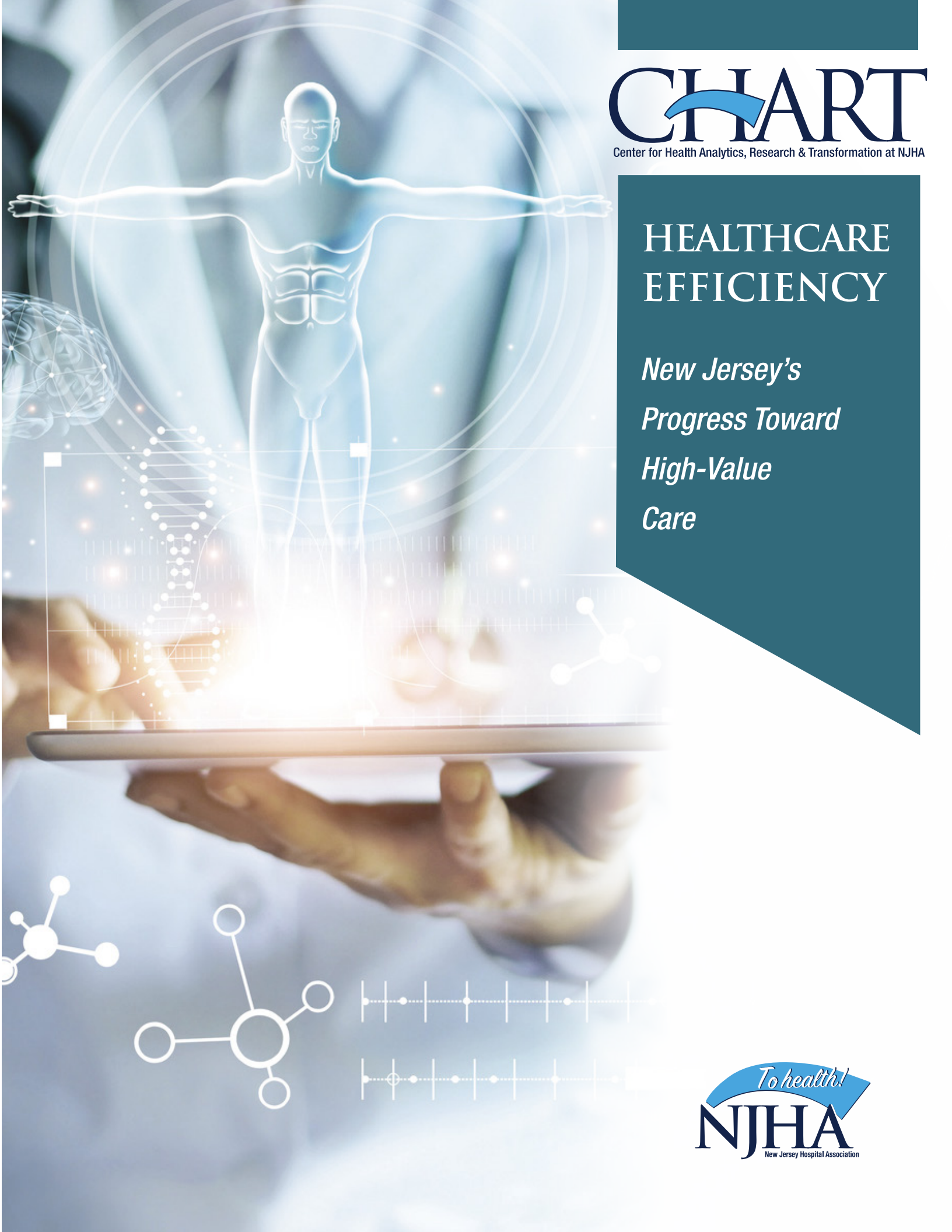

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Center for Health Analytics, Research & Transformation at NJHA

HEALTHCARE EFFICIENCY

New Jersey's Progress Toward High-Value Care

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Healthcare Efficiency: New Jersey's Progress Toward High-Value Care

Pursuit of efficiency is not a new concept for most healthcare providers. U.S. healthcare costs are growing at an unsustainable pace. Hospitals remain the largest cost component of the healthcare system and as such have been under constant pressure to provide care more efficiently. This pressure is being emphasized by the increased focus on value-based payments and a savvier consumer base.

The last decade has seen a flurry of hospital merger and acquisition activity at an unprecedented rate in New Jersey. Mergers have the opportunity to improve operational, clinical and financial value. Blending economies of scale with best practices across system facilities and aligning strategic philosophies can lead to efficient care delivery and improved quality of care. NJHA's Center for Health Analytics, Research & Transformation (CHART) analyzed New Jersey hospital data from 2006 and 2016 to measure the magnitude of improvement in the efficiency of care delivery achieved. The results were overwhelmingly positive both within the state and when comparing the cost of hospital care in New Jersey to the rest of the country.

Controlling hospital costs in an environment where payments are fixed and oftentimes set by external organizations is critical if achieving efficient care delivery is a goal. The data shows that New Jersey's hospitals have effectively demonstrated a commitment to a targeted, purposeful and long-term approach to efficiency, establishing the Garden State as one of the most efficient states for hospital care in the country.

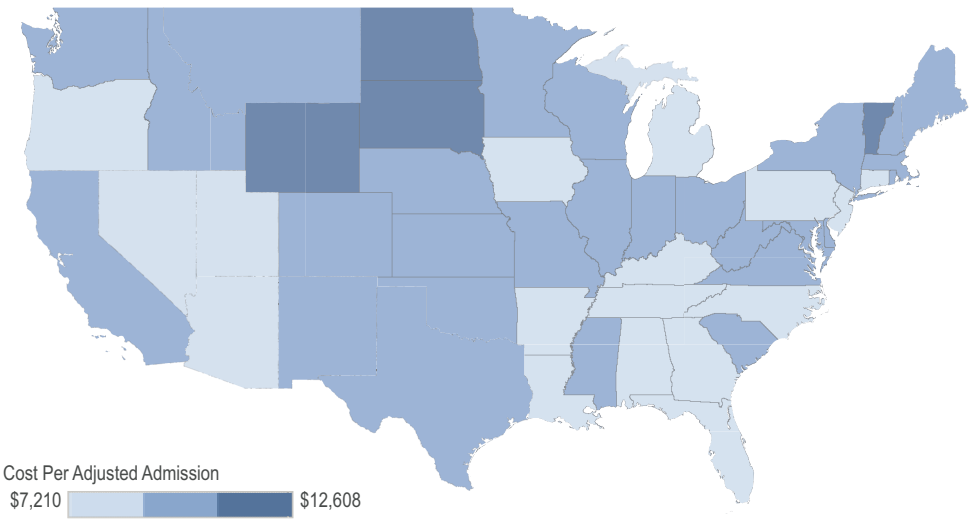
The Cost Growth Problem

Per CMS, the percent of national health expenditures in 2017 for hospital services was 32.7 percent of all healthcare spending.

Per National Health Expenditure data from the Centers for Medicare & Medicaid Services (CMS), health expenses nationally grew 3.9 percent to $3.5 trillion in 2017 and accounted for 17.9 percent of Gross Domestic Product (GDP). Under current law, national health spending is expected to grow at an average rate of 5.5 percent per year from 2018 to 2027 and reach nearly $6 trillion by 2027. With healthcare spending expected to grow 0.8 percentage points faster than GDP per year over that same time period, cost related to healthcare will rise to 19.4 percent of GDP in 2027. The rising cost of healthcare will remain a priority for governmental and commercial insurance carriers, patients, employers, and providers. Attention to this growth will be further exacerbated by the federal deficit and other economic challenges.

Hospitals have been a target for controlling that cost growth. Per CMS, the percent of national health expenditures in 2017 for hospital services was 32.7 percent of all healthcare spending. Conversely, expenditures for physician and clinical services represented 19.9 percent, prescription drugs 9.5 percent, and nursing care facilities and continuing care retirement communities comprised 4.8 percent of total health spending.

Cost-per-Adjusted Admission
Neutralized for Case Mix, Labor Markets and Teaching Density



Testing Perceptions About Urban Hospitals and Cost

Hospitals in the northeast, Texas, Florida, and California have long been criticized as high cost, high-length-of-stay providers. This criticism is often based on analytics that use regional variation in Medicare spending per beneficiary as the foundation for cost variation analysis.

In an effort to accurately portray progress by New Jersey hospitals and health systems and compare them to the rest of the country, CHART drilled into hospital cost and length-of-stay data and employed data neutralizing techniques to level the playing field to allow for an accurate national comparison.

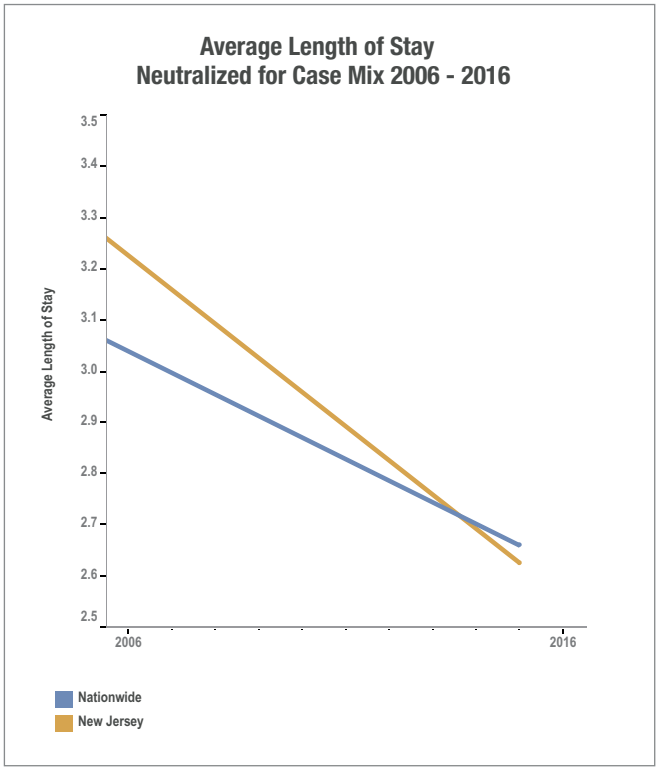
Findings: A Decade of Progress

Hospitals in New Jersey have spent the better part of the last decade shifting services from the costlier inpatient setting to the less costly outpatient setting, making a commitment to provide the right care with the right provider in the right setting. This approach is borne out in an analysis of inpatient volume, cost and length of stay.

In 2006, the total number of inpatient admissions to New Jersey's acute care hospitals was 1,139,228. That number decreased by 14 percent in 2016, with inpatient admissions falling to 979,099. This reduction took place even though New Jersey's population increased by 3.7 percent over that same time period, from 8,661,679 in 2006 to 8,978,416 in 2016.

Additionally, the average length of stay (ALOS) at New Jersey's acute care hospitals declined from 4.93 in 2006 to 4.56 in 2016, a reduction of 7.5 percent. However, this flat comparison of ALOS doesn't fully illuminate the progress hospitals have made on the road to efficiency. When more, less sick patients are treated outside the inpatient setting, what is left in the hospital inpatient setting is a more complex case mix. This measure is commonly referred to as case mix intensity (CMI), which is the average of high- and low-cost weights assigned to various patient services. With a weight of 1.0 as the norm, higher values are deemed more complex and lower values are considered less complex (e.g., the assigned cost weight for a vaginal delivery is 0.614, while a coronary bypass without cardiac catheterization or complications has an assigned cost weight of 3.9263).

In 2006, the average CMI for inpatient services across all New Jersey hospitals was 1.4987. In 2016 that index appropriately jumped to 1.7370. This represents a 16 percent increase in the average complexity of an inpatient stay at a New Jersey hospital. As a point of reference, the average CMI for hospitals in Rhode Island in 2016 was 1.597, which signifies a patient complexity that is 8.8 percent lower than New Jersey's. When the New Jersey ALOS from each year is neutralized for the differences in CMI, the ALOS neutralizes to 3.29 in 2006 and to 2.62 in 2016, producing a real reduction of 20.4 percent over 10 years. This compares favorably to the national reduction of just 13.6 percent over the same period.



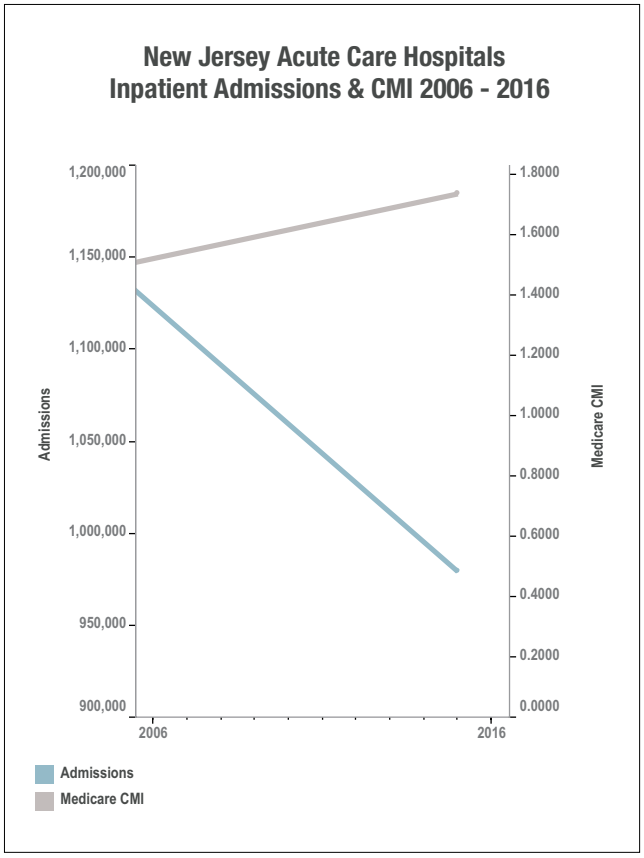
New Jersey Vs. Nationally

Before New Jersey's hospital costs can be compared to other states across the country, it is necessary to neutralize for cost drivers that are outside a hospital's control. Specifically, to level the playing field and produce a fair comparison across states, it is important to control for differences in case mix intensity (the complexity of the services being provided), cost of living (labor costs), and the presence and density of medical resident teaching programs (training the physician workforce of tomorrow).

New Jersey's raw cost-per-adjusted admission as a state ranked 7th lowest in the country in 2016 at $13,864. This is nearly 22 percent less than the national average of $16,886. In addition, New Jersey's cost-per-adjusted admission grew at a slower pace from 2006 to 2016 compared with the national growth. During the 10-year period 2006-2016, New Jersey's cost-per-adjusted admission grew 29 percent, while nationally the cost-per-adjusted admission jumped 50 percent.

However, after adjusting hospital costs for differences in case mix, labor costs and teaching program density, New Jersey ranked as the 4th most efficient provider of hospital care in the United States.

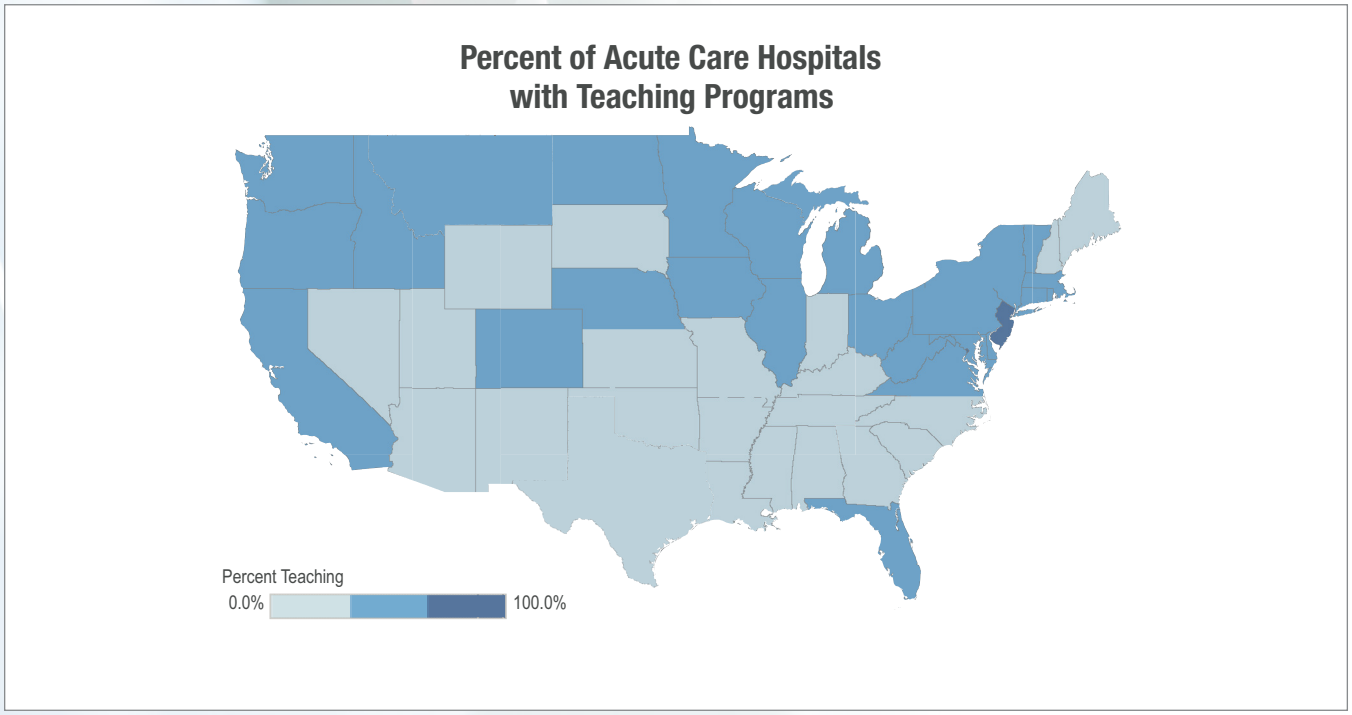
Its neutralized cost-per-adjusted admission was $7,370. As with the non-neutralized metric, from 2006 to 2016 New Jersey's neutralized cost-per-adjusted admission grew at a slower rate than the national average. During the ten years, New Jersey's neutralized cost-per-adjusted admission increased roughly 15 percent, while the nationwide neutralized cost-per-adjusted admission grew 33.5 percent. Other peer states that also showed a low neutralized adjusted cost-per-adjusted admission were Florida ($7,784 in 2016, ranked 5th) and Connecticut ($8,149 in 2016, ranked 10th)



Adjust for Resident Teaching Programs

In 2016, 67 percent of New Jersey's acute care hospitals were teaching hospitals. This ranks as the second highest percentage in the country, behind only Washington, D.C. On average nationally, 34.5 percent of a state's hospitals have teaching programs. With this large number of teaching hospitals comes the increased costs associated with the training of residents. New Jersey's hospitals spent over $574 million on resident salaries and costs in 2016, which equates to 2.6 percent of their total costs. This again is higher than the national average of 2.2 percent.

Despite the amount of resources spent on graduate medical education (GME) in New Jersey, many of these newly trained physicians choose to practice elsewhere. According to the Association of American Medical Colleges (AAMC) 2017 State Physician Workforce Data Report, in 2016 there were over 19,000 active physicians who completed their GME in New Jersey. Of those, roughly 8,500, or 44.5 percent, were active in the state of New Jersey, with the remaining practicing in other states. This is slightly lower than the national average of 44.9 percent and much lower than many states in the West, such as California (70.4 percent) and Alaska (64.8 percent). Despite New Jersey's low retention rates, the state's acute care hospitals remain committed to teaching the future physician workforce.



The Work Continues

The increase in health spending over the previous half century is likely to continue. This sustained increase and high level of spending on healthcare in the United States has been the subject of discussion and scrutiny by government officials, policymakers and providers as they grapple with bending the cost curve. As the rate of growth in healthcare spending in the United States outpaces the growth rate in the gross domestic product (GDP), inflation, and population, the pressure on providers to become more efficient in how care is delivered will remain, and hospitals will be at the center of that scrutiny.

The New Jersey hospital data from 2006-2016 analyzed in this study validates that hospitals in the state have received that message and have acted upon it to improve the efficiency of the patient care they deliver. They have responded not only to fiscal pressures, but have also embraced the need to provide care in an efficient manner by creating more alignment with physicians and other community providers.

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