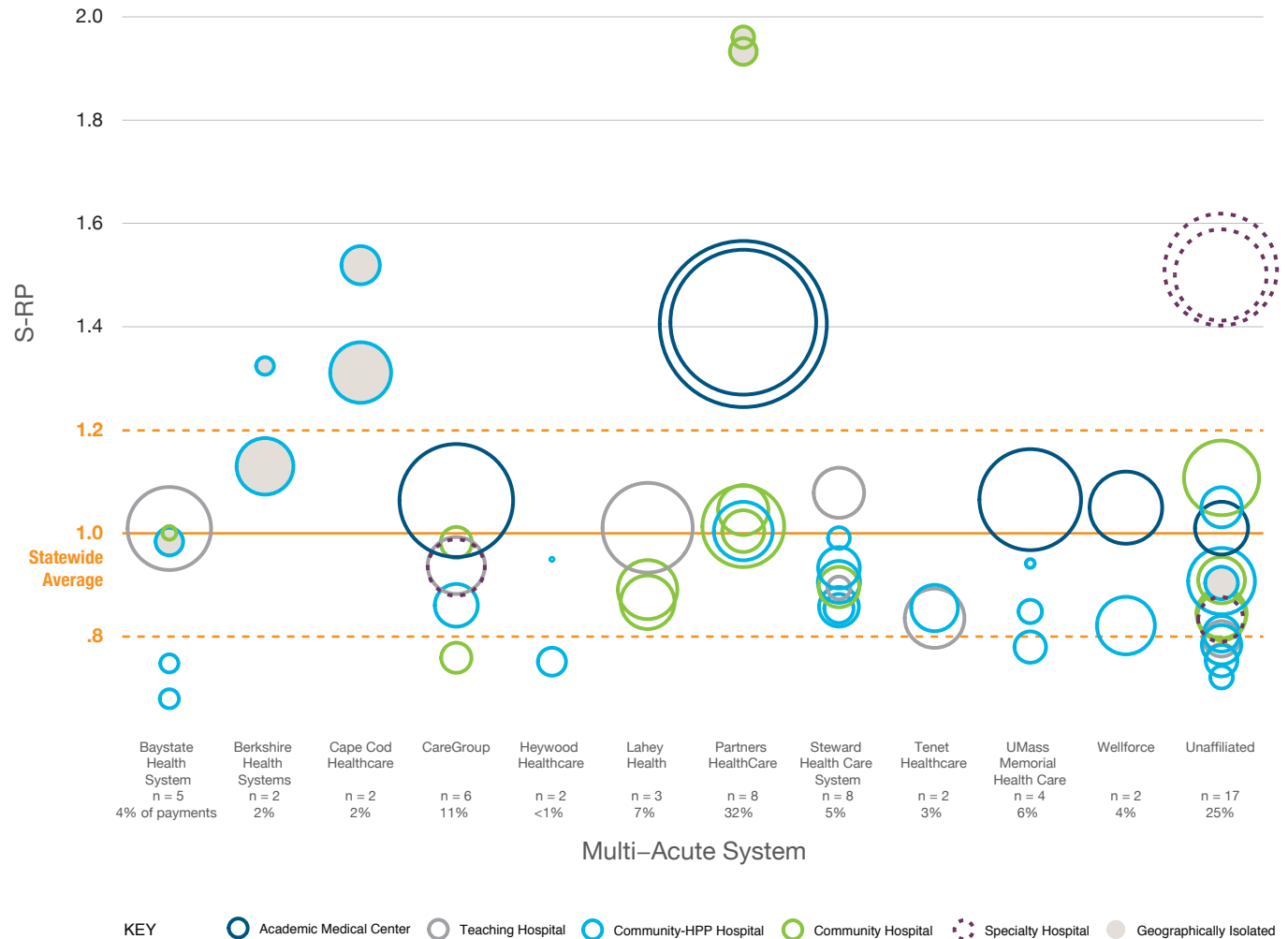
Two systems had S-RPs below the statewide average for all of their acute hospitals: Tenet HealthCare (n=2), and Heywood HealthCare (n=2).

Partners HealthCare received the largest share of commercial payments to acute hospitals (32%), and had an average S-RP among its hospitals of 1.35.

Average S-RPs fell below 1.0 across the other largest health systems: CareGroup (0.92), Lahey Health (0.92), UMass (0.91), and Steward (0.93).

Hospitals not affiliated with a multi-acute hospital system had an average commercial S-RP of 0.95 and accounted for 25% of commercial payments to all acute hospitals.

Acute Hospital S-RP and Share of Commercial Payments by System, 2015



Source: Payer reported data to CHIA

Notes: Statewide RP (S-RP) represents a cross-payer relativity within a given insurance category. For more information on how S-RP is computed, see *Methodology for the Calculation of Statewide Relative Prices*, available at <http://www.chiamass.gov/assets/docs/g/S-RP-Methods-Memo-2017.pdf>.

For a list of hospitals by system, see <http://www.chiamass.gov/hospital-systems-and-parent-organizations/>.

ACUTE HOSPITALS

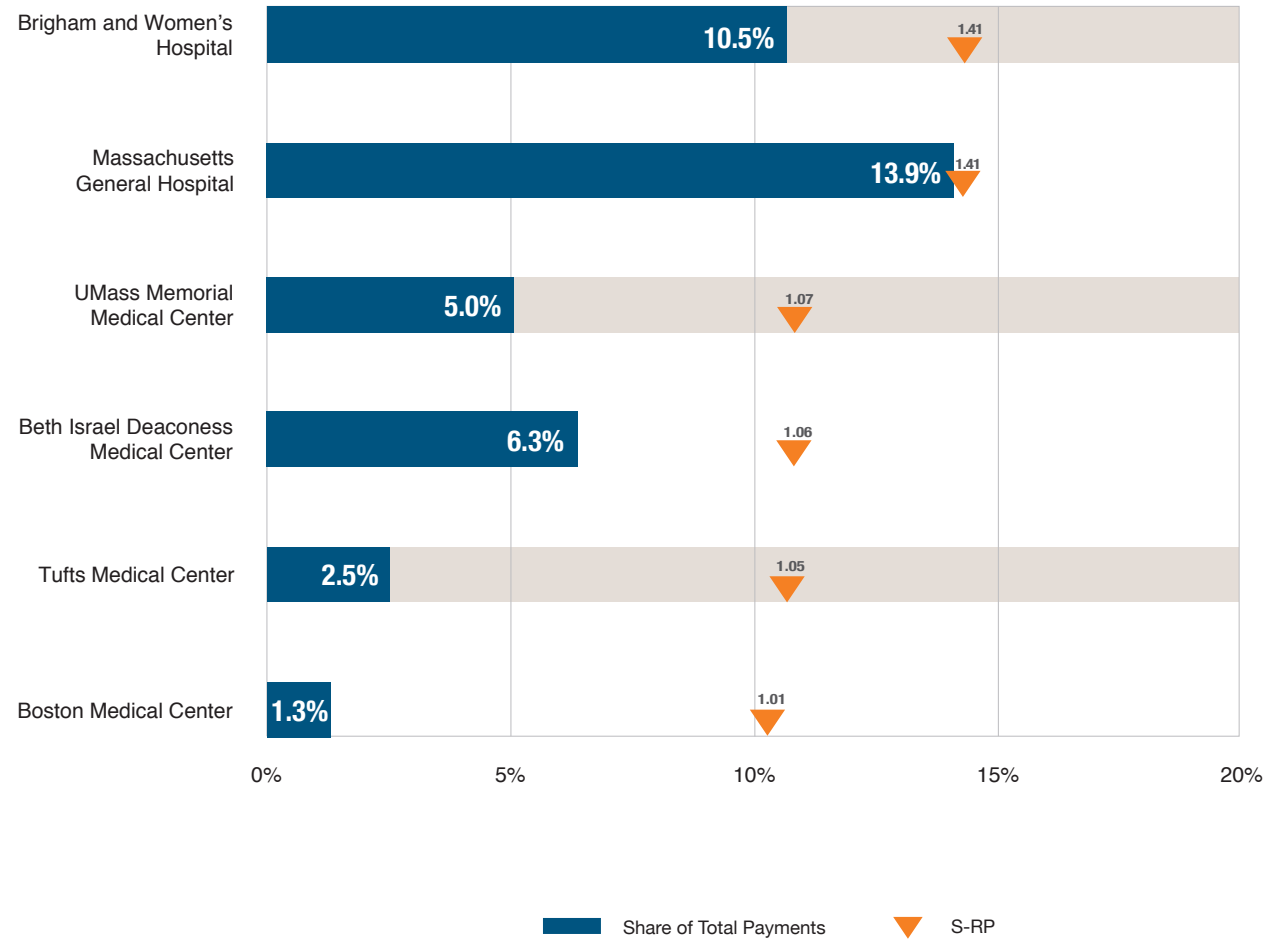
STATEWIDE (CROSS-PAYER) RP

Academic Medical Center Share of Commercial Payments and S-RP, 2015

In 2015, 39% of all commercial payments made to acute hospitals went to Academic Medical Centers.

Two hospitals collectively accounted for 24% of all commercial payments made to acute hospitals in 2015, Massachusetts General Hospital and Brigham and Women's Hospital. Both hospitals had S-RP values of 1.41, and are part of Partners HealthCare.

Among the six academic medical centers, UMass Memorial, Beth Israel Deaconess, and Tufts Medical Centers had tightly clustered S-RPs at 1.07, 1.06, and 1.05 respectively.



Source: Payer reported data to CHIA

Notes: Statewide RP (S-RP) represents a cross-payer relativity within a given insurance category. For more information on how S-RP is computed, see *Methodology for the Calculation of Statewide Relative Prices*, available at <http://www.chiamass.gov/assets/docs/g/S-RP-Methods-Memo-2017.pdf>.

For the definition of Academic Medical Centers, see <http://www.chiamass.gov/massachusetts-acute-hospital-cohort-profiles/>.

ACUTE HOSPITALS

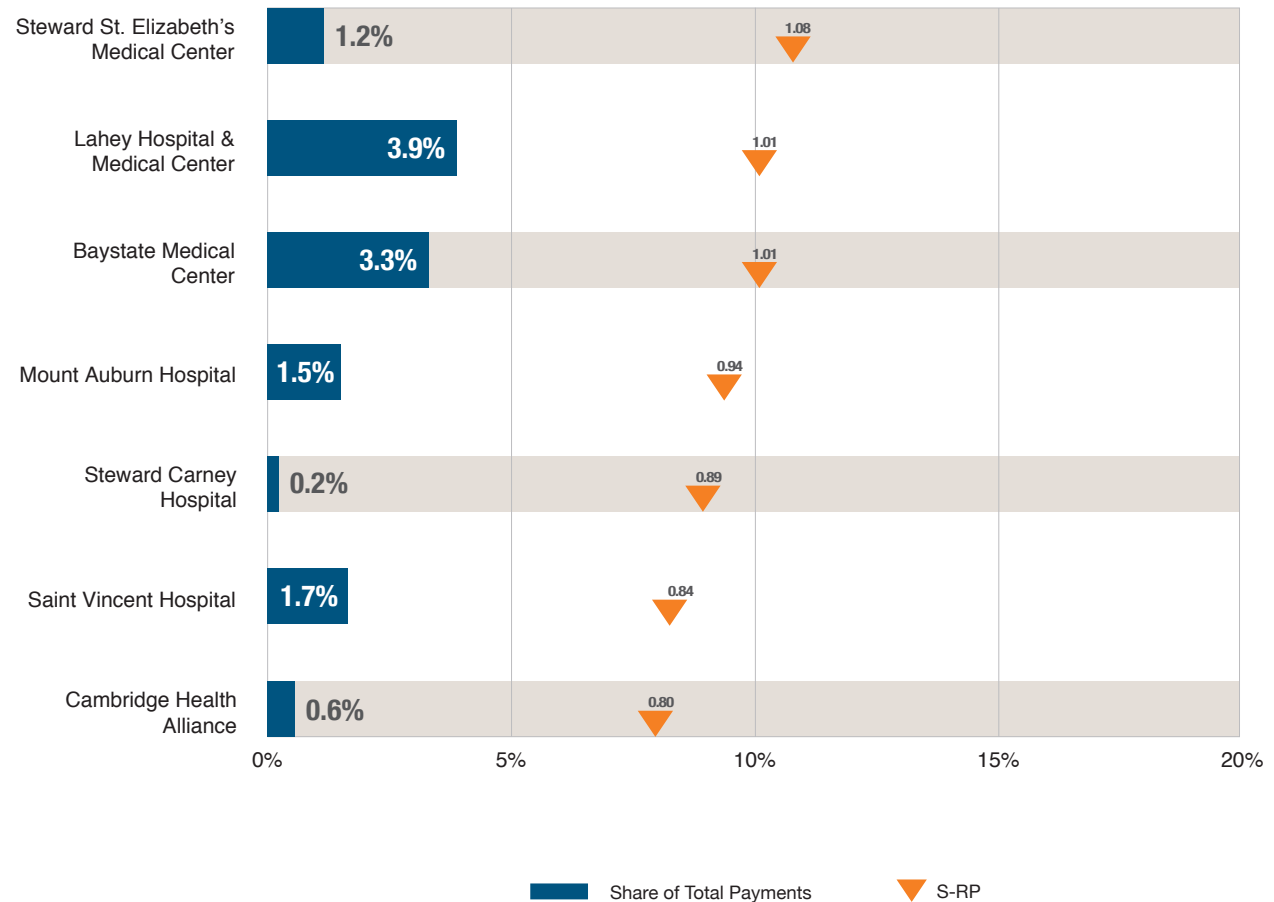
STATEWIDE (CROSS-PAYER) RP

Teaching Hospital Share of Commercial Payments and S-RP, 2015

In 2015, 12% of all commercial payments made to acute hospitals went to teaching hospitals, the smallest of all cohorts.

The teaching hospital cohort had a more closely distributed range of S-RP values for commercial payments than the other three cohorts.

Among teaching hospitals, Steward St. Elizabeth's Medical Center had the highest S-RP (1.08), and received 1.2% of total payments to acute hospitals.



Source: Payer reported data to CHIA

Notes: Statewide RP (S-RP) represents a cross-payer relativity within a given insurance category. For more information on how S-RP is computed, see *Methodology for the Calculation of Statewide Relative Prices*, available at <http://www.chiamass.gov/assets/docs/g/S-RP-Methods-Memo-2017.pdf>.

For the definition of teaching hospitals, see <http://www.chiamass.gov/massachusetts-acute-hospital-cohort-profiles/>.

ACUTE HOSPITALS

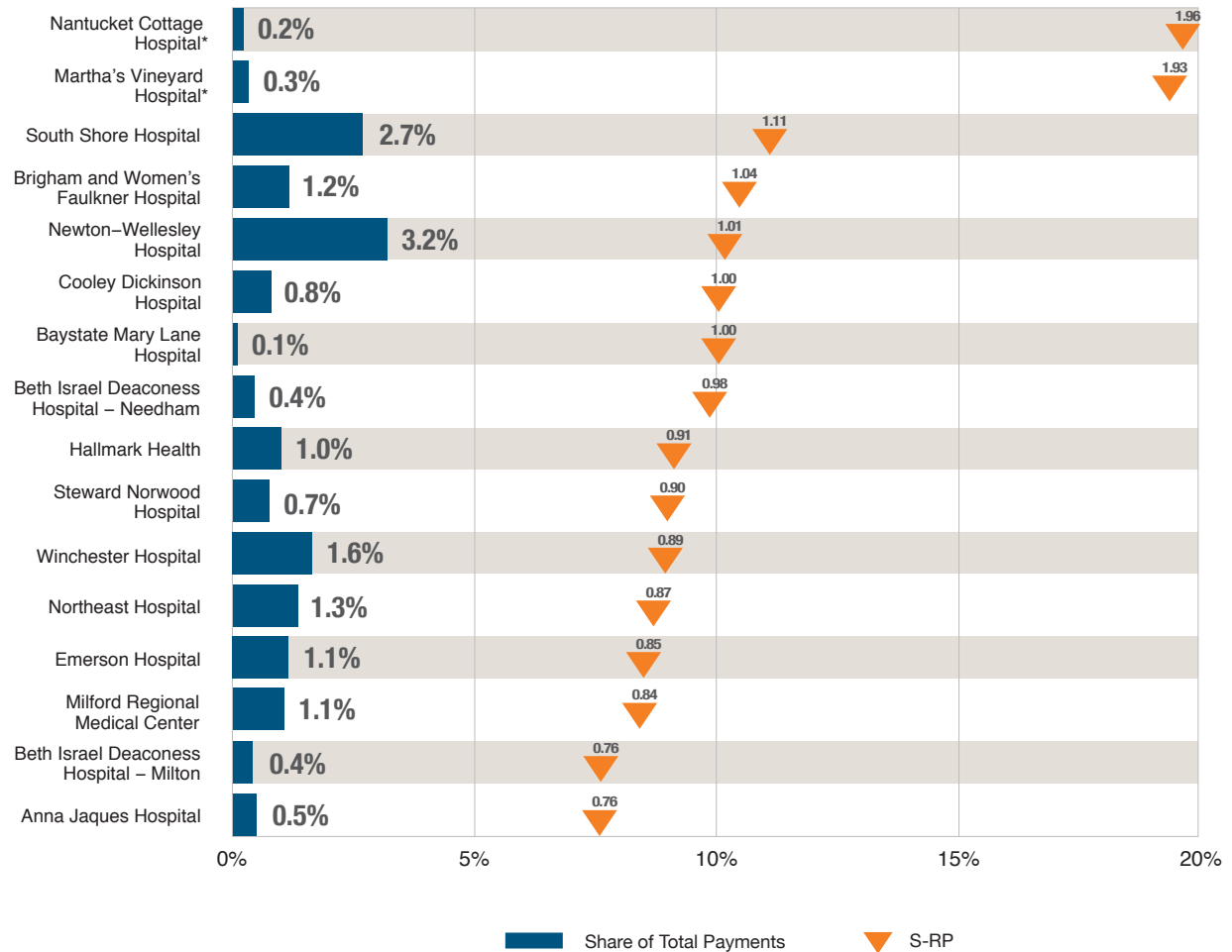
STATEWIDE (CROSS-PAYER) RP

Community Hospital Share of Commercial Payments and S-RP, 2015

In 2015, 17% of all commercial payments made to acute hospitals went to community hospitals.

Among community hospitals, the two highest commercial S-RP values were Nantucket Cottage Hospital (1.96) and Martha's Vineyard Hospital (1.93). These are the only two hospitals in Massachusetts that are not on the mainland, and each received 0.2% and 0.3% of total payments to acute hospitals, respectively.

Anna Jaques Hospital and Beth Israel Deaconess Hospital – Milton had the lowest commercial S-RPs among community hospitals (0.76), 24% below the statewide average across all hospitals.



Source: Payer reported data to CHIA

Notes: Statewide RP (S-RP) represents a cross-payer relativity within a given insurance category. For more information on how S-RP is computed, see *Methodology for the Calculation of Statewide Relative Prices*, available at <http://www.chiamass.gov/assets/docs/g/S-RP-Methods-Memo-2017.pdf>.

For the definition of community hospitals, see <http://www.chiamass.gov/massachusetts-acute-hospital-cohort-profiles/>.

*An asterisk after a hospital name indicates a geographically isolated facility.

ACUTE HOSPITALS

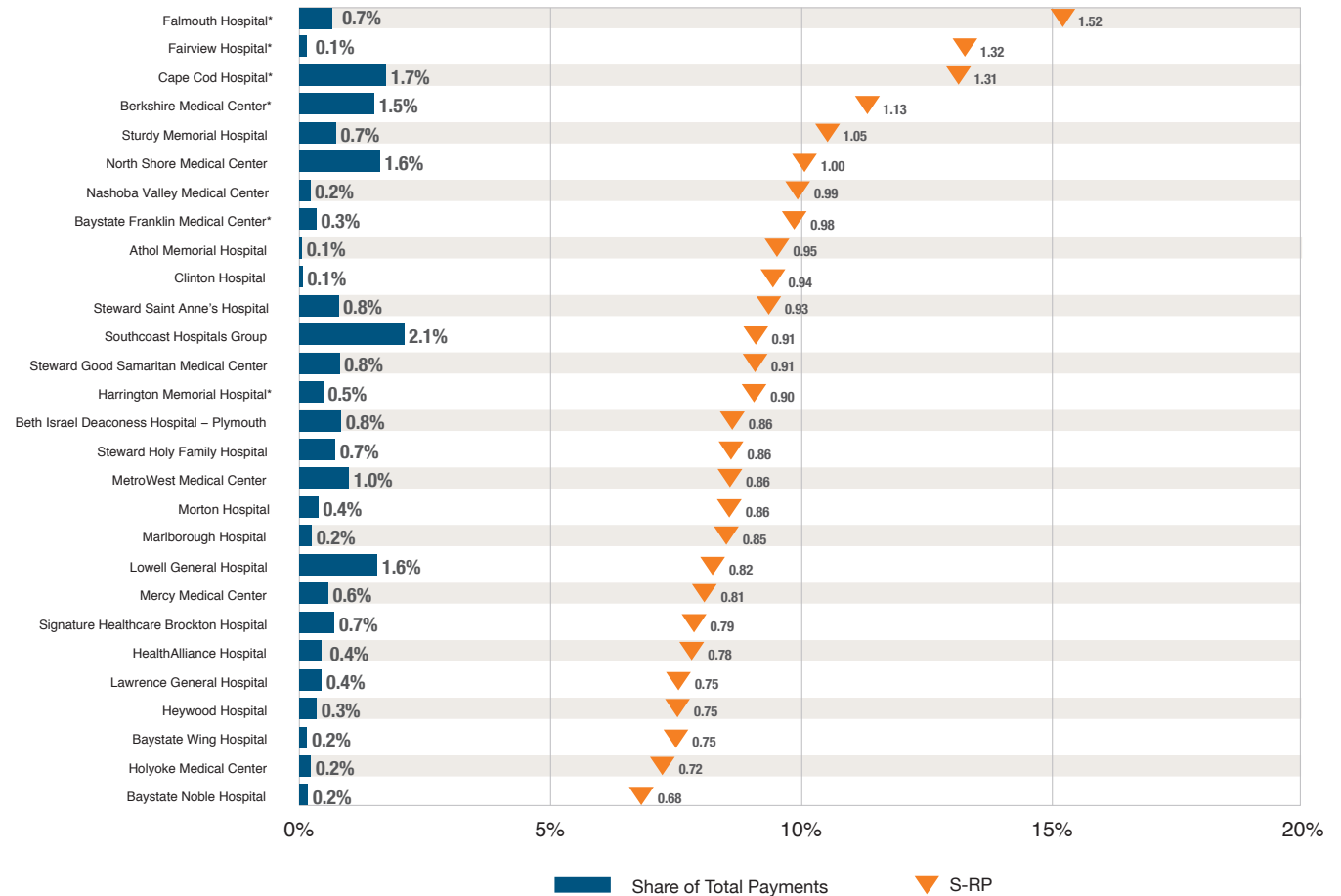
STATEWIDE (CROSS-PAYER) RP

Community-High Public Payer Hospital Share of Commercial Payments and S-RP, 2015

In 2015, 19% of all commercial payments made to acute hospitals went to community-HPP hospitals.

Among all acute hospitals, the lowest S-RPs were in the community-HPP cohort.

Among community-HPP hospitals, Falmouth Hospital (1.52), Fairview Hospital (1.32), and Cape Cod Hospital (1.31) had the highest commercial S-RPs; all of these hospitals are considered geographically isolated.



Source: Payer reported data to CHIA

Notes: Statewide RP (S-RP) represents a cross-payer relativity within a given insurance category. For more information on how S-RP is computed, see *Methodology for the Calculation of Statewide Relative Prices*, available at <http://www.chiamass.gov/assets/docs/g/S-RP-Methods-Memo-2017.pdf>.

For the definition of community-High Public Payer hospitals, see <http://www.chiamass.gov/massachusetts-acute-hospital-cohort-profiles/>.

*An asterisk after a hospital name indicates a geographically isolated facility.

PHYSICIAN GROUPS

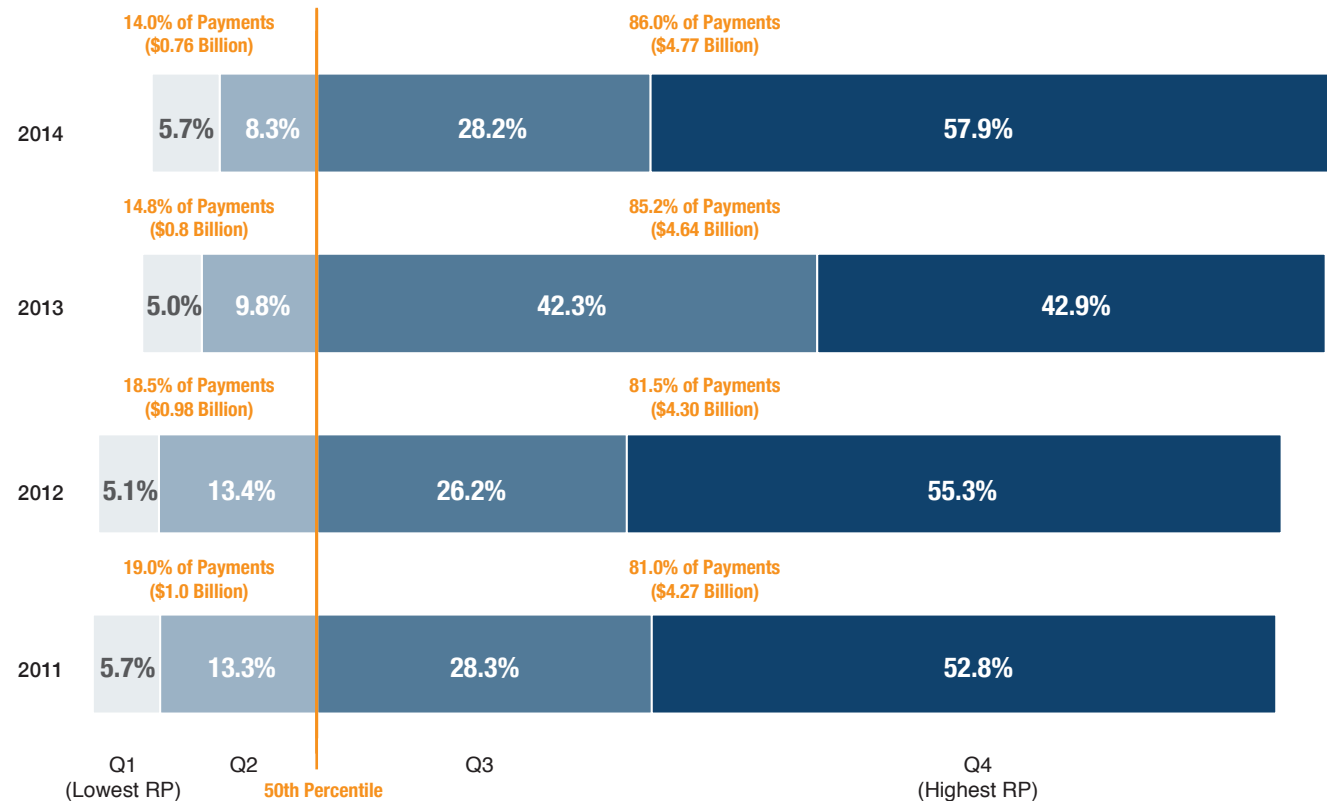
PAYER-SPECIFIC RP

Distribution of Physician Group Commercial Payments by RP Quartile, 2011-2014

Since 2011, there has been little change in the concentration of payments to higher-priced physicians among commercial payers. In fact, the share of commercial payments to lower-priced physicians has steadily declined from 19.0% in 2011 to 14.0% in 2014.

From 2011 to 2014, commercial payments to physician groups were concentrated among the highest-priced (Q4) physician organizations. While the share of payments to Q4 physicians declined from 55.3% in 2012, to 42.9% in 2013, this share rose again to 57.9% in 2014.

The share of commercial payments to higher-priced physicians (Q3 and Q4) increased from 85.2% in 2013 to 86.0% in 2014.



Source: Payer reported data to CHIA

Notes: Within each payer's network, physician groups are ordered by relative price, and grouped into quartiles such that each quartile contains an equal (or as close to equal as possible) number of providers. For each payer, the first quartile (Q1) contains physician groups with the lowest RP values while Q4 contains those with the highest RP values in the network. Payments to physician groups assigned to Q1 are then summed across all payers to calculate total Q1 payments. Note that a specific provider may be assigned to different quartiles in different payer networks. This figure includes only payments made to physician groups that were included in the relative price calculation after payment thresholds were applied, accounting for 90% of Commercial total payments to physician groups.

Percentages may not sum to 100% due to rounding.

PHYSICIAN GROUPS

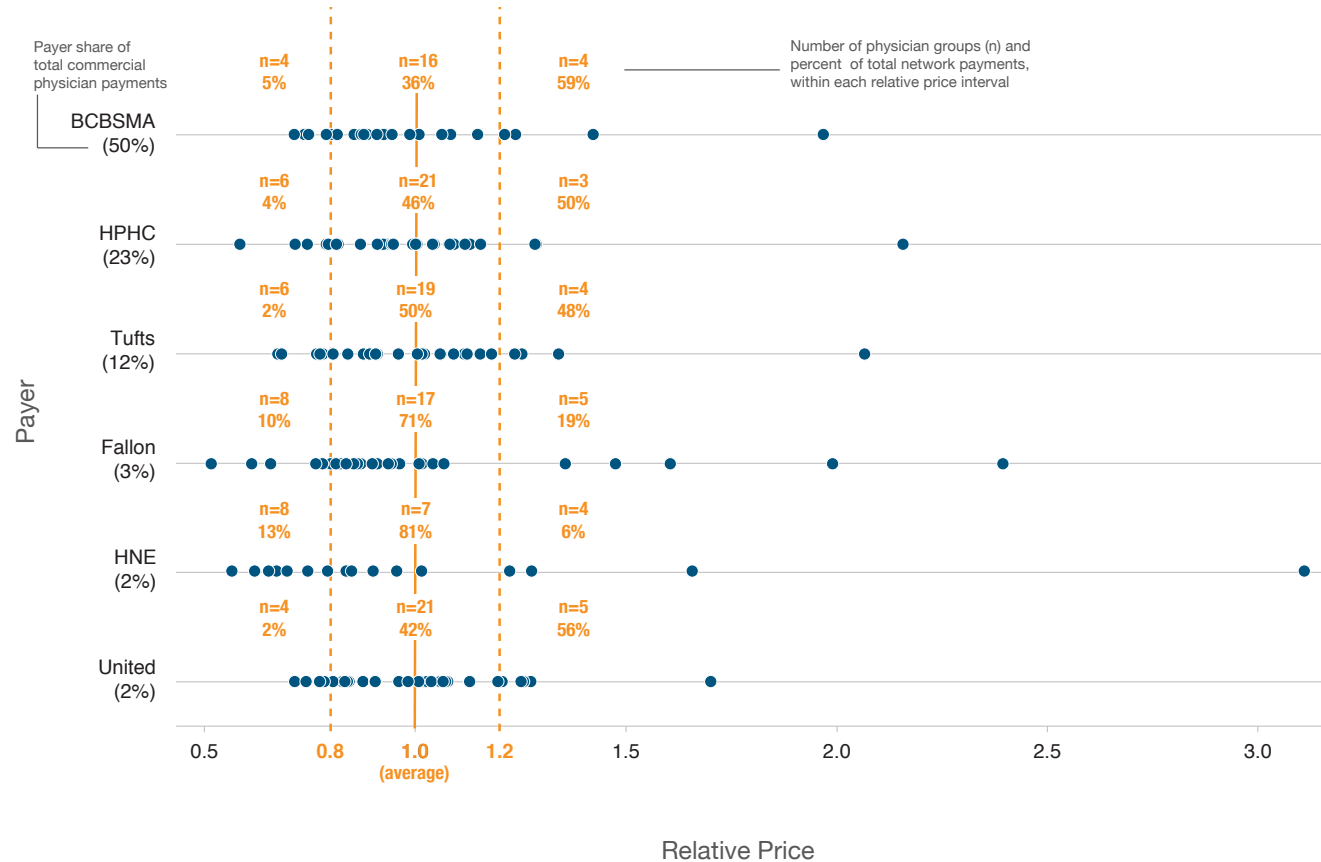
PAYER-SPECIFIC RP

Distribution of Physician Group Commercial RP Among Top 6 Payers, 2014

The range of network provider RP values varied significantly among the top six payers.

Among the payers depicted, Health New England reported the largest share of physician group payments within 20% of average (81%), followed by Fallon (71%), Tufts (50%), and Harvard Pilgrim (46%).

The remaining payers reported a majority of payments to physician groups with RPs more than 20% above average: United, 56%, and BCBSMA, 59%.



Source: Payer reported data to CHIA

Notes: These top six payers were identified by the share of 2014 commercial member months.

PHYSICIAN GROUPS

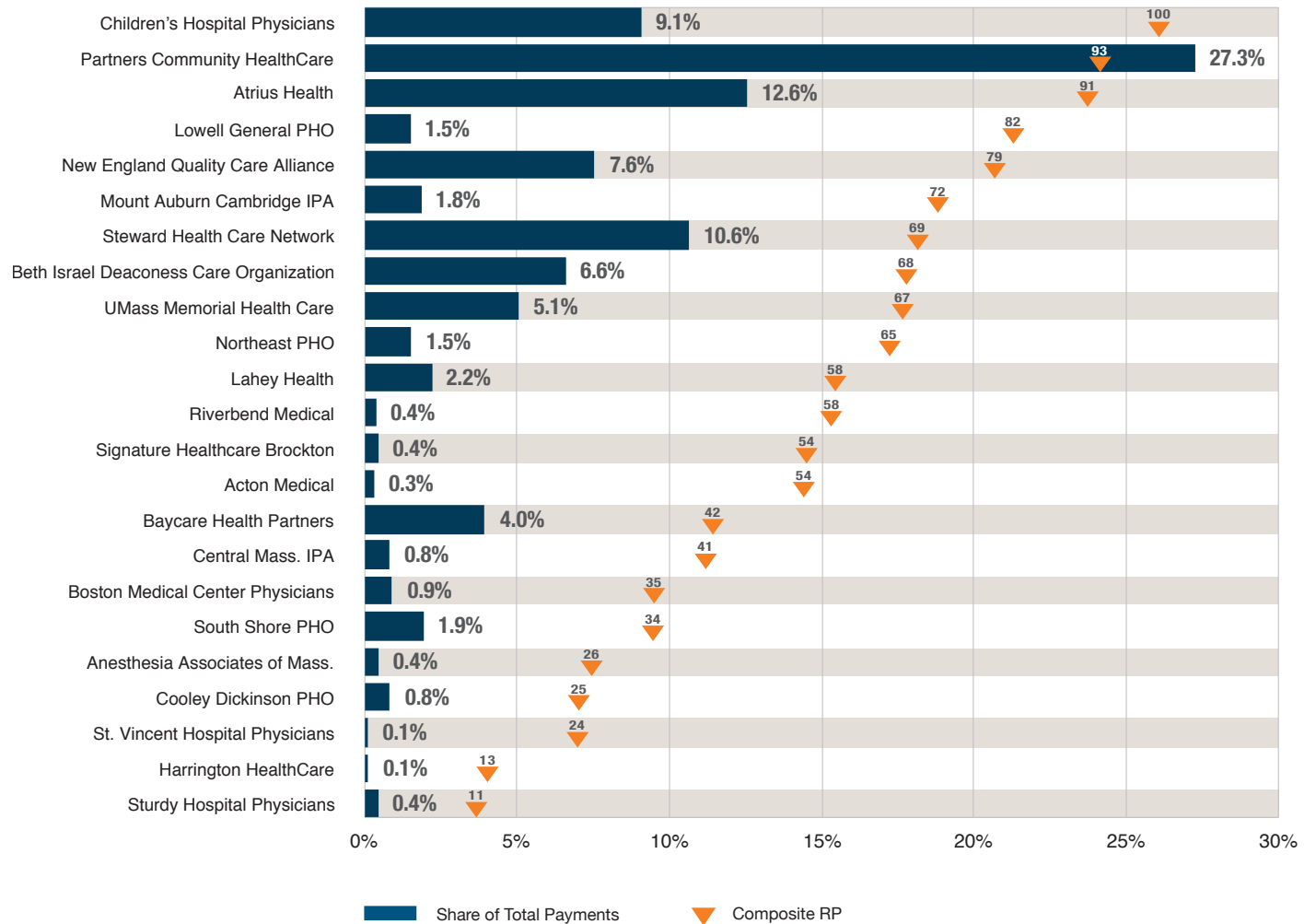
PAYER-SPECIFIC RP

Physician Group Share of Commercial Payments and Composite RP Percentile, 2014

In 2014, 23 physician organizations represented 96% of total commercial payments to physician groups.

The physician groups receiving the most commercial payments in 2014 were Partners Community HealthCare (27%), Atrius Health (13%), and Steward Health Care Network (11%).

The physician groups with the highest composite RPs were Children's Hospital Physicians (100th percentile), Partners Community HealthCare (93rd percentile), and Atrius Health (91st percentile). Collectively, these three physician groups accounted for nearly half of total commercial payments to physician groups in 2014.



Source: Payer reported data to CHIA

Notes: The top physician groups were identified by the share of total commercial payments in 2014. Because RPs are not comparable across payers, physician groups are examined cross-payer in this chart using a "composite RP percentile." To compute this value, each physician group is first ranked within a payer's network. This percentile rank is then averaged across payers, weighted by the payer share of the providers' total payments, to achieve the composite RP percentile depicted here.



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