▶ Trends in mortality rates following isolated coronary artery bypass graft surgery and complication rates following elective primary total hip arthroplasty and/or total knee arthroplasty.

The Centers for Medicare & Medicaid Services (CMS) periodically provides an overview of national performance trends in mortality and complications following specific surgical procedures for Medicare fee-for-service (FFS) beneficiaries aged 65 or older [1]. The procedure-specific mortality measure assesses mortality for any reason within 30 days of the procedure date for isolated coronary artery bypass graft (CABG) surgery, regardless of whether the patient dies while still in the hospital or after discharge from the hospital [2]. "Isolated" CABG procedures are those performed without concomitant high-risk cardiac and non-cardiac procedures, such as valve replacement [2]. The procedure-specific complication measure assesses the occurrence of significant medical and/or surgical complications within 7 to 90 days, depending on the complication, from the date of admission for elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA) [3]. Medical and surgical complications include: acute myocardial infarction (AMI), pneumonia, or sepsis/septicemia during the index admission or within 7 days from the date of admission; surgical site bleeding, pulmonary embolism or death during the index admission or within the 30 days from the date of the index admission; or mechanical complications, periprosthetic joint infection, or wound infection during the index admission or within 90 days from the date of the index admission [3]. CMS began publicly reporting hospital-level risk-standardized complication rates (RSCRs) following elective primary THA/TKA in 2013, and risk-standardized mortality rates (RSMRs) following isolated CABG surgery in 2015 [4]. Publicly reported measure results are updated annually on the *Hospital Compare* website. In Fiscal Year 2019, the THA/TKA complication measure will be included in the Hospital Value-Based Purchasing (HVBP) Program [5, 6].

FIGURE 1. *Trend in the median hospital RSMR (%) for CABG, July 2012-June 2015.*

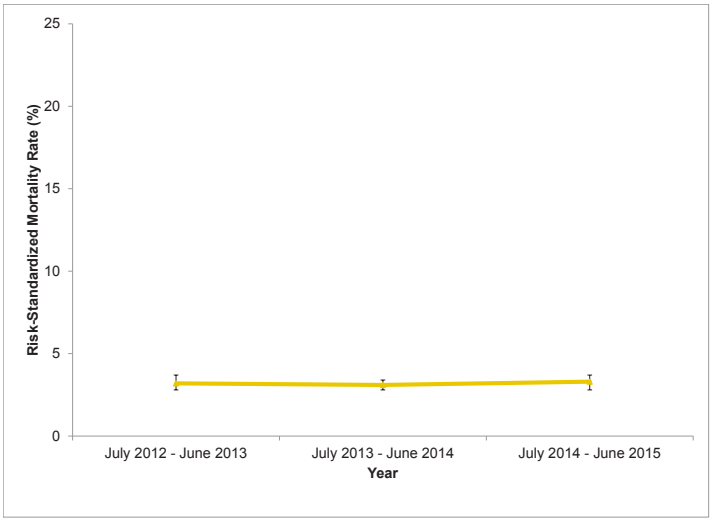
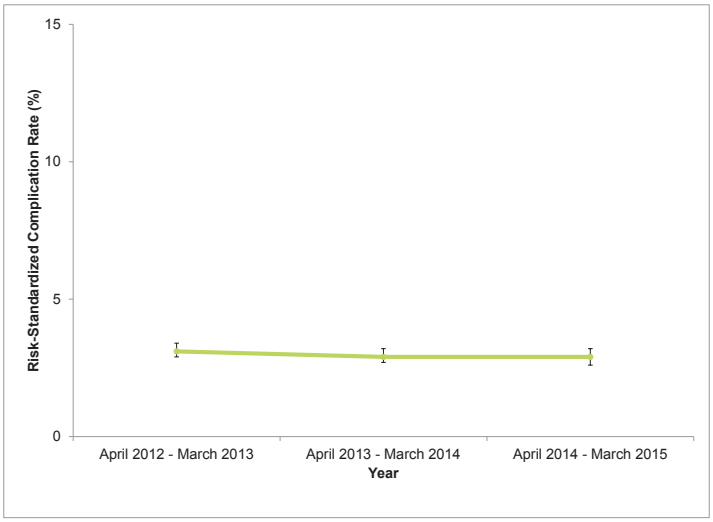


FIGURE 2. *Trend in the median hospital RSCR (%) for THA/TKA, April 2012-March 2015.*



Examining trends in hospital performance on the procedure-specific mortality and complication measures provides insight into whether hospital quality varies from year to year. To determine the trends in national performance on these measures, we examined hospitals' CABG RSMRs for each year in the July 2012-June 2015 reporting period and THA/TKA RSCRs for each year of the April 2012-March 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 mortality and complication outcomes [2, 3].

TABLE 1. *Trend in the median hospital RSMR (%) for CABG, July 2012-June 2015.*

	Median (IQR) of Hospital RSMR (%)		
	July 2012-June 2013	July 2013-June 2014	July 2014-June 2015
CABG	3.2 (2.8, 3.7)	3.1 (2.8 , 3.4)	3.3 (2.8, 3.7)

TABLE 2. *Trend in the median hospital RSCR (%) for THA/TKA, April 2012-March 2015.*

	Median (IQR) of Hospital RSCR (%)		
	April 2012-March 2013	April 2013-March 2014	April 2014-March 2015
THA/TKA	3.1 (2.9, 3.4)	2.9 (2.7, 3.2)	2.9 (2.6, 3.2)

The median hospital RSMR following CABG surgery declined by 0.1 percentage point between July 2012 and June 2014 and then rose by 0.2 percentage points by June 2015 (Figure 1 and Table 1). The median hospital RSCR following THA/TKA surgery declined by 0.2 percentage points between April 2012 and March 2015 (Figure 2 and Table 2). The bars on the graphs in Figures 1 and 2 represent the interquartile range (IQR).

Hospital RSMRs following CABG surgery declined by 0.1 percentage points between July 2012 and June 2014 and then rose by 0.2 percentage points. Hospital RSCRs following THA/TKA declined by 0.2 percentage points between April 2012 and March 2015.

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