

# **New York State Report on Quality, Patient Safety, and Efficiency**

**Division of Information and Statistics  
Office of Quality and Patient Safety**  
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# 2014



**Department  
of Health**

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# Introduction

Welcome to the first version of the **New York State Report on Quality, Patient Safety, and Efficiency** prepared by the Division of Information and Statistics within the New York State Department of Health Office of Quality and Patient Safety. This report contains the most up to date quality, patient safety, and efficiency measures, using New York State all-payer inpatient discharges and treat and release emergency room visits collected as part of the Statewide Planning and Research Cooperative System (SPARCS).

This report is laid out in two main sections: Section 1: Community Measures; and Section 2: Hospital Measures.

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## MEASURES

The quality, patient safety, and efficiency metrics contained within this report are calculated using Agency for Health Care Research and Quality (AHRQ) and 3M™ Health Information System performance measures. Contained within each section of the report (and in the Technical Appendix) is additional information on the technical specifications and software used to produce the metrics presented.

### *What measures are in this report?*

#### **Community Measures**

AHRQ Pediatric Quality Indicators (PDIs)  
AHRQ Prevention Quality Indicators (PQIs)  
3M™ Potentially Preventable Emergency Room Visits (PPVs)

#### **Hospital Measures**

AHRQ Inpatient Quality Indicators (IQIs)  
AHRQ Patient Safety Indicators (PSIs)  
3M™ Potentially Preventable Complications (PPCs)  
3M™ Potentially Preventable Readmissions (PPRs)

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## DATA RESOURCES

The Statewide Planning and Research Cooperative System (SPARCS) is a comprehensive all-payer data system established in 1979 as a result of cooperation between the healthcare industry and government. SPARCS collects inpatient and outpatient data from all Article 28 facilities operating in New York State. SPARCS is one of the largest hospital discharge data systems in the country with over 2.3 million inpatient discharges and 6.7 million treat and release (i.e., same day) emergency room visits during 2014. For more information on SPARCS, including **Statistical Briefs**, visit the SPARCS page on the DOH website at the following address: <http://www.health.ny.gov/statistics/sparcs/>.

Researchers interested in longitudinal data files of inpatient discharges and selected performance metrics, can find them available for download on the Open NY data portal for health data – **Health Data NY** <https://health.data.ny.gov/>. Hospital Quality metrics are also presented for consumers on the **NYS Health Profiles** website: <http://profiles.health.ny.gov/>.

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# Executive Summary

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## Introduction

New York State is currently undergoing major system and payment redesign initiatives<sup>1,2</sup> aimed at improving the way patient care is provided and coordinated. These initiatives are designed to achieve the triple aim of improving population health, increasing consumer satisfaction, and reducing health care costs, a priority at both the national and state level. Essential to these efforts are standardized performance-based quality, patient safety, and efficiency metrics. Many of the metrics presented in this report are used in some manner to monitor the progress of these federal-state partnership initiatives.

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## About this Report

This report was prepared by the Division of Information and Statistics within the New York State Department of Health's Office of Quality and Patient Safety and presents statistics that can be used to inform New Yorkers on the quality, safety, and efficiency of patient care being provided by NYS Article 28 hospitals. The Agency for Healthcare Research and Quality (AHRQ) defines quality as "doing the right thing for the right patient, at the right time, in the right way to achieve the best possible results".<sup>3</sup> Safety is described as patients not being injured as a result of the care that they received. Efficiency means making sure the care provided was not wasteful or duplicative.

The report is divided into two main sections:

**Section 1: Community Measures:** Measures the quality and efficiency of population-based care before a patient is admitted to the hospital. Measures include prevention quality indicators (child and adult) and potentially preventable emergency room visits;

**Section 2: Hospital Measures:** Measures the quality and safety of care a patient receives while in the hospital. Included in this section are inpatient quality indicators, patient safety indicators, potentially preventable complications, and hospital 30 day readmissions.

This report also contains a **Technical Appendix** where specific information on the AHRQ<sup>4</sup> and 3M™ Health Information Systems<sup>5</sup> technical specifications, software and methodologies are described in greater depth. The Technical Appendix also contains information on data files available on Health Data NY and associated NYS DOH Statistical Briefs available for the performance metric on the DOH public website under the SPARCS home page.

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<sup>1</sup> [http://www.health.ny.gov/health\\_care/medicaid/redesign/dsrip/](http://www.health.ny.gov/health_care/medicaid/redesign/dsrip/)

<sup>2</sup> [http://www.health.ny.gov/technology/innovation\\_plan\\_initiative/](http://www.health.ny.gov/technology/innovation_plan_initiative/)

<sup>3</sup> Agency for Healthcare Research and Quality (AHRQ). Understanding health care quality. Accessed through [https://www.ncqa.org/Portals/0/Publications/Resource%20Library/NCQA\\_Primer\\_web.pdf](https://www.ncqa.org/Portals/0/Publications/Resource%20Library/NCQA_Primer_web.pdf) (March 30, 2016)

<sup>4</sup> <http://www.ahrq.gov/>

<sup>5</sup> [http://solutions.3m.com/wps/portal/3M/en\\_US/Health-Information-Systems/HIS/](http://solutions.3m.com/wps/portal/3M/en_US/Health-Information-Systems/HIS/)

## SUMMARY OF FINDINGS

**Community Measures**

The community-based prevention quality indicators in this section measure clinical conditions that may have been less severe, or prevented if treated in a high-quality primary and preventive care setting early and appropriately. The focus of these measures are to highlight areas where improved outpatient care or improved coordination of services between inpatient and outpatient care is warranted. These findings should be used to provide insight into quality of the health care system outside of the hospital setting.

*Pediatric Quality Indicators (PDIs).* When looking at a suite of measures for preventable hospitalizations for children under the age of 18, New York State is not performing as well as the national average on all pediatric measures with the exception of discharges for diabetes short-term complications.

The average length of stay and estimated cost of a pediatric preventable hospitalization during 2014 was 2.5 days and \$8,834. The longest length of stay is for a perforated appendix, at 5.7 days and an estimated mean cost of \$20,663. The shortest length of stay and lowest cost were for gastroenteritis discharges, at 2.0 days and \$4,299.

Children hospitalized for asthma has increased over time and continues to be the number one reason why children are hospitalized. More males than females are hospitalized for asthma with the highest rate being for children under the age of four years at an average cost of \$7,325 per admission. The Bronx has a pediatric asthma hospitalization rate (486.78 per 100,000 population) that is more than twice the statewide average (222.87 per 100,000 population).

Between 2013 and 2014, there was an overall decrease in pediatric hospitalizations for gastroenteritis, an acute condition, indicating improvement since a low rate for these measures is desirable.

*Prevention Quality Indicators (PQIs).* Since 2009, rates of adult preventable hospitalizations have been decreasing statewide; with the exception of two types of adult admissions: diabetes short-term complications and lower-extremity amputations among patients with diabetes.

The average length of stay and estimated cost of an adult preventable hospitalization during 2014 was 5.3 days and \$13,517. The longest length of stay is for a lower-extremity amputation among patients with diabetes, at 17.3 days and an average cost of \$53,741 per discharge.

The highest admission rates for preventable hospitalizations are seen for patient 75 years and older. For most preventable metrics, the average cost per discharge and the length of stay increases with age. However, for diabetes long term complications, uncontrolled diabetes and lower-extremity amputation among patients with diabetes, the average discharge cost decreases after the age of 74 years.

Adult acute care discharges have decreased at a higher rate than chronic care discharges. However, more adult treat and release emergency room visits have been seen for the same acute and chronic disease conditions. For example, inpatient care for bacterial pneumonia in adults decreased 21 percent between 2010 and 2014. The number of emergency room visits for bacterial pneumonia increased 24 percent in the same time period for adults. These findings indicate there may be a possible shift of the treatment of these conditions from an inpatient setting to the emergency room department.

There has been an increase in both inpatient stays and emergency room visits for adults with diabetes short-term complications. Diabetes short-term complications had the highest rate per 100,000 population for adults 18-39 years.



*“Treat and Release” (Same Day) Emergency Room Visits.* In 2014, a substantial portion of treat and release NYS emergency room visits (74%) for adults and children were potentially avoidable if high quality primary care been available. The most common conditions patients went to the ER for included sprains, strains, joint disorders, upper respiratory infections, ear infections, and abdominal pain.

Since 2010 there has been a decrease in inpatient care services and an increase in emergency room-based care for similar clinical conditions. Similar acute care conditions treated on an inpatient basis have declined while having increased in the emergency room; and similar chronic health conditions have decreased on the inpatient side and increased in emergency rooms.

Even though the number of NYS emergency room visits has been increasing, with an 11% increase between the years of 2011 and 2014, the preventable ER rate has decreased 2% during the same time frame.

When looking at the demographics behind preventable ER visits, the results show higher rates for females, patients between the ages of 18-44 years, Hispanics, non-Whites, and patients living in New York City.

Less than half of all preventable ER visits are paid by Medicaid (41%), 24% by private payers, and 16% by Medicare. About 13% of preventable ER visits are self-pay. The average cost of an emergency room visit during 2014 was \$860, and the average cost of a potentially avoidable ER visit was \$826.

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## Hospital Measures

Care while hospitalized measures focus on the quality and safety of care during an inpatient hospital stay. These measures are hospital-based, studying inpatient quality indicators, patient safety events, and potentially preventable complications. The results of these inpatient and patient safety measures clearly demonstrate that poor quality is very expensive to New York’s health care system.

Out of 24 inpatient mortality indicators studied, NYS performed worse than expected on 17 of the indicators. NYS is performing worse than the national rate for in-hospital mortality for esophageal resections; abdominal aortic aneurysm repairs; and hip fractures.

NYS is performing well for hospital stays for Coronary Artery Bypass Grafts (CABG); Percutaneous Coronary Interventions (PCI); hysterectomy; and laminectomy or spinal fusions.

Where an overall NYS patient safety composite score, as calculated by these metrics, indicates a better than expected performance statewide (ratio = 0.93), a notable quality concern in patient safety indicators was seen in care for pressure ulcers (ratio = 1.53).

The top 5 highest potentially preventable complication rates per 10,000 discharges were for the following types of discharges: cardiac arrhythmias and conduction disturbances; obstetric lacerations and other trauma with instrumentation; obstetrical hemorrhage without transfusion; obstetric lacerations and other trauma without instrumentation; and renal failure without dialysis.

During 2013 and 2014, the highest potentially preventable complication rates were seen in Obstetrical Complications and the lowest potentially preventable complication rates were seen in the Gastrointestinal Complications.

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## Hospital 30 Day Readmissions

Hospital readmissions look at the quality of care a patient receives after they leave the hospital, measuring the rate at which a patient is hospitalized within 30 days of discharge for an associated clinical condition to the reason they were first hospitalized. Readmission is frequently caused by poor care coordination or ineffective transitions of care for patients leaving the hospital and returning to the community care setting. While individual hospitals and community care organizations have developed quality improvement strategies such as daily protocols, standardized procedures and use of electronic information systems for discharge planning, large scale initiatives have taken place as well. By implementing statewide initiatives in NYS, multiple providers are invested in ensuring smooth care transitions after hospital discharge and strengthening the continuum of care across all settings to prevent hospital readmission.

In NYS, the 30-day potentially preventable readmission rate (PPR) is decreasing over time. The PPR rate decreased from 6.7 per 100 admissions in 2013 to 6.3 per 100 admissions in 2014. Additionally, of the 213 hospitals studied for readmissions, 70 percent decreased their rate between the years of 2013 and 2014.

New York City hospitals have the highest risk adjusted 30-day readmission rates, with Central New York hospitals having the second highest risk adjusted readmission rates.

As a patient ages, the 30-day readmission rate increases, with the highest observed rate seen in patients over the age of 76 years. The size of the hospital also seems to have an effect on the number of readmissions, with smaller hospitals having lower risk adjusted 30-day readmission rates than larger hospitals.

In 2014, potentially preventable readmissions cost \$2.3 billion dollars, or 6.4% of the total cost of all inpatient admissions (\$37.1B).

# Section I: Community Measures

## AHRQ PEDIATRIC QUALITY INDICATORS (PDI)

### DESCRIPTION

The Agency for Healthcare Research and Quality (AHRQ) Pediatric Quality Indicators (PDIs)<sup>6</sup> are a set of population-based measures that can be used to present information on the quality of pediatric healthcare. These are conditions where 1) the need for hospitalization is potentially preventable with appropriate outpatient care, or 2) conditions that could be less severe if treated early and appropriately in a high quality primary care setting. These findings provide insight into the population health and the quality of the health care system outside of the hospital setting for children under the age of 18.

### FINDINGS

- When looking at a suite of measures for pediatric preventable hospitalizations, New York State is not performing as well as the national average on all measures with the exception of discharges for diabetes short-term complications, where the population-based rate has decreased and is lower than the national average (Table 1).
- Between 2013 and 2014, NYS saw an overall decrease in pediatric hospitalizations for acute conditions such as gastroenteritis (Table 1).
- Children being hospitalized for asthma has increased and continues to be the number one reason why children are hospitalized (Table 2). More males than females are hospitalized for asthma with the highest rate being for children under the age of 5 years (Table 9). As shown in Table 5, the Bronx has a pediatric asthma hospitalization rate (486.78 per 100,000 population) that is more than twice the statewide average (222.87 per 100,000 population).
- Stays for urinary tract infections occur more frequently for females and for children under the age of 5 years, with rates worsening for children between the ages of 15-17 years (Table 9).
- The longest length of stay, and the highest estimated cost per stay, is for a perforated appendix at 5.7 days with an average discharge cost of \$20,663 (Table 4). The shortest length of stay is for gastroenteritis, with an estimated cost of \$5,881 (Table 4).

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<sup>6</sup> AHRQ Pediatric Quality Indicators Overview [http://www.qualityindicators.ahrq.gov/Modules/pdi\\_resources.aspx](http://www.qualityindicators.ahrq.gov/Modules/pdi_resources.aspx) (Accessed April 5, 2016)

## TABLES

Table 1: PDI Rates per 100,000 Population with National Benchmark, 2013-2014

PDI	Description	Condition	Observed PDI Rate per 100,000 Population		
			Statewide Rate 2013	Statewide Rate 2014	National Benchmark Rate <sup>7</sup>
PDI 14	Asthma	Chronic	205.13	222.87	117.37
PDI 15	Diabetes Short-term Complications	Chronic	24.85	22.81	23.89
PDI 16	Gastroenteritis	Acute	90.07	72.88	47.28
PDI 18	Urinary Tract Infection	Acute	34.08	34.50	29.64
PDI 90	Pediatric Quality Overall Composite	Overall	224.94	236.50	141.77
PDI 91	Pediatric Quality Acute Composite	Acute	62.21	55.52	38.56
PDI 92	Pediatric Quality Chronic Composite	Chronic	162.72	180.98	103.21

\*PDI 17 Perforated Appendix is not included in Composites.

Table 2: PDI Discharges and Statewide Rates per 100,000 Population with National Benchmark, 2014

PDI	Description	Condition	Eligible Pediatric Population	Discharges	Statewide Rate 2014	National Benchmark
PDI 14	Asthma	Chronic	4,026,067	8,973	222.87	117.37
PDI 15	Diabetes Short-term Complications	Chronic	2,867,682	654	22.81	23.89
PDI 16	Gastroenteritis	Acute	4,252,282	3,099	72.88	47.28
PDI 17*	Perforated Appendix	Acute	3,735	1,269	339.76	344.22
PDI 18	Urinary Tract Infection	Acute	4,252,282	1,467	34.50	29.64
PDI 90	Pediatric Quality Overall Composite	Overall	2,867,682	6,782	236.50	141.77
PDI 91	Pediatric Quality Acute Composite	Acute	2,867,682	1,592	55.52	38.56
PDI 92	Pediatric Quality Chronic Composite	Chronic	2,867,682	5,190	180.98	103.21

\*PDI 17 Perforated Appendix is per 1,000 discharges with appendicitis diagnosis code.

Table 3: PDI Mean Cost per Discharge, Median Cost per Discharge, and Average Length of Stay (ALOS), 2014

PDI	Description	Condition	PDI Discharges	Mean Cost per Discharge (\$)	Median Cost per Discharge (\$)	ALOS
PDI 14	Asthma	Chronic	8,973	8,196	5,844	2.2
PDI 15	Diabetes Short-term Complications	Chronic	654	9,389	6,361	2.6
PDI 16	Gastroenteritis	Acute	3,099	5,881	4,299	2.0
PDI 17	Perforated Appendix	Acute	1,269	20,663	15,334	5.7
PDI 18	Urinary Tract Infection	Acute	1,467	8,499	5,877	2.8
PDI 90	Pediatric Quality Overall Composite	Overall	6,782	8,614	5,948	2.4
PDI 91	Pediatric Quality Acute Composite	Acute	1,592	7,162	4,988	2.3

<sup>7</sup> Citation: AHRQ Pediatric Quality Indicators™ v5.0 Benchmark Data Tables available at:

[http://qualityindicators.ahrq.gov/Downloads/Modules/PDI/V50/Version\\_50\\_Benchmark\\_Tables\\_PDI.pdf](http://qualityindicators.ahrq.gov/Downloads/Modules/PDI/V50/Version_50_Benchmark_Tables_PDI.pdf) (Accessed April 5, 2016)

PDI	Description	Condition	PDI Discharges	Mean Cost per Discharge (\$)	Median Cost per Discharge (\$)	ALOS
PDI 92	Pediatric Quality Chronic Composite	Chronic	5,190	9,059	6,227	2.4
	<b>Total PDI Discharges*</b>		<b>15,462</b>	<b>\$8,834</b>	<b>\$5,885</b>	<b>2.5</b>
	<b>Total Discharges 6-17 Years without PDI</b>		<b>49,809</b>	<b>\$16,187</b>	<b>\$8,395</b>	<b>5.5</b>
	<b>All Pediatric Discharges</b>		<b>345,186</b>	<b>\$9,285</b>	<b>\$3,057</b>	<b>4.0</b>

\*The PDI Total reflects the sum of unique discharges that met the PDI 14-18 criteria. A discharge may meet more than one PDI criteria.

Table 4: PDI Mean Cost per Discharge, Median Cost per Discharge, and Average Length of Stay (ALOS) by Age Group, 2014

PDI	Description	Age Group (Years)	Discharges	Mean Cost per Discharge (\$)	Median Cost per Discharge (\$)	ALOS
PDI 14	Asthma	0-4	3,557	7,325	5,588	2.0
PDI 14	Asthma	5-9	3,318	8,139	5,830	2.2
PDI 14	Asthma	10-14	1,554	9,544	6,833	2.5
PDI 14	Asthma	15-17	544	10,385	6,548	2.6
PDI 15	Diabetes Short-term Complications	0-4	0	0	0	0.0
PDI 15	Diabetes Short-term Complications	5-9	102	9,254	6,651	2.6
PDI 15	Diabetes Short-term Complications	10-14	317	9,869	6,323	2.6
PDI 15	Diabetes Short-term Complications	15-17	235	8,800	6,368	2.5
PDI 16	Gastroenteritis	0-4	1,892	5,827	4,264	2.0
PDI 16	Gastroenteritis	5-9	648	5,364	4,176	1.8
PDI 16	Gastroenteritis	10-14	335	6,257	4,377	2.1
PDI 16	Gastroenteritis	15-17	224	7,272	5,092	2.1
PDI 17	Perforated Appendix	0-4	153	25,123	19,584	6.9
PDI 17	Perforated Appendix	5-9	411	20,534	15,059	5.7
PDI 17	Perforated Appendix	10-14	479	20,388	14,945	5.6
PDI 17	Perforated Appendix	15-17	226	18,462	14,251	5.0
PDI 18	Urinary Tract Infection	0-4	838	8,215	5,860	2.8
PDI 18	Urinary Tract Infection	5-9	248	8,044	5,571	2.8
PDI 18	Urinary Tract Infection	10-14	144	10,670	6,521	3.1
PDI 18	Urinary Tract Infection	15-17	237	8,659	6,178	2.8
PDI 90	Pediatric Quality Overall Composite <sup>8</sup>	0-4	0	0	0	0.0
PDI 90	Pediatric Quality Overall Composite	5-9	3,192	7,965	5,713	2.2
PDI 90	Pediatric Quality Overall Composite	10-14	2,350	9,189	6,242	2.5

<sup>8</sup> Pediatric discharges under the age of 6 years are excluded from PDI composite calculations.

PDI	Description	Age Group (Years)	Discharges	Mean Cost per Discharge (\$)	Median Cost per Discharge (\$)	ALOS
PDI 90	Pediatric Quality Overall Composite	15-17	1,240	9,193	6,103	2.5
PDI 91	Pediatric Quality Acute Composite	0-4	0	0	0	0.0
PDI 91	Pediatric Quality Acute Composite	5-9	652	6,270	4,582	2.1
PDI 91	Pediatric Quality Acute Composite	10-14	479	7,584	4,926	2.4
PDI 91	Pediatric Quality Acute Composite	15-17	461	7,985	5,685	2.4
PDI 92	Pediatric Quality Chronic Composite	0-4	0	0	0	0.0
PDI 92	Pediatric Quality Chronic Composite	5-9	2,540	8,400	5,923	2.3
PDI 92	Pediatric Quality Chronic Composite	10-14	1,871	9,599	6,757	2.6
PDI 92	Pediatric Quality Chronic Composite	15-17	779	9,907	6,457	2.6
	Total PDI Discharges	0-4	6,440	7,424	5,380	2.2
	Total PDI Discharges	5-9	4,727	8,855	5,899	2.5
	Total PDI Discharges	10-14	2,829	11,085	7,503	3.0
	Total PDI Discharges	15-17	1,466	10,621	7,033	2.9
	18 and older Discharges Without Any PDI	0-4	276,175	8,004	2,369	3.9
	18 and older Discharges Without Any PDI	5-9	16,268	15,039	7,266	4.2
	18 and older Discharges Without Any PDI	10-14	19,404	16,712	8,595	5.7
	18 and older Discharges Without Any PDI	15-17	17,877	16,171	8,905	6.0
	All Pediatric Discharges	0-4	282,615	7,991	2,427	3.8
	All Pediatric Discharges	5-9	20,995	13,647	6,899	3.8
	All Pediatric Discharges	10-14	22,233	15,996	8,445	5.4
	All Pediatric Discharges	15-17	19,343	15,750	8,780	5.7

Table 5: PDI Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population by Patient County<sup>9</sup>, 2014

Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population							
Patient County	PDI 15		PDI 16		PDI 18		PDI 92 Chronic Composite
	PDI 14 Asthma	Diabetes Short Term Complications	Gastroenteritis	Urinary Tract Infection	PDI 90 Overall Composite	PDI 91 Acute Composite	
Albany	83.08	18.75	50.76	26.84	141.23	53.26	87.14
Allegany	299.14	-	28.24	39.43	186.68	36.06	156.30
Bronx	486.78	33.91	120.61	46.44	483.60	87.67	390.21
Broome	73.43	47.36	80.44	47.13	190.61	76.73	104.48
Cattaraugus	28.50	8.54	35.29	16.51	67.96	33.05	25.56
Cayuga	113.66	-	29.85	35.18	118.90	49.31	58.99

<sup>9</sup> If a county has no rate displayed there were either no cases meeting the PDI criteria or the sample was so small the rate was suppressed. Admissions for which patient data indicated an unknown or out-of-state county were excluded from the population rates.

Patient County	Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population						
	PDI 14 Asthma	PDI 15 Diabetes Short Term Complications	PDI 16 Gastroenteritis	PDI 18 Urinary Tract Infection	PDI 90 Overall Composite	PDI 91 Acute Composite	PDI 92 Chronic Composite
Chautauqua	95.48	39.63	31.97	34.49	115.68	22.40	95.27
Chemung	75.56	7.68	49.33	64.00	192.88	102.80	72.38
Chenango	20.84	30.81	12.50	11.83	68.10	-	77.76
Clinton	87.50	-	51.32	23.96	115.49	34.45	76.20
Columbia	108.67	12.50	39.37	47.38	130.52	78.81	35.25
Cortland	39.77	-	49.15	23.11	92.56	33.31	52.56
Delaware	48.20	-	14.73	27.38	54.32	19.57	30.83
Dutchess	233.75	9.26	73.95	29.74	232.76	38.40	196.88
Erie	222.68	46.10	47.98	22.98	240.74	33.93	207.84
Essex	35.61	-	39.80	74.46	-	-	-
Franklin	28.93	12.69	26.98	8.52	49.41	12.13	37.01
Fulton	355.19	28.37	112.16	73.76	609.21	179.12	408.13
Genesee	83.97	23.86	36.23	8.46	81.50	24.48	54.44
Greene	79.10	33.27	27.07	25.64	155.23	51.97	97.05
Herkimer	113.10	12.01	19.36	26.88	125.59	25.08	103.36
Jefferson	65.05	10.88	31.97	28.48	104.44	36.58	64.93
Kings	242.54	23.51	77.49	35.71	256.26	64.79	192.47
Lewis	103.90	-	-	80.31	200.54	85.63	91.60
Livingston	52.74	13.20	31.55	9.80	96.57	13.69	88.41
Madison	315.51	10.96	54.11	-	226.12	45.53	185.33
Monroe	106.70	20.00	44.19	16.56	139.66	34.63	105.09
Montgomery	129.35	15.26	39.90	38.65	163.24	28.71	138.13
Nassau	198.38	23.05	103.15	38.30	219.63	62.24	156.36
New York	275.52	28.73	54.81	24.71	268.94	52.98	215.46
Niagara	94.29	39.18	36.33	11.69	133.56	23.92	111.54
Oneida	128.69	9.55	36.61	46.56	142.96	45.20	94.57
Onondaga	79.55	36.19	41.86	20.70	131.01	30.00	101.07
Ontario	57.47	6.82	32.70	10.34	37.37	7.03	31.18
Orange	88.82	20.21	45.82	32.49	117.09	33.55	82.88
Orleans	120.98	33.83	94.24	50.03	295.07	103.28	176.09
Oswego	67.62	31.71	34.81	27.97	122.63	46.06	65.29
Otsego	135.06	29.31	36.77	22.74	192.58	46.62	145.17
Putnam	152.19	22.11	46.95	11.11	153.43	14.83	147.55
Queens	186.95	15.90	89.81	46.61	206.33	62.50	144.97
Rensselaer	91.53	9.19	39.66	25.77	125.64	37.64	86.20
Richmond	190.85	23.71	92.16	45.60	278.69	98.33	178.29
Rockland	71.41	11.02	63.03	36.05	98.19	35.43	61.14
Saratoga	104.98	41.30	48.85	12.84	127.28	21.27	110.86
Schenectady	84.60	15.19	35.25	18.67	132.27	45.70	84.89
Schoharie	37.19	-	-	20.34	39.34	27.39	-
Schuyler	62.70	-	-	69.06	202.52	94.26	77.83
Seneca	83.98	-	34.50	16.55	97.52	47.07	36.81
St. Lawrence	134.35	7.33	55.00	47.09	216.53	74.84	125.46
Steuben	136.78	7.53	47.23	5.56	88.02	15.67	75.36
Suffolk	181.27	19.14	75.98	40.10	202.63	51.63	150.32
Sullivan	104.02	35.73	61.15	23.85	148.23	17.77	133.05
Tioga	125.99	-	37.24	46.84	208.73	81.56	106.56

Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population							
Patient County	PDI 15 Diabetes		PDI 18 Urinary		PDI 90 Overall Composite	PDI 91 Acute Composite	PDI 92 Chronic Composite
	PDI 14 Asthma	Short Term Complications	PDI 16 Gastroenteritis	Tract Infection			
Tompkins	54.74	-	12.62	17.88	68.68	18.25	49.67
Ulster	92.90	4.36	86.27	30.50	145.79	56.39	83.21
Warren	153.52	-	92.75	29.05	114.49	-	131.18
Washington	142.56	-	83.74	50.17	202.12	70.14	116.86
Wayne	122.23	23.00	64.46	44.32	207.38	71.18	126.09
Westchester	155.59	14.00	58.25	25.47	169.45	47.69	121.58
Wyoming	61.01	86.49	17.14	-	134.48	-	158.71
Yates	-	-	69.16	-	46.22	31.38	-
Statewide	222.87	22.81	72.88	34.50	236.50	55.52	180.98

Table 6: PDI Observed Rates per 100,000 Population, and Observed to Expected Ratios, by Region, 2013-2014

PDI	Description	Region	2013		2014	
			Observed Rate	O/E Ratio	Observed Rate	O/E Ratio
PDI 14	Asthma	Statewide	205.13	1.00	222.87	1.00
PDI 15	Diabetes Short-term Complications	Statewide	24.85	1.00	22.81	1.00
PDI 16	Gastroenteritis	Statewide	90.07	1.00	72.88	1.00
PDI 18	Urinary Tract Infection	Statewide	34.08	1.00	34.50	1.00
PDI 90	Pediatric Quality Overall Composite	Statewide	224.94	1.00	236.50	1.00
PDI 91	Pediatric Quality Acute Composite	Statewide	62.21	1.00	55.52	1.00
PDI 92	Pediatric Quality Chronic Composite	Statewide	162.72	1.00	180.98	1.00
PDI 14	Asthma	Central NY	53.92	0.38	68.19	0.43
PDI 15	Diabetes Short-term Complications	Central NY	26.21	1.18	19.01	0.87
PDI 16	Gastroenteritis	Central NY	56.72	0.69	33.30	0.51
PDI 18	Urinary Tract Infection	Central NY	22.81	0.78	26.83	0.84
PDI 90	Pediatric Quality Overall Composite	Central NY	104.84	0.62	103.58	0.57
PDI 91	Pediatric Quality Acute Composite	Central NY	48.67	0.86	36.59	0.71
PDI 92	Pediatric Quality Chronic Composite	Central NY	56.16	0.50	66.99	0.51
PDI 14	Asthma	Finger Lakes	64.52	0.38	83.99	0.45
PDI 15	Diabetes Short-term Complications	Finger Lakes	19.08	0.79	16.34	0.71
PDI 16	Gastroenteritis	Finger Lakes	59.09	0.71	40.58	0.61
PDI 18	Urinary Tract Infection	Finger Lakes	25.83	0.86	19.20	0.60
PDI 90	Pediatric Quality Overall Composite	Finger Lakes	118.07	0.61	116.48	0.57
PDI 91	Pediatric Quality Acute Composite	Finger Lakes	47.95	0.83	36.37	0.69
PDI 92	Pediatric Quality Chronic Composite	Finger Lakes	70.12	0.52	80.11	0.53
PDI 14	Asthma	Long Island	141.01	0.86	153.49	0.85
PDI 15	Diabetes Short-term Complications	Long Island	17.74	0.78	19.64	0.92
PDI 16	Gastroenteritis	Long Island	90.89	1.12	79.84	1.22
PDI 18	Urinary Tract Infection	Long Island	39.00	1.23	36.36	1.14
PDI 90	Pediatric Quality Overall Composite	Long Island	166.70	0.87	179.92	0.89
PDI 91	Pediatric Quality Acute Composite	Long Island	59.58	1.02	53.05	1.02
PDI 92	Pediatric Quality Chronic Composite	Long Island	107.12	0.81	126.87	0.85



PDI	Description	Region	2013		2014	
			Observed Rate	O/E Ratio	Observed Rate	O/E Ratio
PDI 14	Asthma	Mid-Hudson	114.56	0.65	116.46	0.60
PDI 15	Diabetes Short-term Complications	Mid-Hudson	10.72	0.46	13.97	0.63
PDI 16	Gastroenteritis	Mid-Hudson	70.57	0.83	56.68	0.82
PDI 18	Urinary Tract Infection	Mid-Hudson	24.84	0.75	27.60	0.83
PDI 90	Pediatric Quality Overall Composite	Mid-Hudson	127.12	0.63	139.65	0.65
PDI 91	Pediatric Quality Acute Composite	Mid-Hudson	44.20	0.73	39.48	0.73
PDI 92	Pediatric Quality Chronic Composite	Mid-Hudson	82.91	0.58	100.17	0.63
PDI 14	Asthma	New York City	358.61	1.34	372.37	1.30
PDI 15	Diabetes Short-term Complications	New York City	30.15	1.09	25.68	1.08
PDI 16	Gastroenteritis	New York City	120.52	1.19	98.64	1.20
PDI 18	Urinary Tract Infection	New York City	42.95	1.11	43.54	1.16
PDI 90	Pediatric Quality Overall Composite	New York City	360.78	1.28	369.70	1.27
PDI 91	Pediatric Quality Acute Composite	New York City	81.67	1.20	75.09	1.25
PDI 92	Pediatric Quality Chronic Composite	New York City	279.12	1.31	294.61	1.28
PDI 14	Asthma	Northeast NY	60.70	0.44	67.42	0.44
PDI 15	Diabetes Short-term Complications	Northeast NY	19.36	0.87	16.87	0.77
PDI 16	Gastroenteritis	Northeast NY	56.02	0.70	41.03	0.64
PDI 18	Urinary Tract Infection	Northeast NY	20.19	0.70	24.69	0.79
PDI 90	Pediatric Quality Overall Composite	Northeast NY	112.84	0.67	108.96	0.60
PDI 91	Pediatric Quality Acute Composite	Northeast NY	46.27	0.82	40.50	0.78
PDI 92	Pediatric Quality Chronic Composite	Northeast NY	66.57	0.59	68.46	0.53
PDI 14	Asthma	NY-Penn	65.06	0.52	45.87	0.33
PDI 15	Diabetes Short-term Complications	NY-Penn	40.28	1.91	34.00	1.60
PDI 16	Gastroenteritis	NY-Penn	43.89	0.56	53.62	0.86
PDI 18	Urinary Tract Infection	NY-Penn	43.89	1.56	36.86	1.20
PDI 90	Pediatric Quality Overall Composite	NY-Penn	120.83	0.77	123.86	0.74
PDI 91	Pediatric Quality Acute Composite	NY-Penn	40.28	0.73	58.29	1.17
PDI 92	Pediatric Quality Chronic Composite	NY-Penn	80.56	0.79	65.57	0.56
PDI 14	Asthma	Western NY	86.02	0.53	144.61	0.81
PDI 15	Diabetes Short-term Complications	Western NY	41.96	1.76	41.43	1.80
PDI 16	Gastroenteritis	Western NY	54.49	0.66	39.59	0.60
PDI 18	Urinary Tract Infection	Western NY	20.63	0.69	20.42	0.64
PDI 90	Pediatric Quality Overall Composite	Western NY	139.28	0.74	169.37	0.85
PDI 91	Pediatric Quality Acute Composite	Western NY	41.96	0.73	30.51	0.58
PDI 92	Pediatric Quality Chronic Composite	Western NY	97.32	0.75	138.87	0.95

Table 7: PDI Rates per 100,000 Population by Gender with Ranking, 2014

Rank	Female	Male	Overall
1	Asthma 184.15	Asthma 259.9	Asthma 222.87
2	Gastroenteritis 66.73	Gastroenteritis 78.76	Gastroenteritis 72.88
3	Urinary Tract Infection 55.85	Diabetes Short-term Complications 21.15	Urinary Tract Infection 34.5
4	Diabetes Short-term Complications 24.54	Urinary Tract Infection 14.08	Diabetes Short-term Complications 22.81

Table 8: PDI Rates per 100,000 Population by Age Group with Ranking, 2014

Rank	0-4 years	5-9 years	10-14 years	15-17 years
1	Asthma 383.92	Asthma 285.85	Asthma 131.67	Asthma 71.71
2	Gastroenteritis 164.14	Gastroenteritis 55.83	Gastroenteritis 28.38	Urinary Tract Infection 31.24
3	Urinary Tract Infection 72.7	Urinary Tract Infection 21.37	Diabetes Short-term Complications 26.86	Diabetes Short-term Complications 30.98
4		Diabetes Short-term Complications 10.98	Urinary Tract Infection 12.2	Gastroenteritis 29.53

Table 9: PDI Eligible Population, Discharges, Observed Rates per 100,000 Population, by Gender and Age Group with National Benchmark, 2014

PDI	Description	Group	Pediatric Population	Discharges	Statewide Rate 2014	Benchmark Rate
PDI 14	Asthma	Overall	4,026,067	8,973	222.87	117.37
PDI 14	Asthma	Female	1,967,944	3,624	184.15	91.72
PDI 14	Asthma	Male	2,058,123	5,349	259.90	141.89
PDI 14	Asthma	0-4	926,492	3,557	383.92	246.19
PDI 14	Asthma	5-9	1,160,731	3,318	285.85	144.73
PDI 14	Asthma	10-14	1,180,245	1554	131.67	66.26
PDI 14	Asthma	15-17	758,599	544	71.71	33.98
PDI 15	Diabetes Short-term Complications	Overall	2,867,682	654	22.81	23.89
PDI 15	Diabetes Short-term Complications	Female	1,401,766	344	24.54	26.62
PDI 15	Diabetes Short-term Complications	Male	1,465,916	310	21.15	21.29
PDI 15	Diabetes Short-term Complications	5-9	928,838	102	10.98	10.85
PDI 15	Diabetes Short-term Complications	10-14	1,180,245	317	26.86	27.05
PDI 15	Diabetes Short-term Complications	15-17	758,599	235	30.98	35.67
PDI 16	Gastroenteritis	Overall	4,252,282	3,099	72.88	47.28
PDI 16	Gastroenteritis	Female	2,078,663	1,387	66.73	45.22
PDI 16	Gastroenteritis	Male	2,173,619	1,712	78.76	49.25
PDI 16	Gastroenteritis	0-4	1,152,707	1,892	164.14	114.90
PDI 16	Gastroenteritis	5-9	1,160,731	648	55.83	33.43
PDI 16	Gastroenteritis	10-14	1,180,245	335	28.38	16.05
PDI 16	Gastroenteritis	15-17	758,599	224	29.53	19.01

PDI	Description	Group	Pediatric Population	Discharges	Statewide Rate 2014	Benchmark Rate
PDI 17	Perforated Appendix <sup>10</sup>	Overall	3,735	1,269	339.76	344.22
PDI 17	Perforated Appendix	Female	1,475	519	351.86	342.81
PDI 17	Perforated Appendix	Male	2,260	750	331.86	345.15
PDI 17	Perforated Appendix	0-4	224	153	683.04	661.38
PDI 17	Perforated Appendix	5-9	1,083	411	379.50	395.19
PDI 17	Perforated Appendix	10-14	1,494	479	320.62	328.92
PDI 17	Perforated Appendix	15-17	934	226	241.97	239.93
PDI 18	Urinary Tract Infection	Overall	4,252,282	1,467	34.50	29.64
PDI 18	Urinary Tract Infection	Female	2,078,663	1,161	55.85	49.14
PDI 18	Urinary Tract Infection	Male	2,173,619	306	14.08	10.99
PDI 18	Urinary Tract Infection	0-4	1,152,707	838	72.70	62.09
PDI 18	Urinary Tract Infection	5-9	1,160,731	248	21.37	20.21
PDI 18	Urinary Tract Infection	10-14	1,180,245	144	12.20	10.30
PDI 18	Urinary Tract Infection	15-17	758,599	237	31.24	27.74
PDI 90	Pediatric Quality Overall Composite <sup>11</sup>	Overall	2,867,682	6,782	236.50	141.77
PDI 90	Pediatric Quality Overall Composite	Female	1,401,766	3,283	234.20	143.57
PDI 90	Pediatric Quality Overall Composite	Male	1,465,916	3,499	238.69	140.06
PDI 90	Pediatric Quality Overall Composite	5-9	928,838	3,192	343.66	189.19
PDI 90	Pediatric Quality Overall Composite	10-14	1,180,245	2,350	199.11	119.65
PDI 90	Pediatric Quality Overall Composite	15-17	758,599	1,240	163.46	116.41
PDI 91	Pediatric Quality Acute Composite	Overall	2,867,682	1,592	55.52	38.56
PDI 91	Pediatric Quality Acute Composite	Female	1,401,766	959	68.41	52.07
PDI 91	Pediatric Quality Acute Composite	Male	1,465,916	633	43.18	25.64
PDI 91	Pediatric Quality Acute Composite	5-9	928,838	652	70.20	47.66
PDI 91	Pediatric Quality Acute Composite	10-14	1,180,245	479	40.58	26.35
PDI 91	Pediatric Quality Acute Composite	15-17	758,599	461	60.77	46.75
PDI 92	Pediatric Quality Chronic Composite	Overall	2,867,682	5,190	180.98	103.21
PDI 92	Pediatric Quality Chronic Composite	Female	1,401,766	2,324	165.79	91.49
PDI 92	Pediatric Quality Chronic Composite	Male	1,465,916	2,866	195.51	114.42
PDI 92	Pediatric Quality Chronic Composite	5-9	928,838	2,540	273.46	141.53
PDI 92	Pediatric Quality Chronic Composite	10-14	1,180,245	1,871	158.53	93.30
PDI 92	Pediatric Quality Chronic Composite	15-17	758,599	779	102.69	69.66

<sup>10</sup> PDI 17 Perforated Appendix rates are per 1,000 discharges for appendicitis and are not population based.

<sup>11</sup> Pediatric discharges under the age of 6 years are excluded from PDI composite calculations.

## AHRQ PREVENTION QUALITY INDICATORS (PQI)

### DESCRIPTION

The Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQIs)<sup>12</sup> are a set of adult population-based measures that can be used to identify conditions where 1) the need for hospitalization is potentially preventable with appropriate outpatient care, or 2) conditions that could be less severe if treated early and appropriately. These findings provide insight into the population health and the quality of the health care system outside of the hospital setting for adults 18 years and older.

### FINDINGS

- Since 2009, rates of adult preventable hospitalizations have been decreasing statewide; with the exception of two types of adult discharges: diabetes short term complications and lower extremity amputations among patients with diabetes (Table 10).
- In 2014, New York performed worse than the national rate on 7 of the 13 individual PQI measures, and worse than the national rate for the chronic composite (Table 11).
- The longest length of stay and the highest cost is for lower extremity amputations for patient with diabetes at 17.3 days and \$53,741 (Table 12). The lowest length of stay and cost is for Angina without Procedure at 2.2 days and \$7,503 (Table 12).
- The highest admission rates for preventable hospitalizations are for patients 75 years and older (Table 21).
- Between the years of 2010 and 2014, acute care discharges decreased at a higher rate (-16%) than chronic care discharges (-10%) (Table 22, Chart 1). However, more “treat and release” emergency room visits occurred for the same acute (+17%) and chronic (+10%) care disease conditions in the same time period (Table 22, Chart 2).
- Inpatient care for bacterial pneumonia decreased 21 percent between 2010 and 2014. The number of emergency room visits for bacterial pneumonia increased 24 percent in time period (Table 22).
- Since 2010, there has been an increase in inpatient stays and emergency room visits for diabetes short-term complications (Table 22).

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<sup>12</sup> AHRQ Prevention Quality Indicators Overview [http://www.qualityindicators.ahrq.gov/Modules/pqi\\_resources.aspx](http://www.qualityindicators.ahrq.gov/Modules/pqi_resources.aspx) (Accessed April 5, 2016).

## TABLES

Table 10: PQI Rates per 100,000 Population with National Benchmark, 2009-2014

PQI	Description	Condition	Observed PQI Rate per 100,000 Population						National Benchmark Rate <sup>13</sup>	Pct. Change 2009-2014
			2009	2010	2011	2012	2013*	2014		
PQI 01	Diabetes Short-Term Complications	Chronic	56.28	56.38	59.63	62.43	62.62	63.12	63.86	12.2%
PQI 03	Diabetes Long-Term Complications	Chronic	146.35	144.93	145.79	136.36	131.10	124.20	105.72	-15.1%
PQI 05	COPD or Asthma in Older Adults	Chronic	572.74	535.01	536.15	510.78	528.72	493.05	495.71	-13.9%
PQI 07	Hypertension	Chronic	78.56	76.95	75.82	74.37	64.78	58.43	54.27	-25.6%
PQI 08	Heart Failure	Chronic	379.88	344.30	330.78	318.04	317.90	315.96	321.38	-16.8%
PQI 10	Dehydration	Acute	137.49	125.50	122.49	114.70	131.64	114.99	135.7	-16.4%
PQI 11	Bacterial Pneumonia	Acute	284.88	248.65	259.73	235.84	218.66	193.79	248.19	-32.0%
PQI 12	Urinary Tract Infection	Acute	175.79	175.38	172.01	166.16	152.77	146.51	167.01	-16.7%
PQI 13	Angina Without Procedure	Chronic	32.71	27.08	23.25	20.73	17.98	15.96	13.34	-51.2%
PQI 14	Uncontrolled Diabetes	Chronic	36.90	31.18	27.93	26.07	20.88	17.79	15.72	-51.8%
PQI 15	Asthma in Younger Adults	Chronic	95.39	74.43	73.81	72.49	63.75	63.37	46.02	-33.6%
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Chronic	14.69	14.04	14.43	14.53	15.33	15.96	15.50	8.6%
PQI 90	Prevention Quality Overall Composite	Overall	1,724.09	1,595.09	1,583.77	1,503.75	1,476.20	1,387.39	1,457.50	-19.5%

<sup>13</sup> Citation: AHRQ Prevention Quality Indicators™ v5.0 Benchmark Data Tables available at:[http://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V50/Version\\_50\\_Benchmark\\_Tables\\_PQI.pdf](http://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V50/Version_50_Benchmark_Tables_PQI.pdf)

\*Version 4.5 used for 2009-2012, version 5.0 used for 2013-2014

Observed PQI Rate per 100,000 Population									National Benchmark Rate <sup>13</sup>	Pct. Change 2009-2014
PQI	Description	Condition	2009	2010	2011	2012	2013*	2014		
PQI 91	Prevention Quality Acute Composite	Acute	598.17	549.54	554.23	516.70	503.07	455.29	550.87	-23.9%
PQI 92	Prevention Quality Chronic Composite	Chronic	1,126.96	1045.58	1029.56	987.11	973.15	932.13	906.94	-17.3%

Table 11: PQI Discharges and Statewide Rates per 100,000 Population with National Benchmark, 2014

PQI	Description	Eligible Adult Population	Discharges	Statewide Rate 2014	National Benchmark Rate
PQI 01	Diabetes Short-Term Complications	15,422,348	9,735	63.12	63.86
PQI 02	Perforated Appendix Admission Rate*	12,475	4,056	325.13	323.40
PQI 03	Diabetes Long-Term Complications	15,422,348	19,155	124.20	105.72
PQI 05	COPD or Asthma in Older Adults	9,478,021	46,731	493.05	495.71
PQI 07	Hypertension	15,422,348	9,012	58.43	54.27
PQI 08	Heart Failure	15,422,348	48,729	315.96	321.38
PQI 10	Dehydration	15,422,348	17,734	114.99	135.70
PQI 11	Bacterial Pneumonia	15,422,348	29,887	193.79	248.19
PQI 12	Urinary Tract Infection	15,422,348	22,595	146.51	167.01
PQI 13	Angina Without Procedure	15,422,348	2,462	15.96	13.34
PQI 14	Uncontrolled Diabetes	15,422,348	2,744	17.79	15.72
PQI 15	Asthma in Younger Adults	5,944,327	3,767	63.37	46.02
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	15,422,348	2,444	15.85	15.50
PQI 90	Prevention Quality Overall Composite	15,422,348	213,968	1,387.39	1,457.50
PQI 91	Prevention Quality Acute Composite	15,422,348	70,216	455.29	550.87
PQI 92	Prevention Quality Chronic Composite	15,422,348	143,756	932.13	906.94

\*PQI 02, Perforated Appendix Admission Rate, is per 1,000 discharges with appendicitis diagnosis codes.

Table 12: PQI Mean Cost per Discharge, Median Cost per Discharge, and Average Length of Stay (ALOS), 2014

PQI	Description	Condition	Mean Cost per Discharge (\$)	Median Cost per Discharge (\$)	ALOS
PQI 01	Diabetes Short-Term Complications	Chronic	12,590	7,670	4.3
PQI 02	Perforated Appendix	Acute	18,495	11,753	5.8
PQI 03	Diabetes Long-Term Complications	Chronic	21,646	11,848	7.0
PQI 05	COPD or Asthma in Older Adults	Chronic	11,957	7,919	4.8
PQI 07	Hypertension	Chronic	9,806	6,479	3.3
PQI 08	Heart Failure	Chronic	14,943	9,302	6.0
PQI 10	Dehydration	Acute	10,806	6,665	4.6
PQI 11	Bacterial Pneumonia	Acute	12,244	7,936	5.4
PQI 12	Urinary Tract Infection	Acute	10,580	7,040	4.8
PQI 13	Angina Without Procedure	Chronic	7,503	5,450	2.2
PQI 14	Uncontrolled Diabetes	Chronic	9,251	6,010	3.6
PQI 15	Asthma in Younger Adults	Chronic	9,390	6,428	2.8
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Chronic	53,741	34,698	17.3
PQI 90	Prevention Quality Overall Composite	Overall	13,424	8,094	5.2
PQI 91	Prevention Quality Acute Composite	Acute	11,345	7,301	5.9
PQI 92	Prevention Quality Chronic Composite	Chronic	14,440	8,510	5.4
	<b>Total PQI Discharges*</b>		<b>\$13,517</b>	<b>\$8,168</b>	<b>5.3</b>
	<b>18 and older Discharges Without Any PQI</b>		<b>\$17,197</b>	<b>\$9,709</b>	<b>5.9</b>
	<b>All Adult Hospital Discharges</b>		<b>\$16,780</b>	<b>\$9,507</b>	<b>5.8</b>

\*The PQI Total reflects the sum of unique discharges that meet the PQI 01-16 criteria. A discharge may meet more than one PQI criteria.

Table 13: PQI Mean Cost per Discharge, Median Cost per Discharge, and Average Length of Stay (ALOS) by Age Group, 2014

PQI	Description	Age Group (Years)	Discharges	Mean Cost per Discharge (\$)	Median Cost per Discharge (\$)	ALOS
PQI 01	Diabetes Short-Term Complications	18-39	4,086	9,511	6,458	3.2
PQI 01	Diabetes Short-Term Complications	40-64	4,166	13,803	8,324	4.8
PQI 01	Diabetes Short-Term Complications	65-74	844	17,329	10,442	6.1
PQI 01	Diabetes Short-Term Complications	75+	639	18,120	11,040	6.6
PQI 02	Perforated Appendix	18-39	1,384	16,553	11,301	4.9
PQI 02	Perforated Appendix	40-64	1,803	16,714	11,170	5.4
PQI 02	Perforated Appendix	65-74	520	24,476	13,066	7.5
PQI 02	Perforated Appendix	75+	349	26,487	16,327	8.9
PQI 03	Diabetes Long-Term Complications	18-39	1,711	17,010	8,706	5.5
PQI 03	Diabetes Long-Term Complications	40-64	9,333	23,283	12,359	7.2
PQI 03	Diabetes Long-Term Complications	65-74	3,963	22,638	12,521	7.4

PQI	Description	Age Group (Years)	Discharges	Mean Cost per Discharge (\$)	Median Cost per Discharge(\$)	ALOS
PQI 03	Diabetes Long-Term Complications	75+	4,148	18,926	11,219	6.9
PQI 05	COPD or Asthma in Older Adults	40-64	21,003	11,312	7,393	4.2
PQI 05	COPD or Asthma in Older Adults	65-74	11,429	12,380	8,214	5.0
PQI 05	COPD or Asthma in Older Adults	75+	14,299	12,567	8,357	5.3
PQI 07	Hypertension	18-39	662	9,813	6,244	3.0
PQI 07	Hypertension	40-64	4,108	9,552	6,441	3.0
PQI 07	Hypertension	65-74	1,651	9,763	6,459	3.3
PQI 07	Hypertension	75+	2,591	10,236	6,603	3.9
PQI 08	Heart Failure	18-39	748	17,218	10,407	5.3
PQI 08	Heart Failure	40-64	11,613	16,784	10,374	5.8
PQI 08	Heart Failure	65-74	9,889	16,071	9,635	6.0
PQI 08	Heart Failure	75+	26,479	13,650	8,813	6.0
PQI 10	Dehydration	18-39	1,389	7,980	4,948	2.9
PQI 10	Dehydration	40-64	4,729	10,155	6,236	4.1
PQI 10	Dehydration	65-74	3,426	11,855	7,013	4.9
PQI 10	Dehydration	75+	8,190	11,222	7,094	5.1
PQI 11	Bacterial Pneumonia	18-39	1,976	10,540	6,530	3.9
PQI 11	Bacterial Pneumonia	40-64	8,765	12,095	7,684	4.8
PQI 11	Bacterial Pneumonia	65-74	5,485	12,205	7,915	5.3
PQI 11	Bacterial Pneumonia	75+	13,661	12,601	8,300	5.9
PQI 12	Urinary Tract Infection	18-39	2,406	8,273	5,648	3.2
PQI 12	Urinary Tract Infection	40-64	4,404	10,354	6,741	4.2
PQI 12	Urinary Tract Infection	65-74	3,429	11,262	7,351	4.9
PQI 12	Urinary Tract Infection	75+	12,356	10,921	7,370	5.3
PQI 13	Angina Without Procedure	18-39	87	5,997	4,612	1.7
PQI 13	Angina Without Procedure	40-64	1,358	7,824	5,607	2.1
PQI 13	Angina Without Procedure	65-74	499	7,409	5,236	2.2
PQI 13	Angina Without Procedure	75+	518	7,006	5,215	2.6
PQI 14	Uncontrolled Diabetes	18-39	355	7,072	4,583	2.5
PQI 14	Uncontrolled Diabetes	40-64	1,315	8,991	5,687	3.4
PQI 14	Uncontrolled Diabetes	65-74	520	10,713	6,794	4.4
PQI 14	Uncontrolled Diabetes	75+	554	9,890	6,955	4.4
PQI 15	Asthma in Younger Adults	18-39	3,767	9,390	6,428	2.8



PQI	Description	Age Group (Years)	Discharges	Mean Cost per Discharge (\$)	Median Cost per Discharge(\$)	ALOS
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	18-39	75	51,944	28,153	15.7
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	40-64	1,131	55,082	36,428	18.4
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	65-74	645	56,201	36,639	17.6
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	75+	593	48,737	31,211	15.1
PQI 90	Prevention Quality Overall Composite	18-39	17,223	10,436	6,399	3.5
PQI 90	Prevention Quality Overall Composite	40-64	71,397	14,087	8,134	5.0
PQI 90	Prevention Quality Overall Composite	65-74	41,535	14,479	8,525	5.6
PQI 90	Prevention Quality Overall Composite	75+	83,813	12,949	8,224	5.7
PQI 91	Prevention Quality Acute Composite	18-39	5,771	8,979	5,783	3.4
PQI 91	Prevention Quality Acute Composite	40-64	17,898	11,154	7,015	4.5
PQI 91	Prevention Quality Acute Composite	65-74	12,340	11,846	7,522	5.1
PQI 91	Prevention Quality Acute Composite	75+	34,207	11,664	7,646	5.5
PQI 92	Prevention Quality Chronic Composite	18-39	11,452	11,170	6,687	3.5
PQI 92	Prevention Quality Chronic Composite	40-64	53,499	15,069	8,520	5.1
PQI 92	Prevention Quality Chronic Composite	65-74	29,196	15,594	9,040	5.8
PQI 92	Prevention Quality Chronic Composite	75+	49,609	13,838	8,673	5.8
	Total PQI Discharges	18-39	18,607	10,891	6,676	3.6
	Total PQI Discharges	40-64	73,198	14,152	8,229	5.0
	Total PQI Discharges	65-74	42,051	14,599	8,572	5.6
	Total PQI Discharges	75+	84,160	13,004	8,248	5.7
	18 and older Discharges Without Any PQI	18-39	468,407	11,570	7,215	4.6
	18 and older Discharges Without Any PQI	40-64	592,171	18,606	10,566	6.1
	18 and older Discharges Without Any PQI	65-74	260,261	21,370	12,717	6.5
	18 and older Discharges Without Any PQI	75+	386,233	19,048	11,496	6.7
	All Adult Hospital Discharges	18-39	487,014	11,544	7,197	4.5
	All Adult Hospital Discharges	40-64	665,369	18,116	10,268	6.0
	All Adult Hospital Discharges	65-74	302,312	20,428	12,054	6.4
	All Adult Hospital Discharges	75+	470,393	17,966	10,747	6.5

Table 14: PQI Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population for Acute Conditions by Patient County<sup>14</sup>, 2014

Patient County	Age-Sex-Race/Ethnicity Adjusted Rate per 100,000 Population		
	PQI 10 Dehydration	PQI 11 Bacterial Pneumonia	PQI 12 Urinary Tract Infection
Albany	84.28	122.34	123.63
Allegany	86.03	214.58	66.98
Bronx	147.97	240.50	203.75
Broome	110.28	256.71	229.73
Cattaraugus	23.54	88.45	37.50
Cayuga	149.11	370.10	153.22
Chautauqua	106.74	213.47	97.99
Chemung	165.74	475.83	303.68
Chenango	99.83	355.36	122.10
Clinton	177.37	397.21	212.66
Columbia	91.63	183.81	119.66
Cortland	204.71	485.38	145.45
Delaware	66.50	273.68	154.29
Dutchess	127.74	211.67	123.49
Erie	127.70	155.94	77.49
Essex	59.15	163.18	82.16
Franklin	22.52	64.35	29.55
Fulton	157.21	309.57	183.19
Genesee	79.37	172.76	132.94
Greene	73.83	216.75	150.43
Hamilton	56.43	213.77	41.09
Herkimer	140.25	292.62	158.95
Jefferson	139.56	226.94	159.56
Kings	107.05	175.75	146.63
Lewis	186.19	299.49	101.14
Livingston	115.32	230.71	132.31
Madison	138.93	204.80	108.54
Monroe	84.95	138.30	137.46
Montgomery	170.67	311.35	150.11
Nassau	121.73	148.91	151.59
New York	119.52	162.55	141.98
Niagara	120.61	225.96	171.48
Oneida	166.96	238.97	138.63
Onondaga	136.5	232.26	158.07

<sup>14</sup> If a county has no rate displayed there were either no cases meeting the PQI criteria or the sample was so small the rate was suppressed. Admissions for which patient data indicated an unknown or out-of-state county were excluded from the population rates.

Patient County	Age-Sex-Race/Ethnicity Adjusted Rate per 100,000 Population		
	PQI 10 Dehydration	PQI 11 Bacterial Pneumonia	PQI 12 Urinary Tract Infection
Ontario	120.63	272.89	230.59
Orange	132.04	267.23	133.19
Orleans	87.54	177.73	132.42
Oswego	175.10	284.58	152.71
Otsego	89.68	246.50	107.73
Putnam	76.88	201.17	118.71
Queens	80.88	162.30	134.95
Rensselaer	89.38	152.62	115.30
Richmond	120.40	132.96	157.29
Rockland	96.41	174.55	128.13
Saratoga	109.17	190.49	108.26
Schenectady	119.84	208.09	112.91
Schoharie	59.06	315.39	165.28
Schuyler	119.01	532.52	341.03
Seneca	115.95	204.46	230.43
St Lawrence	150.81	347.06	171.04
Statewide	114.99	193.79	146.51
Steuben	105.15	279.12	92.47
Suffolk	137.56	236.01	189.98
Sullivan	88.10	191.91	78.36
Tioga	50.56	127.74	104.10
Tompkins	65.84	81.20	87.66
Ulster	172.65	302.31	169.86
Warren	150.46	224.10	104.96
Washington	117.63	214.91	113.58
Wayne	100.63	303.41	174.85
Westchester	110.90	175.37	132.10
Wyoming	93.49	300.58	207.95
Yates	82.55	251.32	215.18

Table 15: PQI Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population for Chronic Conditions by Patient County, 2014

Patient County	Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population								PQI 16 Lower Extremity Amputation in Patients with Diabetes
	PQI 01 Diabetes Short Term Comp	PQI 03 Diabetes Long Term Comp	PQI 05 COPD or Asthma Older Adults	PQI 07 Hyper- tension	PQI 08 Heart Failure	PQI 13 Angina Without Procedure	PQI 14 Uncontrolled Diabetes	PQI 15 Asthma in Younger Adults	
Albany	54.20	83.60	418.94	43.75	261.94	1.85	7.19	44.78	12.15
Allegany	30.43	100.2	481.06	4.53	306.50	13.87	9.53	11.85	0
Bronx	88.03	197.98	788.48	93.09	393.71	22.22	25.46	144.91	28.60
Broome	80.97	139.09	481.30	59.42	404.31	23.89	19.44	83.86	16.98
Cattaraugus	19.24	27.52	177.35	10.51	76.79	10.03	2.23	19.96	8.64
Cayuga	59.41	125.44	745.49	54.53	475.30	16.70	7.27	89.74	22.55
Chautauqua	115.23	77.18	378.06	15.51	252.28	6.81	20.03	53.94	9.16
Chemung	112.98	114.17	939.39	118.69	354.44	14.69	32.30	67.34	19.82
Chenango	78.14	111.88	552.39	26.11	396.64	20.04	12.11	57.10	8.49
Clinton	121.4	95.34	837.81	50.38	394.89	7.62	21.88	66.62	17.53
Columbia	54.74	85.55	588.76	68.58	326.76	18.59	5.46	109.11	18.11
Cortland	114.48	156.7	697.55	17.99	357.58	6.97	13.78	48.87	24.48
Delaware	51.89	54.41	600.28	21.81	322.21	16.92	27.27	28.87	2.72
Dutchess	43.16	103.77	519.55	29.39	247.51	15.76	11.96	76.29	5.59
Erie	82.05	110.94	388.76	34.40	308.4	13.70	11.12	31.58	19.92
Essex	31.61	51.33	387.88	8.58	212.65	6.81	22.87	46.83	13.76
Franklin	23.41	27.68	113.73	15.92	134.90	9.88	9.09	32.71	12.92
Fulton	135.62	105.54	851.41	31.62	378.14	5.52	19.33	118.27	11.20
Genesee	67.56	100.89	420.23	42.62	373.07	20.95	9.24	47.14	16.79
Greene	70.16	101.57	479.72	57.90	341.22	11.03	14.05	33.05	10.78
Hamilton	68.64	24.20	191.48	30.14	233.68	0	0	0	0
Herkimer	71.74	122.46	573.44	36.05	392.08	9.37	6.69	82.67	16.43
Jefferson	52.64	150.11	588.18	80.68	269.20	19.61	14.36	15.22	15.60
Kings	56.59	143.80	489.84	59.45	346.49	17.12	22.35	57.36	16.46
Lewis	51.78	88.25	504.84	31.15	236.92	35.32	8.36	25.09	5.76
Livingston	67.61	79.98	316.60	15.23	282.60	7.20	12.68	49.75	4.83
Madison	116.6	106.75	656.81	26.05	279.83	21.87	11.90	37.02	22.05
Monroe	95.88	111.42	353.52	34.49	373.18	6.14	11.65	44.58	20.54
Montgomery	64.33	119.9	747.79	42.30	509.06	26.28	15.55	32.96	14.92
Nassau	43.04	107.82	390.97	71.48	284.62	14.82	21.34	43.22	14.50
New York	54.52	124.37	445.73	61.69	250.55	16.15	17.00	62.04	16.63
Niagara	105.61	135.31	728.22	42.36	407.83	44.63	39.75	34.31	15.26
Oneida	89.32	166.41	683.18	70.88	348.73	9.90	19.63	80.67	12.64
Onondaga	92.97	130.66	430.67	54.27	316.97	7.90	9.15	40.92	17.83
Ontario	81.71	70.70	578.34	32.75	326.01	12.25	20.44	51.29	10.89
Orange	64.79	102.22	608.05	89.01	400.33	17.4	23.30	83.32	12.05

Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population									
Patient County	PQI 01 Diabetes Short Term Comp	PQI 03 Diabetes Long Term Comp	PQI 05 COPD or Asthma Older Adults	PQI 07 Hyper- tension	PQI 08 Heart Failure	PQI 13 Angina Without Procedure	PQI 14 Uncontrolled Diabetes	PQI 15 Asthma in Younger Adults	PQI 16 Lower Extremity Amputation in Patients with Diabetes
Orleans	61.72	83.62	494.46	29.20	481.57	27.48	13.01	0	17.39
Oswego	107.39	157.94	677.76	77.65	405.41	20.83	17.40	43.92	32.23
Otsego	57.78	116.88	682.51	56.33	370.45	22.07	20.18	34.74	27.07
Putnam	34.49	60.50	399.14	30.43	300.78	7.44	5.80	46.23	3.04
Queens	49.28	108.05	364.63	50.51	267.76	15.67	13.87	41.30	12.33
Rensselaer	54.94	71.95	438.53	21.82	262.01	4.80	2.38	37.08	15.52
Richmond	58.26	189.96	647.55	105.41	325.78	12.33	27.10	103.61	9.98
Rockland	30.61	98.71	391.88	23.82	233.16	12.14	11.81	45.34	7.40
Saratoga	46.97	63.07	397.73	17.97	269.24	9.01	3.81	44.89	15.47
Schenectady	65.26	77.76	509.19	37.59	323.45	11.49	7.72	31.42	22.01
Schoharie	40.59	49.12	620.08	36.85	377.70	0	0	56.49	0
Schuyler	79.88	81.58	1,057.46	29.06	229.50	14.88	31.96	75.37	22.50
Seneca	185.48	84.07	573.57	41.46	283.49	16.73	37.49	14.63	20.87
St Lawrence	93.55	134.66	899.42	41.31	418.65	18.43	25.94	66.49	17.42
Statewide	63.12	124.20	493.05	58.43	315.96	15.96	17.79	63.37	15.85
Steuben	113.22	114.96	621.69	58.18	313.54	10.62	12.61	34.49	9.08
Suffolk	57.15	122.44	540.11	78.06	355.47	19.33	14.74	61.98	15.61
Sullivan	75.06	78.27	540.46	50.99	331.76	27.37	7.78	63.35	13.28
Tioga	76.69	65.39	229.08	35.77	172.55	6.00	4.28	60.03	6.01
Tompkins	45.37	49.48	263.26	30.32	188.54	10.80	15.04	10.22	7.41
Ulster	46.59	109.07	614.73	48.43	337.95	24.66	11.74	31.20	8.24
Warren	58.72	116.38	721.41	22.05	368.30	10.70	12.05	107.27	10.65
Washington	72.43	104.45	665.52	26.58	340.51	11.63	12.44	28.31	11.65
Wayne	65.50	119.19	622.01	35.11	529.82	4.86	12.88	40.91	12.78
Westchester	49.03	93.80	393.26	40.37	270.52	17.63	17.30	51.40	10.47
Wyoming	66.20	65.96	777.29	60.42	252.24	46.04	12.92	12.08	7.13
Yates	55.26	27.10	543.54	32.87	274.83	18.73	26.93	52.94	12.33

Table 16: PQI Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population for Composites by Patient County, 2014

Patient County	Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population		
	PQI 90	PQI 91	PQI 92
	Overall Composite	Acute Composite	Chronic Composite
Albany	1,066.14	329.88	738.05
Allegany	1,163.69	371.76	793.93
Bronx	2,002.07	593.57	1,396.06
Broome	1,677.51	597.23	1,071.06
Cattaraugus	423.57	150.85	270.83
Cayuga	1,946.20	677.65	1,261.97
Chautauqua	1,171.15	419.71	744.35
Chemung	2,331.65	947.72	1,357.02
Chenango	1,627.75	585.67	1,033.02
Clinton	2,072.64	792.03	1,265.90
Columbia	1,367.66	396.13	979.25
Cortland	2,021.55	842.31	1,147.62
Delaware	1,409.50	497.69	905.95
Dutchess	1,272.45	464.14	805.64
Erie	1,185.62	361.55	826.6
Essex	919.62	306.89	611.85
Franklin	430.12	117.39	314.42
Fulton	1,920.07	651.95	1,263.80
Genesee	1,291.99	385.35	913.58
Greene	1,355.10	441.73	913.73
Hamilton	810.78	320.85	481.21
Herkimer	1,654.47	594.11	1,049.35
Jefferson	1,482.42	526.43	950.82
Kings	1,412.08	429.7	977.22
Lewis	1,410.60	594.28	792.41
Livingston	1,187.41	480.08	692.84
Madison	1,466.10	454.39	1,016.07
Monroe	1,242.24	360.23	885.21
Montgomery	1,933.16	632.39	1,301.21
Nassau	1,232.11	421.81	809.12
New York	1,259.26	424.66	835.05
Niagara	1,763.74	518.14	1,254.11
Oneida	1,700.65	544.81	1,158.20
Onondaga	1,437.62	527.1	904.35
Ontario	1,583.59	623.6	942.08
Orange	1,643.05	534.29	1,109.24
Orleans	1,414.27	397.8	1,024.58
Oswego	1,859.73	615.53	1,243.36
Otsego	1,539.25	446.31	1,105
Putnam	1,112.43	398.75	710.54

Patient County	Age-Sex-Race/Ethnicity Adjusted Rates per 100,000 Population		
	PQI 90 Overall Composite	PQI 91 Acute Composite	PQI 92 Chronic Composite
Queens	1,132.22	378.61	754.17
Rensselaer	1,082.17	357.3	724.6
Richmond	1,567.25	409.38	1,161.26
Rockland	1,074.88	399.14	674.61
Saratoga	1,111.11	409.76	694.43
Schenectady	1,317.35	441.04	875.22
Schoharie	1,491.26	544.51	938.82
Schuyler	2,226.24	996.71	1,183.54
Seneca	1,576.40	546.5	1,025.59
St Lawrence	2,017.88	672.77	1,343.42
Statewide	1,387.39	455.29	932.13
Steuben	1,508.95	482.49	1,028.67
Suffolk	1,579.72	563.32	1,013.10
Sullivan	1,297.77	362.08	937.75
Tioga	799.98	282.08	514.63
Tompkins	741.48	234.54	508.32
Ulster	1,643.68	647.06	985.26
Warren	1,578.33	482.06	1,102.82
Washington	1,460.96	448.85	1,017.03
Wayne	1,780.43	581.96	1,198.79
Westchester	1,175.41	418.33	756.39
Wyoming	1,616.49	603.08	1,006.14
Yates	1,389.12	548.68	821.68

Table 17: PQI Observed Rates per 100,000 Population and Observed to Expected Ratios, by Region for Selected Adult Indicators, 2013-2014

PQI	Description	Region	2013		2014	
			Observed Rate	O/E Ratio	Observed Rate	O/E Ratio
PQI 01	Diabetes Short-Term Complications	Statewide	62.62	1.00	63.12	1.00
PQI 07	Hypertension	Statewide	64.78	1.00	58.43	1.00
PQI 13	Angina Without Procedure	Statewide	17.98	1.00	15.96	1.00
PQI 15	Asthma in Younger Adults	Statewide	63.75	1.00	63.37	1.00
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Statewide	15.35	1.00	15.85	1.00
PQI 01	Diabetes Short-Term Complications	Central NY	69.31	1.34	72.83	1.35
PQI 07	Hypertension	Central NY	30.64	0.69	38.21	0.94
PQI 13	Angina Without Procedure	Central NY	11.74	0.77	10.52	0.80
PQI 15	Asthma in Younger Adults	Central NY	35.20	0.76	33.70	0.73
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Central NY	14.30	1.17	14.28	1.11
PQI 01	Diabetes Short-Term Complications	Finger Lakes	80.47	1.47	85.61	1.51
PQI 07	Hypertension	Finger Lakes	35.27	0.70	32.22	0.70
PQI 13	Angina Without Procedure	Finger Lakes	10.12	0.62	7.26	0.51
PQI 15	Asthma in Younger Adults	Finger Lakes	44.64	0.86	36.97	0.72

PQI	Description	Region	2013		2014	
			Observed Rate	O/E Ratio	Observed Rate	O/E Ratio
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Finger Lakes	18.64	1.39	15.51	1.10
PQI 01	Diabetes Short-Term Complications	Long Island	43.89	0.80	44.43	0.80
PQI 07	Hypertension	Long Island	67.50	1.20	65.50	1.28
PQI 13	Angina Without Procedure	Long Island	22.60	1.30	16.34	1.07
PQI 15	Asthma in Younger Adults	Long Island	54.84	0.94	47.82	0.84
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Long Island	12.71	0.89	14.18	0.95
PQI 01	Diabetes Short-Term Complications	Mid-Hudson	44.11	0.75	45.79	0.77
PQI 07	Hypertension	Mid-Hudson	44.79	0.75	40.95	0.76
PQI 13	Angina Without Procedure	Mid-Hudson	18.28	1.02	16.76	1.07
PQI 15	Asthma in Younger Adults	Mid-Hudson	49.49	0.79	55.39	0.91
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Mid-Hudson	10.50	0.70	9.11	0.59
PQI 01	Diabetes Short-Term Complications	New York City	67.82	0.93	69.09	0.95
PQI 07	Hypertension	New York City	92.97	1.15	80.63	1.12
PQI 13	Angina Without Procedure	New York City	19.55	1.01	19.02	1.08
PQI 15	Asthma in Younger Adults	New York City	86.97	1.17	87.63	1.17
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	New York City	18.04	1.04	19.32	1.09
PQI 01	Diabetes Short-Term Complications	Northeast NY	64.40	1.24	51.40	0.96
PQI 07	Hypertension	Northeast NY	31.74	0.67	25.83	0.60
PQI 13	Angina Without Procedure	Northeast NY	8.29	0.51	7.97	0.56
PQI 15	Asthma in Younger Adults	Northeast NY	30.23	0.63	34.61	0.74
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Northeast NY	13.99	1.06	12.62	0.91
PQI 01	Diabetes Short-Term Complications	NY-Penn	59.72	1.26	63.18	1.27
PQI 07	Hypertension	NY-Penn	48.70	1.11	35.19	0.86
PQI 13	Angina Without Procedure	NY-Penn	15.67	1.00	17.38	1.27
PQI 15	Asthma in Younger Adults	NY-Penn	38.57	0.92	50.84	1.22
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	NY-Penn	8.05	0.65	11.45	0.86
PQI 01	Diabetes Short-Term Complications	Western NY	73.34	1.33	74.02	1.30
PQI 07	Hypertension	Western NY	28.79	0.54	27.77	0.57
PQI 13	Angina Without Procedure	Western NY	23.02	1.35	17.42	1.18
PQI 15	Asthma in Younger Adults	Western NY	29.74	0.58	25.60	0.50
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Western NY	13.53	0.96	15.61	1.06



Table 18: PQI Observed Rates per 100,000 Population and Observed to Expected Ratios, by Region for Adult Composites, 2013-2014

PQI	PQI Description	Region	2013		2014	
			Observed Rate	O/E Ratio	Observed Rate	O/E Ratio
PQI 90	Prevention Quality Overall Composite	Statewide	1476.20	1.00	1387.39	1.00
PQI 91	Prevention Quality Acute Composite	Statewide	503.07	1.00	455.29	1.00
PQI 92	Prevention Quality Chronic Composite	Statewide	973.15	1.00	932.13	1.00
PQI 90	Prevention Quality Overall Composite	Central NY	1496.95	1.14	1424.17	1.14
PQI 91	Prevention Quality Acute Composite	Central NY	599.57	1.23	543.25	1.21
PQI 92	Prevention Quality Chronic Composite	Central NY	897.37	1.08	880.92	1.10
PQI 90	Prevention Quality Overall Composite	Finger Lakes	1415.82	1.01	1367.22	1.03
PQI 91	Prevention Quality Acute Composite	Finger Lakes	500.53	0.99	485.54	1.04
PQI 92	Prevention Quality Chronic Composite	Finger Lakes	915.29	1.03	881.68	1.02
PQI 90	Prevention Quality Overall Composite	Long Island	1471.03	1.02	1389.91	1.01
PQI 91	Prevention Quality Acute Composite	Long Island	539.47	1.05	509.39	1.08
PQI 92	Prevention Quality Chronic Composite	Long Island	931.56	1.00	880.53	0.98
PQI 90	Prevention Quality Overall Composite	Mid-Hudson	1318.78	0.90	1271.46	0.92
PQI 91	Prevention Quality Acute Composite	Mid-Hudson	485.44	0.96	461.83	1.00
PQI 92	Prevention Quality Chronic Composite	Mid-Hudson	833.39	0.87	809.69	0.88
PQI 90	Prevention Quality Overall Composite	New York City	1561.71	1.01	1464.49	1.02
PQI 91	Prevention Quality Acute Composite	New York City	478.16	0.97	419.88	0.96
PQI 92	Prevention Quality Chronic Composite	New York City	1083.55	1.03	1044.66	1.04
PQI 90	Prevention Quality Overall Composite	Northeast NY	1385.04	1.00	1218.08	0.92
PQI 91	Prevention Quality Acute Composite	Northeast NY	516.23	1.01	439.80	0.93
PQI 92	Prevention Quality Chronic Composite	Northeast NY	868.98	0.99	778.28	0.92
PQI 90	Prevention Quality Overall Composite	NY-Penn	1580.55	1.13	1482.72	1.10
PQI 91	Prevention Quality Acute Composite	NY-Penn	672.12	1.27	592.33	1.20
PQI 92	Prevention Quality Chronic Composite	NY-Penn	908.44	1.05	890.40	1.05
PQI 90	Prevention Quality Overall Composite	Western NY	1353.02	0.91	1264.03	0.90
PQI 91	Prevention Quality Acute Composite	Western NY	462.88	0.86	420.88	0.85
PQI 92	Prevention Quality Chronic Composite	Western NY	890.13	0.94	843.15	0.93

Table 19: PQI Rates per 100,000 Population by Gender with Ranking, 2014

Rank	Observed Rate Per 100,000 Population		
	Female	Male	Overall
1	COPD or Asthma in Older Adults 559.21	COPD or Asthma in Older Adults 416.53	COPD or Asthma in Older Adults 493.05
2	Heart Failure 298.98	Heart Failure 334.53	Heart Failure 315.96
3	Urinary Tract Infection 203.80	Bacterial Pneumonia 194.10	Bacterial Pneumonia 193.79
4	Bacterial Pneumonia 193.51	Diabetes Long-Term Complications 152.54	Urinary Tract Infection 146.51
5	Dehydration 124.11	Dehydration 105.02	Diabetes Long-Term Complications 124.20
6	Diabetes Long-Term Complications 98.28	Urinary Tract Infection 83.88	Dehydration 114.99
7	Asthma in Younger Adults 83.96	Diabetes Short-Term Complications 69.86	Asthma in Younger Adults 63.37
8	Hypertension 63.73	Hypertension 52.65	Diabetes Short-Term Complications 63.12
9	Diabetes Short-Term Complications 56.96	Asthma in Younger Adults 42.79	Hypertension 58.43
10	Uncontrolled Diabetes 16.26	Lower-Extremity Amputation among Patients with Diabetes 21.69	Uncontrolled Diabetes 17.79
11	Angina Without Procedure 14.87	Uncontrolled Diabetes 19.46	Angina Without Procedure 15.96
12	Lower-Extremity Amputation among Patients with Diabetes 10.5	Angina Without Procedure 17.16	Lower-Extremity Amputation among Patients with Diabetes 15.85

Table 20: PQI Rates per 100,000 Population by Age Grouping with Ranking, 2014

Observed Rate Per 100,000 Population				
Rank	18-39	40-64	65-74	75+
1	Diabetes Short-Term Complications 68.74	COPD or Asthma in Older Adults 318.33	COPD or Asthma in Older Adults 720.48	Heart Failure 2046.50
2	Asthma in Younger Adults 63.37	Heart Failure 176.01	Heart Failure 623.39	COPD or Asthma in Older Adults 1105.14
3	Urinary Tract Infection 40.48	Diabetes Long-Term Complications 141.46	Bacterial Pneumonia 345.77	Bacterial Pneumonia 1055.83
4	Bacterial Pneumonia 33.24	Bacterial Pneumonia 132.85	Diabetes Long-Term Complications 249.82	Urinary Tract Infection 954.97
5	Diabetes Long-Term Complications 28.78	Dehydration 71.67	Urinary Tract Infection 216.16	Dehydration 632.99
6	Dehydration 23.37	Urinary Tract Infection 66.75	Dehydration 215.97	Diabetes Long-Term Complications 320.59
7	Heart Failure 12.58	Diabetes Short-Term Complications 63.14	Hypertension 104.08	Hypertension 200.25
8	Hypertension 11.14	Hypertension 62.26	Diabetes Short-Term Complications 53.21	Diabetes Short-Term Complications 49.39
9	Uncontrolled Diabetes 5.97	Angina Without Procedure 20.58	Lower-Extremity Amputation among Patients with Diabetes 40.66	Lower-Extremity Amputation among Patients with Diabetes 45.83
10	Angina Without Procedure 1.46	Uncontrolled Diabetes 19.93	Uncontrolled Diabetes 32.78	Uncontrolled Diabetes 42.82
11	Lower-Extremity Amputation among Patients with Diabetes 1.26	Lower-Extremity Amputation among Patients with Diabetes 17.14	Angina Without Procedure 31.46	Angina Without Procedure 40.04

Please note in the table above only 11 indicators are ranked because Asthma in Younger Adults applies to patients 18-39 years; and COPD or Asthma in Older Adults applies to patients older than 39 years.

Table 21: PQI Eligible Populations, Discharges, Observed Rates per 100,000 population, by Gender and Age Group with National Benchmark, 2014

PQI	Description	Group	Adult Population	Discharges	Statewide Rate	National Benchmark Rate
PQI 01	Diabetes Short-Term Complications	Overall	15,422,348	9,735	63.12	63.86
PQI 01	Diabetes Short-Term Complications	Female	8,054,371	4,588	56.96	60.63
PQI 01	Diabetes Short-Term Complications	Male	7,367,977	5,147	69.86	67.28
PQI 01	Diabetes Short-Term Complications	18-39	5,944,327	4,086	68.74	78.58
PQI 01	Diabetes Short-Term Complications	40-64	6,597,840	4,166	63.14	61.75
PQI 01	Diabetes Short-Term Complications	65-74	1,586,314	844	53.21	40.15
PQI 01	Diabetes Short-Term Complications	75+	1,293,867	639	49.39	35.29
PQI 02	Perforated Appendix (Rate per 1000 discharges)	Overall	12,475	4,056	325.13	323.43
PQI 02	Perforated Appendix	Female	5,846	1,797	307.39	298.09
PQI 02	Perforated Appendix	Male	6,629	2,259	340.78	346.42
PQI 02	Perforated Appendix	18-39	6,202	1,384	223.15	208.42
PQI 02	Perforated Appendix	40-64	4,668	1,803	386.25	387.90
PQI 02	Perforated Appendix	65-74	976	520	532.79	505.47
PQI 02	Perforated Appendix	75+	629	349	554.85	541.39
PQI 03	Diabetes Long-Term Complications	Overall	15,422,348	19,155	124.20	105.72
PQI 03	Diabetes Long-Term Complications	Female	8,054,371	7,916	98.28	90.34
PQI 03	Diabetes Long-Term Complications	Male	7,367,977	11,239	152.54	121.97
PQI 03	Diabetes Long-Term Complications	18-39	5,944,327	1,711	28.78	29.46
PQI 03	Diabetes Long-Term Complications	40-64	6,597,840	9,333	141.46	123.13
PQI 03	Diabetes Long-Term Complications	65-74	1,586,314	3,963	249.82	201.00
PQI 03	Diabetes Long-Term Complications	75+	1,293,867	4,148	320.59	253.17
PQI 05	COPD or Asthma in Older Adults	Overall	9,478,021	46,731	493.05	495.71
PQI 05	COPD or Asthma in Older Adults	Female	5,082,698	28,423	559.21	569.11
PQI 05	COPD or Asthma in Older Adults	Male	4,395,323	18,308	416.53	414.27
PQI 05	COPD or Asthma in Older Adults	40-64	6,597,840	21,003	318.33	298.89
PQI 05	COPD or Asthma in Older Adults	65-74	1,586,314	11,429	720.48	802.14
PQI 05	COPD or Asthma in Older Adults	75+	1,293,867	14,299	1,105.14	1,182.43
PQI 07	Hypertension	Overall	15,422,348	9,012	58.43	54.27
PQI 07	Hypertension	Female	8,054,371	5,133	63.73	62.90
PQI 07	Hypertension	Male	7,367,977	3,879	52.65	45.15
PQI 07	Hypertension	18-39	5,944,327	662	11.14	12.00
PQI 07	Hypertension	40-64	6,597,840	4,108	62.26	58.41

PQI	Description	Group	Adult Population	Discharges	Statewide Rate	National Benchmark Rate
PQI 07	Hypertension	65-74	1,586,314	1,651	104.08	91.29
PQI 07	Hypertension	75+	1,293,867	2,591	200.25	185.66
PQI 08	Heart Failure	Overall	15,422,348	48,729	315.96	321.38
PQI 08	Heart Failure	Female	8,054,371	24,081	298.98	312.92
PQI 08	Heart Failure	Male	7,367,977	24,648	334.53	330.31
PQI 08	Heart Failure	18-39	5,944,327	748	12.58	18.50
PQI 08	Heart Failure	40-64	6,597,840	11,613	176.01	186.74
PQI 08	Heart Failure	65-74	1,586,314	9,889	623.39	655.21
PQI 08	Heart Failure	75+	1,293,867	26,479	2,046.50	2,069.91
PQI 10	Dehydration	Overall	15,422,348	17,734	114.99	135.70
PQI 10	Dehydration	Female	8,054,371	9,996	124.11	150.27
PQI 10	Dehydration	Male	7,367,977	7,738	105.02	120.31
PQI 10	Dehydration	18-39	5,944,327	1,389	23.37	27.83
PQI 10	Dehydration	40-64	6,597,840	4,729	71.67	88.02
PQI 10	Dehydration	65-74	1,586,314	3,426	215.97	261.10
PQI 10	Dehydration	75+	1,293,867	8,190	632.99	749.16
PQI 11	Bacterial Pneumonia	Overall	15,422,348	29,887	193.79	248.19
PQI 11	Bacterial Pneumonia	Female	8,054,371	15,586	193.51	258.79
PQI 11	Bacterial Pneumonia	Male	7,367,977	14,301	194.10	236.99
PQI 11	Bacterial Pneumonia	18-39	5,944,327	1,976	33.24	44.49
PQI 11	Bacterial Pneumonia	40-64	6,597,840	8,765	132.85	163.33
PQI 11	Bacterial Pneumonia	65-74	1,586,314	5,485	345.77	479.02
PQI 11	Bacterial Pneumonia	75+	1,293,867	13,661	1,055.83	1,385.61
PQI 12	Urinary Tract Infection	Overall	15,422,348	22,595	146.51	167.01
PQI 12	Urinary Tract Infection	Female	8,054,371	16,415	203.80	238.13
PQI 12	Urinary Tract Infection	Male	7,367,977	6,180	83.88	91.86
PQI 12	Urinary Tract Infection	18-39	5,944,327	2,406	40.48	48.19
PQI 12	Urinary Tract Infection	40-64	6,597,840	4,404	66.75	78.89
PQI 12	Urinary Tract Infection	65-74	1,586,314	3,429	216.16	259.31
PQI 12	Urinary Tract Infection	75+	1,293,867	12,356	954.97	1,093.52
PQI 13	Angina Without Procedure	Overall	15,422,348	2,462	15.96	13.34
PQI 13	Angina Without Procedure	Female	8,054,371	1,198	14.87	13.49
PQI 13	Angina Without Procedure	Male	7,367,977	1,264	17.16	13.19

PQI	Description	Group	Adult Population	Discharges	Statewide Rate	National Benchmark Rate
PQI 13	Angina Without Procedure	18-39	5,944,327	87	1.46	1.33
PQI 13	Angina Without Procedure	40-64	6,597,840	1,358	20.58	15.94
PQI 13	Angina Without Procedure	65-74	1,586,314	499	31.46	26.69
PQI 13	Angina Without Procedure	75+	1,293,867	518	40.04	39.43
PQI 14	Uncontrolled Diabetes	Overall	15,422,348	2,744	17.79	15.72
PQI 14	Uncontrolled Diabetes	Female	8,054,371	1,310	16.26	15.35
PQI 14	Uncontrolled Diabetes	Male	7,367,977	1,434	19.46	16.12
PQI 14	Uncontrolled Diabetes	18-39	5,944,327	355	5.97	6.78
PQI 14	Uncontrolled Diabetes	40-64	6,597,840	1,315	19.93	18.60
PQI 14	Uncontrolled Diabetes	65-74	1,586,314	520	32.78	24.62
PQI 14	Uncontrolled Diabetes	75+	1,293,867	554	42.82	31.33
PQI 15	Asthma in Younger Adults	Overall	5,944,327	3,767	63.37	46.02
PQI 15	Asthma in Younger Adults	Female	2,971,673	2,495	83.96	62.35
PQI 15	Asthma in Younger Adults	Male	2,972,654	1,272	42.79	30.08
PQI 15	Asthma in Younger Adults	18-39	5,944,327	3,767	63.37	46.02
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Overall	15,422,348	2,444	15.85	15.50
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Female	8,054,371	846	10.50	9.91
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Male	7,367,977	1,598	21.69	21.41
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	18-39	5,944,327	75	1.26	1.23
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	40-64	6,597,840	1,131	17.14	17.55
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	65-74	1,586,314	645	40.66	39.18
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	75+	1,293,867	593	45.83	42.36
PQI 90	Prevention Quality Overall Composite	Overall	15,422,348	213,968	1,387.39	1,457.50
PQI 90	Prevention Quality Overall Composite	Female	8,054,371	117,663	1,460.86	1,591.40
PQI 90	Prevention Quality Overall Composite	Male	7,367,977	96,305	1,307.08	1,316.03
PQI 90	Prevention Quality Overall Composite	18-39	5,944,327	17,223	289.74	313.72
PQI 90	Prevention Quality Overall Composite	40-64	6,597,840	71,397	1,082.13	1,102.61
PQI 90	Prevention Quality Overall Composite	65-74	1,586,314	41,535	2,618.33	2,861.16

PQI	Description	Group	Adult Population	Discharges	Statewide Rate	National Benchmark Rate
PQI 90	Prevention Quality Overall Composite	75+	1,293,867	83,813	6,477.71	7,034.55
PQI 91	Prevention Quality Acute Composite	Overall	15,422,348	70,216	455.29	550.87
PQI 91	Prevention Quality Acute Composite	Female	8,054,371	41,997	521.42	647.14
PQI 91	Prevention Quality Acute Composite	Male	7,367,977	28,219	383.00	449.14
PQI 91	Prevention Quality Acute Composite	18-39	5,944,327	5,771	97.08	120.51
PQI 91	Prevention Quality Acute Composite	40-64	6,597,840	17,898	271.27	330.24
PQI 91	Prevention Quality Acute Composite	65-74	1,586,314	12,340	777.90	999.32
PQI 91	Prevention Quality Acute Composite	75+	1,293,867	34,207	2,643.78	3,225.79
PQI 92	Prevention Quality Chronic Composite	Overall	15,422,348	143,756	932.13	906.94
PQI 92	Prevention Quality Chronic Composite	Female	8,054,371	75,668	939.47	944.61
PQI 92	Prevention Quality Chronic Composite	Male	7,367,977	68,088	924.11	867.14
PQI 92	Prevention Quality Chronic Composite	18-39	5,944,327	11,452	192.65	193.22
PQI 92	Prevention Quality Chronic Composite	40-64	6,597,840	53,499	810.86	772.44
PQI 92	Prevention Quality Chronic Composite	65-74	1,586,314	29,196	1,840.49	1,862.99
PQI 92	Prevention Quality Chronic Composite	75+	1,293,867	49,609	3,834.17	3,820.03

The statistics within this table were generated by applying the inpatient logic for adult PQIs to treat and release emergency department visits. This was done to identify the frequency with which similar clinical conditions are treated in both inpatient and emergency room settings.

Table 22: PQI Age-Sex-Race/Ethnicity Adjusted Rates by per 100,000 Population and Percent Change Over Time, by Inpatient and Emergency Room, 2010-2014

PQI	Description	Inpatient		Emergency Room		Percent Difference	
		2010	2014	2010	2014	Inpatient	ER
PQI 90	Prevention Quality Overall Composite	1,595.10	1,405.31	2,013.37	2,275.84	-11.90%	13.04%
<b>Acute Conditions</b>							
PQI 10	Dehydration	125.50	117.44	102.02	114.28	-6.42%	12.0%
PQI 11	Bacterial Pneumonia	248.70	196.59	119.23	148.15	-20.95%	24.25%
PQI 12	Urinary Tract Infection	175.40	149.05	648.80	754.56	-15.02%	16.30%
PQI 91	Prevention Quality Acute Composite	549.50	463.08	870.05	1,016.99	-15.73%	16.89%
<b>Chronic Conditions</b>							
PQI 01	Diabetes Short-Term Complications	56.40	65.72	3.98	5.86	16.52%	47.09%
PQI 03	Diabetes Long-Term Complications	144.90	124.65	98.73	94.10	-13.98%	-4.69%
PQI 05	COPD or Asthma in Older Adults	535.00	498.49	670.38	793.62	-6.82%	18.38%
PQI 07	Hypertension	77.00	59.37	247.86	268.60	-22.89%	8.37%
PQI 08	Heart Failure	344.30	317.62	34.99	47.21	-7.75%	34.92%
PQI 13	Angina Without Procedure	27.10	16.21	33.48	30.47	-40.18%	-8.98%
PQI 14	Uncontrolled Diabetes	31.20	17.99	24.79	23.13	-42.33%	-6.67%
PQI 15	Asthma in Younger Adults	74.40	66.38	745.75	782.89	-10.78%	4.98%
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	14.00	15.58	0.00	0.00	11.31%	0.00%
PQI 92	Prevention Quality Chronic Composite	1,045.60	942.26	1,143.32	1,258.85	-9.88%	10.11%

\*Rates risk adjusted by gender, age group, and race/ethnicity. The rates are risk adjusted using the 2010 Population; therefore the 2010 rates are also the observed rates.



Chart 1: PQI Inpatient Risk Adjusted Rates per 100,000 Population, 2010-2014

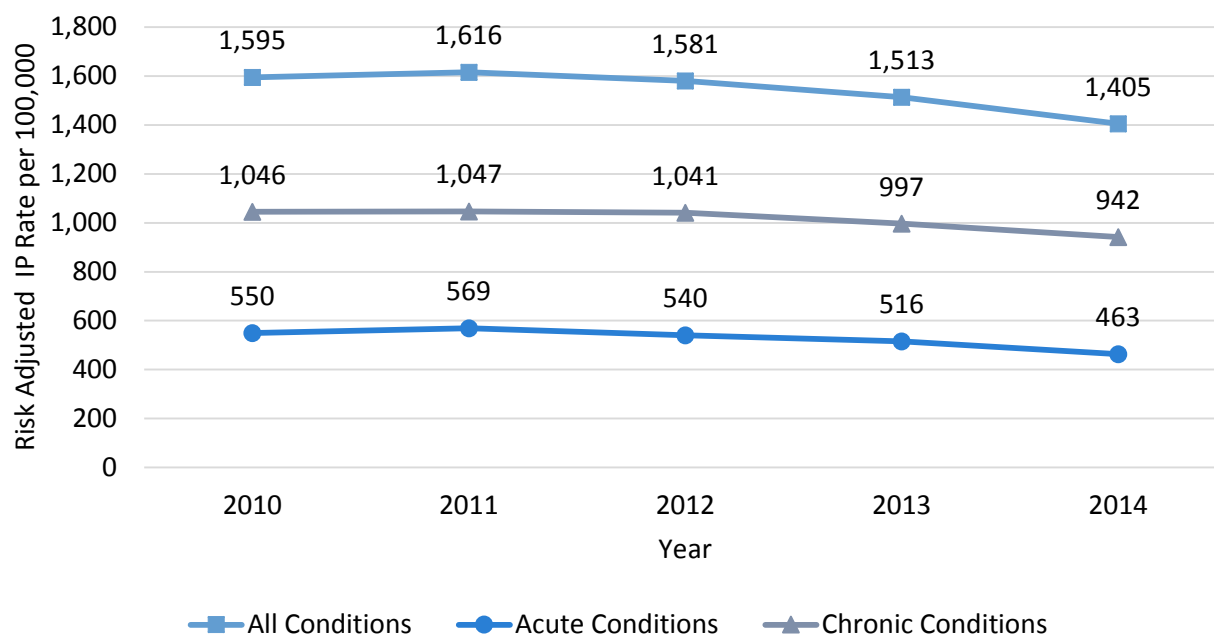


Chart 2: PQI Emergency Room Risk Adjusted Rates per 100,000 Population, 2010-2014

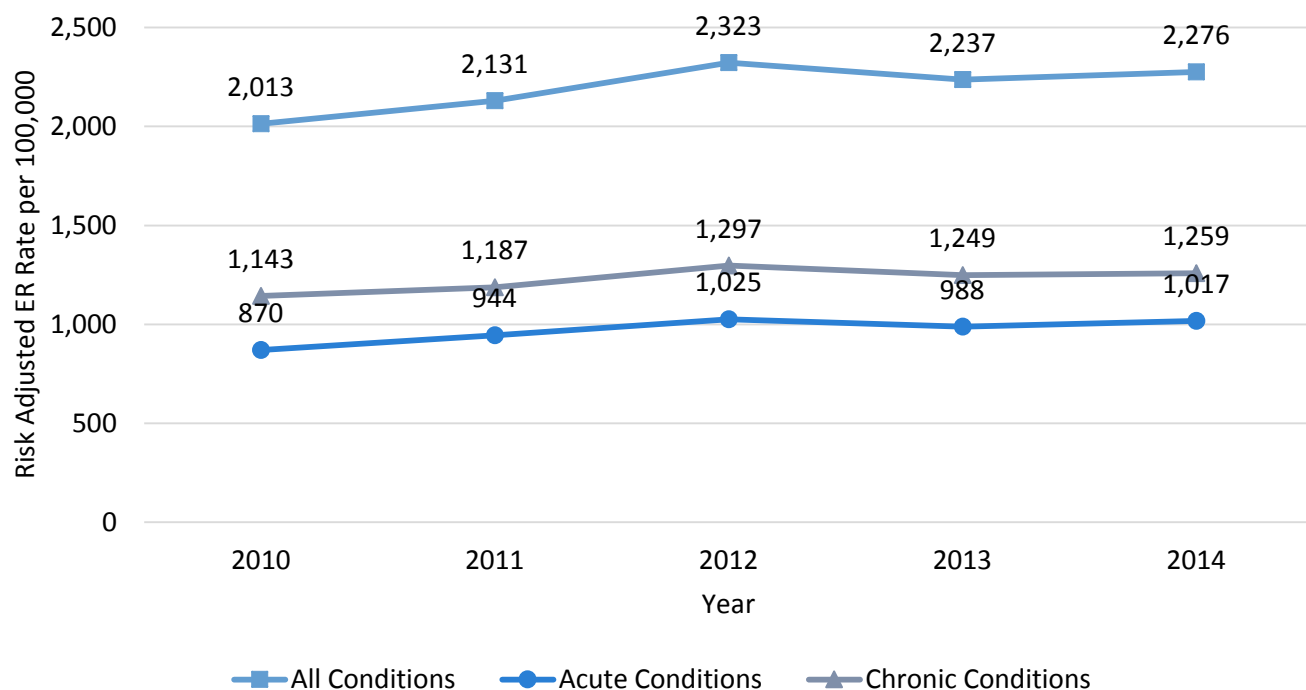


Chart 1 and Chart 2 on this page show that since 2010 there has been a decrease (-12%) in inpatient care services and an increase (+13%) in emergency room based care for similar clinical conditions. Similar acute care conditions treated on an inpatient basis have declined (-16%) and increased (+17%) in the emergency room; and similar chronic health conditions have decreased (-10%) on the inpatient side and increased (+10%) in emergency rooms.

### 3M™ POTENTIALLY PREVENTABLE VISITS (PPV)

#### DESCRIPTION

The rate of Potentially Preventable Emergency Room Visits (PPVs) are a measure that reflect both the quality of patient care and the opportunity to target potentially avoidable costs. PPVs are ER visits for conditions that may have been avoided with adequate patient monitoring and follow-up. PPVs can indicate poor quality or access to primary care or care coordination. PPVs represent a substantial portion of all New York State (NYS) emergency room (ER) visits. It is important to note that PPVs are a population-based quality measure and do not reflect the care provided at a specific facility. High rates of PPVs can help to identify the regions and conditions where resources should be targeted to improve patient quality and reduce costs.

With increasing incentives to contain healthcare costs and improve population health, monitoring and reducing non-emergent emergency room visits as a community health performance-based quality metric has attracted increased attention. Although eliminating every ER visit for ambulatory sensitive conditions may not be feasible, avoiding a fraction of these visits can aid efforts in promoting prevention and management of diseases and conditions through primary and preventive care services. A shift to primary care disease management improves health on both the individual and population levels; and indirectly results in significant savings.

#### FINDINGS

- In 2014, 74% of ER visits in NYS were considered potentially preventable. Statewide, there were 242.66 PPVs per 1,000 NYS residents (Table 23).
- The average cost per potentially preventable visit in 2014 was \$826, compared to a \$985 average cost for all non-PPV visits in 2014 (Table 24).
- Some of the most common conditions to result in a PPV were sprains, strains, joint disorders, upper respiratory infections, ear infections, and abdominal pain (Table 24).
- The number of ER visits have increased by 6% from 2011-2014, while PPV rate per visit decreased by 2% (Chart 3).
- In 2014, ER visits that were primarily paid by Medicare and Medicaid had the highest PPV rate with 75.73 and 74.73 PPVs per 100 eligible visits respectively (Table 25).
- In 2014 the highest rate of PPVs was found in NYC, where there were 275.80 PPVs per 1,000 residents. The lowest rate occurred on Long Island where there were 188.53 PPVs per 1,000 residents (Table 26).

## TABLES

Table 23: PPV Eligible Visits, PPV Visits, PPV Rate per 100 Visits and PPV Rate per 1000 Population by Selected Patient Demographics, 2014

Characteristic	Level	Eligible Visits (N)	PPVs (N)	Eligible Visits (%)	PPV Rate per 100 Visits	PPV Rate per 1000 Population
Gender	Female	3,684,961	2,726,751	54.68	74.00	269.10
	Male	3,054,500	2,231,116	45.32	73.04	233.83
	Unknown	104	70	0.00	67.31	-
Age (in Years)	Newborn	80,938	65,420	1.20	80.83	289.19
	1-17	1,307,278	946,716	19.40	72.42	235.15
	18-44	2,912,207	2,081,262	43.21	71.47	287.97
	45-64	1,598,595	1,234,090	23.72	77.20	232.20
	65+	840,547	630,449	12.47	75.00	218.89
Ethnicity	Hispanic	1,299,984	987,341	19.29	75.95	266.86
	Non-Hispanic	5,092,794	3,708,504	75.57	72.82	232.15
	Unknown	346,787	262,092	5.15	75.58	-
Race	White	3,101,296	2,260,029	46.02	72.87	178.09
	Black	1,762,308	1,310,082	26.15	74.34	417.78
	Asian/Pacific Islander	174,073	126,772	2.58	72.83	82.45
	Other/Unknown	1,701,888	1,261,054	25.25	74.10	545.70
Residence	New York City	3,127,686	2,326,688	46.41	74.39	275.80
	Rest of State	3,359,331	2,447,585	49.84	72.86	217.79
	Other	252,548	183,664	3.75	72.72	-
<b>Total</b>		<b>6,739,565</b>	<b>4,957,937</b>	<b>100.00</b>	<b>73.56</b>	<b>242.66</b>

\*Visits for which patient data indicated an unknown or out-of-state county were excluded from residence and region population rates.

Chart 3: Total PPV Eligible ER Visits and PPV Rate per 100 Eligible Visits, 2011-2014

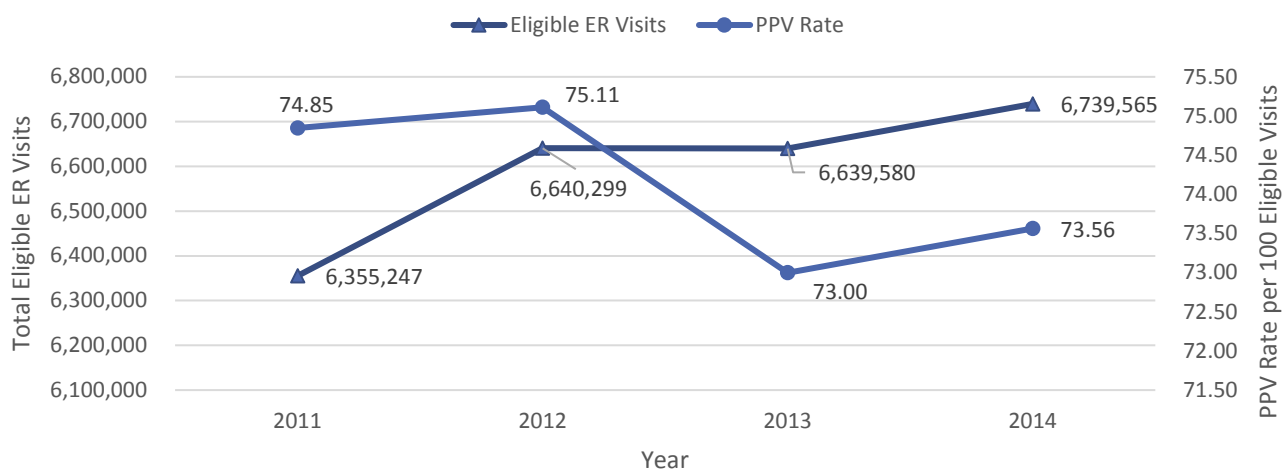


Table 24: Top 25 PPV Visits with Mean Cost per Visit and Median Cost per Visit, 2014

Primary EAPG	Description	PPVs (N)	% of All PPVs	Mean PPV Cost per Visit (\$)	Median PPV Cost per Visit(\$)
00661	Level II Other Musculoskeletal System & Connective Tissue Diagnoses	432,767	8.73	638	524
00562	Infections Of Upper Respiratory Tract & Otitis Media	426,380	8.60	464	413
00628	Abdominal Pain	285,199	5.75	1,368	1,120
00871	Signs, Symptoms & Other Factors Influencing Health Status	256,895	5.18	630	433
00604	Chest Pain	253,783	5.12	1,466	988
00674	Contusion, Open Wound & Other Trauma To Skin & Subcutaneous Tissue	227,723	4.59	694	485
00675	Other Skin, Subcutaneous Tissue & Breast Disorders	222,830	4.49	478	384
00627	Non-Bacterial Gastroenteritis, Nausea & Vomiting	192,981	3.89	929	684
00657	Lumbar Disc Disease	170,346	3.44	692	519
00040	Splint, Strapping And Cast Removal	119,545	2.41	684	578
00842	Alcohol Abuse & Dependence	118,914	2.40	870	663
00727	Acute Lower Urinary Tract Infections	117,952	2.38	879	658
00808	Viral Illness	116,317	2.35	548	477
00656	Back & Neck Disorders Except Lumbar Disc Disease	115,167	2.32	799	541
00564	Level I Other Ear, Nose, Mouth, Throat & Cranial/Facial Diagnoses	114,261	2.30	494	412
00530	Headaches Other Than Migraine	113,128	2.28	983	808
00563	Dental & Oral Diseases & Injuries	101,177	2.04	408	324
00673	Cellulitis & Other Bacterial Skin Infections	97,261	1.96	616	435
00752	Level I Menstrual And Other Female Diagnoses	83,910	1.69	1,069	851
00576	Level I Other Respiratory Diagnoses	80,587	1.63	862	635
00561	Vertiginous Disorders Except For Benign Vertigo	76,123	1.54	1,147	900
00553	Level I Other Ophthalmic Diagnoses	71,800	1.45	487	394
00605	Syncope & Collapse	60,611	1.22	1,449	990
00624	Level I Gastrointestinal Diagnoses	58,232	1.17	1,067	730
00726	Other Kidney & Urinary Tract Diagnoses, Signs & Symptoms	51,867	1.05	793	592
<b>All Other PPV Visits</b>		992,181	20.01	\$968	\$674
<b>All Non-PPV Visits</b>		0	0.00	\$985	\$709
<b>Grand Total Treat and Release Emergency Room Visits</b>		<b>4,957,937</b>	<b>100.00</b>	<b>\$860</b>	<b>\$595</b>

**Note:** The Level of the EAPG description (e.g., Level I, Level II) refers to the extent or complexity of the EAPG that is derived from either the specific procedure code used to determine the EAPG or, in the case of a medical EAPG, the primary diagnosis. A higher level indicates more complexity.

Table 25: PPV Visit Rate per 100 Eligible ER Visits by Primary Payer, 2011-2014

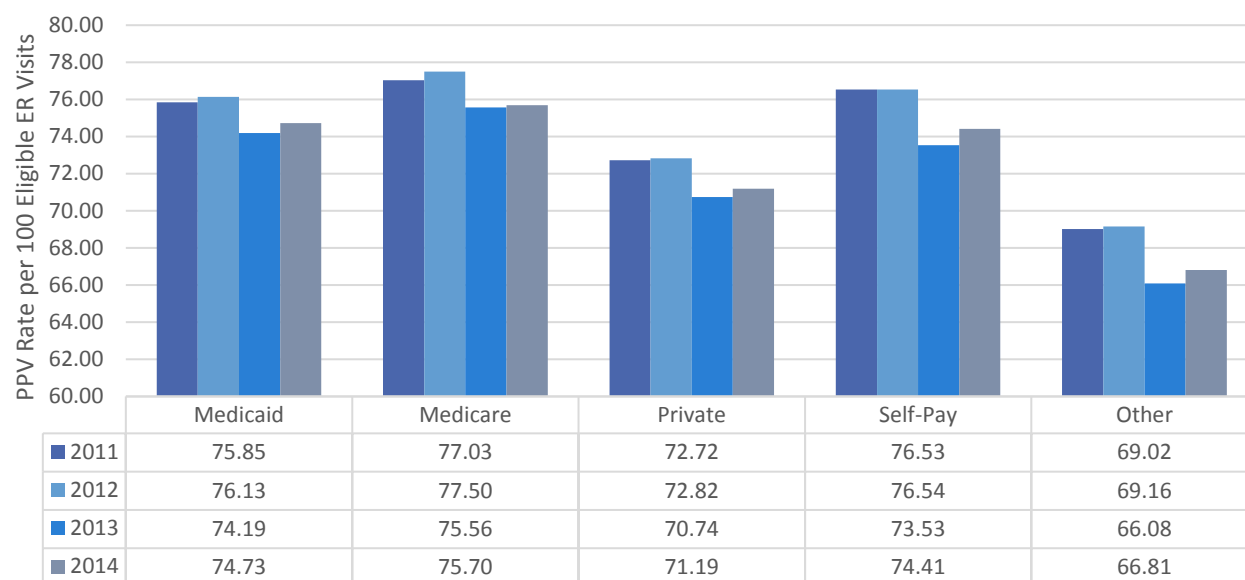
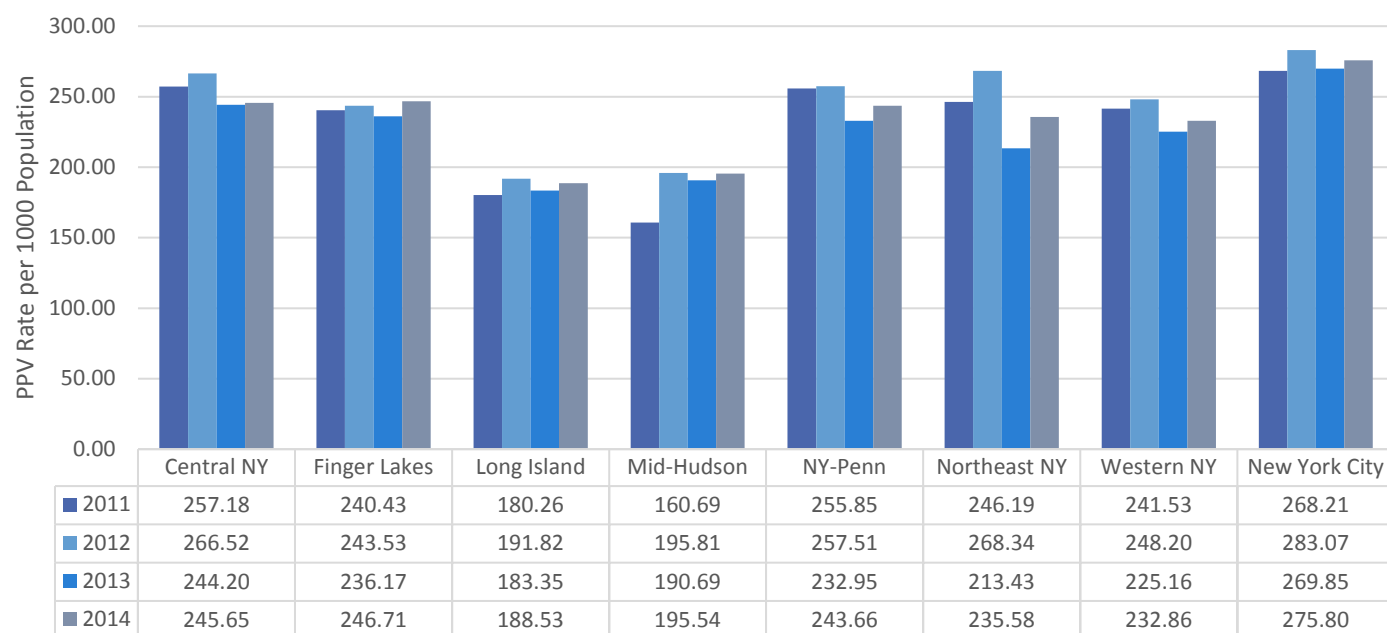


Table 26: PPV Visit Rate per 1,000 Residents by Region, 2011-2014



# Section II: Hospital Measures

## AHRQ INPATIENT QUALITY INDICATORS (IQI)

### DESCRIPTION

Agency for Healthcare Research and Quality (AHRQ) Inpatient Quality Indicators (IQIs)<sup>15</sup> are a set of measures that provide insight into the quality of inpatient hospital care. IQIs in this report are grouped into four categories: 1) Mortality 2) Utilization, 3) Area-level, and 4) Composite. IQIs can highlight potential quality concerns within hospitals as well as across geographical areas in order to improve patient quality of care. Hospital specific IQI volume data for the years 2009-2014 are available on Health Data NY.

Mortality indicators measure deaths occurring within a hospital stay after certain procedures or treatment for certain medical conditions. Utilization indicators pay specific attention to procedures that have been linked by research to overuse, underuse, or misuse. Area-level indicators reflect the rate of hospitalizations in various geographical areas for selected procedures. Area-level indicators can point to variations in procedure use across geographic areas, which can sometimes reflect inappropriate use.

Some of the tables in this section have discharges classified as having the IQI indicator studied ('IQI Discharge') or being an "at-risk" admission that did not meet the inpatient quality indicator criteria ('At-Risk non-IQI Discharge'). For the mortality IQIs, an IQI Discharge is when the patient expired, an At-Risk non-IQI Discharge is when the patient was discharged alive.

### FINDINGS

#### Mortality Indicators

- Of the 24 Mortality Inpatient Quality Indicators studied (Table 27):
  - Four mortality indicators: Pancreatic Resection with Pancreatic Cancer Diagnosis, Pancreatic Resection without Pancreatic Cancer Diagnosis, Percutaneous Coronary Intervention (PCI), and Carotid Endarterectomy had ratios less than 1.0, representing a better than expected performance.
  - Seventeen mortality indicators had a ratio between 1.0 and 2.0, indicating a worse than expected performance.
  - Three mortality indicators: Esophageal Resection Mortality, Abdominal Aortic Aneurysm (AAA) Repair – Unruptured Open, and Hip Fracture Mortality rate all had ratios greater than 2.0, indicating a much worse than expected performance. The observed rates (number of cases per 1,000 discharges) were clearly higher than the national observed rate.

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<sup>15</sup> AHRQ Inpatient Quality Indicators Overview [http://qualityindicators.ahrq.gov/Modules/iqi\\_resources.aspx](http://qualityindicators.ahrq.gov/Modules/iqi_resources.aspx) (Accessed April 5, 2016)

## Utilization Indicators

- Of the 7 Utilization Inpatient Quality Indicators studied (Table 28):
  - Two indicators had observed rates (number of cases per 1,000 discharges) lower than the national observed rate: Cesarean Delivery Rate, Uncomplicated and Incidental Appendectomy in the Elderly.
  - The remaining five indicators showed a higher observed rate than that of the national observed rate: Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated, Laparoscopic Cholecystectomy Rate, Bilateral Cardiac Catheterization Rate, Primary Cesarean Delivery Rate, Uncomplicated, and Vaginal Birth After Cesarean (VBAC) Rate, All.

## Composite Indicators

- The statewide composite indicators for mortality for selected procedures and mortality for selected conditions were 1.25 and 1.38 respectively (Table 29). These values are greater than one, and indicate that NY is performing worse than expected.

## Cost of Care

- Out of the 31 individual IQI indicators, Cesarean Delivery Rate, Uncomplicated and Primary Cesarean Delivery Rate, Uncomplicated were the top two IQIs with the most discharges, having a respective mean cost of \$10,422 and \$11,369 per discharge (Table 30).

## Population Based Area-level Indicators

- Ratios for the four population based area-level indicators (Table 32): Coronary Artery Bypass Graft (CABG), Percutaneous Coronary Intervention (PCI), Hysterectomy, and Laminectomy or Spinal Fusion, were lower than 1.0. This represents a better performance than expected.
- Observed rates (number of cases per 100,000 population) for the four population based area-level indicators were also lower than the national observed rate (Table 32).

## TABLES

Table 27: IQI Mortality Rates per 1,000 Discharges at Risk, by Indicator, 2014

IQI	Inpatient Quality Indicator – Mortality	Observed	Expected	Ratio	Risk	National
		Mortality Rate	Mortality Rate	(Obs / Exp)	Adjusted Mortality Rate	Observed Mortality Rate
IQI08	Esophageal Resection Mortality Rate	50.53	10.92	4.63	185.64	40.11
IQI09	Pancreatic Resection Mortality Rate	19.74	18.69	1.06	29.85	28.26
IQI09A	Pancreatic Resection Mortality Rate with Pancreatic Cancer Diagnosis	17.22	21.62	0.80	20.51	25.75
IQI09B	Pancreatic Resection Mortality Rate without Pancreatic Cancer Diagnosis	22.84	26.05	0.88	22.57	25.75
IQI11	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate	36.75	28.76	1.28	47.09	36.84
IQI11A	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Ruptured Open	400.00	382.11	1.05	382.32	365.22

IQI	Inpatient Quality Indicator – Mortality	Observed Mortality Rate	Expected Mortality Rate	Ratio (Obs / Exp)	Risk Adjusted Mortality Rate	National Observed Mortality Rate
IQI11B	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Unruptured Open	64.17	20.94	3.06	138.84	45.30
IQI11C	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Ruptured Endovascular	230.77	227.21	1.02	234.33	230.71
IQI11D	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Unruptured Endovascular	11.70	6.09	1.92	15.00	7.80
IQI12	Coronary Artery Bypass Graft (CABG) Mortality Rate	18.78	11.12	1.69	42.90	25.42
IQI13	Craniotomy Mortality Rate	55.28	38.87	1.42	81.87	57.57
IQI14	Hip Replacement Mortality Rate	0.50	0.27	1.82	1.22	0.67
IQI15	Acute Myocardial Infarction (AMI) Mortality Rate	62.50	52.98	1.18	66.50	56.37
IQI16	Heart Failure Mortality Rate	39.99	26.82	1.49	45.86	30.76
IQI17	Acute Stroke Mortality Rate	95.05	79.51	1.20	99.50	83.23
IQI17A	Acute Stroke Mortality Rate, Stratum A	218.27	191.56	1.14	242.25	212.61
IQI17B	Acute Stroke Mortality Rate, Stratum B	232.96	216.45	1.08	235.81	219.11
IQI17C	Acute Stroke Mortality Rate, Stratum C	57.57	42.92	1.34	63.98	47.70
IQI18	Gastrointestinal Hemorrhage Mortality Rate	26.72	19.14	1.40	31.22	22.36
IQI19	Hip Fracture Mortality Rate	29.96	14.75	2.03	51.39	25.29
IQI20	Pneumonia Mortality Rate	40.48	30.34	1.33	46.72	35.02
IQI30	Percutaneous Coronary Intervention (PCI) Mortality Rate	13.45	14.49	0.93	19.76	21.28
IQI31	Carotid Endarterectomy Mortality Rate	3.45	3.91	0.88	3.89	4.41
IQI32	Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases	66.91	55.64	1.20	70.41	58.55

Table 28: IQI Utilization Observed Rate per 1,000 Discharges at Risk, 2014

IQI	Inpatient Quality Indicator – Utilization	Observed Rate	National Observed Rate
IQI21	Cesarean Delivery Rate, Uncomplicated	301.62	302.54
IQI22	Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated	145.52	100.62
IQI23	Laparoscopic Cholecystectomy Rate	882.74	866.45
IQI24	Incidental Appendectomy in the Elderly Rate	7.85	10.81
IQI25	Bilateral Cardiac Catheterization Rate	14.21	12.42
IQI33	Primary Cesarean Delivery Rate, Uncomplicated	186.04	179.46
IQI34	Vaginal Birth After Cesarean (VBAC) Rate, All	140.42	99.77



Table 29: IQI Composite Values and 95% Confidence Intervals, 2014

IQI	IQI Value	Composite Measure	Lower 95CI	Upper 95CI
<b>90</b>	<b>Mortality for Selected Procedures</b>	<b>1.25</b>	<b>1.09</b>	<b>1.42</b>
08	Esophageal Resection Mortality Rate			
09	Pancreatic Resection Mortality Rate			
11	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate			
12	Coronary Artery Bypass Graft (CABG) Mortality Rate			
13	Craniotomy Mortality Rate			
14	Hip Replacement Mortality Rate			
30	Percutaneous Coronary Intervention (PCI) Mortality Rate			
31	Carotid Endarterectomy Mortality Rate			
<b>91</b>	<b>Mortality for Selected Conditions</b>	<b>1.38</b>	<b>1.36</b>	<b>1.41</b>
15	Acute Myocardial Infarction (AMI) Mortality Rate			
16	Heart Failure Mortality Rate			
17	Acute Stroke Mortality Rate			
18	Gastrointestinal Hemorrhage Mortality Rate			
19	Hip Fracture Mortality Rate			
20	Pneumonia Mortality Rate			

Table 30: IQI Mortality Discharges and At Risk Non-IQI Discharges, Mean Cost per Discharge, Median Cost per Discharge, and Average Length of Stay (ALOS), 2014

IQI	Inpatient Quality Indicator - Mortality	IQI Discharges (Mortality)				At Risk Non-IQI Discharges (Alive)			
		Died (N)	Mean Cost (\$)	Median Cost (\$)	ALOS	Discharged Alive	Mean Cost (\$)	Median Cost (\$)	ALOS
IQI08	Esophageal Resection Mortality	19	165,682	133,557	30.1	357	68,875	52,444	14.5
IQI09	Pancreatic Resection Mortality	27	187,093	82,335	29.4	1,341	48,779	35,508	11.4
IQI09A	Pancreatic Resection Mortality with Pancreatic Cancer Diagnosis	13	198,614	79,685	24.3	742	49,264	37,671	12.0
	Pancreatic Resection Mortality without Pancreatic Cancer Diagnosis	14	176,395	91,956	34.2	599	48,178	32,269	10.7
IQI11	Abdominal Aortic Aneurysm (AAA) Repair Mortality	82	70,080	53,912	8.9	2,149	42,446	35,037	4.5
IQI11A	Abdominal Aortic Aneurysm (AAA) Repair Mortality- Ruptured Open	24	43,116	26,982	5.4	36	68,740	59,715	16.2
	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Unruptured Open	12	112,366	61,677	21.7	175	42,317	32,860	9.6
IQI11C	Abdominal Aortic Aneurysm (AAA) Repair Mortality - Ruptured Endovascular	24	60,383	55,864	5.2	80	62,347	47,153	10.4

IQI	Inpatient Quality Indicator - Mortality	IQI Discharges (Mortality)				At Risk Non-IQI Discharges (Alive)			
		Died (N)	Mean Cost (\$)	Median Cost (\$)	ALOS	Discharged Alive	Mean Cost (\$)	Median Cost (\$)	ALOS
IQI11D	Abdominal Aortic Aneurysm (AAA) Repair Mortality - Unruptured Endovascular	22	87,007	66,859	9.8	1,858	41,092	34,778	3.6
IQI12	Coronary Artery Bypass Graft (CABG) Mortality	191	140,141	90,456	21.0	9,981	57,228	44,172	10.8
IQI13	Craniotomy Mortality	552	59,560	44,695	11.0	9,433	43,421	29,921	8.1
IQI14	Hip Replacement Mortality	11	36,563	31,859	7.1	22,083	21,910	18,371	3.1
IQI15	Acute Myocardial Infarction (AMI) Mortality	1,822	30,341	12,353	6.5	27,330	25,577	16,886	5.5
IQI16	Heart Failure Mortality	2,361	36,518	13,966	11.9	56,673	18,438	10,017	6.4
IQI17	Acute Stroke Mortality	3,187	30,873	13,190	7.9	30,342	24,141	12,852	7.4
IQI17A	Acute Stroke Mortality, Stratum A	344	42,930	20,082	7.5	1,232	84,696	65,535	16.5
IQI17B	Acute Stroke Mortality, Stratum B	1,333	23,678	10,454	5.7	4,389	36,560	20,400	10.8
IQI17C	Acute Stroke Mortality, Stratum C	1,510	34,479	15,277	9.8	24,721	18,919	11,508	6.4
IQI18	Gastrointestinal Hemorrhage Mortality	831	31,556	14,760	8.9	30,273	14,586	9,757	5.1
IQI19	Hip Fracture Mortality	428	42,303	21,650	11.6	13,856	22,902	17,782	6.7
IQI20	Pneumonia Mortality	1,670	30,413	14,558	10.6	39,589	13,435	8,540	5.8
IQI30	Percutaneous Coronary Intervention (PCI) Mortality	374	62,898	38,990	8.7	27,425	24,610	18,552	3.6
IQI31	Carotid Endarterectomy Mortality Rate	14	62,108	48,254	10.8	4,041	14,344	9,238	3.1
IQI32	Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases	1,488	25,128	10,965	5.9	20,751	23,127	16,184	5.3

Chart 4: Mean Cost Per Discharge (in \$1,000) of IQI Mortality Discharges (Patient Died) Compared to Non-IQI At Risk Discharges (Discharged Alive), in descending order by total difference in costs.

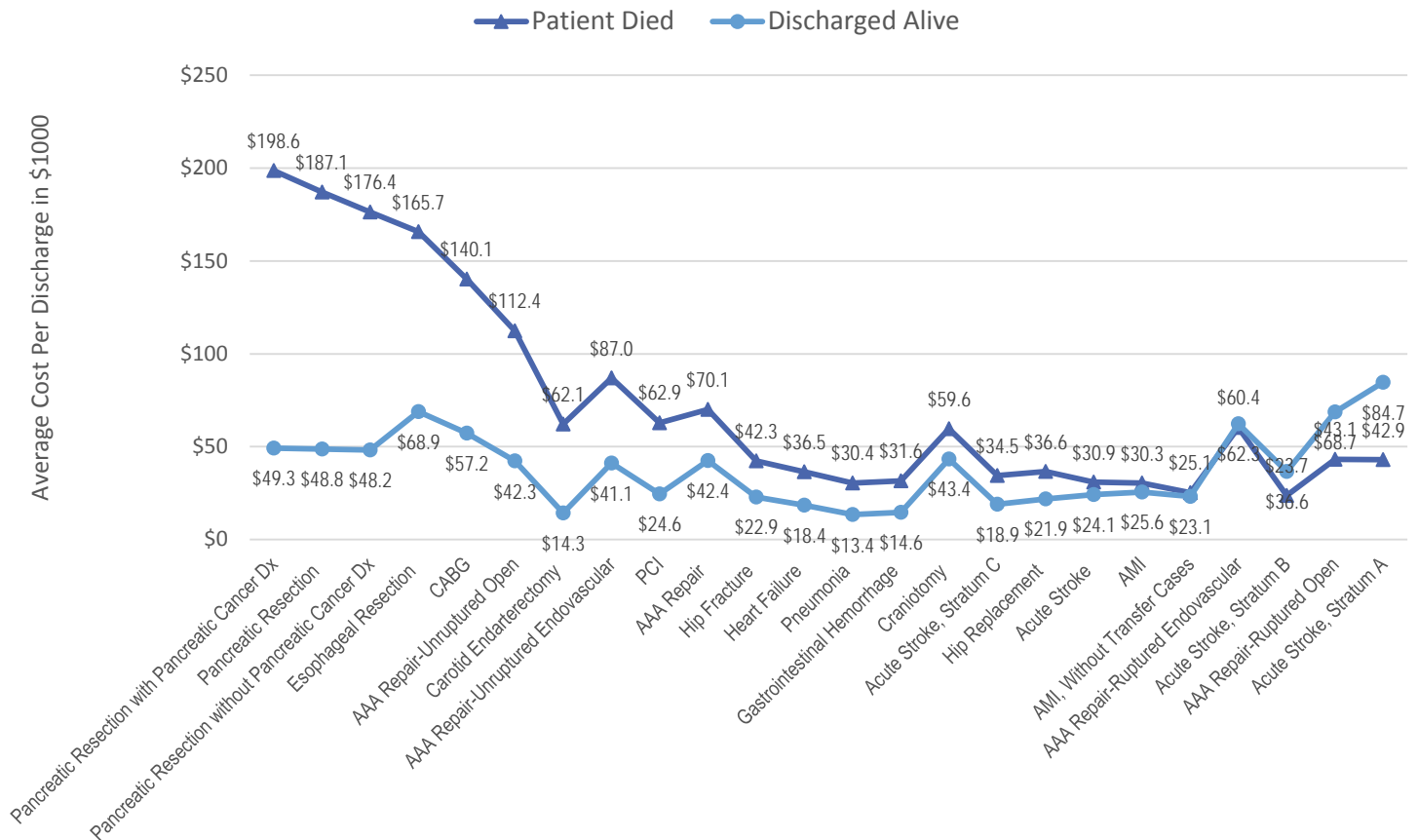


Table 31: IQI Utilization Discharges, Mean Cost per Discharge, Median Cost per Discharge, and Average Length of Stay (ALOS), 2014

IQI	Inpatient Quality Indicator - Utilization	IQI Discharges				At Risk Non-IQI Discharges			
		N	Mean Cost (\$)	Median Cost (\$)	ALOS	N	Mean Cost (\$)	Median Cost (\$)	ALOS
IQI21	Cesarean Delivery, Uncomplicated	61,831	10,422	9,377	3.6	143,167	6,527	5,933	2.4
IQI22	Vaginal Birth After Cesarean (VBAC) Delivery, Uncomplicated	5,158	6,591	6,144	2.3	30,287	9,436	8,711	3.2
IQI23	Laparoscopic Cholecystectomy	13,889	14,773	10,884	4.0	1,845	34,305	21,134	9.8
IQI24	Incidental Appendectomy in the Elderly	188	33,423	24,837	10.5	23,775	31,085	18,165	8.7
IQI25	Bilateral Cardiac Catheterization	751	29,692	18,465	4.9	52,104	27,150	17,541	5.2
IQI33	Primary Cesarean Delivery, Uncomplicated	31,544	11,369	10,292	4.0	138,009	6,524	5,926	2.4
IQI34	Vaginal Birth After Cesarean (VBAC), All	5,617	6,821	6,234	2.4	34,385	9,818	8,787	3.3

Chart 5: Mean Cost Per Discharge (in \$1,000) of IQI Utilization Discharges Compared to Non-IQI At Risk Discharges, in descending order by total difference in costs.

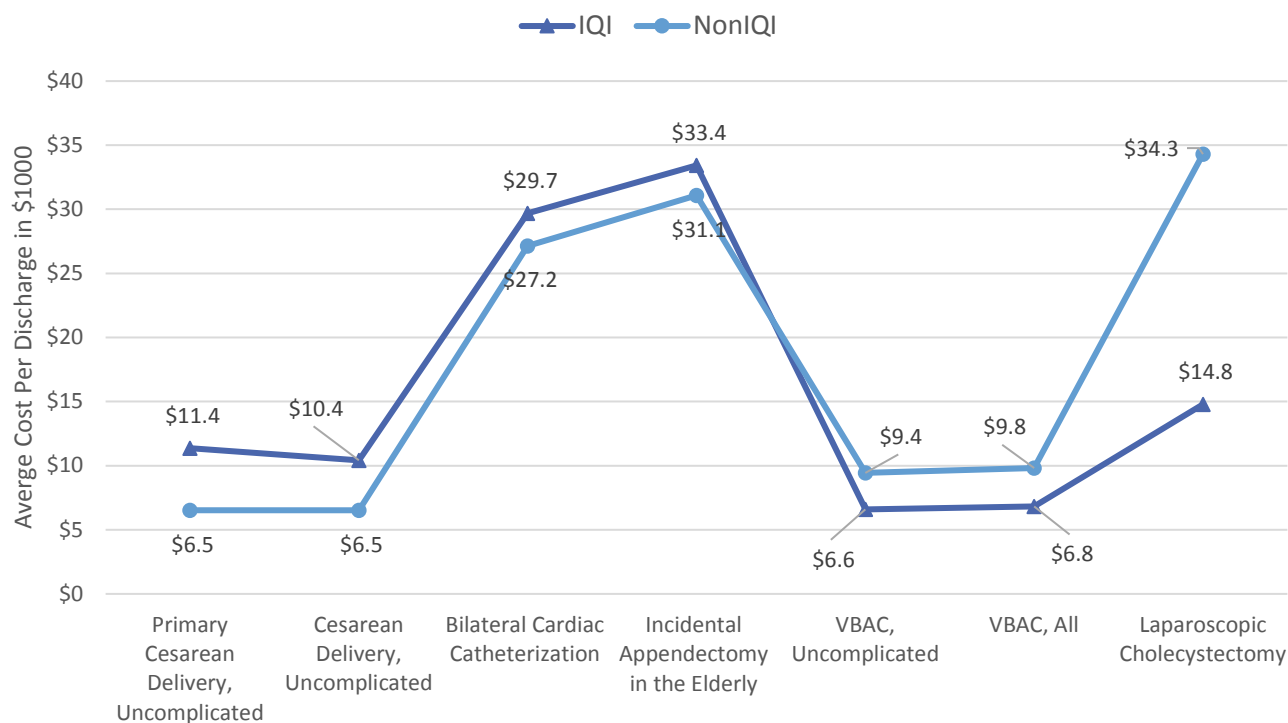


Table 32: IQI Population Based Rates for Selected Procedures, Per 100,000 Population at Risk, 2014

IQI	Inpatient Quality Indicator – Population-Based Area-Level Rates	Ratio				
		Observed State Rate	Expected State Rate	(Observed / Expected)	Risk Adjusted State Rate	Observed National Rate
IQI26	Coronary Artery Bypass Graft (CABG) Rate	102.20	125.85	0.81	104.21	128.33
IQI27	Percutaneous Coronary Intervention (PCI) Rate	280.17	333.05	0.84	282.39	335.69
IQI28	Hysterectomy Rate	159.05	202.26	0.79	159.49	202.82
IQI29	Laminectomy or Spinal Fusion Rate	208.99	247.74	0.84	208.12	246.71

Table 33: IQI Population Based for Selected Procedures, Number of Discharges, Mean and Median Cost per Discharge, and Average Length of Stay (ALOS), 2014

IQI	Inpatient Quality Indicator – Population-Based Area	Discharges	Mean Cost Per Discharge (\$)	Median Cost Per Discharge (\$)	ALOS
IQI26	Coronary Artery Bypass Graft (CABG) Rate	10,217	58,992	44,608	11.0
IQI27	Percutaneous Coronary Intervention (PCI) Rate	27,983	25,154	18,677	3.6
IQI28	Hysterectomy Rate	13,048	13,024	10,220	2.6
IQI29	Laminectomy or Spinal Fusion Rate	34,453	33,499	22,824	4.5

## AHRQ PATIENT SAFETY INDICATORS (PSI)

## DESCRIPTION

Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicators (PSIs)<sup>16</sup> are a set of measures that provide insight into the quality of care delivered by hospitals. PSIs help to identify complications of medical care and adverse events following surgeries, procedures, and childbirth during a hospital admission. PSIs can be used to highlight potential quality of care concerns in hospitals or, on a regional level, identify areas that need further study and investigation, and to track changes over time.

The area-level statistics presented in this section reflect all cases of potentially preventable complications during hospitalization in a given geographical area.

Some of the tables in this section have discharges classified as having the PSI indicator studied ('PSI Discharge') or being an "at-risk" admission that did not meet the safety indicator criteria ('At-Risk non-PSI Discharge').

## FINDINGS

## Provider-Level Indicators

- Of the 18 provider-level measures (Table 34), ratios for 9 patient safety indicators: PSI02 - Deaths in Low-mortality DRGs, PSI04A - Pneumonia, PSI06 - Iatrogenic Pneumothorax, PSI07 - Central Venous Catheter-related Bloodstream Infection, PSI08 - Postoperative Hip Fracture, PSI10 - Postoperative Physiologic and Metabolic Derangements, PSI11 - Postoperative Respiratory Failure, PSI14 - Postoperative Wound Dehiscence, and PSI15 - Accidental Puncture or Laceration were substantially lower than 1, indicating a better performance than expected. Their observed rates were also lower than national rates.
- The highest ratio was for PSI03 - Pressure Ulcer (ratio=1.53), representing a worse performance than expected (Table 34).

## Obstetric Indicators

- The observed rate for PSI17 - Birth Trauma-Injury to Neonate was higher than the national rate; whereas the observed rates for both PSI18 - Obstetric Trauma-Vaginal Delivery with Instrument and PSI19 - Obstetric Trauma-Vaginal Deliveries without Instrument were slightly lower than the national rate (Table 35).

## Composite Indicators

- The statewide value for composite measure PSI90 - Patient Safety for Selected Indicators was 0.93 (Table 36).

## Area-level Indicators

- Except for PSI27 - Postoperative Hemorrhage or Hematoma, the observed rate (cases per 100,000 population) for all other area-level PSIs: PSI21 - Retained Surgical Item or Unretrieved Device Fragment, PSI22 - Iatrogenic Pneumothorax, PSI23 - Central Venous Catheter-related Bloodstream Infections, PSI24 - Postoperative Wound

<sup>16</sup> AHRQ Patient Safety Indicators Overview [http://qualityindicators.ahrq.gov/Modules/psi\\_resources.aspx](http://qualityindicators.ahrq.gov/Modules/psi_resources.aspx) (Accessed April 5, 2016)

Dehiscence, PSI25 - Accidental Puncture or Laceration, and PSI26 - Transfusion Reactions, were lower than the national rate (Table 38).

## TABLES

Table 34: PSI Provider-Level Measures Rates per 1,000 Discharges at Risk, 2014

	Patient Safety Indicator	Category	Rate per 1.000 Discharges at Risk				National Rate
			Observed Rate	Expected Rate	Ratio	Risk Adjusted Rate	
PSI02	Deaths in Low-mortality DRGs	Medical / Surgical	0.28	0.41	0.68	0.22	0.32
PSI03	Pressure Ulcer**	Medical / Surgical	0.77	0.51	1.53	0.78	0.51
PSI04	Deaths among Surgical Inpatients with Serious Treatable Complications	Surgical	128.73	129.01	1.00	119.25	119.51
PSI04A	Pneumonia	Surgical	41.67	51.72	0.81	38.76	48.11
PSI04B	Pulmonary embolism or deep vein thrombosis	Surgical	83.61	83.42	1.00	76.26	76.08
PSI04C	Sepsis	Surgical	194.39	201.72	0.96	194.67	202.01
PSI04D	Shock or cardiac arrest	Surgical	354.76	359.92	0.99	340.02	344.96
PSI04E	GI hemorrhage or acute ulcer	Surgical	58.48	55.87	1.05	50.86	48.59
PSI06	Iatrogenic Pneumothorax**	Medical / Surgical	0.29	0.39	0.74	0.25	0.34
PSI07	Central Venous Catheter-related Bloodstream Infection**	Medical / Surgical	0.15	0.24	0.64	0.13	0.21
PSI08	Postoperative Hip Fracture**	Surgical	0.02	0.04	0.40	0.02	0.04
PSI09	Perioperative Hemorrhage or Hematoma**	Surgical	5.75	5.41	1.06	5.48	5.15
PSI10	Postoperative Physiologic and Metabolic Derangements**	Surgical	0.49	0.73	0.67	0.48	0.71
PSI11	Postoperative Respiratory Failure**	Surgical	7.59	9.98	0.76	7.67	10.09
PSI12	Perioperative Pulmonary Embolism (PE) or Deep Vein Thrombosis**	Surgical	5.59	5.16	1.08	5.47	5.05
PSI13	Postoperative Sepsis**	Surgical	9.29	8.71	1.07	10.20	9.57
PSI14	Postoperative Wound Dehiscence**	Surgical	1.40	1.77	0.79	1.47	1.86
PSI15	Accidental Puncture or Laceration**	Medical / Surgical	1.52	1.85	0.82	1.78	2.18

\*\*Component of the PSI90 Composite - Patient Safety for Selected Indicators.

Table 35: PSI Obstetric Measures, Observed Rates per 1,000 Discharges at Risk, National Rate, 2014

PSI	Patient Safety Indicator - Obstetric	Category	Observed Rate	National Rate
PSI17	Birth Trauma-Injury to Neonate	Obstetric	2.25	1.89
PSI18	Obstetric Trauma-Vaginal Delivery with Instrument	Obstetric	130.67	133.19
PSI19	Obstetric Trauma-Vaginal Deliveries without Instrument	Obstetric	19.85	20.97

Table 36. Composite Patient Safety for Selected Indicators\* in New York State, 2014

PSI Code	PSI Value	Composite Measure	Lower 95 CI	Upper 95 CI
PSI90	Patient Safety for Selected Indicators	0.93	0.91	0.96

\* Composite PSI90 Components: PSI03, PSI06, PSI07, PSI08, PSI09, PSI10, PSI11, PSI12, PSI13, PSI14, and PSI15.

Table 37: PSI Provider Level Measures, Discharges, Mean and Median Cost per Discharge, and Average Length of Stay (ALOS), 2014

PSI	PSI Description	PSI Discharges				At-Risk Non-PSI Discharges			
		N	Mean Cost (\$)	Median Cost (\$)	ALOS	N	Mean Cost (\$)	Median Cost (\$)	ALOS
PSI02	Deaths in Low-mortality DRGs	138	21,926	13,037	11.5	497,898	10,438	7,236	5.6
PSI03	Pressure Ulcer	439	150,483	90,874	46.2	567,196	29,033	18,272	10.9
PSI04	Deaths among Surgical Inpatients with Serious Treatable Complications	1,879	86,019	53,493	17.1	12,717	65,641	39,753	15.6
PSI04A	Pneumonia	101	78,547	53,572	15.8	2,323	60,343	37,580	14.4
PSI04B	Pulmonary embolism or deep vein thrombosis	453	73,105	51,382	16.2	4,965	61,124	38,662	14.8
PSI04C	Sepsis	506	114,111	73,767	23.1	2,097	93,800	61,238	23.6
PSI04D	Shock or cardiac arrest	690	71,463	39,238	12.8	1,255	84,314	51,074	18.3
PSI04E	GI hemorrhage or acute ulcer	129	104,880	58,847	20	2,077	42,653	24,166	9.0
PSI06	Iatrogenic Pneumothorax	474	71,898	43,727	17.6	1,649,367	16,854	10,052	6.0
PSI07	Central Venous Catheter-related Bloodstream Infection	201	130,294	86,890	48.4	1,330,896	16,454	9,903	6.2
PSI08	Postoperative Hip Fracture	5	86,755	51,451	34.2	277,072	29,330	16,769	6.5
PSI09	Perioperative Hemorrhage or Hematoma	2,452	76,450	41,969	14.7	423,643	27,751	17,640	5.9
PSI10	Postoperative Physiologic and Metabolic Derangements	113	151,116	111,316	32	230,525	23,281	16,622	3.7
PSI11	Postoperative Respiratory Failure	1,481	84,004	52,789	18	193,664	20,922	15,745	3.3
PSI12	Perioperative Pulmonary Embolism	2,533	93,708	57,676	23	450,353	28,585	17,857	6.0

PSI	PSI Description	PSI Discharges				At-Risk Non-PSI Discharges			
		N	Mean Cost (\$)	Median Cost (\$)	ALOS	N	Mean Cost (\$)	Median Cost (\$)	ALOS
	(PE) or Deep Vein Thrombosis (DVT)								
PSI13	Postoperative Sepsis	412	104,524	70,486	23	43,938	35,383	27,489	6.4
PSI14	Postoperative Wound Dehiscence	97	87,638	73,413	25.9	69,217	27,379	17,427	7.3
PSI15	Accidental Puncture or Laceration	2,605	52,293	27,282	11.9	1,714,989	17,819	10,249	6.3
PSI17	Birth Trauma-Injury to Neonate	506	14,833	3,350	6.3	224,450	3,965	1,767	2.9
PSI18	Obstetric Trauma-Vaginal Delivery with Instrument	1,017	6,826	6,544	2.7	6,766	7,047	6,328	2.6
PSI19	Obstetric Trauma-Vaginal Deliveries without Instrument	2,869	6,858	6,352	2.6	141,647	6,632	5,956	2.4

Table 38: PSI Area Level, Observed Rate per 100,000 Population with National Benchmark Rate, Number of Discharges, Mean and Median Cost per Discharge, and Average Length of Stay (ALOS), 2014

Category	Patient Safety Indicator	Observed State	National Rate	N	Mean Cost(\$)	Median Cost(\$)	ALOS
Medical /Surgical	PSI21: Retained Surgical Item or Unretrieved Device Fragment	0.92	1.08	147	36,353	15,354	9.0
Medical /Surgical	PSI22: Iatrogenic Pneumothorax	5.62	5.67	911	46,843	20,321	12.0
Medical /Surgical	PSI23: Central Venous Catheter-related Bloodstream Infections	3.76	5.28	588	65,331	31,064	24.4
Surgical	PSI24: Postoperative Wound Dehiscence	1.10	1.48	177	67,569	43,404	19.1
Medical /Surgical	PSI25: Accidental Puncture or Laceration	21.55	24.10	3,410	48,419	25,189	11.3
Medical /Surgical	PSI26: Transfusion Reactions	0.04	0.07	9	68,126	20,438	13.0
Surgical	PSI27: Postoperative Hemorrhage or Hematoma	34.02	30.60	5,485	55,558	27,207	12.2

Table 39: PSI Volume, Mean and Median Cost per Discharge, and Average Length of Stay (ALOS), 2014

PSI Code	PSI Value	Volume	Mean Cost Per Discharge (\$)	Median Cost Per Discharge (\$)	ALOS
PSI05	Retained Surgical Item or Unretrieved Device Fragment Count	63	\$47,075	\$25,934	10.6
PSI16	Transfusion Reaction Count	4	\$97,105	\$26,777	20.0

Chart 6: Average Cost Per PSI Discharge Compared to Average Cost of Non-PSI Discharge, by Patient Safety Indicator, 2014



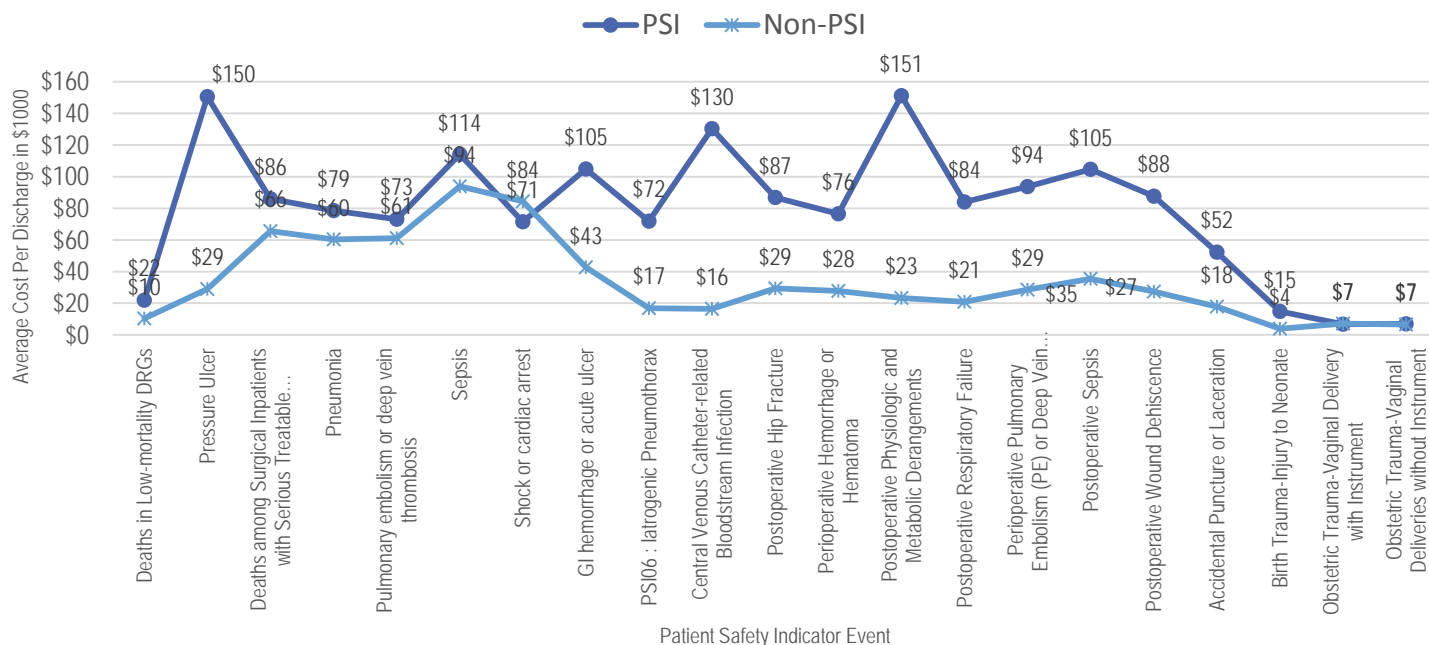
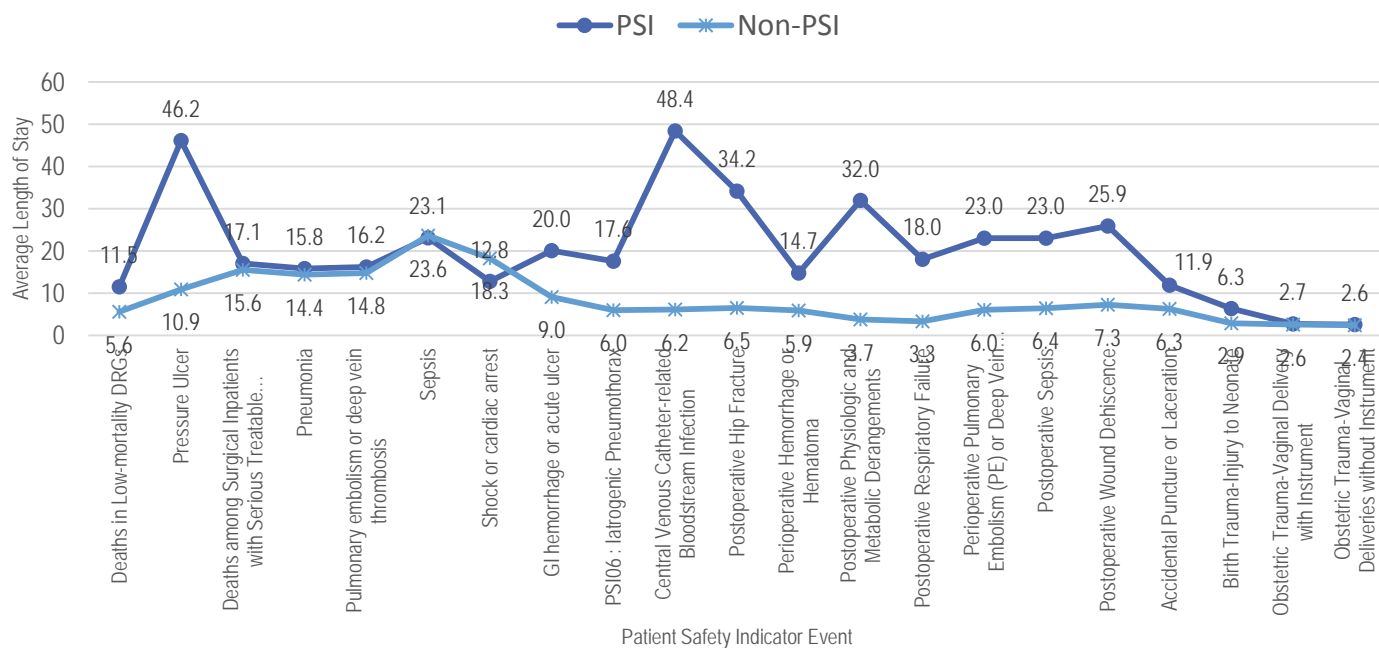


Chart 7: Average Length of Stay Compared to Average Length of Stay of Non-PSI Discharge, by Patient Safety Indicator, 2014



## 3M™ POTENTIALLY PREVENTABLE COMPLICATIONS (PPC)

## DESCRIPTION

Potentially Preventable Complications (PPCs) are harmful events (e.g., accidental laceration during a procedure, improper administration of medication) or negative outcomes (e.g., hospital-acquired pneumonia), that develop after hospital admission and may result from processes of care and treatment rather than from natural progression of the underlying illness. Therefore, they are potentially preventable. The software defines 65 potentially preventable complications, which are further grouped into 8 Groups (1 - Extreme Complications; 2 - Cardiovascular-Respiratory Complications; 3 - Gastrointestinal Complications; 4 - Perioperative Complications; 5 - Infectious Complications; 6 - Malfunctions, Reactions, etc.; 7 - Obstetrical Complications; 8 - Other Medical and Surgical Complications) and 2 Levels (Major, Other).

Some of the tables in this section have discharges classified as being “at-risk” (‘At Risk Discharges for PPC’), not meeting the PPC criteria (Non-PPC Discharges) or having the PPC indicator studied (‘PPC Discharge’).

## FINDINGS

- In 2014, the top 5 highest potentially preventable complication rates per 10,000 discharges were for the following types of discharges (Table 40):
  - Cardiac Arrhythmias and Conduction Disturbances
  - Obstetric Lacerations and Other Trauma With Instrumentation
  - Obstetrical Hemorrhage without Transfusion
  - Obstetric Lacerations and Other Trauma Without Instrumentation
  - Renal Failure without Dialysis
- During 2013 and 2014, the highest PPC rates were observed in the Obstetrical Complications grouping, the lowest PPC rate was observed in the Gastrointestinal Complications grouping (Table 42).

## TABLES

Table 40: PPC at Risk Discharges, Non-PPC Discharges, PPC Discharges, and PPC Rate per 10,000 at Risk Discharges, by PPC, 2014

#	PPC Description	At Risk Discharges for PPC	Non-PPC Discharges	PPC Discharges	PPC Rate per 10,000
1	Stroke & Intracranial Hemorrhage	1,677,428	1,674,697	2,731	16.28
2	Extreme CNS Complications	1,530,541	1,529,620	921	6.02
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	1,481,901	1,474,118	7,783	52.52
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	1,481,859	1,477,355	4,504	30.39
5	Pneumonia & Other Lung Infections	1,351,781	1,345,225	6,556	48.50
6	Aspiration Pneumonia	1,625,425	1,621,423	4,002	24.62
7	Pulmonary Embolism	1,695,296	1,693,635	1,661	9.80
8	Other Pulmonary Complications	1,068,966	1,066,181	2,785	26.05
9	Shock	1,652,922	1,646,289	6,633	40.13
10	Congestive Heart Failure	1,470,762	1,466,937	3,825	26.01
11	Acute Myocardial Infarction	1,654,669	1,650,763	3,906	23.61

#	PPC Description	At Risk Discharges for PPC	Non-PPC Discharges	PPC Discharges	PPC Rate per 10,000
12	Cardiac Arrhythmias & Conduction Disturbances	11,070	7,820	3,250	2,935.86
13	Other Acute Cardiac Complications	1,575,913	1,574,880	1,033	6.55
14	Ventricular Fibrillation/Cardiac Arrest	1,718,119	1,713,568	4,551	26.49
15	Peripheral Vascular Complications except Venous Thrombosis	1,711,713	1,711,001	712	4.16
16	Venous Thrombosis	1,697,037	1,695,038	1,999	11.78
17	Major Gastrointestinal Complications without Transfusion or Significant Bleeding	1,640,636	1,637,911	2,725	16.61
18	Major Gastrointestinal Complications with Transfusion or Significant Bleeding	1,628,851	1,627,822	1,029	6.32
19	Major Liver Complications	1,691,718	1,690,388	1,330	7.86
20	Other Gastrointestinal Complications without Transfusion or Significant Bleeding	1,602,287	1,601,346	941	5.87
21	Clostridium Difficile Colitis	1,718,119	1,713,906	4,213	24.52
23	GU Complications except UTI	1,682,366	1,681,306	1,060	6.30
24	Renal Failure without Dialysis	1,480,379	1,464,015	16,364	110.54
25	Renal Failure with Dialysis	1,483,404	1,483,061	343	2.31
26	Diabetic Ketoacidosis & Coma	1,736,684	1,736,523	161	0.93
27	Post-Hemorrhagic & Other Acute Anemia with Transfusion	1,331,156	1,327,887	3,269	24.56
28	In-Hospital Trauma and Fractures	1,718,119	1,717,766	353	2.05
29	Poisonings except from Anesthesia	1,690,674	1,690,470	204	1.21
30	Poisonings due to Anesthesia	1,742,477	1,742,474	3	0.02
31	Decubitus Ulcer	1,847,172	1,846,065	1,107	5.99
32	Transfusion Incompatibility Reaction	1,847,172	1,847,169	3	0.02
33	Cellulitis	1,475,667	1,473,867	1,800	12.20
34	Moderate Infections	1,376,261	1,375,445	816	5.93
35	Septicemia & Severe Infections	1,620,806	1,613,544	7,262	44.80
36	Acute Mental Health Changes	1,035,639	1,035,228	411	3.97
37	Post-Operative Infection & Deep Wound Disruption without Procedure	469,793	468,025	1,768	37.63
38	Post-Operative Wound Infection & Deep Wound Disruption with Procedure	493,438	493,251	187	3.79
39	Reopening Surgical Site	458,897	458,466	431	9.39
40	Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or I&D Procedure	628,052	621,752	6,300	100.31
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Procedure	516,611	516,027	584	11.30
42	Accidental Puncture/Laceration during Invasive Procedure	623,102	620,759	2,343	37.60
43	Accidental Cut or Hemorrhage during Other Medical Care	1,718,119	1,718,111	8	0.05
44	Other Surgical Complication - Moderate	475,443	474,695	748	15.73
45	Post-procedure Foreign Bodies	547,431	547,379	52	0.95
46	Post-Operative Substance Reaction & Non-O.R. Procedure for Foreign Body	1,718,119	1,718,116	3	0.02
47	Encephalopathy	1,306,668	1,304,257	2,411	18.45
48	Other Complications of Medical Care	1,718,119	1,716,936	1,183	6.89
49	Iatrogenic Pneumothorax	1,708,626	1,707,998	628	3.68

#	PPC Description	At Risk Discharges for PPC	Non-PPC Discharges	PPC Discharges	PPC Rate per 10,000
50	Mechanical Complication of Device, Implant & Graft	1,687,390	1,686,241	1,149	6.81
51	Gastrointestinal Ostomy Complications	1,699,025	1,698,347	678	3.99
52	Infection, Inflammation & Other Complications of Devices, Implants or Grafts except Vascular Infection	1,687,390	1,684,797	2,593	15.37
53	Infection, Inflammation and Clotting Complications of Peripheral Vascular Catheters and Infusions	1,710,565	1,709,473	1,092	6.38
54	Central Venous Catheter-Related Blood Stream Infection	1,847,172	1,846,664	508	2.75
55	Obstetrical Hemorrhage without Transfusion	210,931	206,013	4,918	233.16
56	Obstetrical Hemorrhage with Transfusion	210,931	209,029	1,902	90.17
57	Obstetric Lacerations & Other Trauma without Instrumentation	206,931	203,414	3,517	169.96
58	Obstetric Lacerations & Other Trauma with Instrumentation	9,821	8,776	1,045	1,064.05
59	Medical & Anesthesia Obstetric Complications	223,462	221,045	2,417	108.16
60	Major Puerperal Infection and Other Major Obstetric Complications	223,452	223,059	393	17.59
61	Other Complications of Obstetrical Surgical & Perineal Wounds	223,462	222,837	625	27.97
62	Delivery with Placental Complications	223,462	222,446	1,016	45.47
63	Post-Operative Respiratory Failure with Tracheostomy	413,541	413,319	222	5.37
64	Other In-Hospital Adverse Events	1,718,119	1,718,064	55	0.32
65	Urinary Tract Infection	1,555,008	1,541,824	13,184	84.78
66	Catheter-Related Urinary Tract Infection	1,656,539	1,656,314	225	1.36

Table 41: PPC Comparison of Average Length of Stay (ALOS), Mean and Median Cost per Discharge of PPC vs Non-PPC Discharges, by PPC, 2014

PPC Description		PPC Discharges			At Risk Non-PPC Discharges		
		ALOS	Mean Cost (\$)	Median Cost (\$)	ALOS	Mean Cost (\$)	Median Cost (\$)
1	Stroke & Intracranial Hemorrhage	18.57	68,572	39,421	5.32	14,760	8,945
2	Extreme CNS Complications	21.49	83,706	46,079	5.07	14,244	8,738
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	12.70	46,235	32,211	4.97	13,820	8,630
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	22.13	85,274	61,338	4.96	13,771	8,645
5	Pneumonia & Other Lung Infections	19.12	66,468	34,840	5.26	14,609	9,055
6	Aspiration Pneumonia	21.12	63,924	36,279	5.30	14,853	8,990
7	Pulmonary Embolism	18.24	63,167	39,290	5.39	15,033	9,015
8	Other Pulmonary Complications	10.13	40,277	30,517	4.77	13,245	8,383
9	Shock	20.62	90,142	57,320	5.16	14,471	8,880
10	Congestive Heart Failure	14.78	45,461	28,246	5.12	14,052	8,675
11	Acute Myocardial Infarction	14.11	46,444	27,914	5.40	14,813	8,885
12	Cardiac Arrhythmias & Conduction Disturbances	11.42	61,220	47,290	8.93	49,716	39,723
13	Other Acute Cardiac Complications	10.69	39,167	26,981	5.49	14,888	8,993
14	Ventricular Fibrillation/Cardiac Arrest	15.53	62,213	34,752	5.39	15,003	9,020
15	Peripheral Vascular Complications except Venous Thrombosis	21.81	87,660	50,616	5.40	15,014	9,014
16	Venous Thrombosis	19.79	61,582	37,960	5.37	14,985	9,004

PPC Description	PPC Discharges			At Risk Non-PPC Discharges		
	ALOS	Mean Cost (\$)	Median Cost (\$)	ALOS	Mean Cost (\$)	Median Cost (\$)
<b>17</b> Major Gastrointestinal Complications without Transfusion or Significant Bleeding	18.87	62,450	29,977	5.34	14,886	8,964
<b>18</b> Major Gastrointestinal Complications with Transfusion or Significant Bleeding	25.17	75,791	51,824	5.34	14,894	8,960
<b>19</b> Major Liver Complications	21.23	87,647	52,349	5.37	14,941	8,987
<b>20</b> Other Gastrointestinal Complications without Transfusion or Significant Bleeding	21.53	65,529	37,929	5.35	14,916	8,953
<b>21</b> Clostridium Difficile Colitis	25.36	71,144	41,221	5.37	14,990	9,017
<b>23</b> GU Complications except UTI	16.20	50,664	32,889	5.41	15,081	9,022
<b>24</b> Renal Failure without Dialysis	14.36	48,647	28,834	4.98	13,600	8,585
<b>25</b> Renal Failure with Dialysis	31.18	126,508	95,503	5.09	14,002	8,681
<b>26</b> Diabetic Ketoacidosis & Coma	13.44	49,319	28,997	5.41	15,080	9,015
<b>27</b> Post-Hemorrhagic & Other Acute Anemia with Transfusion	15.97	57,344	41,344	5.61	15,397	9,422
<b>28</b> In-Hospital Trauma and Fractures	19.47	40,949	25,609	5.42	15,123	9,040
<b>29</b> Poisonings except from Anesthesia	10.50	29,463	19,401	5.41	15,101	9,047
<b>30</b> Poisonings due to Anesthesia	10.67	23,196	23,513	5.48	15,472	9,164
<b>31</b> Decubitus Ulcer	42.22	129,739	74,748	5.43	15,211	8,913
<b>32</b> Transfusion Incompatibility Reaction	7.00	20,682	18,354	5.45	15,280	8,918
<b>33</b> Cellulitis	19.24	48,818	26,590	5.00	14,238	8,727
<b>34</b> Moderate Infections	23.19	75,504	40,638	4.87	14,007	8,635
<b>35</b> Septicemia & Severe Infections	23.85	76,273	45,396	5.12	14,400	8,828
<b>36</b> Acute Mental Health Changes	8.67	28,948	19,584	3.96	13,383	8,591
<b>37</b> Post-Operative Infection & Deep Wound Disruption without Procedure	21.58	84,587	51,281	4.59	22,017	14,062
<b>38</b> Post-Operative Wound Infection & Deep Wound Disruption with Procedure	28.13	103,534	73,413	4.86	22,989	14,446
<b>39</b> Reopening Surgical Site	18.84	80,520	54,055	4.79	22,716	14,465
<b>40</b> Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or I&D Procedure	11.11	54,323	33,996	5.68	23,049	14,284
<b>41</b> Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Procedure	15.62	85,703	49,495	5.23	23,906	14,733
<b>42</b> Accidental Puncture/Laceration during Invasive Procedure	10.24	44,072	24,633	5.54	22,733	13,985
<b>43</b> Accidental Cut or Hemorrhage during Other Medical Care	8.75	20,881	19,165	5.42	15,128	9,041
<b>44</b> Other Surgical Complication - Moderate	17.90	58,701	37,201	5.03	23,069	14,461
<b>45</b> Post-procedure Foreign Bodies	11.04	52,419	28,771	5.82	26,413	15,201
<b>46</b> Post-Operative Substance Reaction & Non-O.R. Procedure for Foreign Body	19.33	64,774	41,086	5.42	15,128	9,041
<b>47</b> Encephalopathy	17.05	55,973	33,774	4.80	13,423	8,521
<b>48</b> Other Complications of Medical Care	21.98	77,816	41,730	5.41	15,085	9,035
<b>49</b> Iatrogenic Pneumothorax	13.89	46,244	25,862	5.29	13,920	8,486
<b>50</b> Mechanical Complication of Device, Implant & Graft	17.57	66,191	41,706	5.37	14,854	8,948
<b>51</b> Gastrointestinal Ostomy Complications	29.24	80,170	44,370	5.39	15,010	8,980

PPC Description	PPC Discharges			At Risk Non-PPC Discharges		
	ALOS	Mean Cost (\$)	Median Cost (\$)	ALOS	Mean Cost (\$)	Median Cost (\$)
<b>52</b> Infection, Inflammation & Other Complications of Devices, Implants or Grafts except Vascular Infection	18.39	64,210	38,850	5.36	14,813	8,941
<b>53</b> Infection, Inflammation and Clotting Complications of Peripheral Vascular Catheters and Infusions	17.24	51,480	31,355	5.39	15,020	9,009
<b>54</b> Central Venous Catheter-Related Blood Stream Infection	44.62	148,310	84,010	5.44	15,243	8,916
<b>55</b> Obstetrical Hemorrhage without Transfusion	2.91	8,214	7,269	2.83	7,918	6,928
<b>56</b> Obstetrical Hemorrhage with Transfusion	4.49	15,519	11,592	2.82	7,856	6,910
<b>57</b> Obstetric Lacerations & Other Trauma without Instrumentation	2.85	7,926	6,765	2.89	8,067	6,983
<b>58</b> Obstetric Lacerations & Other Trauma with Instrumentation	2.74	7,212	6,650	2.80	7,708	6,828
<b>59</b> Medical & Anesthesia Obstetric Complications	4.39	13,819	9,858	2.89	8,047	6,993
<b>60</b> Major Puerperal Infection and Other Major Obstetric Complications	7.92	26,062	17,419	2.89	8,077	7,008
<b>61</b> Other Complications of Obstetrical Surgical & Perineal Wounds	5.00	13,773	9,913	2.90	8,093	7,008
<b>62</b> Delivery with Placental Complications	3.22	9,517	7,014	2.90	8,103	7,013
<b>63</b> Post-Operative Respiratory Failure with Tracheostomy	61.90	256,580	208,594	4.55	21,020	13,901
<b>64</b> Other In-Hospital Adverse Events	18.76	28,842	16,285	5.42	15,128	9,041
<b>65</b> Urinary Tract Infection	18.66	53,633	30,382	5.14	14,538	8,867
<b>66</b> Catheter-Related Urinary Tract Infection	23.82	67,762	38,186	5.17	14,718	8,778

Table 42: PPC Cases, At Risk Admissions and Observed Rates per 10,000 at Risk Discharges, by PPC Group, 2013-2014

#	PPC Group	2013			2014		
		Discharges	At Risk Discharges	Rate per 10,000	Discharges	At Risk Discharges	Rate per 10,000
<b>1</b>	Extreme Complications	14,914	1,797,027	82.99	14,344	1,734,916	82.68
<b>2</b>	Cardiovascular-Respiratory Complications	38,246	1,779,491	214.93	36,095	1,718,119	210.08
<b>3</b>	Gastrointestinal Complications	5,795	1,776,042	32.63	5,881	1,714,385	34.30
<b>4</b>	Perioperative Complications	11,988	1,851,009	64.76	11,318	1,787,650	63.31
<b>5</b>	Infectious Complications	26,785	1,885,898	142.03	25,255	1,820,335	138.74
<b>6</b>	Malfunctions, Reactions, etc.	6,887	1,937,312	35.55	6,799	1,871,530	36.33
<b>7</b>	Obstetrical Complications	14,075	217,892	645.96	14,681	223,462	656.98
<b>8</b>	Other Medical and Surgical Complications	25,905	1,911,850	135.50	25,470	1,847,172	137.89

Chart 8: PPC Comparison of Average Length of Stay (ALOS) PPC vs Non-PPC Discharges, by PPC Group, 2014

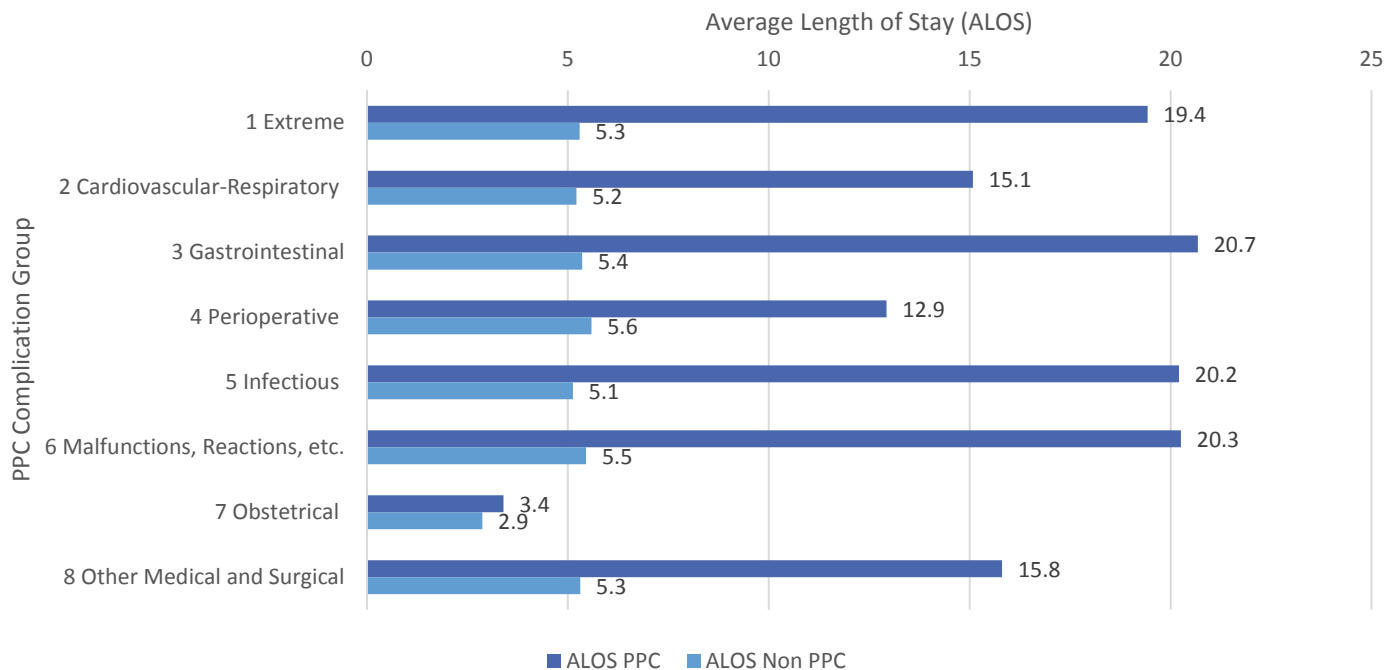
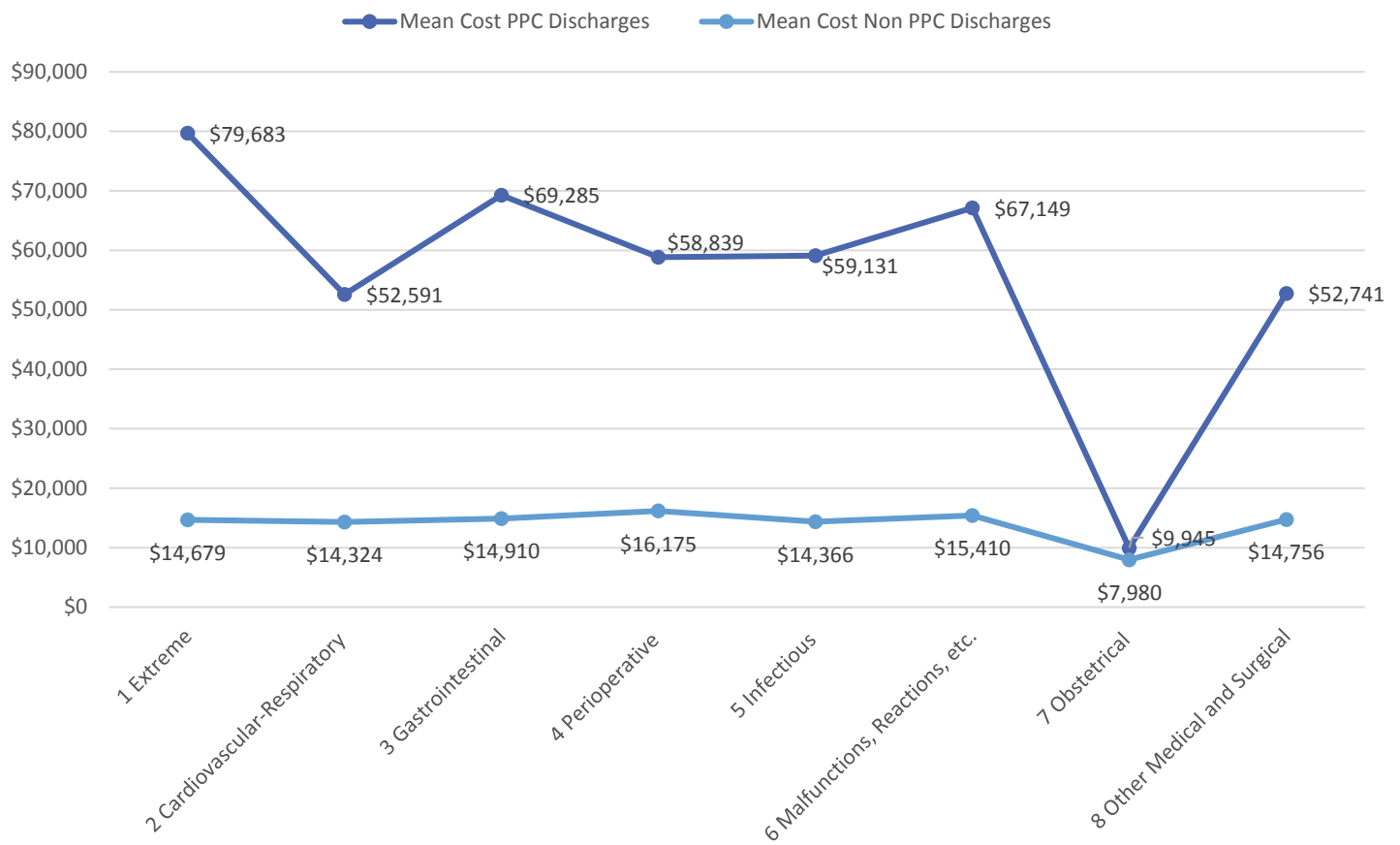


Chart 9: PPC Comparison of Average Cost PPC vs Non-PPC Discharges, By PPC Group, 2014





## POTENTIALLY PREVENTABLE READMISSIONS (PPR) 3M™

## DESCRIPTION

Hospital readmissions are increasingly viewed as a potential indicator of the quality of inpatient care, predicated on the notion that they might have been prevented with improved coordination of services between inpatient and outpatient settings. Potentially preventable readmissions (PPRs) are return admissions, identified by a software program developed by 3M Health Information Systems, within a specified time period that are clinically related to the initial admission. These return admissions are thought to be potentially preventable with proper care and treatment during the initial hospitalization and through adequate discharge planning, follow-up, and coordination between the inpatient and outpatient settings.

Individual hospitals and community care organizations have developed quality improvement strategies such as daily protocols, standardized procedures, and use of electronic information systems for discharge planning. Statewide, multiple providers are invested in ensuring smooth care transitions after hospital discharge and strengthening the continuum of care across all settings to prevent hospital readmission.

The Potentially Preventable Readmission Classification System software was used to identify readmissions within a 30-day window from the discharge date of the initial admission that addressed a continuation, recurrence, or complication of a problem that occurred during the initial hospitalization. Analyses to identify readmissions were calculated for each year separately.

## FINDINGS

- In NYS, the 30-day potentially preventable readmission rate has been decreasing over time. The PPR rate decreased from 6.7 per 100 discharges in 2013 to 6.3 per 100 discharges in 2014 (Table 43). Additionally, of the 213 hospitals studied for readmissions, 70 percent decreased their rate between the years of 2013 and 2014.
- New York City hospitals have the highest risk adjusted 30-day readmission rates, with Central New York hospitals having the second highest risk adjusted readmission rates (Table 44).
- As a patient ages, the 30-day readmission rate increases, with the highest observed rates seen in patients over the age of 76 years (Table 46). The size of the hospital also seems to have an effect on the number of readmissions, with smaller hospitals having lower risk adjusted 30-day readmission rates than larger hospitals (Table 45).
- In 2014, 62% of the total costs for inpatient discharges were for admissions that were at risk to be followed by a PPR, but were not followed by a readmission (Table 47). The highest median cost was for discharges that were not at risk for a PPR. These discharges are traumas, burns, and certain types of cancers.
- In 2014, potentially preventable readmissions cost \$2.3 billion dollars, 6.4% of the total cost of all inpatient discharges (Table 47).



## TABLES

Table 43: Trends in Statewide PPR Rates per 100 At-Risk Discharges, 2013-2014

	2013			2014		
	At-Risk Discharges	Observed PPR Chains	Observed PPR Rate	At-Risk Discharges	Observed PPR Chains	Observed PPR Rate
Statewide	1,910,014	128,376	6.72	1,844,665	117,031	6.34

Table 44: PPR Rates per 100 At-Risk Discharges, by Hospital Region, 2013-2014

## 2013 FINDINGS

Region	At-Risk Discharges	Observed PPR Chains	Observed PPR Rate	Expected PPR Rate	Risk Adjusted PPR Rate
Western NY	135,608	8,639	6.37	7.11	6.05
Finger Lakes	122,017	8,212	6.73	7.08	6.42
Central NY	130,123	8,979	6.90	6.91	6.74
NY-Penn	25,250	1,730	6.85	6.87	6.73
Northeast NY	131,485	9,053	6.89	7.23	6.42
Mid-Hudson	192,698	13,003	6.75	6.87	6.63
New York City	889,318	59,843	6.73	6.47	7.02
Long Island	283,515	18,917	6.67	6.74	6.68
<b>Statewide 2013</b>	<b>1,910,014</b>	<b>128,376</b>	<b>6.72</b>		

## 2014 FINDINGS

Region	At-Risk Discharges	Observed PPR Chains	Observed PPR Rate	Expected PPR Rate	Risk Adjusted PPR Rate
Western NY	130,083	8,115	6.24	6.70	5.93
Finger Lakes	117,068	7,501	6.41	6.63	6.16
Central NY	123,703	8,189	6.62	6.53	6.46
NY-Penn	24,097	1,489	6.18	6.61	5.96
Northeast NY	129,672	8,554	6.60	6.80	6.18
Mid-Hudson	186,289	12,122	6.51	6.62	6.26
New York City	862,961	53,815	6.24	6.08	6.54
Long Island	270,792	17,246	6.37	6.38	6.36
<b>Statewide 2014</b>	<b>1,844,665</b>	<b>117,031</b>	<b>6.34</b>		

Table 45: PPR Rates per 100 At-Risk Discharges, by Hospital Admission Volume, 2013-2014

## 2013 FINDINGS

Hospital At-Risk for PPR Discharge Volume	Number of Hospitals 2013	At-Risk Discharges 2013	Observed PPR Chains 2013	Observed PPR Rate 2013	Expected PPR Rate 2013	Risk Adjusted PPR Rate 2013
1-500	36	6,487	493	7.60	8.43	6.08
501-3,000	50	81,384	6,142	7.55	7.75	6.57
3,001-10,000	68	392,593	28,999	7.39	7.40	6.73
10,000+	75	1,429,550	92,742	6.49	6.47	6.77
<b>Statewide 2013</b>	<b>229</b>	<b>1,910,014</b>	<b>128,376</b>	<b>6.72</b>		

## 2014 FINDINGS

Hospital At-Risk for PPR Discharge Volume	Number of Hospitals 2014	At-Risk Discharges 2014	Observed PPR Chains 2014	Observed PPR Rate 2014	Expected PPR Rate 2014	Risk Adjusted PPR Rate 2014
1-500	35	5,793	430	7.42	7.81	6.05
501-3,000	48	79,137	6,009	7.59	7.56	6.40
3,001-10,000	69	384,363	27,226	7.08	7.01	6.44
10,000+	73	1,375,372	83,366	6.06	6.08	6.35
<b>Statewide 2014</b>	<b>225</b>	<b>1,844,665</b>	<b>117,031</b>	<b>6.34</b>		

Table 46: PPR Rates per 100 At-Risk Discharges, by Age Group, 2013-2014

Age in Years	2013			2014		
	At-Risk Discharges	Observed PPR Chains	Observed PPR Rate	At-Risk Discharges	Observed PPR Chains	Observed PPR Rate
under 18	316,846	5,836	1.84	312,669	5,676	1.82
18-45	543,078	24,664	4.54	530,732	22,677	4.27
46-59	316,947	26,448	8.34	304,256	24,162	7.94
60-75	378,963	32,935	8.69	366,635	30,588	8.34
76+	354,180	38,493	10.87	330,373	33,928	10.27
<b>State</b>	<b>1,910,014</b>	<b>128,376</b>	<b>6.72</b>	<b>1,844,665</b>	<b>117,031</b>	<b>6.34</b>

Table 47: PPR Mean and Median Costs, by Discharge Type, 2014

Admission Type	Number of Discharges	Total Cost (\$)	Percent of Total Cost	Mean Cost (\$)	Median Cost (\$)
Single Inpatient Discharge	1,727,634	\$23,144,068,338	62.39	\$13,396	\$7,781
Observed Chains (Clinically Related Events)	269,179	4,688,038,916	12.64	17,416	10,041
<i>Initial Admission</i>	117,031	2,298,314,545	6.20	19,639	11,129
<i>Readmission</i>	152,148	2,389,724,371	6.44	15,707	9,295
Discharges Not At Risk	362,742	9,264,635,214	24.97	25,541	12,352
<b>Total Discharges</b>	<b>2,359,555</b>	<b>\$37,096,742,468</b>	<b>100.00</b>	<b>\$15,722</b>	<b>\$8,511</b>

Table 48: PPR Rates per 100 At-Risk Discharges, by Primary Payer, 2013-2014

## 2013 FINDINGS

Payer 2013	At-Risk Discharges	Observed Chains	Observed Rate	Expected Rate	Risk-Adjusted Rate
Medicare	701,367	73,978	10.55	10.11	7.01
Medicaid	589,514	34,227	5.81	5.29	7.38
Commercial	517,725	16,127	3.12	4.01	5.22
Self-Pay	58,257	2,451	4.21	5.99	4.72
Other	43,151	1,593	3.69	4.62	5.38
<b>Statewide</b>	<b>1,910,014</b>	<b>128,376</b>	<b>6.72</b>		

## 2014 FINDINGS

Payer 2014	At-Risk Discharges	Observed Chains	Observed Rate	Expected Rate	Risk-Adjusted Rate
Medicare	661,256	66,719	10.09	9.62	6.68
Medicaid	594,583	32,172	5.41	5.04	6.84
Commercial	494,536	14,491	2.93	3.79	4.92
Self-Pay	49,089	1,916	3.90	5.31	4.69
Other	45,201	1,733	3.83	4.57	5.35
<b>Statewide</b>	<b>1,844,665</b>	<b>117,031</b>	<b>6.34</b>		

# Technical Appendix

## HOW TO INTERPRET RATES

Metric		How to Interpret
PDI	Observed Rate per 100,000 Population	The number of PDI discharges divided by the pediatric population. Lower rates represent better results.
PDI	Risk Adjusted Rate per 100,000 (age-sex-race adjusted rate)	Calculated by dividing the observed PDI rate by the expected PDI rate, multiplied by the statewide observed PDI rate. The expected PDI rate is the expected number of PDI discharges adjusted by age group, gender, and race/ethnicity divided by the population.
PDI	O/E Ratio	The ratio of the Observed Rate divided by the Expected Rate. If the O/E ratio is greater than 1, then the area performed worse than the reference population with an equivalent patient case mix. If the O/E ratio is less than 1, then the area performed better than the reference population for that indicator with an equivalent case mix.
PDI	National Benchmark per 100,000 Population	Taken Pediatric Quality Indicators™ v5.0 Benchmark Data Tables available at: <a href="http://qualityindicators.ahrq.gov/Downloads/Modules/PDI/V50/Version_50_Benchmark_Tables_PDI.pdf">http://qualityindicators.ahrq.gov/Downloads/Modules/PDI/V50/Version_50_Benchmark_Tables_PDI.pdf</a>
PQI	Observed Rate per 100,000 Population	The number of PQI discharges divided by the population. Lower rates represent better results.
PQI	Risk Adjusted Rate per 100,000 (age-sex-race adjusted rate)	Calculated by dividing the observed PQI rate by the expected PQI rate, multiplied by the statewide observed PQI rate.
PQI	O/E Ratio	The ratio of the Observed Rate divided by the Expected Rate. If the O/E ratio is greater than 1, then the area performed worse than the reference population with an equivalent patient case mix. If the O/E ratio is less than 1, then the area performed better than the reference population for that indicator with an equivalent case mix.
PQI	National Benchmark per 100,000 Population	Taken from Prevention Quality Indicators™ v5.0 Benchmark Data Tables available at: <a href="http://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V50/Version_50_Benchmark_Tables_PQI.pdf">http://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V50/Version_50_Benchmark_Tables_PQI.pdf</a>
Costs	Estimated Costs	Calculated after applying a hospital specific ratio of costs to charges (RCC) to submitted charges at the discharge level.
PPV	Observed Rate (per 100 visits)	The number of PPV divided by the number of ER visits at risk. Lower rates represent better results.
PPV	Observed Rate (per 1,000 population)	The number of PPV divided by population at risk. Lower rates represent better results.
IQI	Observed Rate (per 1,000 discharges)	The number of IQI discharges divided by the number of the discharges at risk for that IQI. Lower rates represent better results.
IQI	Expected Rate (per 1,000 discharges)	The expected number of IQI discharges adjusted by selected covariates as defined in the specifications: <a href="http://www.qualityindicators.ahrq.gov/Modules/iqi_resources.aspx">http://www.qualityindicators.ahrq.gov/Modules/iqi_resources.aspx</a> .
IQI	Risk Adjusted Rate (per 1,000 discharges)	Calculated by dividing the Observed IQI Rate by the Expected IQI Rate and multiplied by the Statewide Observed IQI Rate.

Metric		How to Interpret
IQI	National Observed Rate	Calculated for each IQI measure, is a sum of IQI discharges for the measure divided by the number of the discharges at risk for that IQI across the Nation.
IQI	Total Discharges (Volume)	The number of discharges with the selected procedures meeting the IQI criteria (IQI01, IQI02, IQI02A, IQI02B, IQI04, IQI04A - IQI04D, IQI05 - IQI07). There is evidence that a higher volume of these procedures is associated with lower mortality.
IQI	Observed Area Rate	Represents the rate of hospitalizations as defines for a specific IQI per 100,000 population based on the patient's county of residence (IQI26 - IQI29). Only NYS residents hospital discharges were used in area rates calculations. Hospital discharges that did not have an accurate New York State county recorded or were for out of state residents were excluded from area level IQI calculations. Higher rates might represent deficiencies in the outpatient and preventive care in the given area.
IQI	Expected Area Rate (per 100,000 population)	Adjusted for age and gender distribution in a given area.
IQI	Risk Adjusted Area Rate (per 100,000 population)	Calculated by dividing the Observed IQI Area Rate by the Expected IQI Area Rate and multiplied by the Statewide Observed IQI Area Rate.
PSI	Observed Rate (per 1,000 discharges)	The number of PSI discharges divided by the number of the discharges at risk for that PSI. Lower rates represent better results.
PSI	Expected Rate (per 1,000 discharges)	The expected number of PSI discharges adjusted by selected covariates as defined in the specifications: <a href="http://www.qualityindicators.ahrq.gov/Modules/PSI_resources.aspx">http://www.qualityindicators.ahrq.gov/Modules/PSI_resources.aspx</a> .
PSI	Risk Adjusted Rate (RAR) (per 1,000 discharges)	Calculated by dividing the Observed PSI Rate by the Expected PSI Rate and multiplied by the Statewide Observed PSI Rate.
PSI	National Observed Rate	Calculated for each PSI measure, is a sum of PSI discharges for the measure divided by the number of the discharges at risk for that PSI across the Nation.
PSI	Compare to National indicator	Uses the National Rate as a reference value that is compared to the upper and lower 95% CI for the RAR. In this case RAR and its 95% CI (these values are not shown) are calculated relative to the National Observed Rate. If National Rate is greater than upper bound of the CI then computed RAR is significantly lower than National Rate. If the National Rate is less than the lower bound of the 95% CI then computed RAR is significantly higher than National Rate.
PSI	Volume	The number of discharges with the selected procedures meeting the PSI criteria (PSI05, PSI16). There is evidence that a higher volume of these procedures is associated with lower mortality.
PSI	Observed Area Rate	Represents the rate of hospitalizations as defined for a specific PSI per 100,000 population based on the patient's county of residence (PSI21 - 27). Only NYS residents hospital discharges were used in all rates calculations. Higher rates might represent deficiencies in the outpatient and preventive care in the given area.
PSI	Composite Measure	Summarizes quality metrics across multiple PSIs. It is the weighted average of the observed-to-expected ratios for the selected PSIs calculated using multistep process. Lower rates represent better results.
PPC	At risk discharges (Non-PPC Discharges)	The denominator for the calculation of the PPC specific rate. Discharges are considered at risk for a specific PPC group if the patient had no specific global or clinical exclusions. Discharges that are not considered eligible for PPC assignment are those with certain severe or catastrophic illnesses that are particularly susceptible to a range of complications.
PPC	Discharges	Assigned to a PPC using extensive criteria. There are 65 PPCs in total; the 65 PPCs can be classified into eight groups or can be dichotomized into 2 levels: Major or Other.

Metric	How to Interpret
	For this analysis the PPC rates are presented for only Major PPCs. Thirty-six PPCs make up the definition for a Major PPC.
PPC	Observed rate For individual PPC is calculated by summing the number of discharges that had an individual PPC, divided by the number of discharges that were at risk for the individual PPC.
PPC	Observed rate for group PPCs Calculated by summing the number of discharges that had at least one group level PPC, divided by the number of discharges that were at risk for at least one of the group level PPCs. If a discharge was a PPC for more than one PPC in the group level, it would only be counted once in the numerator. In addition, if the discharge was at risk for more than one PPC in the group level, it would only be counted once in the denominator.
PPC	Observed rate for major PPCs Calculated by summing the number of discharges that had at least one major level PPC, divided by the number of discharges that were at risk for at least one of the major level PPCs. If a discharge was a PPC for more than one PPC in the major level, it would only be counted once in the numerator. In addition, if the discharge was at risk for more than one PPC in the major level, it would only be counted once in the denominator.
PPC	Risk adjusted rates Shown for Major PPC rates and were risk adjusted by APR-DRG and severity of illness (SOI). The risk adjusted rate was calculated by dividing the observed major PPC rate by the expected major PPC rate, multiplied by the statewide observed major PPC rate. The statewide rate is the sum of discharges that had at least one major level PPC, divided by the number of discharges that were at risk for at least one of the major level PPCs.
PPR	At Risk Discharges Some types of discharges are excluded from consideration due to the nature and complexity of the required follow up care, such as most types of major metastatic malignancies, trauma, burns, many types of obstetrical discharges and newborns, as well as patients whose treatment has abruptly ended (patient left against medical advice or patient was transferred to another hospital). After removing these discharges, the remaining discharges were considered to be at risk to be followed by a PPR.
PPR	Observed PPR Chains and Rates A PPR chain is a sequence of PPRs that are all clinically-related to the initial admission. A PPR chain may contain an initial admission and only 1 PPR, the most common situation, or may contain multiple PPRs following the initial admission.
PPR	Observed PPR rate (per 100 hospitalizations) The number of observed PPR chains divided by the number of at risk discharges. Lower rates represent better results.
PPR	Expected PPR Rate A statewide statistical model was developed to estimate the expected number of PPR chains. For all at risk discharges, the patient's age grouping, mental health status (recorded during the initial admission), severity of illness (SOI), and All Patient Refined Diagnosis Related Group (APR DRG) assignment were used to predict the probability that the at risk admission would be followed by a PPR. The expected number of PPR chains is the sum of these probabilities across all at risk discharges in the hospital. This number represents the number of PPR chains we would expect to see in the hospital based on the characteristics of their patients during the at risk admission. The expected PPR rate (per 100 hospitalizations) is the number of expected PPR chains divided by the number of at risk discharges.
PPR	Risk Adjusted PPR Rate The risk adjusted PPR rate (per 100 hospitalizations) for each facility was calculated by dividing the observed PPR rate by the expected PPR rate, multiplied by the statewide observed PPR rate. The statewide PPR rate (per 100 hospitalizations) is calculated by dividing the total number of observed PPR chains at all facilities by the total number of at risk discharges at all facilities for each discharge year separately.

Metric		How to Interpret
PPR	Single Inpatient Discharge	A hospital inpatient discharge that was at risk to be followed by a readmission, but was not followed by a readmission.

## HSA REGION

The health service area (HSA) is a geographical subdivision of NYS based on the county in which the hospital is located (please see table below). There are 8 regions: Western NY, Finger Lakes, Central NY, NY-Penn, Northeast NY, Mid-Hudson, New York City (NYC), and Long Island.

Western NY	Finger Lakes	Central NY	NY-Penn	Northeast NY	Mid-Hudson	New York City	Long Island
Allegany	Chemung	Cayuga	Broome	Albany	Dutchess	Bronx	Nassau
Cattaraugus	Livingston	Cortland	Chenango	Clinton	Orange	Kings	Suffolk
Chautauqua	Monroe	Herkimer	Tioga	Columbia	Putnam	New York	
Erie	Ontario	Jefferson		Delaware	Rockland	Queens	
Genesee	Schuyler	Lewis		Essex	Sullivan	Richmond	
Niagara	Seneca	Madison		Franklin	Ulster		
Orleans	Steuben	Oneida		Fulton	Westchester		
Wyoming	Wayne	Onondaga		Greene			
	Yates	Oswego		Hamilton			
		St Lawrence		Montgomery			
		Tompkins		Otsego			
				Rensselaer			
				Saratoga			
				Schenectady			
				Schoharie			
				Warren			
				Washington			

## AHRQ QUALITY INDICATORS

## AHRQ QUALITY INDICATORS™ SOFTWARE VERSION

Analysis Year	PDI Software Version	PQI Software Version
2009		Version 4.5
2010		Version 4.5
2011		Version 4.5
2012		Version 4.5
2013	Version 4.5	Version 5.0
2014	Version 5.0	Version 5.0

\*On Health Data NY, Analysis Year 2013 is run on Version 4.5; for this report it was run on version 5.0

## PEDIATRIC QUALITY INDICATORS (PDI)

**Technical Specifications and Software**

An overview of the PDIs may be found on the AHRQ website at: [http://www.qualityindicators.ahrq.gov/modules/pdi\\_overview.aspx](http://www.qualityindicators.ahrq.gov/modules/pdi_overview.aspx).

The software is available on the AHRQ website at: [http://www.qualityindicators.ahrq.gov/Modules/pdi\\_resources.aspx](http://www.qualityindicators.ahrq.gov/Modules/pdi_resources.aspx).

### Health Data NY

Hospital Inpatient Prevention Quality Indicators (PDI) for Pediatric Discharges by Patient County (SPARCS): Beginning 2009

Hospital Inpatient Prevention Quality Indicators (PDI) for Pediatric Discharges by Patient Zip Code: Beginning 2009

### Statistical Briefs

New York State All-Payer Inpatient Hospital Discharges and Emergency Room Visits for Children Under 18 Years, 2013 (December 2015)

PDI Number	PDI Name	PDI Description
PDI 14	Asthma	Discharges with a principal diagnosis of asthma per 100,000 population, ages 2 through 17 years. Excludes cases with a diagnosis code for cystic fibrosis and anomalies of the respiratory system, obstetric discharges, and transfers from other institutions.
PDI 15	Diabetes Short-term Complications	Discharges for a principal diagnosis of diabetes with short-term complications (ketoacidosis, hyperosmolarity, or coma) per 100,000 population, ages 6 through 17 years. Excludes obstetric discharges and transfers from other institutions.
PDI 16	Gastroenteritis	Discharges for a principal diagnosis of gastroenteritis, or for a principal diagnosis of dehydration with a secondary diagnosis of gastroenteritis per 100,000 population, ages 3 months to 17 years. Excludes cases transferred from another facility, cases with gastrointestinal abnormalities or bacterial gastroenteritis, and obstetric discharges.
PDI 17	Perforated Appendix Admission Rate	Discharges for patients ages 1 through 17 years, with any-listed ICD-9-CM diagnosis codes for perforations or abscesses of appendix. The denominator are discharges, for patient's ages 1 through 17 years, with any-listed ICD-9-CM diagnosis codes for appendicitis.
PDI 18	Urinary Tract Infection	Discharges with a principal diagnosis of urinary tract infection per 100,000 population, ages 3 months to 17 years. Excludes cases with kidney or urinary tract disorders, cases with a high- or intermediate-risk immunocompromised state, cases with cirrhosis and hepatic failure with a diagnosis of coma or hepatorenal syndrome, cases with transplants, transfers from other institutions, and obstetric discharges.
PDI 90	Pediatric Quality Overall Composite	Pediatric Quality Indicators (PDI) overall composite per 100,000 population, ages 6 to 17 years. Includes discharges for one of the following conditions: asthma, diabetes with short-term complications, gastroenteritis, or urinary tract infection.
PDI 91	Pediatric Quality Acute Composite	Pediatric Quality Indicators (PDI) composite of acute conditions per 100,000 population, ages 6 to 17 years. Includes discharges for gastroenteritis or urinary tract infection.
PDI 92	Pediatric Quality Chronic Composite	Pediatric Quality Indicators (PDI) composite of chronic conditions per 100,000 population, ages 6 to 17 years. Includes discharges for asthma or diabetes with short-term complications.

## PREVENTION QUALITY INDICATORS (PQI)

### Technical Specifications and Software

An overview of the PQIs may be found on the AHRQ website at: [http://www.qualityindicators.ahrq.gov/modules/pqi\\_overview.aspx](http://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx).



The software is available on the AHRQ website at: [http://www.qualityindicators.ahrq.gov/Modules/pqi\\_resources.aspx](http://www.qualityindicators.ahrq.gov/Modules/pqi_resources.aspx).

#### Health Data NY

Hospital Inpatient Prevention Quality Indicators (PQI) for Adult Discharges by County (SPARCS): Beginning 2009

Hospital Inpatient Prevention Quality Indicators (PQI) for Adult Discharges by Zip Code (SPARCS): Beginning 2009

#### Statistical Briefs

New York State All-Payer Prevention Quality Indicator (PQI) Rates, 2009-2012 (October 2014)

PQI Number	PQI Name	PQI Description
PQI 01	Diabetes Short-term Complications	Discharges for a principal diagnosis of diabetes with short-term complications (ketoacidosis, hyperosmolarity or coma) per 100,000 population, ages 18 years and older. Excludes obstetric discharges and transfers from other institutions.
PQI 02	Perforated Appendix Admission Rate	Discharges with ICD-9-CM diagnosis code for perforations or abscesses of appendix in any field among cases meeting the inclusion rules for the denominator. The denominator are discharges with any-listed ICD-9-CM diagnosis codes for appendicitis.
PQI 03	Diabetes Long-term Complications	Discharges for a principal diagnosis of diabetes with long-term complications (renal, eye, neurological, circulatory, or complications not otherwise specified) per 100,000 population, ages 18 years and older. Excludes obstetric discharges and transfers from other institutions.
PQI 05	Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults	Discharges with a principal diagnosis of chronic obstructive pulmonary disease (COPD) or asthma per 100,000 population, ages 40 years and older. Excludes obstetric discharges and transfers from other institutions.
PQI 07	Hypertension	Discharges with a principal diagnosis of hypertension per 100,000 population, ages 18 years and older. Excludes kidney disease combined with dialysis access procedure discharges, cardiac procedure discharges, obstetric discharges, and transfers from other institutions.
PQI 08	Heart Failure	Discharges with a principal diagnosis of heart failure per 100,000 population, ages 18 years and older. Excludes cardiac procedure discharges, obstetric discharges, and transfers from other institutions.
PQI 10	Dehydration	Discharges with a principal diagnosis of dehydration per 100,000 population, ages 18 years and older. Excludes obstetric discharges and transfers from other institutions.
PQI 11	Bacterial Pneumonia	Discharges with a principal diagnosis of bacterial pneumonia per 100,000 population, ages 18 years and older. Excludes sickle cell or hemoglobin-S discharges, other indications of immunocompromised state discharges, obstetric discharges, and transfers from other institutions.
PQI 12	Urinary Tract Infection	Discharges with a principal diagnosis of urinary tract infection per 100,000 population, ages 18 years and older. Excludes kidney or urinary tract disorder discharges, other indications of immunocompromised state discharges, obstetric discharges, and transfers from other institutions.
PQI 13	Angina Without Procedure	Discharges with a principal diagnosis of angina without a cardiac procedure per 100,000 population, ages 18 years and older. Excludes cardiac procedure discharges, obstetric discharges, and transfers from other institutions.
PQI 14	Uncontrolled Diabetes	Discharges for a principal diagnosis of diabetes without mention of short-term (ketoacidosis, hyperosmolarity, or coma) or long-term (renal, eye, neurological, circulatory, or other unspecified) complications per 100,000

PQI Number	PQI Name	PQI Description
		population, ages 18 years and older. Excludes obstetric discharges and transfers from other institutions.
PQI 15	Asthma in Younger Adults	Discharges for a principal diagnosis of asthma per 100,000 population, ages 18 to 39 years. Excludes discharges with an indication of cystic fibrosis or anomalies of the respiratory system, obstetric discharges, and transfers from other institutions.
PQI 16	Lower-Extremity Amputation among Patients with Diabetes	Discharges for any-listed diagnosis of diabetes and any-listed procedure of lower-extremity amputation per 100,000 population, ages 18 years and older. Excludes any-listed diagnosis of traumatic lower-extremity amputation discharges, toe amputation admission (likely to be traumatic), obstetric discharges, and transfers from other institutions.
PQI 90	Prevention Quality Overall Composite	Prevention Quality Indicators (PQI) overall composite per 100,000 population, ages 18 years and older. Includes discharges for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, heart failure and angina without a cardiac procedure, dehydration, bacterial pneumonia, or urinary tract infection.
PQI 91	Prevention Quality Acute Composite	Prevention Quality Indicators (PQI) composite of acute conditions per 100,000 population, ages 18 years and older. Includes discharges with a principal diagnosis of one of the following conditions: dehydration, bacterial pneumonia, or urinary tract infection.
PQI 92	Prevention Quality Chronic Composite	Prevention Quality Indicators (PQI) composite of chronic conditions per 100,000 population, ages 18 years and older. Includes discharges for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, heart failure, or angina without a cardiac procedure.

#### IDENTIFICATION OF POTENTIALLY PREVENTABLE EMERGENCY ROOM VISITS (PPV)

PPV counts are identified through the use of the 3M Population Based Preventable Version 1.3.1 software. PPVs are only assigned to visits that occur within a hospital's emergency department as defined in SPARCS specifications. A list of non-medical and medical patient groups (EAPGs) that represent ambulatory sensitive conditions are defined for PPV identification. Patients with ED visits assigned to a medical EAPG and have a primary diagnosis identifying an ambulatory sensitive condition are identified as PPV candidates. Moreover, patients with a non-medical EAPG that defines an ambulatory sensitive condition are identified as PPV candidates. In addition to the criteria above, patients admitted from a residential nursing facility with a primary diagnosis related to trauma are also PPV candidates. Emergency room visits with claim dates that overlap an inpatient admission or for a patient that was born in the same calendar year as the visit are excluded.

Where population rates are provided, the denominator population base was identified through the use of proprietary Claritas files. Claritas data are proprietary and have been purchased from Claritas for use by employees of the State Department of Health. Data from these files cannot be released to any third party without the prior written consent of Claritas, therefore these publicly released files do not contain denominator counts.

Costs for all emergency room visits are estimations that were calculated by applying 2012 facilities' average ratio cost to charges (RCCs) to the total charges reported for the visit. Facility specific RCCs are calculated from New York State Institutional Cost Report (ICR) data submitted annually by health care facilities operating in New York State.

- All-Payer Potentially Preventable Emergency Visit (PPV) Rates by Patient County (SPARCS): Beginning 2011
- All-Payer Potentially Preventable Emergency Visit (PPV) Rates by Patient Zip Code (SPARCS): Beginning 2011

#### Statistical Briefs

- New York State All-Payer Potentially Preventable Emergency Room Visits 2011-2012 (October 2014)
- New York State All-Payer Emergency Room Visits, 2013 (March 2015)

### AHRQ INPATIENT QUALITY INDICATORS (IQI)

#### IQI Volume Measures

<b>IQI Code</b>	<b>IQI Value</b>
01	Esophageal Resection Volume
02	Pancreatic Resection Volume
02A	Pancreatic Resection Volume - Stratum A
02B	Pancreatic Resection Volume - Stratum B
04	Abdominal Aortic Aneurysm (AAA) Repair Volume
04A	Abdominal Aortic Aneurysm (AAA) Repair Volume - Stratum A
04B	Abdominal Aortic Aneurysm (AAA) Repair Volume - Stratum B
04C	Abdominal Aortic Aneurysm (AAA) Repair Volume - Stratum C
04D	Abdominal Aortic Aneurysm (AAA) Repair Volume - Stratum D
05	Coronary Artery Bypass Graft (CABG) Volume
06	Percutaneous Coronary Intervention (PCI) Volume
07	Carotid Endarterectomy Volume

#### IQI Individual Measures

<b>IQI Code</b>	<b>IQI Value</b>
08	Esophageal Resection Mortality Rate
09	Pancreatic Resection Mortality Rate
09A	Pancreatic Resection Mortality Rate with Pancreatic Cancer Dx
09B	Pancreatic Resection Mortality Rate without Pancreatic Cancer Dx
11	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate
11A	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Ruptured Open
11B	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Unruptured Open
11C	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Ruptured Endovascular
11D	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Unruptured Endovascular
13	Craniotomy Mortality Rate
14	Hip Replacement Mortality Rate
15	Acute Myocardial Infarction (AMI) Mortality Rate
16	Heart Failure Mortality Rate
18	Gastrointestinal Hemorrhage Mortality Rate
19	Hip Fracture Mortality Rate

20	Pneumonia Mortality Rate
21	Cesarean Delivery Rate, Uncomplicated
22	Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated
23	Laparoscopic Cholecystectomy Rate
24	Incidental Appendectomy in the Elderly Rate
25	Bilateral Cardiac Catheterization Rate
31	Carotid Endarterectomy Mortality Rate
32	Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases
33	Primary Cesarean Delivery Rate, Uncomplicated
34	Vaginal Birth After Cesarean (VBAC) Rate, All

#### IQI Composite Measures

<b>IQI Code</b>	<b>IQI Value</b>	<b>Component Indicators</b>	<b>Component Indicator Value</b>
90	Mortality for Selected Procedures	08	Esophageal Resection Mortality Rate
		09	Pancreatic Resection Mortality Rate
		11	Abdominal Aortic Aneurism (AAA) Repair Mortality Rate
		12	Coronary Artery Bypass Graft (CABG) Mortality Rate
		13	Craniotomy Mortality Rate
		14	Hip Replacement Mortality Rate
		30	Percutaneous Coronary Intervention (PCI) Mortality Rate
		31	Carotid Endarterectomy Mortality Rate
91	Mortality for Selected Conditions	15	Acute Myocardial Infarction (AMI) Mortality Rate
		16	Heart Failure Mortality Rate
		17	Acute Stroke Mortality Rate
		18	Gastrointestinal Hemorrhage Mortality Rate
		19	Hip Fracture Mortality Rate
		20	Pneumonia Mortality Rate

#### Technical Specifications and Software

An overview of the individual IQIs may be found on the AHRQ website at:

[http://www.qualityindicators.ahrq.gov/Modules/IQI\\_TechSpec.aspx](http://www.qualityindicators.ahrq.gov/Modules/IQI_TechSpec.aspx).

The software is available on the AHRQ website at: <http://www.qualityindicators.ahrq.gov/Software/Default.aspx>

#### Health Data NY

- All-Payer Inpatient Quality Indicators (IQI) by Hospital (SPARCS): Beginning 2009
- All-Payer Inpatient Quality Indicators (IQI) Area Measures by Patient County (SPARCS): Beginning 2009
- All-Payer Inpatient Quality Indicators (IQI) Composite Measures by Hospital (SPARCS): Beginning 2009
- All-Payer Inpatient Quality Indicators (IQI) Volume Measures by Hospital (SPARCS): Beginning 2009

#### Statistical Briefs

- New York State All-Payer Inpatient Quality Indicators, 2009-2013 (January 2015)

## AHRQ PATIENT SAFETY INDICATORS (PSI)

### **Technical Specifications and Software**

An overview of the PSIs may be found on the AHRQ website at: [http://www.qualityindicators.ahrq.gov/Modules/PSI\\_TechSpec.aspx](http://www.qualityindicators.ahrq.gov/Modules/PSI_TechSpec.aspx).  
The software is available on the AHRQ website at: <http://www.qualityindicators.ahrq.gov/Software/Default.aspx>

### **Health Data NY**

- All-Payer Patient Safety Indicators (PSI) by Hospital: Beginning 2009
- All-Payer Patient Safety Indicators (PSI) Area Measures by Patient County: Beginning 2009
- All-Payer Patient Safety Indicators (PSI) Volume Measures by Hospital: Beginning 2009
- All-Payer Patient Safety Indicators (PSI) Composite Measures by Hospital: Beginning 2009

### **Statistical Briefs**

- New York State All-Payer Patient Safety Indicators, 2009-2013 (April 2015)

## POTENTIALLY PREVENTABLE COMPLICATIONS (PPC)

### **Statistical Briefs**

New York State All-Payer Hospital Inpatient Potentially Preventable Complication Rates, 2009-2012 (August 2014)

### **Health Data NY**

<https://health.data.ny.gov/Health/Hospital-Inpatient-Potentially-Preventable-Complic/s3du-3m47>

### PPC GROUPS

#### **PPC Group**

- 1 - Extreme Complications
- 2 - Cardiovascular-Respiratory Complications
- 3 - Gastrointestinal Complications
- 4 - Perioperative Complications
- 5 - Infectious Complications
- 6 - Malfunctions, infections from devices; reactions
- 7 - Obstetrical Complications
- 8 - Other Medical and Surgical Complications

### PPC LEVELS

#### **PPC Level**

- 1 - Other
- 2 - Major

### PPC CATEGORIES

		<b>PPC</b>	<b>PPC</b>
<b>PPC</b>	<b>PPC Description</b>	<b>Group</b>	<b>Level</b>
01	Stroke & Intracranial Hemorrhage	2	2

<i>PPC</i>	<i>PPC Description</i>	<i>PPC Group</i>	<i>PPC Level</i>
02	Extreme CNS Complications	1	2
03	Acute Pulmonary Edema and Respiratory Failure without Ventilation	2	1
04	Acute Pulmonary Edema and Respiratory Failure with Ventilation	1	2
05	Pneumonia & Other Lung Infections	2	2
06	Aspiration Pneumonia	2	2
07	Pulmonary Embolism	2	2
08	Other Pulmonary Complications	2	1
09	Shock	1	2
10	Congestive Heart Failure	2	2
11	Acute Myocardial Infarction	2	2
12	Cardiac Arrhythmias & Conduction Disturbances	2	1
13	Other Cardiac Complications	2	1
14	Ventricular Fibrillation/Cardiac Arrest	1	2
15	Peripheral Vascular Complications except Venous Thrombosis	2	2
16	Venous Thrombosis	2	2
17	Major Gastrointestinal Complications without Transfusion or Significant Bleeding	3	1
18	Major Gastrointestinal Complications with Transfusion or Significant Bleeding	3	2
19	Major Liver Complications	3	2
20	Other Gastrointestinal Complications without Transfusion or Significant Bleeding	3	1
21	Clostridium Difficile Colitis	5	2
23	GU Complications except UTI	8	1
24	Renal Failure without Dialysis	8	1
25	Renal Failure with Dialysis	1	2
26	Diabetic Ketoacidosis & Coma	8	1
27	Post-Hemorrhagic & Other Acute Anemia with Transfusion	8	2
28	In-Hospital Trauma and Fractures	8	1
29	Poisonings except from Anesthesia	6	1
30	Poisonings due to Anesthesia	6	1
31	Decubitus Ulcer	8	2
32	Transfusion Incompatibility Reaction	6	1
33	Cellulitis	5	1
34	Moderate Infections	5	1
35	Septicemia & Severe Infections	5	2
36	Acute Mental Health Changes	8	1
37	Post-Operative Infection & Deep Wound Disruption without Procedure	4	1
38	Post-Operative Wound Infection & Deep Wound Disruption with Procedure	4	2
39	Reopening Surgical Site	4	2

<i>PPC</i>	<i>PPC Description</i>	<i>PPC Group</i>	<i>PPC Level</i>
40	Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or I&D Procedure	4	1
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Procedure	4	2
42	Accidental Puncture/Laceration during Invasive Procedure	4	2
43	Accidental Cut or Hemorrhage during Other Medical Care	8	1
44	Other Surgical Complication - Moderate	8	1
45	Post-procedure Foreign Bodies	4	2
46	Post-Operative Substance Reaction & Non-O.R. Procedure for Foreign Body	4	1
47	Encephalopathy	8	2
48	Other Complications of Medical Care	8	1
49	Iatrogenic Pneumothorax	6	2
50	Mechanical Complication of Device, Implant & Graft	6	2
51	Gastrointestinal Ostomy Complications	6	1
52	Inflammation & Other Complications of Devices, Implants or Grafts except Vascular Infection	6	2
53	Infection, Inflammation and Clotting Complications of Peripheral Vascular Catheters and Infusions	6	1
54	Infections due to Central Venous Catheters	6	2
55	Obstetrical Hemorrhage without Transfusion	7	1
56	Obstetrical Hemorrhage with Transfusion	7	2
57	Obstetric Lacerations & Other Trauma without Instrumentation	7	2
58	Obstetric Lacerations & Other Trauma with Instrumentation	7	2
59	Medical & Anesthesia Obstetric Complications	7	1
60	Major Puerperal Infection and Other Major Obstetric Complications	7	2
61	Other Complications of Obstetrical Surgical & Perinatal Wounds	7	1
62	Delivery with Placental Complications	7	1
63	Post-Operative Respiratory Failure with Tracheostomy	1	2
64	Other In-Hospital Adverse Events	8	1
65	Urinary Tract Infection	5	2
66	Catheter-Related Urinary Tract Infection	5	2

### 3M POTENTIALLY PREVENTABLE READMISSIONS (PPR)

#### Technical Specifications

3M link to preventable events: [http://solutions.3m.com/wps/portal/3M/en\\_US/Health-Information-Systems/HIS/Products-and-Services/Products-List-A-Z/PPR-and-PPC-Grouping-Software/](http://solutions.3m.com/wps/portal/3M/en_US/Health-Information-Systems/HIS/Products-and-Services/Products-List-A-Z/PPR-and-PPC-Grouping-Software/)

#### Health Data NY

Hospital Inpatient Potentially Preventable Readmission (PPR) Rates by Hospital (SPARCS): Beginning 2009

<https://health.data.ny.gov/Health/Hospital-Inpatient-Potentially-Preventable-Readmis/amqp-cz9w>

#### Statistical Briefs

New York State All-Payer Potentially Preventable Readmission Rates 2009-2012

<http://www.health.ny.gov/statistics/sparcs/sb/docs/sb3.pdf>

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Additional information on SPARCS is available from the New York State Department of Health website at:  
<http://www.health.ny.gov/statistics/sparcs/>.

Additional information on AHRQ Performance Metrics is available at:  
<http://www.qualityindicators.ahrq.gov/Default.aspx>

Additional information on 3M Performance Metrics is available at:  
[http://solutions.3m.com/wps/portal/3M/en\\_US/Health-Information-Systems/HIS/Products-and-Services/Classification-and-Grouping/](http://solutions.3m.com/wps/portal/3M/en_US/Health-Information-Systems/HIS/Products-and-Services/Classification-and-Grouping/)