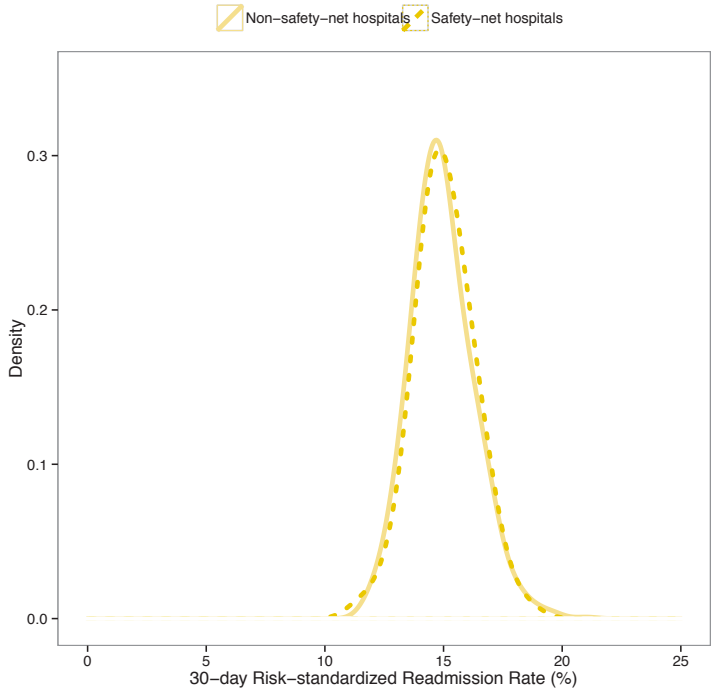
Performance on the isolated coronary artery bypass graft surgery readmission measure by hospital characteristics: **safety-net status, teaching status, and urban or rural location.**

The Centers for Medicare & Medicaid Services (CMS) periodically investigates select hospital practices that may impact a hospital's performance on the following readmission measure: hospital-level 30-day risk-standardized readmission rate (RSRR) following isolated coronary artery bypass graft (CABG) surgery [1]. The CABG readmission measure includes 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]. The CABG readmission measure assesses the occurrence of unplanned readmission for any cause within 30 days after discharge from hospitalization for CABG surgery [2]. The CABG readmission measure has been publicly reported on Hospital Compare since 2015 and will been included in the Hospital Readmissions Reduction Program (HRRP) in Fiscal Year 2017 [3].

FIGURE I *Distributions of hospital RSRRs (%) for isolated CABG by safety-net status, July 2011-June 2014.*



Variation in RSRRs reflects differences in performance among hospitals; lower RSRRs suggest better quality, and higher RSRRs suggest worse quality. To understand the impact of hospital safety-net status, teaching status, and urban or rural location, we examined RSRRs among hospitals with these characteristics with 25 or more qualifying discharges. Therefore, we evaluated the CABG RSRRs for a total of 1,051 hospitals by comparing 154 safety-net hospitals against 897 non-safety-net hospitals, 598 teaching hospitals against 453 non-teaching hospitals, and 1,047 urban hospitals against 4 rural hospitals for the July 2011 – June 2014 reporting period.

Safety-net hospitals are defined as those committed to caring for populations without stable access to care, specifically public hospitals or private hospitals with a Medicaid caseload greater than one standard deviation above their respective state's mean private hospital Medicaid caseload [4]. Teaching Hospitals provide post-graduate education for physicians completing residency and fellowship [4].

To ensure accurate assessment of each hospital, the CABG readmission measure uses a statistical model to adjust for key differences in patient risk factors that are clinically relevant and that have a strong relationship with the readmission outcome [2].

FIGURE 2 *Distributions of hospital RSRRs (%) for isolated CABG by teaching status, July 2011-June 2014.*

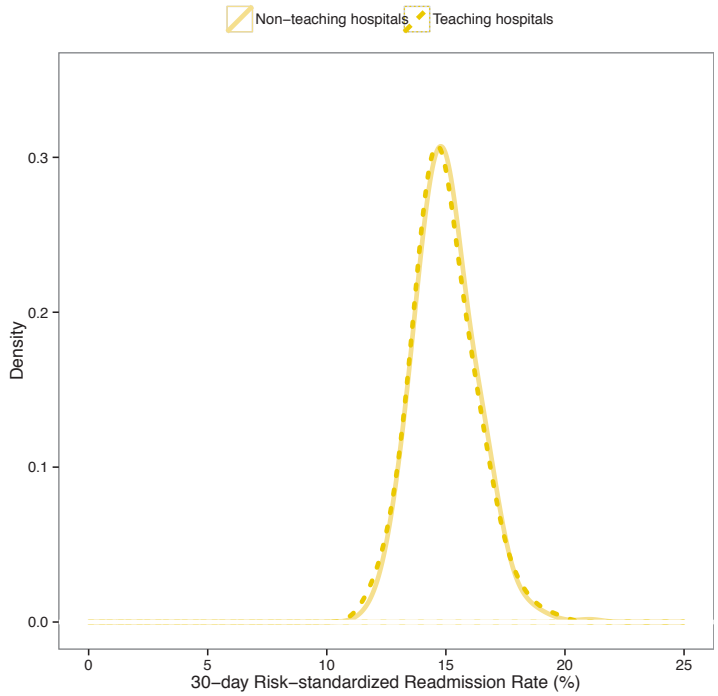
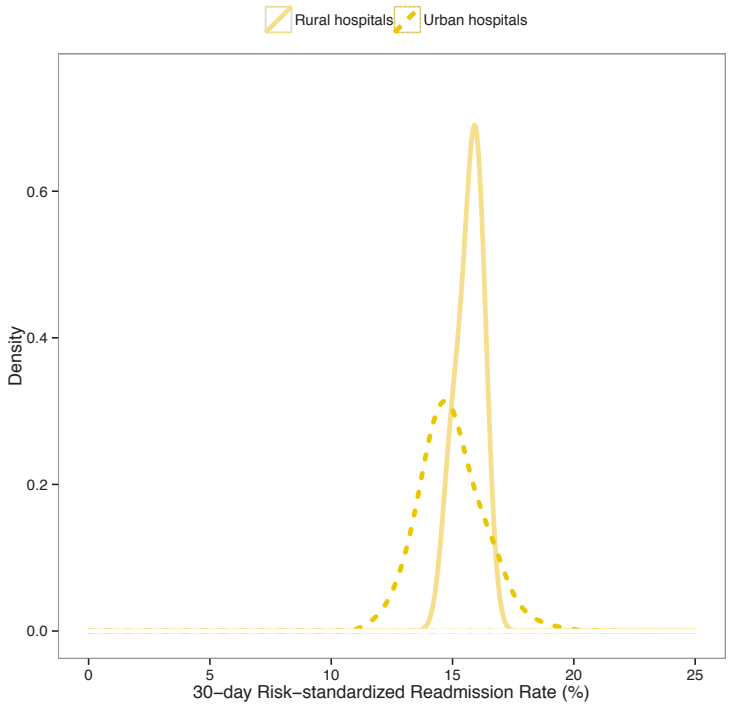


TABLE I *Distributions of hospital RSRRs (%) for isolated CABG overall, by safety-net status, teaching status, and urban or rural location, July 2011-June 2014.*

	CABG RSRR (%)						
	Overall; n=1051	Safety-net hospitals; n=154	Non-safety-net hospitals; n=897	Teaching hospitals; n=598	Non-teaching hospitals; n=453	Urban hospitals; n=1047	Rural hospitals; n=4
Maximum	21.0	18.8	21.0	19.8	21.0	21.0	16.1
90%	16.7	16.6	16.7	16.7	16.6	16.7	16.1
75%	15.8	15.9	15.8	15.8	15.8	15.8	16.1
Median (50%)	14.9	15.0	14.9	14.8	14.9	14.9	15.9
25%	14.1	14.3	14.1	14.1	14.1	14.1	15.3
10%	13.4	13.6	13.3	13.3	13.5	13.3	15.0
Minimum	11.4	11.4	11.5	11.4	11.5	11.4	15.0

The median CABG RSRR for all hospitals was 14.9% (interquartile range [IQR]: 14.1%-15.8%; Table 1). The median CABG RSRR for safety-net hospitals was 15.0% (IQR: 14.3%-15.9%) and for non-safety-net hospitals was 14.9% (IQR: 14.1%-15.8%; Figure 1 and Table 1). The median CABG RSRR for teaching hospitals was 14.8% (IQR: 14.1%-15.8%) and for non-teaching hospitals was 14.9% (IQR: 14.1%-15.8%; Figure 2 and Table 1). The median CABG RSRR for urban hospitals was 14.9% (IQR: 14.1%-15.8%) and for rural hospitals was 15.9% (IQR: 15.3%-16.1%; Figure 3 and Table 1).

FIGURE 3 *Distributions of hospital RSRRs (%) for isolated CABG by urban or rural location, July 2011-June 2014.*



Safety-net hospitals had a median CABG RSRR that was 0.1 percentage points higher than non-safety-net hospitals, teaching hospitals had a median CABG RSRR that was 0.1 percentage points lower than non-teaching hospitals, and urban hospitals had a median CABG RSRR that was 1.0 percentage points lower than rural hospitals.

1. Medicare Hospital Quality Chartbook 2014: Performance Report on Outcome Measures. Prepared by Yale New Haven Health Services Corporation Center for Outcomes Research and Evaluation for the Centers for Medicare and Medicaid Services 2014; http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Downloads/Medicare-Hospital-Quality-Chartbook-2014.pdf. Accessed 16 June 2015.

2. Suter L; Desai N, Zhang W, et al. 2015 Procedure-Specific Readmission Measures Updates and Specifications Report: Elective Primary Total Hip Arthroplasty (THA) and/or Total Knee Arthroplasty (TKA) – Version 4.0, Isolated Coronary Artery Bypass Graft (CABG) Surgery – Version 2.0; https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1219069855841. Accessed 26 June 2015.

3. "Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals, Final Rule." Federal Register / 22 August 2014; http://federalregister.gov/a/2014-18545. Accessed 16 June 2015.

4. AHA Annual Survey Database Fiscal Year 2013; http://www.ahadataviewer.com/book-cd-products/aha-survey/. Accessed 26 June 2015.