

HPC DATAPOINTS

Provider Organization Performance Variation

PROVIDER ORGANIZATIONS

AMC ANCHORED

Boston Medical Center (BMC)

Beth Israel Deaconess Care Organization (BIDCO)

Partners Healthcare Wellforce

UMass Medical Center

TEACHING HOSPITAL ANCHORED

Baystate Health

Lahey Health

Steward Health Care

Mount Auburn Cambridge Independent Practice Association (MACIPA)

COMMUNITY HOSPITAL ANCHORED

South Shore Health System

Southcoast Health

PHYSICIAN-LED

Atrius Health

Reliant Medical Group

Central Massachusetts Independent Physician Association (CMIPA)

Research by the Health Policy Commission has consistently documented significant variation in the cost of health care services for Massachusetts patients. Primary care providers (PCPs) play an important role in this spending variation, as they largely determine where and how their patients get care by recommending diagnostic tests and courses of treatment, managing patients' chronic illness, and making referrals to specialist physicians or hospitals. PCPs are typically associated with larger provider organizations that include specialists and sometimes, hospitals. In fact, most Massachusetts residents are cared for by PCPs affiliated with one of 14 large provider organizations in the Commonwealth.

The following analyses compare these 14 provider organizations by averaging patient characteristics and spending for commercially insured adult patients (ages 18 and older) whose PCPs are affiliated with each organization. Importantly, spending across all sites of care (e.g., specialist, inpatient, post-acute) for patients is attributed to the PCP and its affiliated provider organization, regardless of whether the care was actually delivered by that provider organization.ⁱ Only Massachusetts residents covered by Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim Health Care, and Tufts Health Plan, the state's three largest health plans, are included in the data below. In order to provide reasonable comparisons across provider organizations, all spending outcomes are adjusted for patient risk.

This [6th publication](#) in the DataPoints series describes variation in both patient characteristics and spending. A future issue will describe utilization of care including avoidable hospitalization and Emergency Department (ED) use by provider organization.

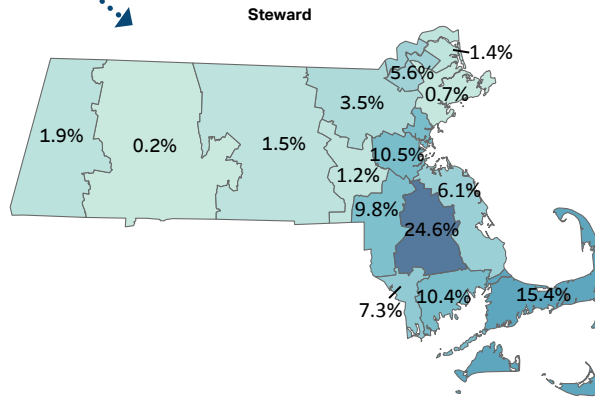
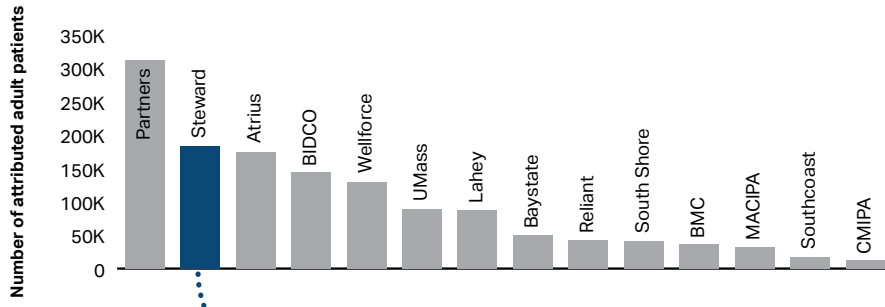
This is a printable version of DataPoints. This version displays graphics in their static form, and some sections feature examples using select provider organizations. The online version features interactive graphics which display more information and is available on the HPC's website at Mass.gov/service-details/hpc-datapoints-series.

ATTRIBUTED PATIENT CHARACTERISTICS – GEOGRAPHY

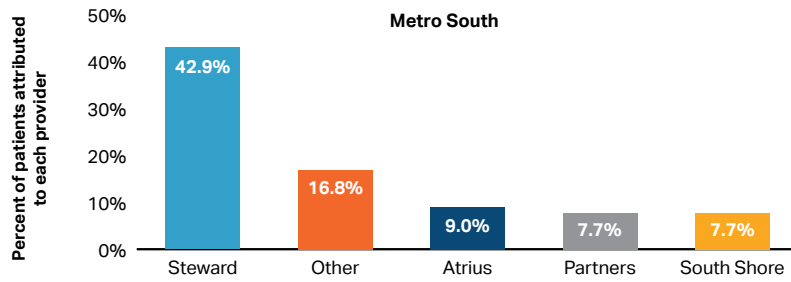
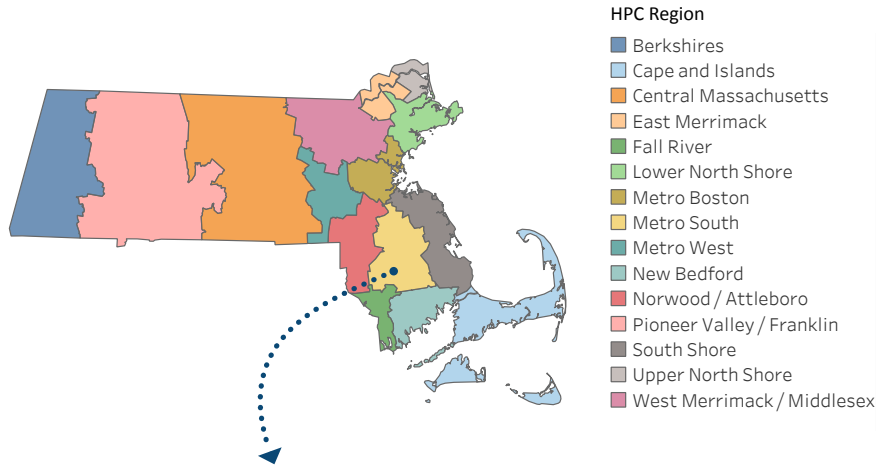
Patients served by each provider organization vary across demographic characteristics. The first set of graphs shows the number of attributed commercial adult patients in each provider organization. Steward is used as an example to show where in the state their attributed patients live.

In the patient's region of residence map below, the HPC regions for the Commonwealth of Massachusetts are displayed. The online version of DataPoints displays the share of patients attributed to each provider organization by clicking on a region within the map. For example, Steward serves 43 percent of the attributed adult patients in Metro South, while Partners, Atrius, and many other provider organizations also have considerable numbers of patients living in that region.¹

ⁱ For more information on the attribution methodology, see Chapter 4: Provider Organization Practice Variation in the forthcoming 2017 Cost Trends Report. Briefly, patients are attributed to provider organizations by one of two ways: by assignments reported by their insurer or, lacking such assignments, by analyzing where they receive most of their primary care services. Of the roughly 1.9 million adult patients with records in the 2015 Massachusetts All-Payer Claims Database, roughly 18% were not able to be attributed to a provider organization by either method. For some others, their identified primary care providers were not affiliated with a large provider organization captured in the Registration of Provider Organizations and others had missing data, leaving 1.36 million patients in the final dataset.



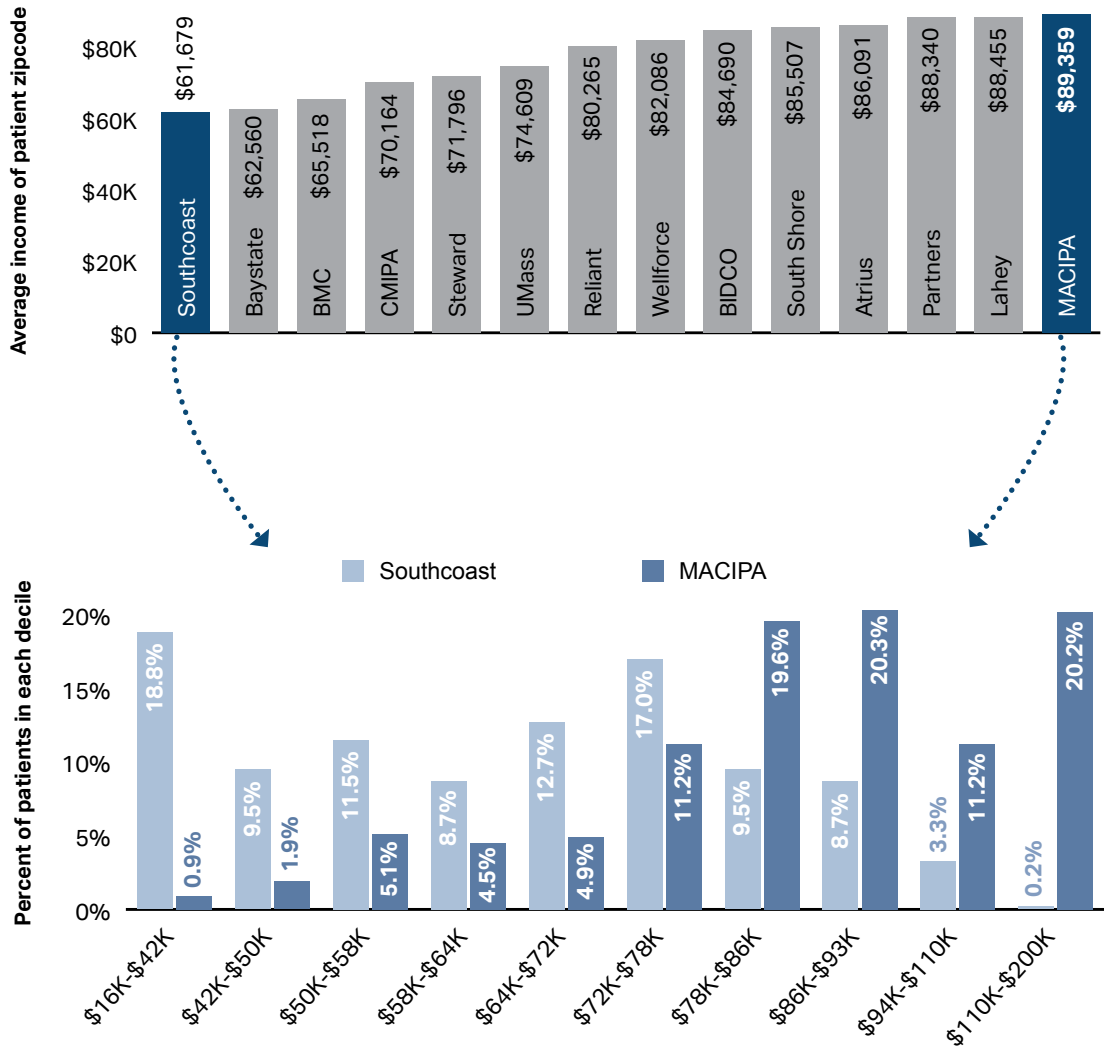
Patient's region of residence



NOTE: Top 5 provider organizations in Metro South

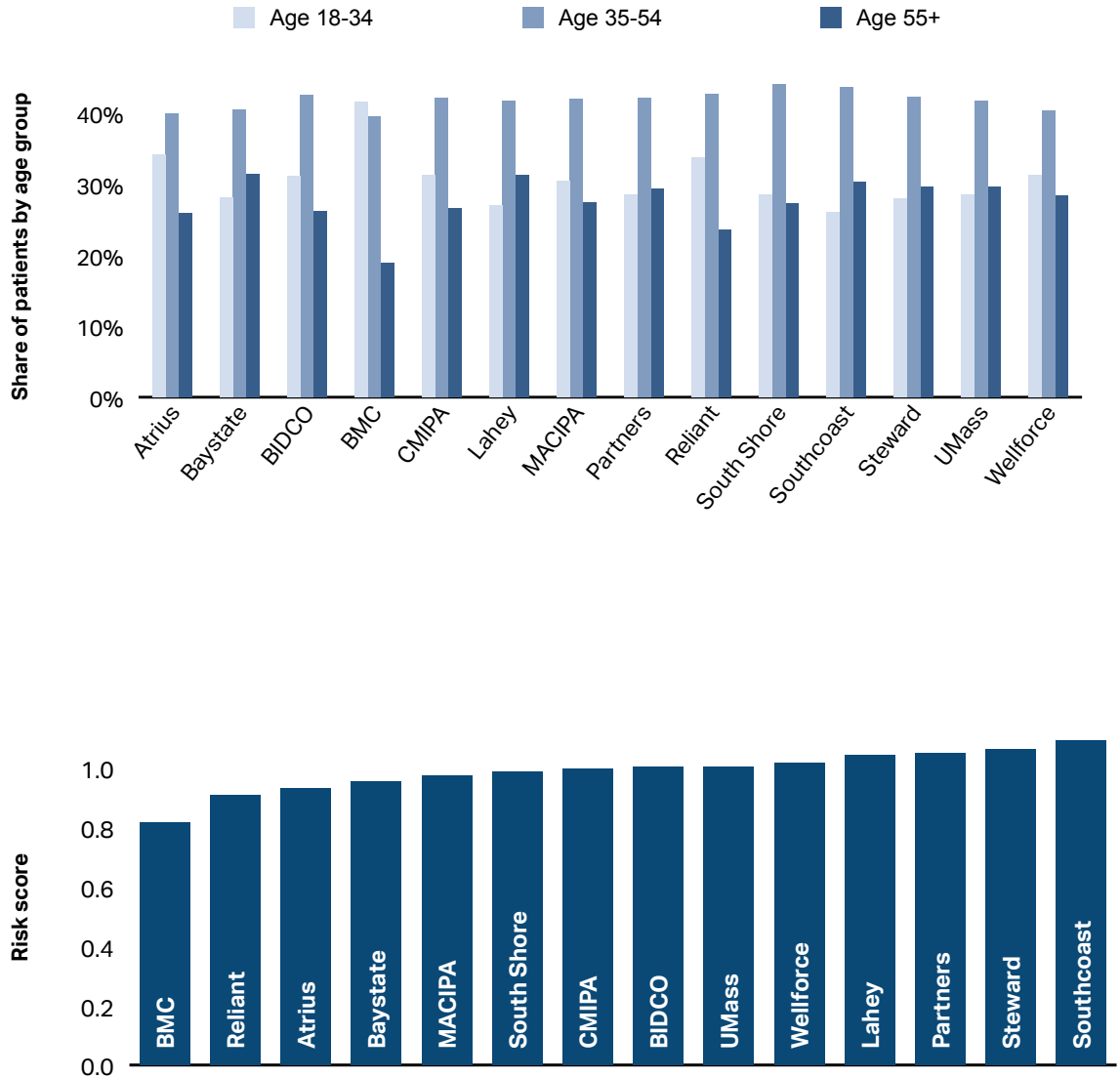
ATTRIBUTED PATIENT CHARACTERISTICS – INCOME

The top bar graph displays the average income of patients’ zip codes by provider organization. The bar graph below displays the distribution of patients by zip code decile, from least wealthy (decile 1, from \$16K to \$42K average income) to the wealthiest (decile 10, \$110K to \$200K). For example, patients of Southcoast Health, who are typically from the New Bedford/Fall River region, live in zip codes with the lowest average household income (\$61,679), similar to those in the Baystate and BMC systems. Those attributed to Mount Auburn Community Independent Practice Association (MACIPA), on the other hand, are from the highest-income areas among all provider groups (\$89,359 average income).



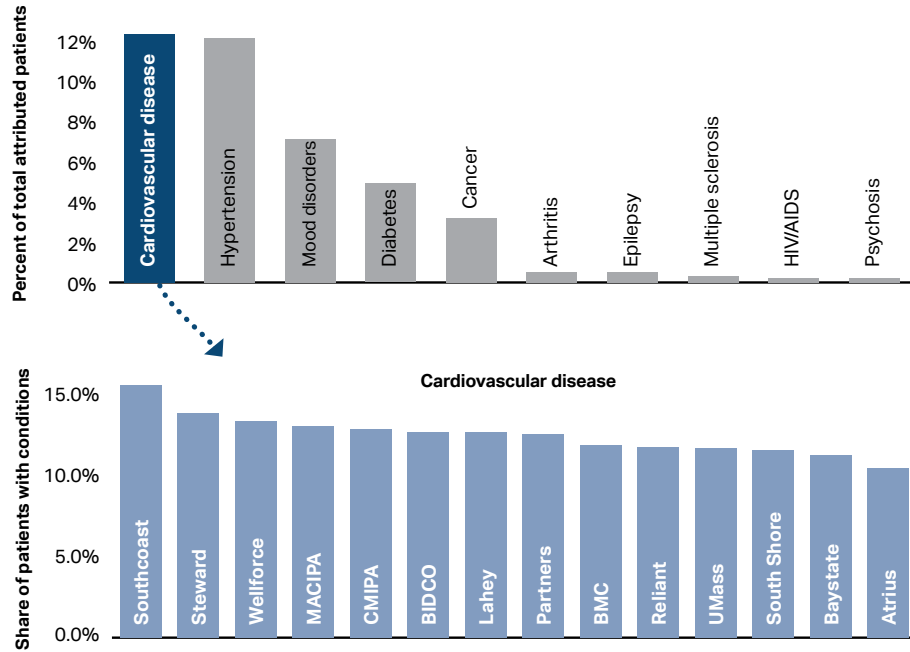
ATTRIBUTED PATIENT CHARACTERISTICS – AGE AND RISK SCORES

The bar graph below compares patient age distribution and health risk score across provider organizations. For example, commercially insured adult patients attributed to Southcoast Health system have 9 percent greater health risk than patients of other systems on average, while those attributed to Boston Medical Center (BMC) physicians have 18 percent lower health risk likely because BMC’s commercially insured patients are considerably younger.



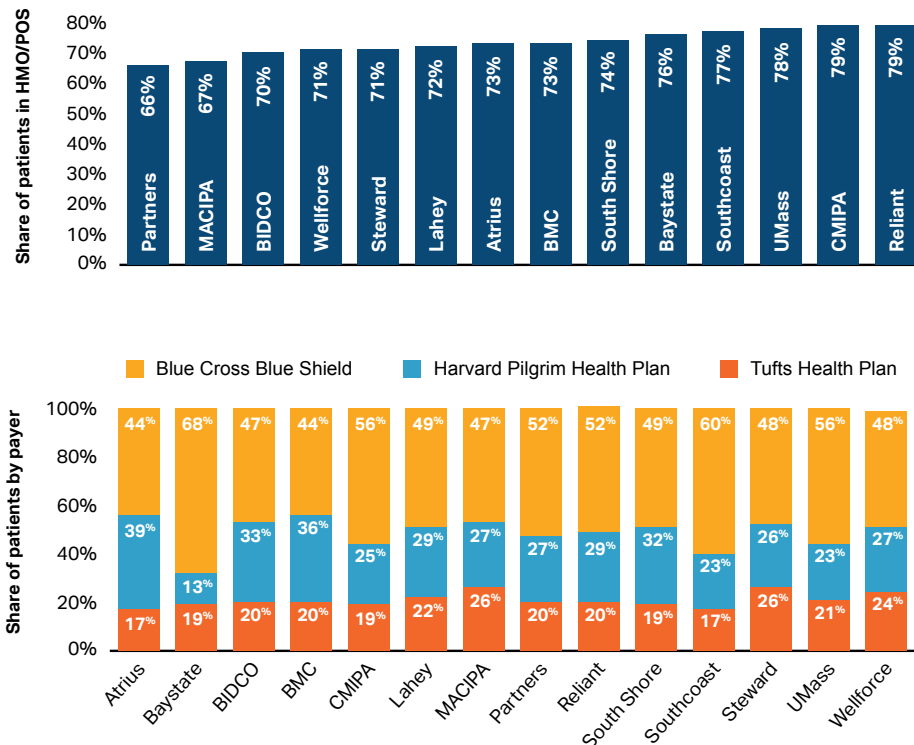
ATTRIBUTED PATIENT CHARACTERISTICS – CHRONIC CONDITIONS

The number of patients with chronic illnesses also varies by provider organization. For example, Southcoast Health has the highest share of patients with cardiovascular disease. Note that individual patients may have multiple chronic conditions.



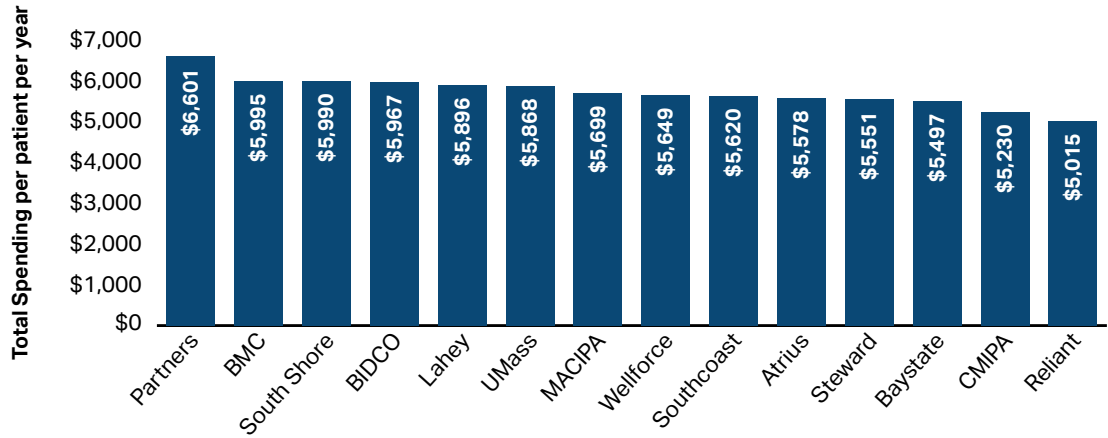
ATTRIBUTED PATIENT CHARACTERISTICS – INSURANCE TYPE AND PAYER MIX

These graphs display the percentage of patients with Health Maintenance Organization (HMO) or Point of Service (POS) plans (as opposed to Preferred Provider Organization (PPO) or Exclusive Provider Organization (EPO) plans), and the percentage of patients with each of the three insurers analyzed.



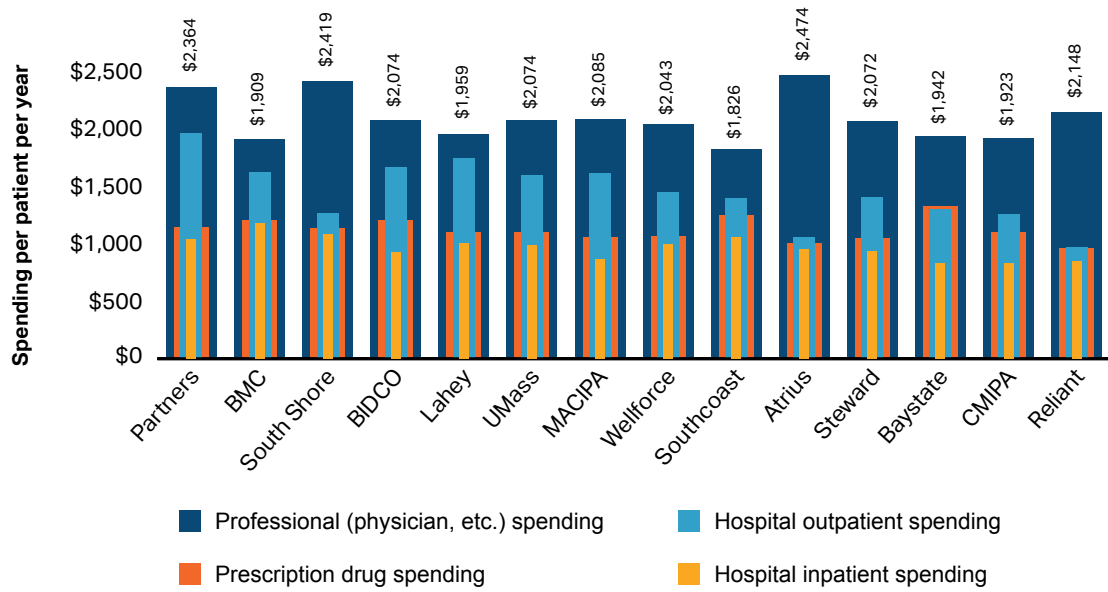
VARIATION IN SPENDING – TOTAL SPENDING

Average risk-adjusted spending per member per year varies substantially across provider organizations. The highest-cost organization spends 32 percent more per patient than the lowest-cost organization (\$6,601 and \$5,015, respectively). This difference in spending, more than \$1,500 per patient per year, is substantial. The spending differences likely reflect a combination of factors including prices per service, intensity of services provided for a given condition, rates of utilization, practice patterns and culture, and patient factors not accounted for in risk adjustment.



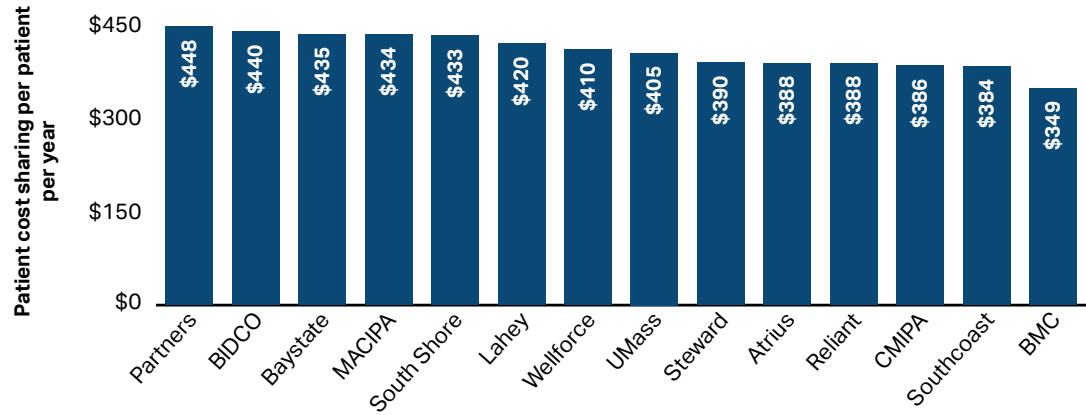
VARIATION IN SPENDING – CATEGORIES OF SPENDING

Spending also varies by category of service. The greatest variation across provider groups occurs in the hospital outpatient spending category, where the highest-cost provider organization for hospital outpatient spending, Partners (\$1,963), is twice as expensive as the lowest-cost provider organization, Reliant (\$974). This category accounts for most of the variation in total spending.



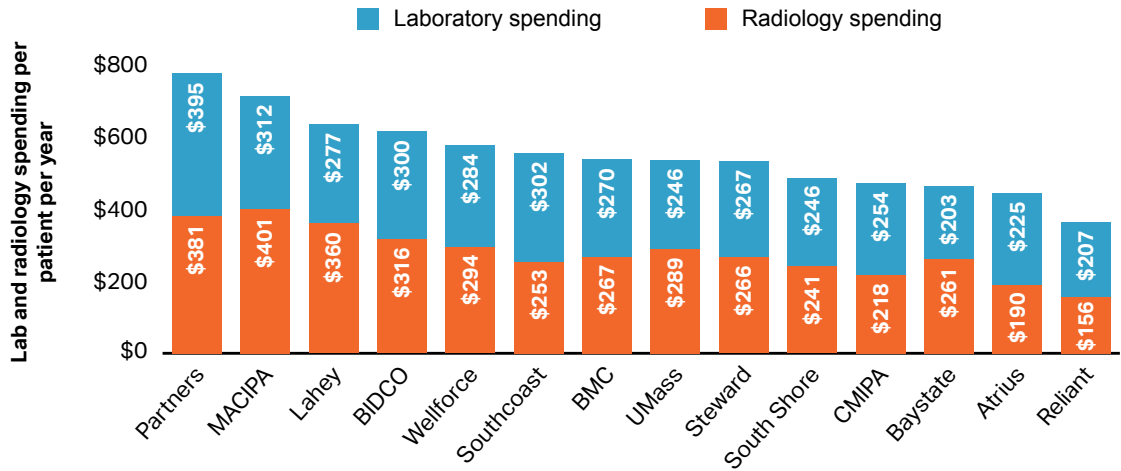
VARIATION IN SPENDING – PATIENT COST SHARING

Amounts of patient cost sharing, which includes copays, coinsurance, and deductible spending, follow a similar trend as total spending across provider organizations.



VARIATION IN SPENDING – LAB AND RADIOLOGY

Variation is also found in lab and radiology spending across provider organizations, which are subcategories of hospital inpatient and outpatient spending. The patterns generally follow those observed in the total spending figures.



The Massachusetts Health Policy Commission, an independent state agency, strives to advance a more transparent, accountable, and innovative health care system through its independent policy leadership and investment programs.

HPC DataPoints is a series of online briefs that spotlight new research and data findings relevant to the HPC's mission to drive down the cost of health care. It showcases brief overviews and interactive graphics on relevant health policy topics. The analysis underlying these briefs is conducted by HPC staff. To view all HPC DataPoints, visit our [website](#).

Endnotes

- 1 The "other" provider organization category in the second set of Tableau exhibits are providers identified as a patient's primary care provider who are not in our provider databases, or in some cases, provider organizations with fewer than 18,000 attributed commercial patients.

Please note: Percentages may not total 100% due to rounding. Values representing fewer than 11 patients have been suppressed and are noted with "NA."

Sources: HPC analysis of the Massachusetts All-Payer Claims Database, 2015; Registration of Provider Organizations, 2016; SK&A Office and Hospital Based Physicians Databases, 2015; U.S. Census Bureau, American Community Survey; University of Wisconsin-Madison HIPxChange, 2017