

Early warning system can identify sepsis patients

August 3 2022



An early warning system has the potential to identify sepsis patients

early and improve patient outcomes, according to a study published online July 21 in *Nature Medicine*.

Roy Adams, Ph.D., from Johns Hopkins University in Baltimore, and colleagues conducted a prospective, multisite cohort study to examine the association between patient outcomes and provider interaction with a deployed sepsis alert system, the Targeted Real-time Early Warning System (TREWS). A total of 590,736 [patients](#) were monitored by TREWS across five hospitals during the study. The analysis focused on 6,877 patients with sepsis who were identified by the alert before initiation of antibiotic therapy.

The researchers found that patients in this group whose alert was confirmed by a provider within three hours had a reduced in-hospital mortality rate (adjusted absolute reduction, 3.3 percent; adjusted relative reduction, 18.7 percent), [organ failure](#), and length of stay compared with those whose alert was not confirmed by a provider within three hours after adjustment for patient presentation and severity. Patients who were additionally flagged as high risk had larger improvements in mortality rate (adjusted absolute reduction, 4.5 percent).

"Our findings indicate the potential for high-precision alert systems to identify sepsis patients early and improve [patient outcomes](#)," the authors write. "Furthermore, our findings among [high-risk patients](#) indicate that future alert systems may reduce overall alert burden by prioritizing alerts on certain patients."

Several authors disclosed financial ties to Bayesian Health and Basilea.

More information: Roy Adams et al, Prospective, multi-site study of patient outcomes after implementation of the TREWS machine learning-based early warning system for sepsis, *Nature Medicine* (2022). [DOI: 10.1038/s41591-022-01894-0](https://doi.org/10.1038/s41591-022-01894-0)

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