



## Sepsis E-alert System with Response Team Improves Outcomes



According to a new study, the use of a multifaceted intervention including an electronic sepsis alert (e-alert) system with sepsis response team was associated with improvement in care processes of sepsis and septic shock and patient outcomes. The findings are reported in the journal *Annals of Intensive Care*.

Although sepsis is a leading cause of death, studies have repeatedly demonstrated that the compliance with the clinical practice guidelines for sepsis management, grouped in the sepsis resuscitation bundle, is low and that this low compliance is associated with increased mortality. As a result, the Surviving Sepsis Campaign has recommended performance improvement efforts be undertaken and the National Quality Forum has endorsed the bundle implementation.

However, many sepsis care improvement projects invested in potentially low-leverage interventions leading to modest change in sepsis bundle compliance and mortality. The use of automation and forced function in sepsis management may be achieved by combining an e-alert system for timely sepsis identification with a sepsis response team (SRT) for timely management.

This study aimed to examine the impact of an improvement project using a multifaceted intervention that includes an e-alert system and SRT on the compliance with the sepsis resuscitation bundle and outcome of adult patients with sepsis and septic shock presenting to the emergency department (ED). The study was conducted in a 900-bed tertiary-care academic hospital.

After implementing the multifaceted intervention including e-alert and SRT, cases were identified with less severe clinical and laboratory abnormalities and the processes of care improved. When adjusted to propensity score, the intervention was associated with reduction in hospital mortality, reduction in the need for mechanical ventilation and reduced hospital length of stay (LOS) for all patients as well reduced ICU LOS for survivors.

"Our data show that the e-alert identified patients with sepsis cases at earlier stage, which is a major aim of the project. However, early recognition may raise concerns about workload increase and overtreatment. In our project, physicians reviewed all cases before initiating treatment; thus reducing the risk of overtreatment. Additionally, it is our belief that the implications of overtreatment, if exists, are small compared to the substantial advantage of timely sepsis management," the authors write.

The researchers note that SRT implementation, monitoring of compliance and comparing of outcomes require considerable infrastructure, resources and costs, which should be considered before adopting such an intervention. They add: "Nevertheless, we believe that the SRT may be a cost-effective intervention given the

significant reduction in LOS, although a proper cost-effectiveness analysis is needed."

Source: [Annals of Intensive Care](#)

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