# Pneumonia Readmission Attachment 1: Summary of Empirical Evidence

In 2007, the Medicare Payment Advisory Commission (MedPAC) called for hospital-specific public reporting of readmission rates, and identified pneumonia as a priority condition (MedPAC, 2007). Pneumonia continues to be the most common infectious cause of hospitalization in the US, leading to more than 1 million hospitalizations a year and incurring billions of dollars in healthcare costs (Lindenauer et al., 2018; Jain et al., 2018; FastStats: pneumonia, CDC). Approximately 20% of pneumonia patients are rehospitalized within thirty days, representing the second-highest proportion of all rehospitalizations at 6.3% (Jencks et al., 2009; Mehta et al., 2017). Among patients 65 years [of age] or older in the United States, pneumonia is the third leading cause of rehospitalization, accounting for more than 88,800 readmissions at a cost of $1.1 billion in total costs (Hines et al., 2014).

Pneumonia readmission is a costly event and represents an undesirable outcome of care from the patient’s perspective, and highly disparate pneumonia readmission rates among hospitals suggest there is room for improvement (MedPAC, 2007; Lindenauer et al., 2010). Although many current hospital interventions are known to decrease the risk of readmission within 30 days of hospital discharge (Leppin et al., 2014; Radhakrishnan et al. 2018), current process-based performance measures cannot capture all the ways that care within the hospital might influence outcomes. Measurement of patient outcomes allows for a comprehensive view of quality of care that reflects complex aspects of care such as: communication between providers and coordinated transitions to the outpatient environment. These aspects are critical to patient outcomes and are broader than what can be captured by individual process-of-care measures.

The pneumonia hospital-specific risk-standardized readmission rate (RSRR) measure is thus intended to inform quality-of-care improvement efforts, as individual process-based performance measures cannot encompass all the complex and critical aspects of care within a hospital that contribute to patient 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 (Bratzler et al., 2007).

## Figure 1: Pneumonia Logic Model



The diagram above indicates some of the many care processes that can influence readmission risk by improving health status or improving healthcare management and support. Numerous studies have demonstrated that appropriate (guideline recommended care), high-quality and timely treatment for pneumonia patients can reduce the risk of readmission within 30 days of hospital discharge (Leppin et al., 2014; Hansen et al., 2011). Recent evidence of declining readmission rates provides further support for the concept that care processes during and following hospitalization can affect a patient's risk of readmission (Lee et al., 2014).

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