

In-Hospital Mortality as a Sepsis Quality Metric



Sepsis is a major cause of death and disability and a key focus of quality measures for hospitals. In-hospital mortality of sepsis patients is often used for benchmarking by researchers and policymakers. For instance, in New York, sepsis regulations require reporting risk-adjusted in-hospital mortality, identifying hospitals with higher or lower than expected rates as high or low performers. Prior studies have shown that safety-net hospitals face unique challenges, including limited resources and a high share of underinsured and high-risk patients. They tend to have higher risk-adjusted in-hospital mortality rates for sepsis patients compared to non-safety-net hospitals.

However, for critically ill patients, in-hospital mortality might not accurately reflect short-term mortality across all hospitals due to variables like hospital transfer practices that shift the attribution of short-term deaths to other sites. Safety-net hospitals may have different capabilities for patient transfers compared to non-safety-net hospitals.

A new study by researchers at Boston University Chobanian & Avedisian School of Medicine found that although safety-net hospitals have higher in-hospital mortality rates than non-safety-net hospitals, their 30-day mortality rates, which provide an unbiased measure of short-term mortality, are not significantly different. These findings are published in JAMA Network Open.

Study researchers explain that while the differences in mortality rates are numerically small, they significantly affect hospital rankings. Current or future state and federal quality measures using in-hospital mortality as a quality metric may unfairly penalise safety-net hospitals.

The researchers conducted a retrospective analysis of sepsis patients aged 66 and older admitted to an intensive care unit between January 1, 2011, and December 31, 2019, at both safety-net and non-safety-net hospitals.

In-hospital mortality is often used as an outcome measure due to its availability in claims databases and hospital records without needing post-hospitalisation follow-up. However, the 30-day mortality measure is crucial for accurately understanding true short-term mortality rates.

The researchers noted that non-safety-net hospitals discharge more patients to hospice, which shifts the attribution of short-term mortality away from the index hospitalisation. When post-hospitalisation data is included, as in 30-day mortality analysis, it provides a more accurate picture of short-term mortality, showing no significant difference between safety-net and non-safety-net hospitals, explain the researchers. The Centers for Medicare and Medicaid Services (CMS) has implemented a process measure to assess whether hospitals efficiently perform key sepsis care steps, such as initiating antibiotics. CMS is considering a national sepsis outcome measure, but it is not yet known whether it will measure in-hospital or 30-day mortality.

Source: [Boston University School of Medicine](#)

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