

Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Acute Myocardial Infarction (AMI) Hospitalization

Evidence: Summary of the Empirical Data

AMI is among the most common principal hospital discharge diagnoses among Medicare beneficiaries. In 2013, it was the fifth most expensive condition treated in US hospitals, accounting for 3.5% of national healthcare costs (Torio et al., 2016). The estimated annual incidence of AMI is 605,000 new attacks and 200,000 recurrent attacks (Benjamin et al., 2019). Mortality rates after an AMI admission are high and variable across hospitals in the United States (Benjamin et al., 2019; Krumholz et al., 2009; Bernheim et al., 2010). For example, for the time period of July 2015-June 2018, publicly reported 30-day risk-standardized mortality rates ranged from 8.8% to 17.2% for patients admitted with AMI (Wallace et al., 2019).

Table 1. AMI Mortality Logic Model



The goal of this measure is to directly affect patient outcomes by measuring risk-standardized rates of mortality. Measurement of patient outcomes, including mortality, allows for a broad view of quality of care that encompasses more than what can be captured by individual process-of-care measures. As described below, mortality is likely to be influenced by a broad range of clinical activities such as the prevention of complications and the provision of evidenced-based care.

The high prevalence and considerable morbidity and mortality associated with AMI create an economic burden on the healthcare system (American Heart Association, 2010), with some estimating the aggregate cost of inpatient medical care following AMI to be upwards of \$12 billion dollars (Torio et al., 2016; Alghanem et al., 2020; Benjamin et al., 2018). Over the last 20 years, nationally, risk-standardized mortality rates have decreased for AMI (Krumholz et al. 2009; Krumholz et al., 2019). Yet, continued variation in performance suggests continued opportunities for improvements. In addition, recent qualitative research funded by Agency for Healthcare Research and Quality (AHRQ), Commonwealth Fund, and United Healthcare identified common system-level approaches to care and, specifically, the tailored use of protocols in those hospitals that have low RSMRs compared with hospitals with high RSMRs (Curry et al. 2011).

Hospital interventions, such as use of appropriate medications, timely percutaneous coronary interventions, and prevention of complications are known to decrease the risk of death within 30 days of hospital admission (Rathore et al. 2009; Antman et al. 2008; Jha et al. 2007; Alghanem et al., 2020). Current process-based performance measures, however, cannot capture all the ways that care within the hospital might influence outcomes. As a result, many stakeholders, including patient organizations, are interested in outcomes measures that allow patients and providers to assess relative outcomes performance for hospitals.

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