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## Shifting Sepsis Quality Measures From Processes to Outcomes



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Sepsis is a significant health issue that leads to high rates of death and disability, with over 250,000 adult deaths annually in the U.S. alone. Healthcare providers, patients, regulatory agencies, and advocates for quality improvement acknowledge the importance of preventing sepsis and improving its outcomes.

The Severe Sepsis/Septic Shock Early Management Bundle (SEP-1) from the Centers for Medicare & Medicaid Services (CMS) is one of the highest-profile measures to improve sepsis outcomes. SEP-1 requires hospitals to follow a specific initial management protocol and report their adherence to this bundle, which includes collecting blood cultures, measuring lactate, administering antibiotics within 3 hours of sepsis diagnosis, infusing a minimum of 30 mL/kg of crystalloids for hypotension or hyperlactataemia, and re-checking lactate levels and starting vasopressors within six hours if the patient is in refractory shock. SEP-1 is an all-or-nothing protocol where hospitals only receive credit if all components are completed, or contraindications are documented. SEP-1 is currently a pay-for-reporting measure, but CMS recently proposed changing it to a pay-for-performance measure.

SEP-1 was introduced in 2015 to improve outcomes for sepsis patients. Unfortunately, it has not achieved its intended outcome. Four studies have shown that SEP-1, expected to have a significant impact, has not lived up to its expectations in real-world settings in hundreds of U.S. hospitals. These studies are large, rigorous, and multicentre time-series analyses. The use of broad-spectrum antibiotics has risen since the implementation of SEP-1; however, SEP-1 has not decreased mortality rates.

Several reasons could explain why SEP-1 has not resulted in better outcomes. The use of antibiotics and fluid components in sepsis treatment is controversial because it does not consider the challenges of diagnosing sepsis, choosing the right antibiotic, and the diverse nature of sepsis patients and their treatments. About one-third of sepsis patients treated in emergency departments and ICUs have been found to have non-bacterial infections or non-infectious conditions that mimic sepsis. These patients are at risk of harmful effects from broad-spectrum antibiotics without any potential benefits. Not all patients with low blood pressure require or can handle 30 mL/kg of fluids, such as those with heart failure, fluid overload, respiratory problems, or kidney disease.

Sepsis covers a broad range of patients, infections, infected sites, secondary organ failures, and illnesses with varying levels of severity. Therefore, it is not appropriate to require all sepsis patients to be treated in a single, inflexible manner.

The solution to the ineffective SEP-1 sepsis treatment is to shift the focus from process-based metrics to outcomes-based metrics, specifically short-term mortality. This approach will avoid the deleterious incentives of SEP-1 and allow clinicians to tailor care to each patient's unique syndrome, underlying condition, causative pathogen, and potential complications. Shifting the focus to outcomes will also drive innovation in areas more likely to lead to better outcomes.

Source: [JAMA](#)

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