

HOSPITAL CHARACTERISTICS

► Variation in 30-day readmission rates across hospitals following isolated coronary artery bypass graft surgery or elective primary total hip arthroplasty and/or total knee arthroplasty.

The Centers for Medicare & Medicaid Services (CMS) periodically provides a comprehensive overview of national performance on measures of readmission following hospitalizations for specific surgical procedures [1]. The procedure-specific readmission measures assess unplanned readmissions for any reason within 30 days of the date of discharge from a hospitalization for isolated coronary artery bypass graft (CABG) surgery or elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA). The measures include Medicare fee-for-service (FFS) beneficiaries aged 65 or older [2]. “Isolated” CABG procedures are those performed without concomitant high-risk cardiac and non-cardiac procedures, such as valve replacement [2]. Patients can be readmitted to the same hospital or to a different hospital [2]. CMS began publicly reporting 30-day risk-standardized readmission rates (RSRRs) following elective primary THA/TKA in 2013 and RSRRs following isolated CABG surgery in 2015 [3]. Publicly reported measure results are updated annually on the [Hospital Compare](#) website. The THA/TKA readmission measure has been included in the Hospital Readmissions Reduction Program (HRRP) since Fiscal Year 2015, and the CABG readmission measure will be included in HRRP in Fiscal Year 2017 [4].

FIGURE 1. Distributions of hospital RSRRs (%) for CABG, July 2012-June 2015.

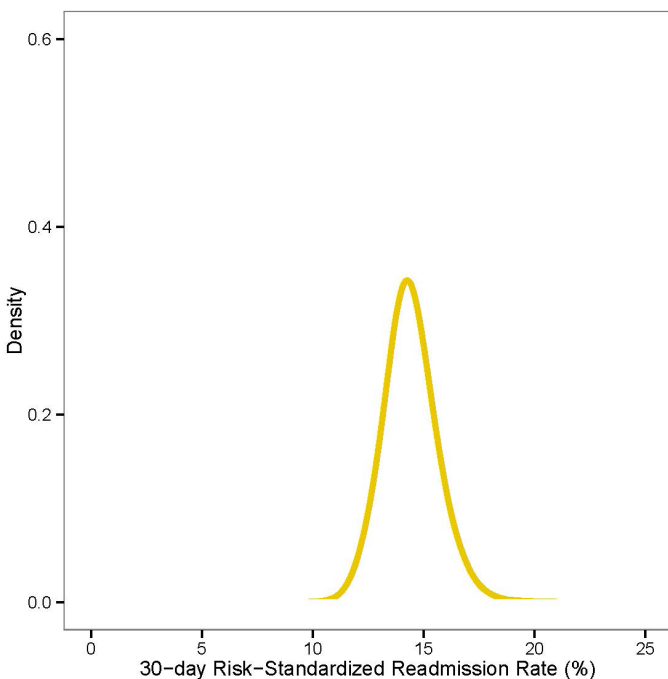
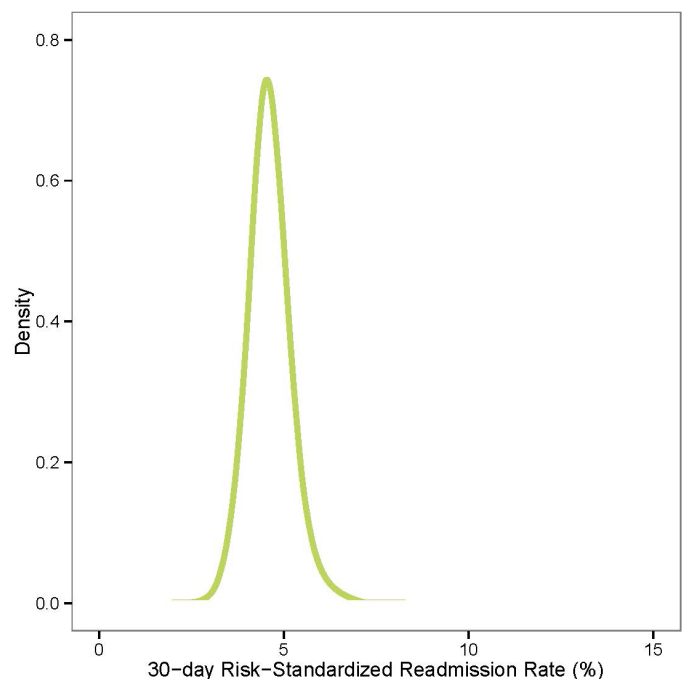


FIGURE 2. Distributions of hospital RSRRs (%) for THA/TKA, July 2012-June 2015.



Variation in procedure-specific RSRRs reflects differences in performance among hospitals; wider distributions suggest more variation in quality, and narrower distributions suggest less variation in quality. To determine the extent of variation present, we examined hospital RSRRs for CABG and THA/TKA in the July 2012 – June 2015 reporting period. We included hospitals with 25 or more qualifying cases. To ensure accurate assessment of each hospital, the measures use a statistical model to adjust for key differences in patient risk factors that are clinically relevant and that have strong relationships with the readmission outcome [2].

Prepared for CMS by Yale New Haven Health Services Corporation - Center for Outcomes Research and Evaluation (YNHHSC/CORE) September 2016

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TABLE 1. *Distribution of hospital RSRRs (%) for CABG, July 2012-June 2015.*

Distribution of CABG RSRRs (%)	
Maximum	19.9
90%	15.8
75%	15.1
Median (50%)	14.3
25%	13.7
10%	13.1
Minimum	10.9

TABLE 2. *Distribution of hospital RSRRs (%) for THA/TKA, July 2012-June 2015.*

Distribution of THA/TKA RSRRs (%)	
Maximum	7.8
90%	5.3
75%	4.9
Median (50%)	4.6
25%	4.3
10%	4.0
Minimum	2.4

Hospital RSRRs for CABG and THA/TKA were normally distributed and centered at 14.3% and 4.6%, respectively (Figure 1 and Table 1; Figure 2 and Table 2). Additionally, hospitals were distributed over an interquartile range (IQR) of 1.4 and 0.6 percentage points, respectively (Table 1 and Table 2).

For the CABG and THA/TKA readmission measures, half of the hospitals have RSRRs within 1.4 and 0.6 percentage points of the median hospital RSRR for each measure. Additionally, the range in RSRRs for the CABG and THA/TKA readmission measures was 9.0 and 5.4 percentage points, respectively. This demonstrates that there are continued opportunities for improvement.

1. 2015 Medicare Hospital Quality Chartbook. Prepared by Yale New Haven Health Services Corporation Center for Outcomes Research and Evaluation for the Centers for Medicare and Medicaid Services. <https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/hospitalqualityinits/outcomemeasures.html>. Accessed March 1, 2016.

2. Karen Dorsey, Jacqueline N. Grady, Nihar Desai, et al. 2016 Procedure-Specific Measures Updates and Specifications Report Hospital-Level 30-Day Risk-Standardized Readmission Measures: Isolated Coronary Artery Bypass Graft (CABG) Surgery – Version 3.0, Elective Primary Total Hip Arthroplasty (THA) and/or Total Knee Arthroplasty (TKA) – Version 5.0; <https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1219069855841>. Accessed May 9, 2016.

3. Hospital Inpatient Quality Reporting (IQR) Program Overview. QualityNet website. <https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138115987129>. Accessed March 1, 2016.

4. Hospital Readmissions Reduction Program (HRRP) Overview. QualityNet website. <https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228772412458>. Accessed March 1, 2016.