

Inpatient Quality Indicators

Technical Report

Hospital Performance Dashboard

A Supplement to the

Hospital Performance Report

2018 Data

Health Care Quality Assessment

**Office of Population Health
New Jersey Department of Health**

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Executive Summary

The Office of Health Care Quality Assessment (HCQA) of the New Jersey Department of Health assesses health care quality using qualitative and quantitative data reported by hospitals to support performance monitoring related to patient care and safety. Specifically, HCQA produces consumer reports on cardiac surgery, hospital performance, and hospital quality indicators; reviews confidential reports and root-cause analyses of reportable medical errors; and maintains several databases to support licensure requirements. In order to enhance information that the Department provides to the public regarding quality of hospital care, HCQA staff apply statistical tools developed by the Federal Agency for Healthcare Research and Quality (AHRQ) to the New Jersey hospital discharge data commonly known as Uniform Billing (UB) data. This report presents findings resulting from the application of a statistical tool known as the Inpatient Quality Indicator (IQI) module to the 2018 New Jersey hospital discharge data.

Inpatient Quality Indicators (IQIs) are a set of measures developed at the national level by the [Agency for Health Care Research and Quality \(AHRQ\)](#) to provide a perspective on the quality of patient care given by hospitals. Quality of care is measured using: 1) in-hospital mortality for certain procedures and medical conditions; 2) utilization of procedures for which there are questions of overuse, underuse, or misuse; and 3) volume of procedures for which there is some evidence that a higher volume of procedures is associated with lower mortality. AHRQ spent years of research and analysis to define these indicators as measures of healthcare quality.

Since 2009, the Department has been reporting on **heart attack, heart failure, pneumonia and stroke** mortality levels as part of the 'Outcome of Care Measures'. These indicators were recommended by the "The Governor's Commission on Rationalizing Health Care Resources" to create the 'Hospital Performance Dashboard' as a supplement to the Hospital Performance Report.

The data in this report present mortality during hospitalization in each of the 71 licensed hospitals currently operating in the state. For each of the four selected IQIs, risk-adjusted rates are provided along with confidence intervals to help make a statistical assessment of patient care in the hospital. Statewide and national estimates are also provided to help compare hospital performance to the state or to the national rates.

Comparison of a hospital's rate to the statewide rate (presented in the top row of each of the IQIs tables) is one way to assess how well that hospital performed among its peers in the state. A hospital's peers could be defined at many levels (e.g., teaching hospitals, urban hospitals, suburban hospitals, etc.). It is suggested that a hospital's performance be assessed by looking at its performance across the four IQIs estimates presented in the tables.

The 2018 New Jersey data shows that there are substantial variations in risk-adjusted rates of outcome by hospital. Some hospitals exhibit significantly higher risk-adjusted rates than the corresponding statewide rates while others have significantly lower rates than the statewide rates.

Some Highlights

- Statewide, in 2018, there were a total of 868 in-hospital deaths due to ACUTE MYOCARDIAL INFARCTION – AMI for a risk-adjusted mortality rate of 4.97 per 100 discharges (for patients ages 18 years and older) with a principal ICD-10-CM diagnosis code for AMI. Table 1 shows the distribution of these heart attack (AMI) deaths by hospital.
- Overall, there were 1,016 deaths from HEART FAILURE during hospitalization in 2018, for a risk-adjusted mortality rate of 2.68 per 100 discharges (for patients ages 18 years and older), with a principal ICD-10-CM diagnosis code for heart failure. Table 2 shows the distribution of these Heart Failure deaths by hospital.
- Statewide, there were 498 in-hospital deaths from PNEUMONIA in 2018, for a risk-adjusted rate of 2.48 per 100 discharges (for patients ages 18 years and older) with a principal ICD-10-CM diagnosis code for pneumonia. Hospital-specific rates for this indicator ranged from a low of 0.0 to a high of 6.79 per 100 discharges with pneumonia.
- Statewide, there were 1,144 ACUTE STROKE in-hospital deaths in 2018, for a risk-adjusted rate of 5.98 per 100 discharges (for patients ages 18 years and older) and with a principal ICD-10-CM diagnosis code for subarachnoid hemorrhage or intracerebral hemorrhage or ischemic stroke. Hospital-specific rates for this indicator ranged from a low of 0.0 to a high of 19.25 per 100 patients with stroke diagnosis. Table 4 shows the distribution of these total acute stroke deaths by hospital, while Tables 4.A, 4.B and 4.C present the breakdown of these deaths by SUBARACHNOID HEMORRHAGE STROKE, INTRACEREBRAL HEMORRHAGIC STROKE, and ISCHEMIC HEMORRHAGIC STROKE, by hospital.
- Compared to the national estimates, New Jersey appeared to have rates that are lower than the national average for 3 of the 4 indicators that are selected for the Hospital Performance Dashboard.

References:

Updated Technical Specifications for each of the 4 IQIs presented in this report can be accessed on the AHRQ site below:

https://www.qualityindicators.ahrq.gov/Modules/IQI_TechSpec_ICD10_v2020.aspx

Basic Information about the IQIs Rates Calculations

The AHRQ Inpatient Quality Indicators (IQI) module software produces *observed rates*, *expected rates*, and *risk-adjusted rates* for mortality and utilization indicators. Explanation of these rates follows:

Observed Rates - An observed mortality rate is defined as the number of patient deaths for a specific condition or surgical procedure divided by the total number of patients admitted for the condition or surgical procedure being treated. Similarly, an observed utilization rate is defined as the number of patient cases for a specific procedure divided by the total number of patients admitted for the condition being treated. Consumers can consider observed rates as crude measures of performance. By comparing observed rates to risk-adjusted rates, consumers can see the impact of patient case-mix on that hospital's performance.

Expected Rates - Unlike observed rates, expected rates are derived from applying the average case-mix of a reference population file that reflects a large proportion of the U.S. hospitalized or residential population. The expected mortality rate for a hospital is the hospital's observed rate divided by the hospital's risk-adjusted rate, multiplied by the state average risk-adjusted rate. This adjustment is done to reflect an expectation of hospital performance if that hospital had performed at the level of the state average. While comparing a hospital's risk-adjusted rate to its expected mortality rate provides a measure of the hospital's performance, this comparison will not show if a hospital's mortality rate is statistically significantly different from the state's average mortality rate.

Risk-adjusted rates - In order for provider performance profiles to present an accurate indicator of quality of care, the data must be adjusted to account for differences in patients' severity of illness and risk of mortality. "All Patient Refined Diagnosis Related Groups" ("APR-DRGs") is a proprietary tool of the 3M Health Information Systems Corporation designed to use UB data to adjust for these patient differences. The AHRQ quality indicators methodology requires use of APR-DRGs in the analysis of UB data. APR-DRG variables take advantage of available UB data on patient co-morbidities and non-operating room procedures and allow the interaction of the patient's secondary diagnoses, principal diagnoses, and age to influence the assignment of that patient to one of four classes of severity and risk of mortality classes: low, moderate, high and very high. This risk adjustment enables comparisons among hospitals, counties, and/or states with different mixes of patients.

AHRQ's risk-adjusted rates are derived from applying to the observed rates, the average case-mix of a baseline data file derived from the HCUP State Inpatient Data (SID) from all participating States (i.e. 48 States as of 2017). The risk-adjusted rate is the best estimate of what the hospital's rates would have been if the hospital had a mix of patients identical to a national-average patient mix for the year in question. The risk-adjusted rates reflect the age and sex distribution as well as the APR-DRG distribution of the data in the baseline file. This risk adjustment procedure enables comparisons among hospitals,

counties, and/or states with different mixes of patients. Now that hospitals report present on admission (POA) indicators, the 3M APR DRG Software calculates an “admission APR DRG” for each patient to enable quality improvement professionals use the POA and admission APR-DRG data to organize efforts to reduce hospital-acquired conditions and other complications. POA also makes it possible to measure risk of mortality at admission, helping hospitals adopt more meaningful mortality reduction strategies.

Comparing Observed Rates with Risk-adjusted Rates - The purpose of the analysis determines which rates the user should look at in evaluating the performance of a provider. If the user’s primary interest is to focus on a particular provider without any comparisons to other providers, then he/she can simply examine the overall observed rate for the entire provider, as well as further breakdowns by age, sex, payer, and race/ethnicity. If the purpose of the analysis is to compare the performance of a particular provider with national, state, or regional averages or performances of other selected providers, then both the observed and risk-adjusted rates should be examined. Variation in observed rates across providers is attributable to a variety of factors including differences in patient case-mix or population demographics, disparity in access to and quality of care, and other provider characteristics. Comparing observed and risk-adjusted rates can reveal if there is any difference between the provider’s patient population and the patient population of other providers.

Users can use this information to assess the quality of care inside a hospital, which is useful when making decisions about where to go for treatment. This information, however, is not intended to be used alone when making these decisions. Consider the results of all the different data sources that measure quality of care within a hospital. Since IQIs use hospital inpatient discharge data, hospitals can use the IQIs to identify areas within the hospital that need improvement.

The footnote labels, “better than statewide average” and “worse than statewide average”, shown at the bottom of each table describe the interpretation of the IQI mortality rates in a meaningful way. These labels help identify hospitals that have better than average, average, or worse than average performances compared to the statewide performance, which is shown on the top row of the table and labeled “Statewide Rate.”

When a hospital’s rate is marked by a single asterisk, it means the hospital’s performance is better than the statewide average, meaning fewer deaths than the statewide average deaths for a given condition. Likewise, when a hospital’s rate is marked by double asterisks, it means the hospital’s performance is worse than the statewide average, meaning more deaths than the statewide average. When a hospital’s rate is not marked by an asterisk, it means the hospital’s performance is the same as or similar to the statewide rate.

Hospital rates are determined after adjusting for the risk factors of their patients. A hospital’s rate is ‘worse than average’ if its 95% confidence interval falls completely above the statewide rate. By comparison, a hospital’s rate is ‘better than average’ if its 95% confidence interval falls completely below the statewide rate.

Some rates that appear very large are not marked as ‘worse than average’ while others that appear very small are not marked as ‘better than average’. The reason for such cases may be, that rates calculated from small numbers of events tend to have wider confidence intervals that make the statewide rate fall within the interval, giving the appearance of good performance by that hospital compared to a hospital whose rate is based on a higher volume.

If observed rate > risk-adjusted rate then: the provider’s patient population for the condition or procedure has a *higher* risk of mortality due to its case-mix (for example, older patients or a greater proportion of a higher-risk APR-DRG).

If observed rate < Risk-adjusted rate then: the provider’s patient population for the condition or procedure has a *lower* risk of mortality due to its case-mix (for example, younger or a greater proportion of a lower-risk APR-DRG).

If observed rate = risk-adjusted rate then: the provider’s patient case-mix for the condition or procedure is similar to other providers’, suggesting that patient composition is not a contributing factor to the provider’s performance for the mortality indicator.

The tables in this report present results of analysis made on the IQIs recommended for “Hospital Performance Dashboard” based on the 2018 UB data. The tables show the number of in-hospital deaths (numerator), the number of discharges (denominator), the observed, the expected, and the risk-adjusted mortality rates for each of the four indicators selected for the dashboard. Risk-adjusted rates are given along with their respective 95% confidence intervals.

Basic Facts about the IQIs - Heart Attack, Heart Failure, Pneumonia and Stroke

This section presents brief descriptions of each of the 4 IQIs and why it is important to report them publicly. As stated earlier, these indicators of healthcare quality are recommended to be reported as part of the “Outcome of Care” measures alongside other indicators presented in the Hospital Performance Report. Evidence has shown that with good care, deaths from these conditions can be minimized considerably.

Acute Myocardial Infarction (AMI)

AMI is a heart attack and can occur if the arteries supplying blood to the heart are blocked, and the blood supply is slowed or stopped. When arteries are blocked, the heart can’t get the oxygen and nutrients it needs to function properly. **Symptoms** of AMI can include chest pain (crushing, squeezing or burning pain in the center of the chest which may radiate to the arm or jaw), shortness of breath, dizziness, faintness, chills, sweating or

nausea. Skin may feel cold or clammy, and patients may appear gray and look ill. Sometimes there are no symptoms.

This indicator measures the chance or likelihood that a heart attack patient admitted in a given hospital will die from that condition during hospitalization. According to the American Heart Association, if a heart attack victim gets to an emergency room fast enough, prompt care dramatically reduces heart damage. Timely and effective treatments for acute myocardial infarction (AMI), which are essential for patient survival, include appropriate use of revascularization or thrombolytic therapy. The indicator is defined as the number of deaths per 100 patients with a principal diagnosis code (ICD-10-CM) of AMI (age 18 years and older). For inclusion and exclusion criteria in calculating this rate, visit: http://www.qualityindicators.ahrq.gov/Modules/IQI_TechSpec.aspx

This information is important because it tells you how well hospitals take care of their heart attack patients. This measure takes into consideration several factors such as how quickly hospital staff treats a heart attack patient once they are in the emergency room.

Pneumonia

Pneumonia is an inflammation of the lungs caused by an infection. Many different organisms can cause pneumonia, including bacteria, viruses and fungi. Pneumonia can range from very mild to very severe, even fatal, depending on the type of organism causing it as well as the age and current health of the individual. **Symptoms** for pneumonia can include fever, fatigue, difficulty breathing, chills, “wet” cough and chest pain. Pneumonia typically is treated with antibiotics, sometimes in an outpatient setting. However, death may occur even when the patient is in the hospital, especially in patients with weakened respiratory systems or other chronic health problems. There is a significant impact on outcomes from patient co-morbid factors as well as physician admitting practices (since there is variation in the criteria physicians use to admit patients for inpatient treatment).

This indicator measures the chance or likelihood that a pneumonia patient admitted in a given hospital will die from that condition during hospitalization. In-hospital pneumonia mortality rate is defined as deaths per 100 discharges with principal (ICD-10-CM) diagnosis code of pneumonia (age 18 years and older). For inclusion and exclusion criteria in calculating this rate,

visit: http://www.qualityindicators.ahrq.gov/Modules/IQI_TechSpec.aspx

This information is important because it tells you how well hospitals take care of their pneumonia patients.

Heart Failure (HF)

HF is a weakening of the heart's muscle which reduces its pumping power. Your body doesn't get the oxygen and nutrients it needs when the heart muscles are weak to pump blood in a normal flow. Your heart tries to pump more blood, but over time the heart muscle walls weaken thereby causing heart failure. **Symptoms** for HF can include shortness of breath from fluid in the lungs, dizziness, fatigue, weakness, cold and clammy skin, or rapid and irregular heartbeat. HF can result from coronary artery disease, heart attack, cardiomyopathy (heart muscle damage from infection, alcohol or drugs), or an overworked heart bit caused by high blood pressure, kidney disease, diabetes, or a defect from birth. HF is one of the most common and severe heart diseases affecting Americans, and one of the most common reasons for hospitalization. Congestion is the presence of an abnormal amount of fluid in the tissues, usually because of limitations in the body's ability to return the flow of blood from the arms or legs to the heart and lungs. Though HF has many possible underlying causes, the end result is an inability of the heart muscle to function well enough to meet the demands of the rest of the body.

This indicator measures the chance or likelihood that a HF patient admitted in a given hospital will die from that condition during hospitalization. The mortality rate for this measure is defined as the number of deaths per 100 patients with principal (ICD-10-CM) diagnosis code of CHF (age 18 years and older). For inclusion and exclusion criteria in calculating this rate,

visit: http://www.qualityindicators.ahrq.gov/Modules/IQI_TechSpec.aspx

This information is important because it tells you how well hospitals take care of their heart failure (HF) patients. Since HF mortality is affected by other medical problems, including lung disease, high blood pressure, cancer and liver disease, the score measures how well the hospital can control these influences.

Acute Stroke

Acute Stroke is a disruption in the blood supply to the brain. A stroke occurs when a blood vessel (artery) bringing oxygen and nutrients to the brain bursts or is blocked by a blood clot or some other particle. Within minutes, the nerve cells in that area of the brain are damaged and may die within a few hours. As a result, the part of the body controlled by the damaged section of the brain cannot function properly. There are different types of strokes (ischemic, subarachnoid, and hemorrhagic). Treatment for stroke must be timely and efficient to prevent brain tissue death and differs significantly based on which of the three types of stroke a patient has suffered. For example, clot-busting drugs are appropriate for strokes caused by clots but could be fatal in the case of a burst blood vessel. **Symptoms** for acute stroke can include sudden numbness or weakness of the face, arm or leg, particularly on one side of the body; sudden confusion, trouble speaking

or understanding, sudden trouble seeing in one or both eyes, sudden trouble walking, dizziness, loss of balance or coordination.

This indicator measures the chance or likelihood that an acute stroke patient admitted in a given hospital will die from that condition during hospitalization. Hospital specific stroke mortality rates will vary based on the cause of the stroke, the severity of the stroke, other patient illnesses, speed of arrival at the hospital, and speed of diagnosis of the type of stroke. Moreover, clinical factors, including use of mechanical ventilation on the first day, may vary by hospital and influence mortality. The mortality rate for Acute Stroke is defined as the number of deaths per 100 patients with principal (ICD-9-CM) diagnosis code of stroke (age 18 years and older). For inclusion and exclusion criteria in calculating this rate, visit: http://www.qualityindicators.ahrq.gov/Modules/IQI_TechSpec.aspx

This information is important because it tells you how well hospitals take care of their stroke patients. Treatment for stroke must be quick and efficient to prevent brain tissue death.

Table 1: IN-HOSPITAL MORTALITY RATES FOR ACUTE MYOCARDIAL INFARCTION - AMI (Deaths per 100 conditions)
(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence
						LL - UL
National	28,927	567,685	5.1	NA	NA	NA - NA
Statewide	868	15,304	5.7	5.8	5.0	4.7 - 5.3
Atlantic City Medical Center-City Campus	1	53	1.9	4.8	2.0	0.0 - 7.7
Atlantic City Medical Center-Mainland Campus	41	797	5.1	5.5	4.7	3.4 - 6.1
Bayshore Community Hospital	8	121	6.6	6.7	5.0	1.9 - 8.2
Bergen Regional Medical Center	1	7	14.3	9.9	7.3 ^	0.0 - 17.8
Cape Regional Medical Center Inc	4	44	9.1	9.7	4.8	0.5 - 9.0
Capital Health Medical Center - Hopewell	5	72	6.9	4.9	7.2	2.5 - 12.0
Capital Health Regional Medical Center - Fuld	4	28	14.3	8.5	8.6	2.9 - 14.3
Carepoint Health - Bayonne Medical Center	8	166	4.8	5.0	4.9	1.7 - 8.0
Carepoint Health - Christ Hospital	8	136	5.9	4.9	6.1	2.6 - 9.6
Carepoint Health - Hoboken University MC	4	51	7.8	7.6	5.3	0.7 - 9.8
CentraState Medical Center	5	62	8.1	9.8	4.2	0.6 - 7.8
Chilton Memorial Center	9	129	7.0	7.9	4.5	1.8 - 7.2
Clara Maass Medical Center	12	270	4.4	5.0	4.6	2.1 - 7.0
Community Medical Center	28	448	6.3	5.5	5.8	4.0 - 7.6
Cooper Hospital/University Medical Center	32	629	5.1	4.8	5.4	3.8 - 7.1
Deborah Heart and Lung Center	14	476	2.9	4.2	3.6	1.5 - 5.6
East Orange General Hospital	0	47	0.0	5.9	0.0	0.0 - 5.4
Englewood Hospital and Medical Center	21	344	6.1	5.4	5.7	3.7 - 7.8
Hackensack Meridian Health Pascack Valley MC	2	23	8.7	14.2	3.1 ^	0.0 - 7.8
Hackensack University Medical Center	50	851	5.9	6.3	4.8	3.5 - 6.0
HackensackUMC - Mountainside	9	142	6.3	7.1	4.6	1.8 - 7.3
Hackettstown Community Hospital	1	25	4.0	7.6	2.7 ^	0.0 - 9.3
Holy Name Medical Center	16	222	7.2	6.1	6.0	3.7 - 8.4
Hudson Regional Hospital	1	15	6.7	6.9	4.9 ^	0.0 - 13.7
Hunterdon Medical Center	4	61	6.6	4.1	8.1	2.5 - 13.7
Inspira Medical Center - Elmer	3	21	14.3	12.1	6.0 ^	0.6 - 11.5
Inspira Medical Center - Woodbury	8	138	5.8	6.2	4.8	1.7 - 7.8
Inspira Medical Centers, Inc	12	166	7.2	6.9	5.3	2.7 - 7.9
Jefferson Cherry Hill Hospital	3	29	10.3	13.7	3.8 ^	0.0 - 8.1
Jefferson Stratford Hospital	2	17	11.8	9.4	6.4 ^	0.0 - 13.4
Jefferson Washington Township Hospital	5	54	9.3	11.6	4.1	0.6 - 7.5
Jersey City Medical Center	21	328	6.4	3.8	8.5 **	5.9 - 11.1
Jersey Shore University Medical Center	37	1,028	3.6	4.9	3.8 *	2.5 - 5.0
JFK Medical CTR - Anthony M. Yelencics Community	17	311	5.5	5.5	5.1	2.9 - 7.2
Lourdes Medical Center of Burlington Cty.	3	35	8.6	9.7	4.5	0.0 - 9.3
Monmouth Medical Center	5	68	7.4	9.1	4.1	0.6 - 7.6
Monmouth Medical Center - Southern Campus	3	17	17.6	10.3	8.7 ^	2.2 - 15.3
Morristown Medical Center	48	1,053	4.6	5.3	4.3	3.2 - 5.5
Newark Beth Israel Medical Center	27	415	6.5	5.0	6.6	4.6 - 8.5
Newton Medical Center	4	65	6.2	10.0	3.1	0.0 - 6.5
Ocean Medical Center - Brick Division	13	189	6.9	7.3	4.8	2.4 - 7.2
Our Lady of Lourdes Medical Center	44	872	5.0	5.7	4.5	3.2 - 5.8

Table 1: IN-HOSPITAL MORTALITY RATES FOR ACUTE MYOCARDIAL INFARCTION - AMI (Deaths per 100 conditions)
(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence
						LL - UL
National	28,927	567,685	5.1	NA	NA	NA - NA
Statewide	868	15,304	5.7	5.8	5.0	4.7 - 5.3
Overlook Medical Center	18	306	5.9	5.4	5.5	3.4 - 7.7
Palisades Medical Center	4	66	6.1	7.7	4.0	0.1 - 7.9
Penn Medicine Princeton Medical Center	11	110	10.0	7.2	7.1	4.0 - 10.2
Raritan Bay Medical Center-Old Bridge	1	52	1.9	5.2	1.9	0.0 - 7.3
Raritan Bay Medical Center-Perth Amboy	10	173	5.8	6.1	4.8	2.1 - 7.6
Riverview Medical Center	7	198	3.5	5.6	3.2	0.5 - 5.9
RWJ University Hospital	50	810	6.2	5.1	6.1	4.8 - 7.5
RWJ University Hospital at Hamilton	4	65	6.2	4.7	6.6	1.4 - 11.8
RWJ University Hospital at Rahway	20	104	19.2	9.2	10.7 **	7.9 - 13.5
RWJ University Hospital Somerset	17	261	6.5	5.7	5.9	3.6 - 8.2
Saint Clare's Hospital	2	17	11.8	11.1	5.4	0.0 - 11.6
Saint Clare's Hospital/Denville Campus	16	130	12.3	8.5	7.3	4.7 - 9.9
Saint Michael's Medical Center	4	153	2.6	6.4	2.1 *	0.0 - 4.9
Saint Peter's University Hospital	6	64	9.4	8.6	5.5	1.8 - 9.3
Shore Memorial Hospital	4	17	23.5	7.4	16.2 **^	8.2 - 24.2
Southern Ocean County Hospital	2	67	3.0	9.3	1.6	0.0 - 5.1
St. Barnabas Medical Center	17	331	5.1	5.2	5.0	2.9 - 7.1
St. Francis Medical Center-Trenton	9	296	3.0	4.0	3.8	1.2 - 6.5
St. Joseph's Hospital and Medical Center	33	577	5.7	6.1	4.8	3.3 - 6.3
St. Joseph's Wayne	2	40	5.0	9.9	2.6	0.0 - 6.9
St. Luke' Warren Hospital	0	16	0.0	7.5	0.0 ^	0.0 - 8.0
St. Mary's General Hospital	6	129	4.7	7.3	3.3	0.3 - 6.2
The Memorial Hospital of Salem County	1	8	12.5	6.7	9.6 ^	0.0 - 22.0
Trinitas Hospital	7	122	5.7	4.9	5.9	2.3 - 9.6
University Hospital	7	136	5.1	5.9	4.4	1.3 - 7.6
Valley Hospital	35	466	7.5	7.5	5.1	3.6 - 6.6
Virtua-Memorial Hospital Burlington Cty.	11	167	6.6	7.1	4.7	2.2 - 7.2
Virtua-West Jersey Hospital Marlton	12	281	4.3	4.5	4.8	2.3 - 7.3
Virtua-West Jersey Hospital Voorhees	9	117	7.7	8.0	4.9	2.0 - 7.7

Source: National numbers are derived from 2016 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2019 while New Jersey's are calculated from the **2018 NJ UB Data** using the same software version.

^ = Rate is based on a denominator less than 30 and should be taken with caution.

* = Statistically significantly below state average, ** = Statistically significantly above state average.

Expected rate is the rate the hospital would have if it had the same case-mix (e.g., age, gender, DRG, and comorbidity categories) as the reference or statewide population. If the observed rate is higher than the expected rate (i.e., the ratio of observed to expected is greater than 1.0), it suggests that the hospital performed worse than the reference population on that indicator.

Table 2: IN-HOSPITAL MORTALITY RATES FOR PNEUMONIA (Deaths per 100 conditions)
 (Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval	
						LL	UL
National	18,157	669,082	2.7	NA	NA	NA	NA
Statewide	498	17,286	2.9	3.2	2.5	2.3	2.7
Atlantic City Medical Center-City Campus	4	215	1.9	2.9	1.8	0.0	3.8
Atlantic City Medical Center-Mainland Campus	8	359	2.2	3.3	1.9	0.4	3.3
Bayshore Community Hospital	8	298	2.7	3.3	2.2	0.6	3.8
Bergen Regional Medical Center	1	41	2.4	2.4	2.8	0.0	7.9
Cape Regional Medical Center Inc	6	209	2.9	2.8	2.8	0.7	4.9
Capital Health Medical Center - Hopewell	9	285	3.2	3.1	2.8	1.1	4.5
Capital Health Regional Medical Center - Fuld	9	187	4.8	2.3	5.8 **	3.3	8.3
Carepoint Health - Bayonne Medical Center	2	133	1.5	2.1	2.0	0.0	5.1
Carepoint Health - Christ Hospital	9	221	4.1	3.2	3.5	1.7	5.2
Carepoint Health - Hoboken University Medical Center	3	91	3.3	2.6	3.5	0.3	6.7
CentraState Medical Center	22	542	4.1	3.5	3.2	2.0	4.3
Chilton Memorial Center	12	304	3.9	3.8	2.9	1.4	4.3
Clara Maass Medical Center	9	289	3.1	2.7	3.2	1.4	4.9
Community Medical Center	23	532	4.3	3.0	3.9 **	2.7	5.2
Cooper Hospital/University Medical Center	4	230	1.7	2.6	1.8	0.0	3.9
Deborah Heart and Lung Center	1	50	2.0	4.3	1.3	0.0	4.7
East Orange General Hospital	3	104	2.9	1.4	5.7	1.4	10.1
Englewood Hospital and Medical Center	10	293	3.4	3.5	2.7	1.1	4.2
Hackensack Meridian Health Pascack Valley MC	5	134	3.7	3.9	2.6	0.4	4.8
Hackensack University Medical Center	27	660	4.1	3.9	2.8	1.9	3.8
HackensackUMC - Mountainside	3	261	1.1	2.8	1.1	0.0	3.0
Hackettstown Community Hospital	1	94	1.1	3.3	0.9	0.0	3.7
Holy Name Medical Center	12	346	3.5	2.5	3.7	2.0	5.5
Hudson Regional Hospital	2	27	7.4	3.0	6.8	1.1	12.5
Hunterdon Medical Center	7	233	3.0	3.1	2.7	0.8	4.6
Inspira Medical Center - Elmer	2	132	1.5	4.5	0.9	0.0	2.9
Inspira Medical Center - Woodbury	10	266	3.8	4.5	2.3	0.9	3.7
Inspira Medical Centers, Inc	15	419	3.6	3.8	2.6	1.3	3.8
Jefferson Cherry Hill Hospital	2	85	2.4	2.1	3.0	0.0	6.8
Jefferson Stratford Hospital	4	95	4.2	2.8	4.1	1.0	7.2
Jefferson Washington Township Hospital	4	184	2.2	3.1	1.9	0.0	4.0
Jersey City Medical Center	4	258	1.6	1.9	2.3	0.0	4.6
Jersey Shore University Medical Center	5	340	1.5	3.2	1.2	0.0	2.8
JFK Medical CTR - Anthony M. Yelensics Community	9	561	1.6	3.0	1.5	0.2	2.7
Lourdes Medical Center of Burlington Cty.	3	133	2.3	3.0	2.1	0.0	4.4
Monmouth Medical Center	3	151	2.0	2.8	1.9	0.0	4.3
Monmouth Medical Center - Southern Campus	1	144	0.7	3.2	0.6	0.0	2.9
Morristown Medical Center	7	370	1.9	3.8	1.3	0.0	2.7
Newark Beth Israel Medical Center	6	279	2.2	2.1	2.8	0.7	4.9
Newton Medical Center	6	233	2.6	3.4	2.0	0.2	3.9
Ocean Medical Center - Brick Division	13	457	2.8	3.5	2.2	1.0	3.4

Table 2: IN-HOSPITAL MORTALITY RATES FOR PNEUMONIA (Deaths per 100 conditions)
(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval	
						LL	UL
National	18,157	669,082	2.7	NA	NA	NA	NA
Statewide	498	17,286	2.9	3.2	2.5	2.3	2.7
Our Lady of Lourdes Medical Center	6	186	3.2	3.3	2.7	0.7	4.7
Overlook Medical Center	14	384	3.6	3.7	2.6	1.3	4.0
Palisades Medical Center	11	229	4.8	3.1	4.3	2.4	6.2
Penn Medicine Princeton Medical Center	10	283	3.5	3.6	2.7	1.1	4.3
Raritan Bay Medical Center-Old Bridge	7	180	3.9	3.9	2.7	0.9	4.5
Raritan Bay Medical Center-Perth Amboy	3	163	1.8	2.5	2.0	0.0	4.6
Riverview Medical Center	7	244	2.9	3.8	2.1	0.5	3.6
RWJ University Hospital	20	483	4.1	3.3	3.4	2.2	4.7
RWJ University Hospital at Hamilton	1	258	0.4	2.8	0.4 *	0.0	2.2
RWJ University Hospital at Rahway	8	173	4.6	3.2	3.9	1.7	6.0
RWJ University Hospital Somerset	14	273	5.1	3.6	3.8	2.3	5.4
Saint Clare's Hospital	1	52	1.9	3.4	1.5	0.0	5.4
Saint Clare's Hospital/Denville Campus	0	97	0.0	3.5	0.0	0.0	2.8
Saint Michael's Medical Center	1	71	1.4	3.0	1.3	0.0	4.6
Saint Peter's University Hospital	4	161	2.5	2.7	2.5	0.1	4.9
Shore Memorial Hospital	3	190	1.6	2.1	2.1	0.0	4.7
Southern Ocean County Hospital	5	238	2.1	3.6	1.6	0.0	3.3
St. Barnabas Medical Center	20	467	4.3	2.6	4.4 **	3.0	5.8
St. Francis Medical Center-Trenton	3	71	4.2	3.0	3.8	0.3	7.3
St. Joseph's Hospital and Medical Center	5	441	1.1	3.0	1.0 *	0.0	2.4
St. Joseph's Wayne	6	156	3.8	3.2	3.3	1.0	5.5
St. Luke' Warren Hospital	1	91	1.1	4.0	0.7	0.0	3.4
St. Mary's General Hospital	1	63	1.6	3.6	1.2	0.0	4.6
The Memorial Hospital of Salem County	1	91	1.1	2.3	1.3	0.0	4.7
Trinitas Hospital	12	271	4.4	2.2	5.4 **	3.4	7.4
University Hospital	2	153	1.3	1.9	1.9	0.0	4.8
Valley Hospital	12	344	3.5	4.1	2.3	1.0	3.6
Virtua-Memorial Hospital Burlington Cty.	6	367	1.6	2.8	1.6	0.0	3.2
Virtua-West Jersey Hospital Marlton	4	275	1.5	3.7	1.1	0.0	2.6
Virtua-West Jersey Hospital Voorhees	16	586	2.7	2.7	2.8	1.5	4.0

Source: National numbers are derived from 2016 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2019 while New Jersey's are calculated from the **2018 NJ UB Data** using the same software version.

^ = Rate is based on a denominator less than 30 and should be taken with caution.

* = Statistically significantly below state average, ** = Statistically significantly above state average.

Expected rate is the rate the hospital would have if it had the same case-mix (e.g., age, gender, DRG, and comorbidity categories) as the reference or statewide population. If the observed rate is higher than the expected rate (i.e., the ratio of observed to expected is greater than 1.0), it suggests that the hospital performed worse than the reference population on that indicator.

Table 3: IN-HOSPITAL MORTALITY RATES FOR HEART FAILURE (Deaths per 100 conditions)
 (Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval
						LL - UL
National	27,643	987,464	2.8	NA	NA	NA - NA
Statewide	1,016	33,229	3.1	3.2	2.7	2.5 - 2.8
Atlantic City Medical Center-City Campus	10	362	2.8	2.9	2.7	1.1 - 4.3
Atlantic City Medical Center-Mainland Campus	38	719	5.3	3.0	4.9 **	3.8 - 6.1
Bayshore Community Hospital	8	348	2.3	3.8	1.7	0.3 - 3.1
Bergen Regional Medical Center	2	24	8.3	4.4	5.3 ^	0.3 - 10.4
Cape Regional Medical Center Inc	5	332	1.5	2.9	1.5	0.0 - 3.2
Capital Health Medical Center - Hopewell	6	359	1.7	3.0	1.6	0.0 - 3.1
Capital Health Regional Medical Center - Fuld	7	264	2.7	2.8	2.6	0.7 - 4.6
Carepoint Health - Bayonne Medical Center	2	280	0.7	2.1	1.0	0.0 - 3.2
Carepoint Health - Christ Hospital	12	341	3.5	2.0	4.8 **	2.8 - 6.9
Carepoint Health - Hoboken University Medical Center	4	159	2.5	2.2	3.2	0.4 - 6.1
CentraState Medical Center	22	483	4.6	3.6	3.6	2.3 - 4.8
Chilton Memorial Center	8	305	2.6	3.3	2.3	0.6 - 3.9
Clara Maass Medical Center	30	712	4.2	2.5	4.6 **	3.4 - 5.9
Community Medical Center	42	1,012	4.2	2.9	4.0 **	3.0 - 5.0
Cooper Hospital/University Medical Center	15	863	1.7	2.4	2.1	0.9 - 3.2
Deborah Heart and Lung Center	6	549	1.1	2.6	1.2 *	0.0 - 2.5
East Orange General Hospital	2	217	0.9	1.9	1.4	0.0 - 4.0
Englewood Hospital and Medical Center	22	557	3.9	3.1	3.5	2.3 - 4.8
Hackensack Meridian Health Pascack Valley MC	4	138	2.9	4.5	1.8	0.0 - 3.9
Hackensack University Medical Center	29	1,035	2.8	4.2	1.9	1.1 - 2.7
HackensackUMC - Mountainside	11	462	2.4	3.3	2.0	0.7 - 3.4
Hackettstown Community Hospital	2	196	1.0	3.6	0.8	0.0 - 2.7
Holy Name Medical Center	23	645	3.6	3.0	3.4	2.2 - 4.6
Hudson Regional Hospital	1	32	3.1	2.2	4.0	0.0 - 10.5
Hunterdon Medical Center	8	238	3.4	4.2	2.2	0.6 - 3.9
Inspira Medical Center - Elmer	4	150	2.7	3.2	2.3	0.0 - 4.7
Inspira Medical Center - Woodbury	7	414	1.7	3.3	1.4	0.0 - 2.9
Inspira Medical Centers, Inc	22	790	2.8	2.9	2.7	1.6 - 3.8
Jefferson Cherry Hill Hospital	11	201	5.5	3.5	4.3	2.4 - 6.3
Jefferson Stratford Hospital	5	278	1.8	2.6	1.9	0.0 - 3.9
Jefferson Washington Township Hospital	19	667	2.8	3.2	2.5	1.3 - 3.6
Jersey City Medical Center	9	451	2.0	1.9	2.9	1.1 - 4.7
Jersey Shore University Medical Center	26	1,059	2.5	4.0	1.7 *	0.9 - 2.5
JFK Medical CTR - Anthony M. Yelencics Community	12	626	1.9	3.1	1.7	0.5 - 2.9
Lourdes Medical Center of Burlington Cty.	3	254	1.2	2.5	1.3	0.0 - 3.4
Monmouth Medical Center	5	287	1.7	2.9	1.7	0.0 - 3.5
Monmouth Medical Center - Southern Campus	7	234	3.0	3.0	2.8	0.8 - 4.8
Morristown Medical Center	51	1,200	4.3	4.0	2.9	2.2 - 3.7
Newark Beth Israel Medical Center	40	986	4.1	2.0	5.6 **	4.4 - 6.8
Newton Medical Center	15	362	4.1	3.7	3.2	1.7 - 4.6
Ocean Medical Center - Brick Division	29	805	3.6	3.8	2.7	1.7 - 3.6
Our Lady of Lourdes Medical Center	15	577	2.6	3.2	2.3	1.1 - 3.5

Table 3: IN-HOSPITAL MORTALITY RATES FOR HEART FAILURE (Deaths per 100 conditions)
(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval
						LL - UL
National	27,643	987,464	2.8	NA	NA	NA - NA
Statewide	1,016	33,229	3.1	3.2	2.7	2.5 - 2.8
Overlook Medical Center	32	649	4.9	3.7	3.7	2.6 - 4.8
Palisades Medical Center	8	332	2.4	3.3	2.0	0.4 - 3.6
Penn Medicine Princeton Medical Center	23	382	6.0	3.9	4.3 **	3.0 - 5.7
Raritan Bay Medical Center-Old Bridge	10	323	3.1	3.4	2.5	1.0 - 4.1
Raritan Bay Medical Center-Perth Amboy	3	276	1.1	2.9	1.0 *	0.0 - 2.9
Riverview Medical Center	9	384	2.3	4.2	1.5	0.3 - 2.8
RWJ University Hospital	50	1,014	4.9	3.2	4.3 **	3.4 - 5.2
RWJ University Hospital at Hamilton	11	467	2.4	3.3	2.0	0.7 - 3.4
RWJ University Hospital at Rahway	11	424	2.6	2.8	2.6	1.1 - 4.2
RWJ University Hospital Somerset	25	635	3.9	3.3	3.3	2.2 - 4.5
Saint Clare's Hospital	1	189	0.5	4.2	0.4 *	0.0 - 2.2
Saint Clare's Hospital/Denville Campus	6	312	1.9	3.9	1.4	0.0 - 2.9
Saint Michael's Medical Center	4	413	1.0	2.7	1.0 *	0.0 - 2.6
Saint Peter's University Hospital	5	307	1.6	3.1	1.4	0.0 - 3.1
Shore Memorial Hospital	6	355	1.7	2.6	1.8	0.1 - 3.6
Southern Ocean County Hospital	9	366	2.5	4.4	1.6	0.3 - 2.8
St. Barnabas Medical Center	29	900	3.2	2.8	3.2	2.1 - 4.2
St. Francis Medical Center-Trenton	5	245	2.0	2.4	2.4	0.2 - 4.6
St. Joseph's Hospital and Medical Center	25	913	2.7	3.1	2.5	1.5 - 3.4
St. Joseph's Wayne	17	252	6.7	3.8	4.9 **	3.3 - 6.6
St. Luke' Warren Hospital	4	253	1.6	4.3	1.0 *	0.0 - 2.6
St. Mary's General Hospital	0	309	0.0	3.4	0.0 *	0.0 - 1.6
The Memorial Hospital of Salem County	2	176	1.1	2.5	1.3	0.0 - 3.8
Trinitas Hospital	17	504	3.4	2.0	4.7 **	3.0 - 6.3
University Hospital	11	285	3.9	2.2	4.9 **	2.8 - 7.1
Valley Hospital	40	788	5.1	5.1	2.8	2.0 - 3.6
Virtua-Memorial Hospital Burlington Cty.	16	700	2.3	2.9	2.2	1.1 - 3.4
Virtua-West Jersey Hospital Marlton	14	475	2.9	3.3	2.5	1.2 - 3.8
Virtua-West Jersey Hospital Voorhees	24	628	3.8	2.8	3.8	2.6 - 5.1

Source: National numbers are derived from 2016 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2019 while New Jersey's are calculated from the **2018 NJ UB Data** using the same software version.

^ = Rate is based on a denominator less than 30 and should be taken with caution.

* = Statistically significantly below state average, ** = Statistically significantly above state average.

Expected rate is the rate the hospital would have if it had the same case-mix (e.g., age, gender, DRG, and comorbidity categories) as the reference or statewide population. If the observed rate is higher than the expected rate (i.e., the ratio of observed to expected is greater than 1.0), it suggests that the hospital performed worse than the reference population on that indicator.

Table 4: IN-HOSPITAL MORTALITY RATES FOR ACUTE STROKE (Deaths per 100 conditions)
(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval	
						LL	UL
National	43,216	583,655	7.4	NA	NA	NA	NA
Statewide	1,144	16,653	6.9	8.5	6.0	5.7	6.3
Atlantic City Medical Center-City Campus	58	452	12.8	10.4	9.2 **	7.5	10.9
Atlantic City Medical Center-Mainland Campus	3	158	1.9	2.9	4.8	0.0	10.8
Bayshore Community Hospital	5	119	4.2	6.6	4.7	0.4	9.0
Bergen Regional Medical Center	0	6	0.0	16.6	0.0 ^	0.0	11.5
Cape Regional Medical Center Inc	4	152	2.6	3.2	6.1	0.5	11.8
Capital Health Medical Center - Hopewell	1	131	0.8	3.4	1.7	0.0	7.8
Capital Health Regional Medical Center - Fuld	68	531	12.8	15.0	6.3	5.0	7.6
Carepoint Health - Bayonne Medical Center	7	107	6.5	9.6	5.1	1.4	8.7
Carepoint Health - Christ Hospital	10	82	12.2	4.7	19.3 **	12.5	26.0
Carepoint Health - Hoboken University Medical Center	12	84	14.3	6.8	15.6 **	10.5	20.7
CentraState Medical Center	25	261	9.6	8.8	8.1	5.7	10.4
Chilton Memorial Center	9	206	4.4	8.2	4.0	1.1	6.9
Clara Maass Medical Center	6	233	2.6	5.2	3.6	0.1	7.2
Community Medical Center	27	534	5.1	6.1	6.2	4.0	8.4
Cooper Hospital/University Medical Center	50	607	8.2	10.9	5.6	4.2	7.0
Deborah Heart and Lung Center
East Orange General Hospital	0	41	0.0	4.7	0.0	0.0	9.1
Englewood Hospital and Medical Center	14	304	4.6	5.5	6.2	3.2	9.2
Hackensack Meridian Health Pascack Valley MC	2	50	4.0	4.6	6.4	0.0	15.0
Hackensack University Medical Center	56	777	7.2	11.6	4.6 *	3.4	5.8
HackensackUMC - Mountainside	16	186	8.6	10.0	6.3	3.7	9.0
Hackettstown Community Hospital	5	86	5.8	3.3	13.2	5.4	21.0
Holy Name Medical Center	14	262	5.3	6.9	5.7	2.9	8.6
Hudson Regional Hospital	0	15	0.0	1.6	0.0 ^	0.0	27.8
Hunterdon Medical Center	6	140	4.3	5.6	5.7	1.3	10.1
Inspira Medical Center - Elmer	1	42	2.4	2.9	6.2	0.0	18.8
Inspira Medical Center - Woodbury	11	153	7.2	5.5	9.8	5.5	14.0
Inspira Medical Centers, Inc	18	305	5.9	5.3	8.2	5.1	11.3
Jefferson Cherry Hill Hospital	4	100	4.0	3.1	9.7	2.0	17.4
Jefferson Stratford Hospital	2	93	2.2	3.5	4.6	0.0	11.7
Jefferson Washington Township Hospital	39	448	8.7	9.9	6.5	4.8	8.3
Jersey City Medical Center	25	299	8.4	5.5	11.2 **	8.3	14.1
Jersey Shore University Medical Center	37	700	5.3	13.8	2.8 *	1.7	4.0
JFK Medical CTR - Anthony M. Yelencis Community	31	713	4.3	7.6	4.3 *	2.6	5.9
Lourdes Medical Center of Burlington Cty.	5	71	7.0	4.6	11.4	4.5	18.4
Monmouth Medical Center	4	123	3.3	6.8	3.6	0.0	7.6
Monmouth Medical Center - Southern Campus	4	61	6.6	5.7	8.5	2.0	15.0
Morristown Medical Center	49	508	9.6	10.5	6.8	5.2	8.4
Newark Beth Israel Medical Center	15	266	5.6	6.3	6.6	3.7	9.5
Newton Medical Center	4	174	2.3	4.7	3.6	0.0	8.0
Ocean Medical Center - Brick Division	2	254	0.8	4.3	1.4 *	0.0	5.1
Our Lady of Lourdes Medical Center	30	322	9.3	11.2	6.2	4.3	8.0

Table 4: IN-HOSPITAL MORTALITY RATES FOR ACUTE STROKE (Deaths per 100 conditions)
(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval	
						LL	UL
National	43,216	583,655	7.4	NA	NA	NA	NA
Statewide	1,144	16,653	6.9	8.5	6.0	5.7	6.3
Overlook Medical Center	53	656	8.1	11.9	5.0	3.7	6.3
Palisades Medical Center	6	132	4.5	7.5	4.5	0.6	8.3
Penn Medicine Princeton Medical Center	16	239	6.7	6.5	7.6	4.6	10.6
Raritan Bay Medical Center-Old Bridge	1	89	1.1	4.4	1.9	0.0	8.2
Raritan Bay Medical Center-Perth Amboy	0	61	0.0	3.5	0.0	0.0	9.1
Riverview Medical Center	5	206	2.4	7.7	2.3 *	0.0	5.3
RWJ University Hospital	87	793	11.0	11.3	7.2	6.0	8.4
RWJ University Hospital at Hamilton	2	134	1.5	4.8	2.3	0.0	7.3
RWJ University Hospital at Rahway	2	122	1.6	3.1	3.9	0.0	10.6
RWJ University Hospital Somerset	11	247	4.5	5.5	6.0	2.7	9.3
Saint Clare's Hospital	0	69	0.0	3.9	0.0	0.0	8.0
Saint Clare's Hospital/Denville Campus	4	139	2.9	7.5	2.8	0.0	6.5
Saint Michael's Medical Center	1	71	1.4	4.3	2.4	0.0	9.6
Saint Peter's University Hospital	5	134	3.7	6.1	4.5	0.4	8.7
Shore Memorial Hospital	1	115	0.9	2.9	2.2	0.0	9.6
Southern Ocean County Hospital	2	128	1.6	5.3	2.2	0.0	6.9
St. Barnabas Medical Center	29	524	5.5	6.7	6.1	4.1	8.1
St. Francis Medical Center-Trenton	3	45	6.7	7.7	6.4	0.3	12.5
St. Joseph's Hospital and Medical Center	69	521	13.2	11.4	8.6 **	7.1	10.1
St. Joseph's Wayne	2	71	2.8	3.2	6.6	0.0	15.4
St. Luke' Warren Hospital	1	65	1.5	6.2	1.8	0.0	8.0
St. Mary's General Hospital	2	74	2.7	4.9	4.1	0.0	10.9
The Memorial Hospital of Salem County	1	26	3.8	3.0	9.5	0.0	24.3
Trinitas Hospital	15	179	8.4	6.4	9.7	6.2	13.1
University Hospital	88	526	16.7	14.6	8.5 **	7.2	9.7
Valley Hospital	45	502	9.0	10.9	6.1	4.5	7.6
Virtua-Memorial Hospital Burlington Cty.	5	274	1.8	4.5	3.0	0.0	6.5
Virtua-West Jersey Hospital Marlton	4	130	3.1	5.8	4.0	0.0	8.3
Virtua-West Jersey Hospital Voorhees	5	225	2.2	3.3	5.0	0.2	9.8

Source: National numbers are derived from 2016 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2019 while New Jersey's are calculated from the **2018 NJ UB Data** using the same software version.

^ = Rate is based on a denominator less than 30 and should be taken with caution.

* = Statistically significantly below state average, ** = Statistically significantly above state average.

Missing (.) = Hospital did not perform the procedure during the year in question; or it performed less than 3 procedures (rate is not computed when the denominator is less than 3).

Expected rate is the rate the hospital would have if it had the same case-mix (e.g., age, gender, DRG, and comorbidity categories) as the reference or statewide population. If the observed rate is higher than the expected rate (i.e., the ratio of observed to expected is greater than 1.0), it suggests that the hospital performed worse than the reference population on that indicator.