Inpatient Quality Indicators

Technical Report

Hospital Performance Dashboard

A Supplement to the

Hospital Performance Report

2020 Data

Health Care Quality Assessment

Office of Population Health
New Jersey Department of Health

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 2020 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 Measurers'**. 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 2020 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 2020, there were a total of 744 in-hospital deaths due to ACUTE MYOCARDIAL INFARCTION – AMI for a risk-adjusted mortality rate of 5.9 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.

- Statewide, there were 1,924 in-hospital deaths from PNEUMONIA in 2020, for a risk-adjusted rate of 5.96 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 1.1 to a high of 17.4 per 100 discharges with pneumonia (see Table 2).

- Overall, there were 863 deaths from HEART FAILURE during hospitalization in 2020, for a risk-adjusted mortality rate of 2.8 per 100 discharges (for patients ages 18 years and older with a principal ICD-10-CM diagnosis code for heart failure). Table 3 shows the distribution of these Heart Failure deaths by hospital.

- Statewide, there were 1,125 ACUTE STROKE in-hospital deaths in 2020, for a risk-adjusted rate of 7.3 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 13.9 per 100 patients with stroke diagnosis. Table 4 shows the distribution of these total acute stroke deaths by hospital, while Tables 4.1, 4.2 and 4.3 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 higher than the national averages for AMI and Pneumonia. Heart Failure and Stroke deaths are about the same as the National rates.

Essential 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 a provider's performance rate 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. 49 States as of 2018). 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 Descriptions of the IQIs - Heart Attack, Pneumonia, Heart Failure, 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.

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, 2018	27,545	547,381	5.0	NA	NA	NA - NA
Statewide, 2020	744	11,765	6.3	5.5	5.8	5.4 - 6.1
AtlantiCare Regional Medical Center-City	2	31	6.5	6.3	5.2	0.0 - 11.0
AtlantiCare Regional Medical Center-Mainland	23	538	4.3	5.0	4.3	2.7 - 5.9
Bayshore Medical Center	9	90	10.0	6.6	7.7	4.3 - 11.0
Bergen New Bridge Medical Center	1	7	14.3	9.4	7.7 ^	0.0 - 18.4
Cape Regional Medical Center	6	21	28.6	8.3	17.3 **^	10.4 - 24.2
Capital Health Medical Center-Hopewell	5	66	7.6	8.4	4.5	1.3 - 7.8
Capital Health Regional Medical Center	1	20	5.0	2.9	8.7 ^	0.0 - 21.3
CarePoint Health-Bayonne Medical Center	5	130	3.8	5.6	3.4	0.4 - 6.5
CarePoint Health-Christ Hospital	8	103	7.8	6.0	6.5	3.0 - 9.9
CarePoint Health-Hoboken University Medical Center	5	26	19.2	6.1	15.8 **^	8.9 - 22.6
CentraState Medical Center	11	51	21.6	6.1	17.8 **	12.5 - 23.1
Chilton Memorial Hospital	5	83	6.0	8.0	3.8	0.8 - 6.8
Clara Maass Medical Center	11	195	5.6	4.9	5.8	2.8 - 8.7
Community Medical Center	13	400	3.3	5.4	3.0 *	1.2 - 4.9
Cooper University Hospital	35	606	5.8	5.0	5.8	4.3 - 7.4
Cooperman Barnabas Medical Center	20	244	8.2	4.3	9.6 **	6.8 - 12.5
Deborah Heart and Lung Center	19	342	5.6	3.6	7.7	5.1 - 10.3
East Orange General Hospital	1	48	2.1	4.8	2.2	0.0 - 8.3
Englewood Hospital and Medical Center	15	267	5.6	5.0	5.6	3.2 - 8.0
Hackensack Meridian Health, Mountainside MC	3	65	4.6	8.1	2.9	0.0 - 6.4
Hackensack Meridian Health-Pascack Valley MC	1	11	9.1	12.2	3.7 ^	0.0 - 11.1
Hackensack University Medical Center	31	634	4.9	5.9	4.2 *	2.8 - 5.5
Hackettstown Medical Center	2	21	9.5	11.4	4.2 ^	0.0 - 9.3
Holy Name Medical Center	16	172	9.3	4.4	10.6 **	7.4 - 13.7
Hudson Regional Hospital	2	11	18.2	5.2	17.6 ^	5.1 - 30.2
Hunterdon Medical Center	9	75	12.0	5.2	11.6 **	7.3 - 15.9
Inspira Medical Center Elmer	1	18	5.6	4.6	6.1 ^	0.0 - 16.6
Inspira Medical Center Mullica Hill	8	176	4.5	6.7	3.4	1.0 - 5.8
Inspira Medical Center Vineland	14	162	8.6	8.4	5.2	3.2 - 7.2
Jefferson Cherry Hill Hospital	5	27	18.5	11.3	8.3 ^	3.3 - 13.2
Jefferson Stratford Hospital	4	24	16.7	17.4	4.8 ^	1.5 - 8.2
Jefferson Washington Township Hospital	5	44	11.4	5.9	9.8	4.0 - 15.5
Jersey City Medical Center	17	252	6.7	4.6	7.3	4.9 - 9.8
Jersey Shore University Medical Center	28	789	3.5	5.0	3.6 *	2.2 - 5.0
JFK University Medical Center	20	237	8.4	5.3	8.0	5.7 - 10.3
Monmouth Medical Center	8	56	14.3	5.4	13.4 **	8.2 - 18.6
Monmouth Medical Center Southern Campus	2	15	13.3	11.7	5.7 ^	0.0 - 12.2
Morristown Medical Center	49	877	5.6	5.6	5.0	3.8 - 6.2
Newark Beth Israel Medical Center	21	289	7.3	5.9	6.2	4.2 - 8.2
Newton Medical Center	8	68	11.8	9.9	6.0	3.1 - 8.8
Ocean Medical Center	11	167	6.6	5.4	6.2	3.4 - 8.9
Overlook Medical Center	16	232	6.9	5.4	6.4	4.1 - 8.8
Palisades Medical Center	2	47	4.3	8.3	2.6	0.0 - 7.0

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, 2018	**27,545**	**547,381**	**5.0**	**NA**	**NA**	**NA - NA**
Statewide, 2020	**744**	**11,765**	**6.3**	**5.5**	**5.8**	**5.4 - 6.1**
Penn Medicine Princeton Medical Center	8	70	11.4	8.9	6.5	3.4 - 9.6
Raritan Bay Medical Center-Old Bridge	1	43	2.3	5.6	2.1	0.0 - 7.9
Raritan Bay Medical Center-Perth Amboy	9	104	8.7	8.4	5.2	2.8 - 7.5
Riverview Medical Center	4	168	2.4	3.9	3.1	0.0 - 6.7
Robert Wood Johnson University Hospital	44	597	7.4	5.5	6.7	5.2 - 8.2
Robert Wood Johnson University Hospital Hamilton	9	50	18.0	10.9	8.3	5.4 - 11.2
Robert Wood Johnson University Hospital Rahway	8	63	12.7	4.5	14.3 **	8.7 - 19.8
Robert Wood Johnson University Hospital Somerset	8	173	4.6	5.3	4.4	1.8 - 6.9
Saint Clare's Hospital-Denville	13	109	11.9	9.6	6.2	4.0 - 8.5
Saint Clare's Hospital-Dover	2	16	12.5	9.1	6.9 ^	0.0 - 14.1
Saint Michael's Medical Center	9	87	10.3	6.1	8.5	4.9 - 12.2
Saint Peter's University Hospital	4	83	4.8	5.9	4.1	0.1 - 8.2
Salem Medical Center	1	10	10.0	8.1	6.2 ^	0.0 - 16.5
Shore Medical Center	1	10	10.0	8.2	6.2 ^	0.0 - 16.0
Southern Ocean Medical Center	9	42	21.4	10.4	10.3 **	6.4 - 14.3
St. Francis Medical Center	7	233	3.0	2.5	6.1	2.2 - 10.0
St. Joseph's University Medical Center	29	439	6.6	5.4	6.1	4.5 - 7.8
St. Joseph's Wayne Medical Center	1	22	4.5	6.0	3.8 ^	0.0 - 11.8
St. Luke's Warren Hospital	1	5	20.0	16.5	6.1 ^	0.0 - 14.6
St. Mary's General Hospital	6	89	6.7	9.7	3.5	0.8 - 6.1
Trinitas Regional Medical Center	9	82	11.0	5.6	9.8 **	6.0 - 13.6
University Hospital	5	88	5.7	4.9	5.8	1.9 - 9.7
Valley Hospital	14	309	4.5	4.6	5.0	2.6 - 7.3
Virtua Memorial Hospital of Burlington County	6	161	3.7	5.1	3.7	0.6 - 6.7
Virtua Our Lady of Lourdes Hospital-Camden	40	646	6.2	4.7	6.6	5.1 - 8.1
Virtua West Jersey Hospital Marlton	14	244	5.7	4.8	6.0	3.6 - 8.4
Virtua West Jersey Hospital Voorhees	3	64	4.7	4.3	5.5	0.0 - 10.9
Virtua Willingboro Hospital	1	21	4.8	6.6	3.6 ^	0.0 - 10.5

Source: National numbers are derived from 2018 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2021 while New Jersey's are calculated from the **2020 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.

NA = National Rates are not risk-adjusted.

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.

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.

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, 2018	57,472	1,269,871	4.5	NA	NA	NA - NA
Statewide, 2020	1,924	26,446	7.3	5.5	5.9	5.7 - 6.1
AtlantiCare Regional Medical Center-City	12	316	3.8	4.7	3.6 *	1.5 - 5.8
AtlantiCare Regional Medical Center-Mainland	45	575	7.8	5.8	6.1	4.8 - 7.5
Bayshore Medical Center	20	415	4.8	4.8	4.5	2.7 - 6.3
Bergen New Bridge Medical Center	4	62	6.5	6.3	4.6	0.7 - 8.6
Cape Regional Medical Center	15	321	4.7	3.9	5.5	3.1 - 7.8
Capital Health Medical Center-Hopewell	29	332	8.7	5.3	7.5	5.6 - 9.4
Capital Health Regional Medical Center	14	246	5.7	4.5	5.7	3.2 - 8.2
CarePoint Health-Bayonne Medical Center	12	189	6.3	4.8	6.0	3.3 - 8.8
CarePoint Health-Christ Hospital	15	152	9.9	5.1	8.7 **	6.0 - 11.4
CarePoint Health-Hoboken University MC	11	149	7.4	3.2	10.5 **	6.7 - 14.4
CentraState Medical Center	48	556	8.6	4.3	9.1 **	7.4 - 10.7
Chilton Memorial Hospital	28	406	6.9	6.3	5.0	3.4 - 6.6
Clara Maass Medical Center	55	403	13.6	4.6	13.3 **	11.5 - 15.1
Community Medical Center	101	942	10.7	5.5	8.8 **	7.7 - 10.0
Cooper University Hospital	27	510	5.3	4.2	5.7	4.0 - 7.5
Cooperman Barnabas Medical Center	56	557	10.1	4.2	10.9 **	9.2 - 12.6
Deborah Heart and Lung Center	5	74	6.8	6.1	5.0	1.2 - 8.8
East Orange General Hospital	32	228	14.0	5.5	11.5 **	9.2 - 13.7
Englewood Hospital and Medical Center	28	461	6.1	5.8	4.7	3.1 - 6.3
Hackensack Meridian Health, Mountainside MC	21	324	6.5	8.0	3.6 *	2.2 - 5.0
Hackensack Meridian Health-Pascack Valley MC	11	144	7.6	6.9	5.0	2.6 - 7.4
Hackensack University Medical Center	94	941	10.0	8.4	5.4	4.5 - 6.2
Hackettstown Medical Center	12	227	5.3	6.9	3.5 *	1.5 - 5.5
Holy Name Medical Center	37	427	8.7	5.8	6.8	5.1 - 8.4
Hudson Regional Hospital	14	69	20.3	5.3	17.4 **	13.3 - 21.6
Hunterdon Medical Center	21	347	6.1	5.4	5.1	3.2 - 7.0
Inspira Medical Center Elmer	1	107	0.9	3.9	1.1 *	0.0 - 5.3
Inspira Medical Center Mullica Hill	27	402	6.7	6.1	5.0	3.4 - 6.6
Inspira Medical Center Vineland	33	603	5.5	6.0	4.1 *	2.8 - 5.5
Jefferson Cherry Hill Hospital	16	219	7.3	5.0	6.6	4.1 - 9.0
Jefferson Stratford Hospital	8	235	3.4	4.6	3.4 *	1.0 - 5.8
Jefferson Washington Township Hospital	27	419	6.4	4.9	6.0	4.1 - 7.8
Jersey City Medical Center	47	392	12.0	4.1	13.2 **	11.2 - 15.2
Jersey Shore University Medical Center	44	655	6.7	6.6	4.6 *	3.4 - 5.8
JFK University Medical Center	78	1,037	7.5	6.4	5.3	4.3 - 6.2
Monmouth Medical Center	17	189	9.0	5.0	8.2	5.5 - 10.8
Monmouth Medical Center Southern Campus	31	343	9.0	6.0	6.8	5.0 - 8.6
Morristown Medical Center	23	721	3.2	6.7	2.2 *	1.0 - 3.3
Newark Beth Israel Medical Center	29	315	9.2	4.2	10.0 **	7.7 - 12.3
Newton Medical Center	18	393	4.6	5.3	3.9 *	2.1 - 5.7
Ocean Medical Center	28	658	4.3	5.3	3.7 *	2.3 - 5.0

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, 2018	**57,472**	**1,269,871**	**4.5**	**NA**	**NA**	**NA - NA**
Statewide, 2020	**1,924**	**26,446**	**7.3**	**5.5**	**5.9**	**5.7 - 6.1**
Overlook Medical Center	40	593	6.7	6.3	4.8	3.5 - 6.1
Palisades Medical Center	35	379	9.2	6.2	6.7	5.1 - 8.4
Penn Medicine Princeton Medical Center	37	371	10.0	6.5	7.0	5.4 - 8.6
Raritan Bay Medical Center-Old Bridge	18	329	5.5	4.7	5.3	3.2 - 7.4
Raritan Bay Medical Center-Perth Amboy	4	184	2.2	2.9	3.4	0.0 - 7.0
Riverview Medical Center	11	335	3.3	5.7	2.6 *	0.8 - 4.4
Robert Wood Johnson University Hospital	76	635	12.0	5.3	10.2 **	8.8 - 11.6
Robert Wood Johnson University Hospital Hamilton	22	406	5.4	4.8	5.1	3.2 - 6.9
Robert Wood Johnson University Hospital Rahway	40	331	12.1	6.5	8.4 **	6.8 - 10.1
Robert Wood Johnson University Hospital Somerset	61	565	10.8	6.3	7.8 **	6.4 - 9.1
Saint Clare's Hospital-Denville	12	270	4.4	7.0	2.9 *	1.0 - 4.7
Saint Clare's Hospital-Dover	15	198	7.6	7.4	4.6	2.6 - 6.6
Saint Michael's Medical Center	13	265	4.9	5.4	4.1	2.0 - 6.2
Saint Peter's University Hospital	13	363	3.6	5.6	2.9 *	1.1 - 4.7
Salem Medical Center	5	161	3.1	3.4	4.1	0.5 - 7.7
Shore Medical Center	19	365	5.2	4.2	5.6	3.5 - 7.7
Southern Ocean Medical Center	13	391	3.3	3.8	4.0	1.8 - 6.1
St. Francis Medical Center	14	125	11.2	3.4	15.1 **	11.0 - 19.2
St. Joseph's University Medical Center	39	555	7.0	6.6	4.8	3.5 - 6.1
St. Joseph's Wayne Medical Center	27	265	10.2	7.5	6.2	4.4 - 8.0
St. Luke's Warren Hospital	5	191	2.6	5.8	2.0 *	0.0 - 4.4
St. Mary's General Hospital	18	195	9.2	8.4	4.9	3.0 - 6.9
Trinitas Regional Medical Center	22	264	8.3	4.2	8.9 **	6.7 - 11.1
University Hospital	26	317	8.2	5.1	7.3	5.3 - 9.3
Valley Hospital	41	394	10.4	7.3	6.5	5.0 - 7.9
Virtua Memorial Hospital of Burlington County	17	503	3.4	3.5	4.4	2.4 - 6.4
Virtua Our Lady of Lourdes Hospital-Camden	29	254	11.4	6.6	7.8 **	6.0 - 9.5
Virtua West Jersey Hospital Marlton	21	327	6.4	4.7	6.2	4.1 - 8.3
Virtua West Jersey Hospital Voorhees	28	669	4.2	3.8	5.0	3.4 - 6.7
Virtua Willingboro Hospital	9	185	4.9	3.5	6.4	3.0 - 9.7

Source: National numbers are derived from 2018 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2021 while New Jersey's are calculated from the **2020 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.

NA = National Rates are not risk-adjusted.

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.

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.

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, 2018	29,849	1,145,695	2.6	NA	NA	NA - NA
Statewide, 2020	863	27,247	3.2	2.9	2.8	2.7 - 3.0
AtlantiCare Regional Medical Center-City	6	313	1.9	2.4	2.1	0.3 - 3.9
AtlantiCare Regional Medical Center-Mainland	18	604	3.0	3.0	2.6	1.5 - 3.8
Bayshore Medical Center	8	287	2.8	2.6	2.8	1.0 - 4.6
Bergen New Bridge Medical Center	4	18	22.2	2.3	24.8 **^	17.2 - 32.3
Cape Regional Medical Center	14	268	5.2	2.7	5.1 **	3.2 - 7.0
Capital Health Medical Center-Hopewell	11	389	2.8	2.6	2.8	1.3 - 4.4
Capital Health Regional Medical Center	4	257	1.6	2.1	1.9	0.0 - 4.0
CarePoint Health-Bayonne Medical Center	5	219	2.3	2.8	2.1	0.2 - 4.1
CarePoint Health-Christ Hospital	10	243	4.1	2.1	5.2 **	3.0 - 7.4
CarePoint Health-Hoboken University MC	1	89	1.1	1.9	1.5	0.0 - 5.3
CentraState Medical Center	23	393	5.9	2.9	5.2 **	3.8 - 6.7
Chilton Memorial Hospital	5	256	2.0	3.3	1.5	0.0 - 3.2
Clara Maass Medical Center	23	548	4.2	2.0	5.6 **	4.0 - 7.1
Community Medical Center	30	739	4.1	2.9	3.6	2.6 - 4.7
Cooper University Hospital	10	797	1.3	2.1	1.6	0.4 - 2.8
Cooperman Barnabas Medical Center	33	690	4.8	2.4	5.2 **	4.0 - 6.4
Deborah Heart and Lung Center	16	594	2.7	2.7	2.6	1.4 - 3.8
East Orange General Hospital	1	147	0.7	1.7	1.1	0.0 - 4.2
Englewood Hospital and Medical Center	13	430	3.0	3.3	2.4	1.1 - 3.7
Hackensack Meridian Health, Mountainside MC	10	302	3.3	4.1	2.1	0.8 - 3.4
Hackensack Meridian Health-Pascack Valley MC	2	93	2.2	4.6	1.2	0.0 - 3.5
Hackensack University Medical Center	30	814	3.7	4.1	2.3	1.5 - 3.1
Hackettstown Medical Center	6	186	3.2	3.5	2.4	0.5 - 4.3
Holy Name Medical Center	11	430	2.6	2.6	2.6	1.1 - 4.1
Hudson Regional Hospital	0	27	0.0	2.1	0.0 ^	0.0 - 6.6
Hunterdon Medical Center	6	252	2.4	4.5	1.4	0.0 - 2.8
Inspira Medical Center Elmer	1	167	0.6	2.7	0.6	0.0 - 2.9
Inspira Medical Center Mullica Hill	9	380	2.4	3.3	1.9	0.5 - 3.3
Inspira Medical Center Vineland	19	798	2.4	2.7	2.3	1.3 - 3.4
Jefferson Cherry Hill Hospital	4	207	1.9	2.7	1.9	0.0 - 4.0
Jefferson Stratford Hospital	3	289	1.0	2.2	1.2	0.0 - 3.2
Jefferson Washington Township Hospital	15	553	2.7	2.7	2.6	1.3 - 3.9
Jersey City Medical Center	11	442	2.5	1.8	3.7	1.9 - 5.4
Jersey Shore University Medical Center	19	1,029	1.8	3.5	1.4 *	0.6 - 2.2
JFK University Medical Center	13	634	2.1	2.6	2.1	0.9 - 3.3
Monmouth Medical Center	12	196	6.1	1.8	8.9 **	6.2 - 11.5
Monmouth Medical Center Southern Campus	12	176	6.8	2.7	6.5 **	4.2 - 8.7
Morristown Medical Center	36	1,038	3.5	4.5	2.0 *	1.3 - 2.7
Newark Beth Israel Medical Center	32	723	4.4	2.2	5.3 **	4.1 - 6.5
Newton Medical Center	11	268	4.1	3.9	2.7	1.3 - 4.2
Ocean Medical Center	16	642	2.5	2.9	2.2	1.1 - 3.4
Overlook Medical Center	27	614	4.4	3.4	3.4	2.3 - 4.5
Palisades Medical Center	6	233	2.6	3.0	2.2	0.4 - 4.1
Penn Medicine Princeton Medical Center	19	348	5.5	3.7	3.9	2.5 - 5.2
Raritan Bay Medical Center-Old Bridge	11	283	3.9	3.0	3.4	1.7 - 5.0

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, 2018	29,849	1,145,695	2.6	NA	NA	NA - NA
Statewide, 2020	863	27,247	3.2	2.9	2.8	2.7 - 3.0
Raritan Bay Medical Center-Perth Amboy	4	234	1.7	2.7	1.6	0.0 - 3.5
Riverview Medical Center	4	291	1.4	3.5	1.0 *	0.0 - 2.5
Robert Wood Johnson University Hospital	40	826	4.8	2.9	4.3 **	3.3 - 5.3
Robert Wood Johnson University Hospital Hamilton	4	326	1.2	2.6	1.2	0.0 - 2.9
Robert Wood Johnson University Hospital Rahway	6	292	2.1	2.5	2.2	0.3 - 4.0
Robert Wood Johnson University Hospital Somerset	18	495	3.6	3.2	3.0	1.7 - 4.2
Saint Clare's Hospital-Denville	5	200	2.5	3.0	2.2	0.2 - 4.2
Saint Clare's Hospital-Dover	1	122	0.8	3.0	0.7	0.0 - 3.3
Saint Michael's Medical Center	4	297	1.3	3.0	1.2	0.0 - 2.8
Saint Peter's University Hospital	5	268	1.9	2.4	2.1	0.1 - 4.0
Salem Medical Center	4	110	3.6	2.0	4.7	1.3 - 8.0
Shore Medical Center	10	293	3.4	2.4	3.8	1.9 - 5.6
Southern Ocean Medical Center	6	339	1.8	2.9	1.6	0.0 - 3.2
St. Francis Medical Center	7	189	3.7	1.9	5.1	2.5 - 7.6
St. Joseph's University Medical Center	19	603	3.2	3.2	2.6	1.5 - 3.7
St. Joseph's Wayne Medical Center	9	188	4.8	3.2	3.9	1.9 - 6.0
St. Luke's Warren Hospital	3	229	1.3	3.1	1.1	0.0 - 2.9
St. Mary's General Hospital	10	218	4.6	3.7	3.2	1.5 - 4.9
Trinitas Regional Medical Center	16	271	5.9	2.3	6.8 **	4.9 - 8.7
University Hospital	10	262	3.8	2.6	3.8	2.0 - 5.6
Valley Hospital	45	650	6.9	3.9	4.6 **	3.6 - 5.5
Virtua Memorial Hospital of Burlington County	12	547	2.2	1.9	3.0	1.5 - 4.6
Virtua Our Lady of Lourdes Hospital-Camden	18	497	3.6	2.9	3.2	2.0 - 4.5
Virtua West Jersey Hospital Marlton	15	348	4.3	2.9	3.9	2.4 - 5.4
Virtua West Jersey Hospital Voorhees	8	529	1.5	2.4	1.7	0.3 - 3.1
Virtua Willingboro Hospital	4	218	1.8	1.9	2.5	0.1 - 4.9

Source: National numbers are derived from 2018 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2021 while New Jersey's are calculated from the **2020 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.

NA = National Rates are not risk-adjusted.

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.

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 strokes 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 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, 2018	**42,706**	**610,302**	**7.0**	**NA**	**NA**	**NA - NA**
Statewide, 2020	**1,125**	**15,396**	**7.3**	**7.0**	**7.3**	**7.0 - 7.7**
AtlantiCare Regional Medical Center-City	35	426	8.2	7.1	8.1	6.0 - 10.2
AtlantiCare Regional Medical Center-Mainland	5	123	4.1	5.6	5.1	1.0 - 9.3
Bayshore Medical Center	2	121	1.7	4.1	2.9	0.0 - 8.5
Bergen New Bridge Medical Center	1	6	16.7	18.3	6.4 ^	0.0 - 12.8
Cape Regional Medical Center	6	146	4.1	3.7	7.8	2.5 - 13.2
Capital Health Medical Center-Hopewell	4	135	3.0	3.4	6.2	0.3 - 12.1
Capital Health Regional Medical Center	55	455	12.1	10.8	7.8	6.4 - 9.2
CarePoint Health-Bayonne Medical Center	6	79	7.6	5.5	9.7	4.1 - 15.4
CarePoint Health-Christ Hospital	10	86	11.6	9.6	8.5	4.6 - 12.4
CarePoint Health-Hoboken University Medical Center	2	51	3.9	4.1	6.7	0.0 - 14.9
CentraState Medical Center	14	236	5.9	4.4	9.5	5.6 - 13.4
Chilton Memorial Hospital	7	180	3.9	5.0	5.5	1.6 - 9.4
Clara Maass Medical Center	6	196	3.1	4.6	4.7	0.5 - 8.8
Community Medical Center	38	424	9.0	6.1	10.4 **	8.0 - 12.7
Cooper University Hospital	62	660	9.4	10.4	6.3	5.0 - 7.6
Cooperman Barnabas Medical Center	38	491	7.7	5.7	9.5	7.2 - 11.8
Deborah Heart and Lung Center	0	1	0.0	.	.	. - .
East Orange General Hospital	1	49	2.0	3.1	4.6	0.0 - 15.5
Englewood Hospital and Medical Center	13	261	5.0	5.5	6.4	3.0 - 9.7
Hackensack Meridian Health, Mountainside MC	15	126	11.9	9.7	8.6	5.7 - 11.5
Hackensack Meridian Health-Pascack Valley MC	3	43	7.0	4.4	11.0	2.3 - 19.7
Hackensack University Medical Center	51	642	7.9	9.3	6.0	4.5 - 7.4
Hackettstown Medical Center	5	93	5.4	5.3	7.1	1.8 - 12.5
Holy Name Medical Center	11	179	6.1	6.3	6.8	3.5 - 10.2
Hudson Regional Hospital	2	9	22.2	11.9	13.1 ^	2.8 - 23.4
Hunterdon Medical Center	6	119	5.0	4.0	8.9	3.4 - 14.5
Inspira Medical Center Elmer	0	27	0.0	5.1	0.0	0.0 - 10.9
Inspira Medical Center Mullica Hill	12	164	7.3	6.4	8.0	4.5 - 11.5
Inspira Medical Center Vineland	15	288	5.2	6.5	5.6	2.9 - 8.3
Jefferson Cherry Hill Hospital	8	119	6.7	5.1	9.2	4.2 - 14.2
Jefferson Stratford Hospital	9	133	6.8	4.8	9.8	5.1 - 14.4
Jefferson Washington Township Hospital	33	372	8.9	6.0	10.3 **	7.8 - 12.8
Jersey City Medical Center	16	262	6.1	5.2	8.3	5.1 - 11.4
Jersey Shore University Medical Center	51	740	6.9	10.9	4.4 *	3.2 - 5.6
JFK University Medical Center	29	782	3.7	6.3	4.1 *	2.4 - 5.8
Monmouth Medical Center	8	117	6.8	5.1	9.4	4.4 - 14.5
Monmouth Medical Center Southern Campus	7	45	15.6	7.9	13.9 **	8.2 - 19.5
Morristown Medical Center	32	419	7.6	7.6	7.0	5.0 - 9.0
Newark Beth Israel Medical Center	14	225	6.2	4.0	11.0	7.0 - 14.9
Newton Medical Center	6	149	4.0	3.9	7.2	2.2 - 12.2
Ocean Medical Center	1	262	0.4	4.2	0.6 *	0.0 - 4.4
Overlook Medical Center	80	742	10.8	8.7	8.7	7.2 - 10.1
Palisades Medical Center	4	100	4.0	6.3	4.4	0.0 - 8.9
Penn Medicine Princeton Medical Center	19	245	7.8	7.4	7.3	4.6 - 10.0
Raritan Bay Medical Center-Old Bridge	2	74	2.7	3.5	5.3	0.0 - 13.3

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, 2018	**42,706**	**610,302**	**7.0**	**NA**	**NA**	**NA - NA**	
Statewide, 2020	**1,125**	**15,396**	**7.3**	**7.0**	**7.3**	**7.0 - 7.7**	
Raritan Bay Medical Center-Perth Amboy	4	62	6.5	4.9	9.3	2.6 - 16.0	
Riverview Medical Center	4	189	2.1	6.3	2.3 *	0.0 - 5.6	
Robert Wood Johnson University Hospital	95	729	13.0	8.9	10.3 **	8.9 - 11.7	
Robert Wood Johnson University Hospital Hamilton	5	117	4.3	4.6	6.5	1.8 - 11.3	
Robert Wood Johnson University Hospital Rahway	2	85	2.4	3.6	4.6	0.0 - 11.9	
Robert Wood Johnson University Hospital Somerset	15	201	7.5	5.3	9.9	6.3 - 13.6	
Saint Clare's Hospital-Denville	6	106	5.7	5.0	7.9	2.5 - 13.2	
Saint Clare's Hospital-Dover	2	62	3.2	3.8	5.9	0.0 - 13.9	
Saint Michael's Medical Center	1	35	2.9	7.8	2.6	0.0 - 8.5	
Saint Peter's University Hospital	4	121	3.3	5.7	4.0	0.0 - 8.7	
Salem Medical Center	0	13	0.0	2.6	0.0 ^	0.0 - 22.8	
Shore Medical Center	2	107	1.9	4.2	3.1	0.0 - 9.2	
Southern Ocean Medical Center	4	155	2.6	4.9	3.7	0.0 - 8.1	
St. Francis Medical Center	0	27	0.0	2.8	0.0 ^	0.0 - 15.4	
St. Joseph's University Medical Center	48	463	10.4	10.3	7.1	5.5 - 8.6	
St. Joseph's Wayne Medical Center	1	72	1.4	6.3	1.5 *	0.0 - 7.2	
St. Luke's Warren Hospital	4	75	5.3	6.1	6.2	0.9 - 11.5	
St. Mary's General Hospital	3	54	5.6	6.4	6.1	0.0 - 12.4	
Trinitas Regional Medical Center	17	116	14.7	8.2	12.6 **	9.1 - 16.0	
University Hospital	70	543	12.9	9.0	10.1 **	8.5 - 11.7	
Valley Hospital	32	366	8.7	7.2	8.5	6.3 - 10.7	
Virtua Memorial Hospital of Burlington County	2	225	0.9	2.4	2.6	0.0 - 8.4	
Virtua Our Lady of Lourdes Hospital-Camden	56	458	12.2	7.9	10.8 **	8.8 - 12.7	
Virtua West Jersey Hospital Marlton	2	116	1.7	3.5	3.4	0.0 - 9.4	
Virtua West Jersey Hospital Voorhees	1	199	0.5	2.2	1.6	0.0 - 7.9	
Virtua Willingboro Hospital	1	98	1.0	2.7	2.6	0.0 - 10.6	

Source: National numbers are derived from 2018 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2021 while New Jersey's are calculated from the **2020 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.

NA = National Rates are not risk-adjusted.

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.

Stratification of Indicator

The indicator is stratified into three groups by the type of stroke. Cases are assigned to strata according to a hierarchy based on risk of mortality, with cases being assigned to the stratum with the highest mortality for which the case qualifies. In the case of Stroke Mortality, the hierarchy is as follows (Strata hierarchy (listed from highest mortality to lowest mortality):

1. Intracerebral hemorrhage
2. Subarachnoid hemorrhage
3. Ischemic stroke

Strata are mutually exclusive. Patients cannot qualify for more than one stratum. If a discharge qualifies for more than one stratum, it will be assigned to the stratum with the highest risk of mortality (Intracerebral Hemorrhage, Subarachnoid Hemorrhage, Ischemic Stroke).

Tables 4.1, 4.2, and 4.3 show the total stroke deaths in 2020 by the three strata stated above.

Table 4.1 IN-HOSPITAL MORTALITY RATES FOR INTRACEREBRAL HEMORRHAGIC STROKE (Deaths per 100)

(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval LL - UL
National, 2018	18,842	97,090	19.4	NA	NA	NA - NA
Statewide, 2020	498	2,394	20.8	19.4	20.9	19.5 - 22.2
AtlantiCare Regional Medical Center-City	21	98	21.4	14.6	28.5	20.4 - 36.7
AtlantiCare Regional Medical Center-Mainland	0	2	0.0	.	.	. - .
Bayshore Medical Center	1	9	11.1	13.3	16.2 ^	0.0 - 45.3
Bergen New Bridge Medical Center	0	1	0.0	.	.	. - .
Cape Regional Medical Center	4	6	66.7	27.2	47.6 **^	25.9 - 69.3
Capital Health Medical Center-Hopewell	1	3	33.3	27.4	23.6 ^	0.0 - 53.8
Capital Health Regional Medical Center	29	97	29.9	29.5	19.6	15.2 - 24.1
CarePoint Health-Bayonne Medical Center	4	18	22.2	14.9	28.9 ^	10.5 - 47.3
CarePoint Health-Christ Hospital	8	20	40.0	24.6	31.5 ^	18.4 - 44.7
CarePoint Health-Hoboken University Medical Center	2	5	40.0	21.8	35.6 ^	8.8 - 62.4
CentraState Medical Center	10	33	30.3	11.8	50.0 **	33.3 - 66.8
Chilton Memorial Hospital	1	10	10.0	22.7	8.5 ^	0.0 - 25.2
Clara Maass Medical Center	4	26	15.4	14.3	20.9 ^	4.0 - 37.8
Community Medical Center	18	59	30.5	16.9	35.0 **	25.2 - 44.7
Cooper University Hospital	21	134	15.7	24.4	12.4 *	7.6 - 17.2
Cooperman Barnabas Medical Center	14	78	17.9	15.1	23.1	14.0 - 32.3
Deborah Heart and Lung Center	.	.	.	.	.	. - .
East Orange General Hospital	0	2	0.0	.	.	. - .
Englewood Hospital and Medical Center	6	32	18.8	16.0	22.7	8.0 - 37.4
Hackensack Meridian Health, Mountainside MC	8	22	36.4	29.8	23.7 ^	13.7 - 33.6
Hackensack Meridian Health-Pascack Valley MC	1	1	100.0	.	.	. - .
Hackensack University Medical Center	17	113	15.0	19.5	15.0 ^	8.9 - 21.1
Hackettstown Medical Center	1	4	25.0	23.5	20.7 ^	0.0 - 47.5
Holy Name Medical Center	5	27	18.5	21.1	17.0 ^	5.4 - 28.6
Hudson Regional Hospital	1	2	50.0	.	.	. - .
Hunterdon Medical Center	2	9	22.2	20.2	21.3 ^	1.3 - 41.3
Inspira Medical Center Elmer	0	4	0.0	15.6	0.0 ^	0.0 - 43.6
Inspira Medical Center Mullica Hill	3	18	16.7	24.0	13.5 ^	0.0 - 27.0
Inspira Medical Center Vineland	6	26	23.1	24.9	18.0 ^	6.8 - 29.1
Jefferson Cherry Hill Hospital	5	16	31.3	14.2	42.8 **^	22.2 - 63.5
Jefferson Stratford Hospital	4	20	20.0	12.8	30.2 ^	11.2 - 49.3
Jefferson Washington Township Hospital	17	61	27.9	16.1	33.5	23.6 - 43.5
Jersey City Medical Center	12	47	25.5	17.3	28.6	18.2 - 38.9
Jersey Shore University Medical Center	23	165	13.9	21.2	12.8 *	7.9 - 17.7
JFK University Medical Center	9	119	7.6	18.2	8.0 *	1.9 - 14.2
Monmouth Medical Center	3	16	18.8	13.6	26.8 ^	5.1 - 48.4
Monmouth Medical Center Southern Campus	3	4	75.0	33.6	43.3 ^	23.1 - 63.6
Morristown Medical Center	16	67	23.9	19.6	23.6	15.9 - 31.4
Newark Beth Israel Medical Center	3	20	15.0	14.6	19.9 ^	4.6 - 35.2
Newton Medical Center	1	5	20.0	30.9	12.6 ^	0.0 - 31.0
Ocean Medical Center	1	19	5.3	19.6	5.2 ^	0.0 - 20.5
Overlook Medical Center	39	201	19.4	15.5	24.2	18.5 - 30.0
Palisades Medical Center	1	13	7.7	27.5	5.4 *^	0.0 - 19.1
Penn Medicine Princeton Medical Center	8	41	19.5	20.9	18.1	8.0 - 28.1

Table 4.1 IN-HOSPITAL MORTALITY RATES FOR INTRACEREBRAL HEMORRHAGIC STROKE (Deaths per 100)

(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval LL - UL
National, 2018	18,842	97,090	19.4	NA	NA	NA - NA
Statewide, 2020	498	2,394	20.8	19.4	20.9	19.5 - 22.2
Raritan Bay Medical Center-Old Bridge	0	1	0.0	.	.	. - .
Raritan Bay Medical Center-Perth Amboy	2	3	66.7	40.3	32.1 ^	9.7 - 54.6
Riverview Medical Center	4	32	12.5	21.7	11.2	0.8 - 21.5
Robert Wood Johnson University Hospital	31	142	21.8	17.6	24.1	18.1 - 30.1
Robert Wood Johnson University Hospital Hamilton	4	10	40.0	28.3	27.4 ^	13.8 - 41.1
Robert Wood Johnson University Hospital Rahway	1	5	20.0	9.7	40.1 ^	0.0 - 90.5
Robert Wood Johnson University Hospital Somerset	6	24	25.0	15.8	30.7 ^	14.6 - 46.9
Saint Clare's Hospital-Denville	2	9	22.2	17.9	24.1 ^	0.9 - 47.4
Saint Clare's Hospital-Dover	1	3	33.3	22.1	29.3 ^	0.0 - 60.3
Saint Michael's Medical Center	1	4	25.0	46.1	10.5 ^	0.0 - 25.8
Saint Peter's University Hospital	1	23	4.3	15.7	5.4 ^	0.0 - 22.2
Salem Medical Center	0	2	0.0	.	.	. - .
Shore Medical Center	1	11	9.1	17.1	10.3 ^	0.0 - 35.3
Southern Ocean Medical Center	4	5	80.0	41.8	37.1 ^	18.5 - 55.7
St. Francis Medical Center	0	2	0.0	.	.	. - .
St. Joseph's University Medical Center	22	86	25.6	23.8	20.8	14.6 - 27.1
St. Joseph's Wayne Medical Center	0	4	0.0	18.4	0.0 ^	0.0 - 39.1
St. Luke's Warren Hospital	2	3	66.7	55.8	23.2 ^	7.3 - 39.1
St. Mary's General Hospital	2	4	50.0	33.3	29.1 ^	5.8 - 52.4
Trinitas Regional Medical Center	9	28	32.1	23.0	27.1 ^	16.1 - 38.2
University Hospital	28	121	23.1	18.2	24.7	18.3 - 31.1
Valley Hospital	12	46	26.1	28.2	18.0	10.4 - 25.5
Virtua Memorial Hospital of Burlington County	0	4	0.0	6.8	0.0 ^	0.0 - 70.2
Virtua Our Lady of Lourdes Hospital-Camden	30	142	21.1	15.4	26.7	20.0 - 33.4
Virtua West Jersey Hospital Marlton	1	2	50.0	.	.	. .
Virtua West Jersey Hospital Voorhees	1	4	25.0	10.0	48.6 ^	0.0 100.0
Virtua Willingboro Hospital	0	1	0.0	.	.	. - .

Source: National numbers are derived from 2018 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2021 while New Jersey's are calculated from the **2020 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.

NA = National Rates are not risk-adjusted.

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.

Table 4.2 IN-HOSPITAL MORTALITY RATES FOR SUBARACHNOID HEMORRHAGIC STROKE (Deaths per 100)
(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval LL - UL
National, 2018	**18,842**	**97,090**	**19.4**	**NA**	**NA**	**NA - NA**
Statewide, 2020	**113**	**577**	**19.6**	**18.3**	**20.2**	**17.4 - 22.9**
AtlantiCare Regional Medical Center-City	4	25	16.0	17.6	17.1	4.4 - 29.9
AtlantiCare Regional Medical Center-Mainland	1	1	100.0	.	.	. - .
Bayshore Medical Center	0	2	0.0	.	. ^	. - .
Bergen New Bridge Medical Center	1	1	100.0	.	.	. - .
Cape Regional Medical Center	.	.	.	.	. **^	. - .
Capital Health Medical Center-Hopewell	.	.	.	.	. ^	. - .
Capital Health Regional Medical Center	4	23	17.4	19.1	17.1	4.6 - 29.6
CarePoint Health-Bayonne Medical Center	.	.	.	.	. ^	. - .
CarePoint Health-Christ Hospital	.	.	.	.	. ^	. - .
CarePoint Health-Hoboken University MC	.	.	.	.	. ^	. - .
CentraState Medical Center	0	1	0.0	.	. **	. - .
Chilton Memorial Hospital	0	1	0.0	.	. ^	. - .
Clara Maass Medical Center	0	2	0.0	.	. ^	. - .
Community Medical Center	2	7	28.6	18.7	28.8 **	0.3 - 57.4
Cooper University Hospital	7	35	20.0	26.6	14.2 *	5.8 - 22.5
Cooperman Barnabas Medical Center	.	.	.	.	.	. - .
Deborah Heart and Lung Center	.	.	.	.	.	. - .
East Orange General Hospital	1	2	50.0	.	.	. - .
Englewood Hospital and Medical Center	1	4	25.0	25.0	18.9	3.5 - 34.2
Hackensack Meridian Health, Mountainside MC	.	.	.	.	. ^	. - .
Hackensack Meridian Health-Pascack Valley MC	6	51	11.8	17.5	12.7	2.8 - 22.5
Hackensack University Medical Center	2	2	100.0	.	.	. - .
Hackettstown Medical Center	1	3	33.3	23.9	26.3	0.0 - 59.8
Holy Name Medical Center	.	.	.	.	.	. - .
Hudson Regional Hospital	1	1	100.0	.	.	. - .
Hunterdon Medical Center	.	.	.	.	.	. - .
Inspira Medical Center Elmer	.	.	.	.	.	. - .
Inspira Medical Center Mullica Hill	2	3	66.7	36.7	34.2	13.3 - 55.2
Inspira Medical Center Vineland	0	4	0.0	3.3	0.0	0.0 - 99.2
Jefferson Cherry Hill Hospital	1	5	20.0	6.6	56.9	0.0 - 100.0
Jefferson Stratford Hospital	2	8	25.0	18.4	25.5	0.9 - 50.1
Jefferson Washington Township Hospital	0	3	0.0	9.2	0.0	0.0 - 61.9
Jersey City Medical Center	11	59	18.6	23.7	14.9	7.9 - 21.8
Jersey Shore University Medical Center	2	25	8.0	15.5	9.7	0.0 - 25.3
JFK University Medical Center	0	2	0.0	.	.	. - .
Monmouth Medical Center	.	.	.	.	.	. - .
Monmouth Medical Center Southern Campus	3	7	42.9	25.3	31.9	15.3 - 48.4
Morristown Medical Center	0	2	0.0	.	.	. - .
Newark Beth Israel Medical Center	1	3	33.3	14.7	42.7	0.0 - 93.3
Newton Medical Center	.	.	.	.	.	. - .
Ocean Medical Center	12	61	19.7	18.6	19.9	11.2 - 28.6
Overlook Medical Center	0	1	0.0	.	.	. - .
Palisades Medical Center	2	4	50.0	26.8	35.2	13.2 - 57.2
Penn Medicine Princeton Medical Center	.	.	.	.	.	. - .

Table 4.2 IN-HOSPITAL MORTALITY RATES FOR SUBARACHNOID HEMORRHAGIC STROKE (Deaths per 100)
(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval LL - UL
National, 2018	18,842	97,090	19.4	NA	NA	NA - NA
Statewide, 2020	113	577	19.6	18.3	20.2	17.4 - 22.9
Raritan Bay Medical Center-Old Bridge	.	.	.	.	.	. - .
Raritan Bay Medical Center-Perth Amboy	.	.	.	.	.	. - .
Riverview Medical Center	12	73	16.4	14.6	21.2	11.7 - 30.6
Robert Wood Johnson University Hospital	0	2	0.0	.	.	. - .
Robert Wood Johnson University Hospital Hamilton	.	.	.	.	.	. - .
Robert Wood Johnson University Hospital Rahway	2	4	50.0	28.1	33.5	13.5 - 53.5
Robert Wood Johnson University Hospital Somerset	6	38	15.8	12.5	23.7	10.2 - 37.3
Saint Clare's Hospital-Denville	0	1	0.0	.	.	. - .
Saint Clare's Hospital-Dover	0	1	0.0	.	.	. - .
Saint Michael's Medical Center	.	.	.	.	.	. - .
Saint Peter's University Hospital	0	1	0.0	.	.	. - .
Salem Medical Center	.	.	.	.	.	. - .
Shore Medical Center	0	1	0.0	.	.	. - .
Southern Ocean Medical Center	1	2	50.0	.	.	. - .
St. Francis Medical Center	.	.	.	.	.	. - .
St. Joseph's University Medical Center	7	36	19.4	18.2	20.1	9.1 - 31.1
St. Joseph's Wayne Medical Center	0	1	0.0	.	.	. - .
St. Luke's Warren Hospital	0	1	0.0	.	.	. - .
St. Mary's General Hospital	.	.	.	.	.	. - .
Trinitas Regional Medical Center	1	3	33.3	30.6	20.5	0.0 - 44.3
University Hospital	12	37	32.4	19.9	30.7	20.4 - 41.1
Valley Hospital	1	7	14.3	17.3	15.6	0.0 - 43.3
Virtua Memorial Hospital of Burlington County	.	.	.	.	.	. - .
Virtua Our Lady of Lourdes Hospital-Camden	4	19	21.1	8.4	47.0	19.6 - 74.5
Virtua West Jersey Hospital Marlton	.	.	.	.	.	. - .
Virtua West Jersey Hospital Voorhees	0	1	0.0	.	.	. - .
Virtua Willingboro Hospital	0	1	0.0	.	.	. - .

Source: National numbers are derived from 2018 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2021 while New Jersey's are calculated from the **2020 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.

NA = National Rates are not risk-adjusted.

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.

Table 4.3 IN-HOSPITAL MORTALITY RATES FOR ISCHEMIC STROKE (Deaths per 100)

(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval LL - UL
National, 2018	18,842	97,090	19.4	NA	NA	NA - NA
Statewide, 2020	519	12,439	4.2	4.1	4.1	3.8 - 4.4
AtlantiCare Regional Medical Center-City	10	303	3.3	3.8	3.4	1.3 - 5.6
AtlantiCare Regional Medical Center-Mainland	4	120	3.3	4.9	2.7	0.1 - 5.4
Bayshore Medical Center	1	110	0.9	3.3	1.1 ^	0.0 - 4.9
Bergen New Bridge Medical Center	0	4	0.0	1.8	0.0	0.0 - 29.3
Cape Regional Medical Center	2	140	1.4	2.7	2.1 **^	0.0 - 6.0
Capital Health Medical Center-Hopewell	3	132	2.3	2.8	3.2 ^	0.0 - 7.1
Capital Health Regional Medical Center	22	335	6.6	4.9	5.4	3.7 - 7.1
CarePoint Health-Bayonne Medical Center	2	61	3.3	2.7	4.9 ^	0.0 - 10.7
CarePoint Health-Christ Hospital	2	66	3.0	5.0	2.4 ^	0.0 - 6.2
CarePoint Health-Hoboken University MC	0	46	0.0	2.2	0.0 ^	0.0 - 7.7
CentraState Medical Center	4	202	2.0	3.2	2.5 **	0.0 - 5.4
Chilton Memorial Hospital	6	169	3.6	3.9	3.7 ^	0.9 - 6.5
Clara Maass Medical Center	2	169	1.2	3.1	1.5 ^	0.0 - 4.7
Community Medical Center	18	358	5.0	4.0	5.0 **	3.1 - 6.9
Cooper University Hospital	34	492	6.9	5.4	5.1 *	3.7 - 6.4
Cooperman Barnabas Medical Center	18	375	4.8	3.1	6.2	4.1 - 8.4
Deborah Heart and Lung Center	0	1	0.0	.	.	. - .
East Orange General Hospital	1	47	2.1	3.0	2.9	0.0 - 9.3
Englewood Hospital and Medical Center	6	227	2.6	3.7	2.8	0.2 - 5.4
Hackensack Meridian Health, Mountainside MC	6	100	6.0	4.6	5.1 ^	1.9 - 8.3
Hackensack Meridian Health-Pascack Valley MC	2	42	4.8	3.2	6.0	0.0 - 12.4
Hackensack University Medical Center	28	478	5.9	6.1	3.9 ^	2.6 - 5.1
Hackettstown Medical Center	2	87	2.3	3.9	2.4 ^	0.0 - 6.3
Holy Name Medical Center	5	149	3.4	3.2	4.1 ^	0.8 - 7.4
Hudson Regional Hospital	1	7	14.3	6.7	8.5	0.0 - 18.3
Hunterdon Medical Center	3	109	2.8	2.6	4.2 ^	0.0 - 8.7
Inspira Medical Center Elmer	0	23	0.0	3.3	0.0 ^	0.0 - 8.6
Inspira Medical Center Mullica Hill	9	146	6.2	4.2	5.8 ^	3.1 - 8.6
Inspira Medical Center Vineland	7	259	2.7	4.3	2.5 ^	0.3 - 4.7
Jefferson Cherry Hill Hospital	3	99	3.0	3.7	3.2 **^	0.0 - 7.1
Jefferson Stratford Hospital	4	108	3.7	3.3	4.5 ^	0.8 - 8.2
Jefferson Washington Township Hospital	14	303	4.6	3.7	5.0	2.9 - 7.1
Jersey City Medical Center	4	212	1.9	2.4	3.1	0.0 - 6.4
Jersey Shore University Medical Center	17	516	3.3	6.2	2.1 *	0.9 - 3.3
JFK University Medical Center	18	640	2.8	3.9	2.9 *	1.4 - 4.4
Monmouth Medical Center	5	99	5.1	3.7	5.5 ^	1.7 - 9.3
Monmouth Medical Center Southern Campus	4	41	9.8	5.3	7.3 ^	2.8 - 11.8
Morristown Medical Center	13	345	3.8	4.9	3.1	1.4 - 4.7
Newark Beth Israel Medical Center	11	203	5.4	2.9	7.5 ^	4.5 - 10.5
Newton Medical Center	4	141	2.8	2.7	4.1 ^	0.3 - 8.0
Ocean Medical Center	0	243	0.0	3.0	0.0 ^	0.0 - 2.8
Overlook Medical Center	30	481	6.2	4.6	5.4	3.8 - 6.9
Palisades Medical Center	3	86	3.5	3.2	4.3 *^	0.0 - 8.9
Penn Medicine Princeton Medical Center	9	200	4.5	4.3	4.2	1.7 - 6.7

Table 4.3 IN-HOSPITAL MORTALITY RATES FOR ISCHEMIC STROKE (Deaths per 100)

(Indicator Recommended for Hospital Performance Dashboard)

Hospital	# of Deaths	# of Patients	Observed Rate	Expected Rate	Risk-Adjusted Rate	95% Confidence Interval LL - UL
National, 2018	18,842	97,090	19.4	NA	NA	NA - NA
Statewide, 2020	519	12,439	4.2	4.1	4.1	3.8 - 4.4
Raritan Bay Medical Center-Old Bridge	2	73	2.7	3.4	3.2	0.0 - 7.8
Raritan Bay Medical Center-Perth Amboy	2	59	3.4	3.1	4.4 ^	0.0 - 10.0
Riverview Medical Center	0	157	0.0	3.2	0.0	0.0 - 3.3
Robert Wood Johnson University Hospital	53	516	10.3	5.7	7.2	5.9 - 8.5
Robert Wood Johnson University Hospital Hamilton	1	105	1.0	2.2	1.7 ^	0.0 - 6.7
Robert Wood Johnson University Hospital Rahway	1	80	1.3	3.2	1.5 ^	0.0 - 6.1
Robert Wood Johnson University Hospital Somerset	7	173	4.0	3.3	4.9 ^	1.8 - 8.0
Saint Clare's Hospital-Denville	4	96	4.2	3.9	4.3 ^	0.5 - 8.1
Saint Clare's Hospital-Dover	1	58	1.7	2.8	2.4 ^	0.0 - 8.3
Saint Michael's Medical Center	0	31	0.0	2.8	0.0 ^	0.0 - 8.1
Saint Peter's University Hospital	3	98	3.1	3.4	3.6 ^	0.0 - 7.7
Salem Medical Center	0	11	0.0	1.8	0.0	0.0 - 17.2
Shore Medical Center	1	95	1.1	2.6	1.6 ^	0.0 - 6.4
Southern Ocean Medical Center	0	149	0.0	3.5	0.0 ^	0.0 - 3.2
St. Francis Medical Center	0	25	0.0	2.5	0.0	0.0 - 9.6
St. Joseph's University Medical Center	20	345	5.8	6.2	3.7	2.3 - 5.2
St. Joseph's Wayne Medical Center	1	67	1.5	5.1	1.2 ^	0.0 - 4.9
St. Luke's Warren Hospital	2	71	2.8	3.7	3.0 ^	0.0 - 7.6
St. Mary's General Hospital	1	50	2.0	4.2	1.9 ^	0.0 - 6.9
Trinitas Regional Medical Center	7	85	8.2	2.5	13.2 ^	8.1 - 18.3
University Hospital	30	385	7.8	5.0	6.2	4.7 - 7.8
Valley Hospital	19	313	6.1	3.9	6.3	4.1 - 8.4
Virtua Memorial Hospital of Burlington County	2	221	0.9	2.3	1.6 ^	0.0 - 5.0
Virtua Our Lady of Lourdes Hospital-Camden	23	298	7.7	4.4	7.0	5.1 - 9.0
Virtua West Jersey Hospital Marlton	1	113	0.9	3.2	1.1	0.0 4.7
Virtua West Jersey Hospital Voorhees	0	194	0.0	2.0	0.0 ^	0.0 3.9
Virtua Willingboro Hospital	1	97	1.0	2.7	1.5	0.0 - 6.1

Source: National numbers are derived from 2018 National Inpatient Sample (NIS) Data using the AHRQ SAS Software, Version 2021 while New Jersey's are calculated from the **2020 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.

NA = National Rates are not risk-adjusted.

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.

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