

NEW JERSEY HOSPITAL PERFORMANCE REPORT

2014 DATA

PUBLISHED 2016

TECHNICAL REPORT: METHODOLOGY

RECOMMENDED CARE (PROCESS OF CARE) MEASURES

**New Jersey Department of Health
Health Care Quality Assessment**

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RECOMMENDED CARE (PROCESS OF CARE) MEASURES

A. Sources of Hospital Recommended Care (Process of Care) Measures and Data

The **New Jersey Hospital Performance Report** on Recommended Care (Process of Care) Measures uses data and methodology that were developed by The Joint Commission and the Centers for Medicare and Medicaid Services (CMS) for reporting on hospital quality. In addition, this report follows the measure definitions developed by The Joint Commission and the CMS, as presented in Section D of this technical report.

The **New Jersey Hospital Performance Report** on Recommended Care (Process of Care) Measures includes information on hospital discharges for the period of January 1, 2014 through December 31, 2014. Ten recommended care measures on acute myocardial infarction (AMI or heart attack), pneumonia, heart failure, and surgical care improvement (SCIP) are reported. Rates for all hospitals are published, including rates based on fewer than 25 cases.

The report and its presentation have been developed with the guidance of the Department's Quality Improvement Advisory Committee (QIAC). **Table 1** lists the measures collected by New Jersey Department of Health (Department) and indicates whether each measure is included in the report.

All New Jersey general acute care hospitals and one specialized heart hospital were required to submit the information for AMI, pneumonia, heart failure, and SCIP measures to the Department through their Joint Commission vendors on a quarterly basis. Hospitals collected the basic information for each record by abstracting data from patient medical records and administrative databases. The data were transmitted to Joint Commission vendors, who processed the data according to algorithms established by The Joint Commission to produce scores for each measure. Joint Commission vendors then transmitted both the individual patient files and the hospital level information to the Department. The Department summarized the quarterly data and provided a summary report to each hospital for review. The Department also provided each hospital with a summary report for the full twelve months for review.

Table 1: Joint Commission Core Performance Measures and Inclusion in Report

Joint Commission Core Performance Measures	Included in Report
<u>Acute Myocardial Infarction (AMI)</u>	
Aspirin at arrival	Not Included
Aspirin prescribed at discharge	Not Included
Beta blocker prescribed at discharge	Not Included
ACEI/ARB for LVSD	Not Included
Smoking cessation advice	Not Included
Inpatient mortality	Not Included
Time to fibrinolysis	Not Included
Fibrinolytic agent received within 30 minutes of hospital arrival	Not Included
Time to Primary PCI (median)	Not Included
Primary PCI received within 90 minutes of hospital arrival	Included
Statin prescribed at discharge	Not Included
<u>Pneumonia</u>	
Pneumococcal vaccination	Not Included
Antibiotic timing (median)	Not Included
Initial antibiotic received within 8 hours of arrival	Not Included
Initial antibiotic received within 6 hours of arrival	Not Included
Initial antibiotic selection for PN immunocompetent ICU patient *	Included
Initial antibiotic selection for PN immunocompetent non-ICU patient *	Included
Blood cultures in emergency department	Not Included
Blood cultures within 24 hours	Not Included
Smoking cessation advice	Not Included
Influenza vaccination	Not Included
<u>Surgical Care Improvement</u>	
Preventive antibiotic started	Included
Appropriate antibiotic received	Included
Preventive antibiotic stopped	Included
Venous thromboembolism (VTE) prophylaxis ordered	Not Included
VTE prophylaxis received	Included
Controlled blood sugar for cardiac surgery patients	Included
Surgery patients with safe hair removal	Not Included
Beta Blocker continued	Included
Urinary catheter removed	Included
Perioperative temperature management	Not Included
<u>Heart Failure</u>	
LVS assessment	Included
ACEI/ARB for LVSD	Not Included
Discharge instructions	Not Included
Smoking cessation advice	Not Included

* Because of small sample sizes for ICU patients, these two measures were combined into one measure following the CMS methodology.

B. Calculation of Hospital Performance Rates

Calculation of individual rates

Each rate was calculated following the Joint Commission methodology described in Section D. The rate for each quality measure represents the proportion of times that the hospital provided the recommended care. Each measure included only those patients who were eligible for that form of care. For example, patients with contraindications for aspirin were excluded from the aspirin prescribed at discharge measures.

Calculation of overall scores

The overall AMI, pneumonia, SCIP, and heart failure scores for each hospital are summary measures of how frequently the hospital provided recommended care based on three AMI measures, two pneumonia measures, nine SCIP measures, and three heart failure measures, respectively (**Table 2**).

The overall score for each of the four conditions was calculated using the following steps:

- The numerator was the total number of patients who received care and the denominator was the total number of patients who were eligible for care for the selected quality measures.
- The overall score was calculated as a percentage by dividing the numerator by the denominator.
- Overall scores (as well as individual rates) were rounded to the nearest whole numbers. When hospitals were presented from high to low overall scores, a more detailed calculation using six decimal places was used.

Because of the inclusion of new measures or changes in measure definitions, overall scores are not necessarily comparable to the overall scores from previous years.

Table 2: Measures Included in the AMI, Pneumonia, SCIP, and Heart Failure Overall Scores

Condition	Measures Included in Overall Score
AMI	Primary PCI Received Within 90 Minutes of Hospital Arrival
Pneumonia	Antibiotic Selection
SCIP	Preventive Antibiotic Started Preventive Antibiotic Stopped Appropriate Antibiotic Received VTE Prophylaxis Received Controlled Blood Sugar for Cardiac Surgery Patients Beta Blocker Continued Urinary Catheter Removed
Heart Failure	LVS Assessment

Calculation of top 10% and 50% scores

For each measure, including the overall score, we identified the hospital score that was at the 50th percentile (“median”), and the 90th percentile (“top 10th percentile”). These statistics included all hospitals, including those with fewer than 25 cases for a measure.

C. Data Validation

Hospitals have internal processes to check the accuracy of their data collection. The Joint Commission has reviewed the accuracy of the vendors’ systems for processing the data and calculating the rates as well as conducted a limited study of the accuracy of the abstraction process in a small sample from all hospitals.

CMS conducts the validation reviews for hospitals participating in the Hospital Inpatient Quality Reporting (IQR) Program. CMS verifies, on a quarterly basis, that hospital abstracted data it received is consistent and reproducible.

More information regarding CMS data validation process can be found from QualityNet.com:

<https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPag e%2FQnetTier4&cid=1228758581429>

D. Measure Definitions

Tables 3 through 6 describe the individual quality measures reported for the AMI, pneumonia, SCIP, and heart failure conditions. The definitions for these measures follow the Joint Commission/CMS definitions that were in effect for the reporting period.

This technical report provides the specifications that were in effect for fourth quarter 2014 discharges. For the complete specification manuals and detailed information on definitional changes that were implemented during 2014, we refer the interested readers to the Joint Commission (www.jointcommission.org) and CMS QualityNet.com (Specifications Manual for National Hospital Quality Measures version 4.3b: <https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228773564870>).

Table 3: Acute Myocardial Infarction (Heart Attack) Quality Measures

Measure	Description	Detailed Specifications
1. Primary PCI received within 90 minutes of hospital arrival	Percent of eligible heart attack patients who received primary percutaneous coronary intervention (PCI) within 90 minutes after they arrived at hospital	Details

Table 4: Pneumonia Quality Measures

Measure	Description	Detailed Specifications
1. Initial antibiotic selection for immunocompetent patients	Percent of immunocompetent patients with Community-Acquired Pneumonia who received an initial antibiotic regimen during the first 24 hours that is consistent with current guidelines	Details

Table 5: Surgical Care Improvement Quality Measures

Measure	Description	Detailed Specifications
1. Preventive antibiotic started	Percent of eligible surgery patients who received preventive antibiotics within one hour prior to surgical incision.	Details
2. Preventive antibiotic stopped	Percent of eligible surgery patients whose preventive antibiotics were discontinued within 24 hours after surgery end time	Details
3. Appropriate antibiotic received	Percent of eligible surgery patients who received preventive antibiotics recommended for their specific surgical procedure.	Details
4. VTE prophylaxis received	Percent of eligible surgery patients who received the appropriate treatment to prevent blood clots, as recommended for the specific type of surgery performed	Details
5. Controlled blood sugar for heart patients	Percent of cardiac surgery patients with controlled 6 a.m. blood glucose (≤ 200 mg/dL) in the two days right after surgery.	Details
6. Beta Blocker continued	Surgery patients on Beta-Blocker therapy prior to arrival who received a Beta-Blocker during the perioperative period.	Details
7. Urinary catheter removed	Urinary catheter removed on postoperative day one or day two with day of surgery being day zero.	Details

Table 6: Heart Failure Quality Measures

Measure	Description	Detailed Specifications
1. LVS assessment	Percent of eligible heart failure patients that were given a test to assess the left ventricular systolic (LVS) function of their heart before or during hospitalization, or had a test planned for soon after discharge from the hospital	Details

E. Statewide Scores Compared to National Scores

The table below compares statewide scores to national scores for Recommended Care Measures. New Jersey scores for the ten recommended care measures are based on data collected from hospital medical records for 2014. The National Scores are from the Centers for Medicare and Medicaid Services (CMS) for the same year and from the same database.

For 2014, New Jersey performed better than or same as national average on all recommended care measures. Of the 10 recommended care measures, New Jersey hospitals exceeded national norms on five measures and were equal to national norms on five measures. For the first time, New Jersey hospitals performed better than national norm on PCI received within 90 minutes for heart attack patients.

There have been major improvements in performance since the first report which covered 2003 performance. Most measures are now close to the expected 100. The difference between low and high performing hospitals continues to decrease. This means better care for all NJ patients.

Among measures that we started to track in 2005 and 2006, the percentage of heart attack patients who received PCI within 90 minutes has shown a significant 80% increase from 55 in 2006 to 99 in 2014.

**Table 7. New Jersey Hospital Quality Scores, 2005 – 2014
National Hospital Quality Scores, 2014**

Condition	Quality Measure											National 2014	Percent Improvement First Year-2014	
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014			
AMI	PCI within 90 minutes		55	67	78	83	89	91	95	95	99	96	▲	80%
PN	Antibiotic Selection	82	89	92	92	94	95	97	97	98	98	97	▲	20%
HF	LVS Assessment	95	97	97	98	99	99	100	100	100	100	100	=	5%
SCIP	Preventive Antibiotic Started		91	92	95	97	98	99	99	99	99	99	=	9%
	Preventive Antibiotic Received			95	97	98	98	98	99	99	99	99	=	4%
	Preventive Antibiotic Stopped		86	90	93	95	96	98	98	98	99	98	▲	15%
	VTE Prophylaxis Received			82	90	92	95	98	98	99	100	100	=	22%
	Controlled Blood Sugar				91	92	93	96	97	97	96	95	▲	5%
	Beta Blocker Continued					94	96	97	97	98	98	98	=	4%
	Urinary Catheter Removal						93	95	97	99	99	98	▲	6%

▲ Better than national norm; = Same as national norm; ▼ Below national norm.