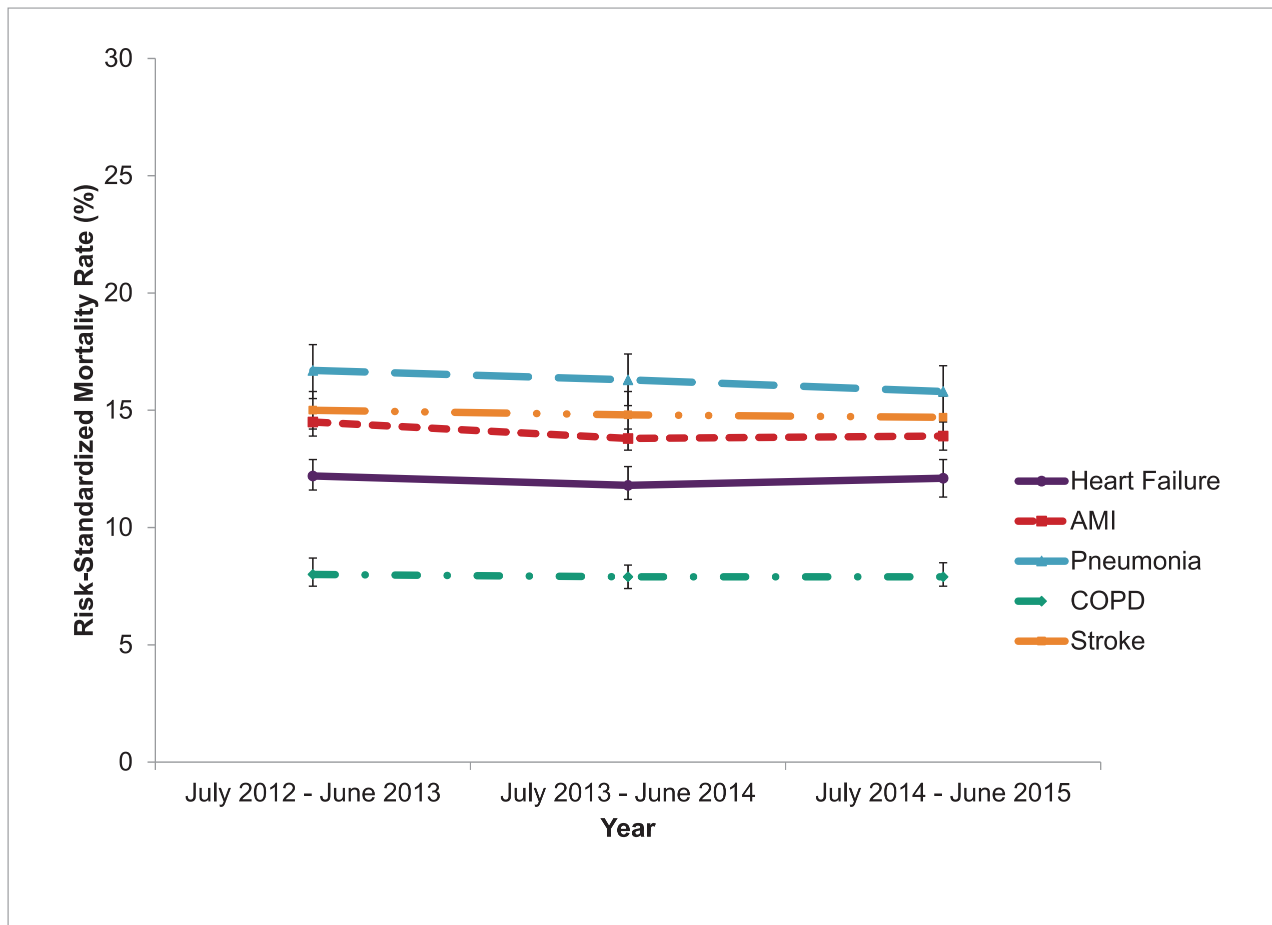
▶ Trends in mortality rates following admission for acute myocardial infarction, chronic obstructive pulmonary disease, heart failure, pneumonia, and acute ischemic stroke.

The Centers for Medicare and Medicaid Services (CMS) periodically provides an overview of national performance trends in mortality following hospital admissions for specific medical conditions [1]. The condition-specific mortality measures assess death from any cause within 30 days of the date of hospital admissions for acute myocardial infarction (AMI), chronic obstructive pulmonary disease (COPD), heart failure, pneumonia, or acute ischemic stroke, regardless of whether the patient dies while still in the hospital or after discharge from the hospital [2]. The measures include Medicare fee-for-service (FFS) beneficiaries aged 65 or older [2]. CMS began publicly reporting 30-day risk-standardized mortality rates (RSMRs) following admissions for AMI and heart failure in 2007; for pneumonia in 2008; and for COPD and stroke in 2014 [3]. Publicly reported measure results are updated annually on the *Hospital Compare* website. For 2016 public reporting, the pneumonia mortality measure cohort has been expanded to include aspiration pneumonia and non-severe sepsis patients [2]. The AMI, heart failure, and pneumonia mortality measures have been included in the Hospital Value-Based Purchasing (HVBP) program since October 2013, and the COPD mortality measure will be included in HVBP in Fiscal Year 2021 [4, 5].

FIGURE I. *Trends in the median hospital RSMRs (%) for AMI, COPD, heart failure, pneumonia, and stroke, July 2012-June 2015.*



Examining trends in hospital performance on the condition-specific mortality 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' RSMRs for each year of 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 mortality outcome [2].

TABLE I. *Trends in the median hospital RSMRs (%) for AMI, COPD, heart failure, pneumonia, and stroke, July 2012-June 2015.*

	Median (IQR) of Hospital RSMRs (%)		
	July 2012-June 2013	July 2013-June 2014	July 2014-June 2015
AMI	14.5 (13.9, 15.1)	13.8 (13.3, 14.2)	13.9 (13.3, 14.5)
COPD	8.0 (7.5, 8.7)	7.9 (7.4, 8.4)	7.9 (7.5, 8.5)
Heart Failure	12.2 (11.6, 12.9)	11.8 (11.2, 12.6)	12.1 (11.3, 12.9)
Pneumonia	16.7 (15.5, 17.8)	16.3 (15.2, 17.4)	15.8 (14.8, 16.9)
Stroke	15.0 (14.2, 15.8)	14.8 (13.9, 15.8)	14.7 (14.0, 15.6)

The median hospital RSMR for AMI declined by 0.7 percentage points between July 2012 and June 2014 and then rose by 0.1 percentage points by June 2015 (Figure 1 and Table 1). Over this three-year period, the median hospital RSMR for COPD declined by 0.1 percentage points; the median hospital RSMR for heart failure declined by 0.4 percentage points between July 2012 and June 2014 and then rose by 0.3 percentage points by June 2015; the median hospital RSMR for pneumonia declined by 0.9 percentage points; and the median hospital RSMR for stroke declined by 0.3 percentage points (Figure 1 and Table 1). The bars on the graph in Figure 1 represent the interquartile range (IQR).

Hospital RSMRs for COPD, pneumonia and stroke declined by 0.1, 0.9, and 0.3 percentage points, respectively, between July 2012 and June 2015. AMI and heart failure declined by 0.7 and 0.4 percentage points between July 2012 and June 2014, respectively, and then rose by 0.1, and 0.3 percentage points.

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