

Clinical Evidence Series

Economics of implementing an early deterioration detection solution for general care patients at a US hospital



What's different

An integrated early deterioration detection solution (EDDS) combined automated vital sign capture and early warning score (EWS) calculation with electronic escalation, reducing reliance on intermittent observation and manual recognition of clinical deterioration in general care units.



Interpretation

Following implementation, EDDS use was associated with improved efficiency of care delivery in general care, characterized by earlier recognition and management of at risk patients without increases in complications, mortality, or readmissions, despite a higher post implementation comorbidity burden.



Key takeaways

EDDS implementation in general care was associated with 18% lower inpatient costs and a 1 day reduction in length of stay



Background

Early deterioration detection solutions (EDDS) automate vital-sign capture and early warning score (EWS)-based escalation in general care units, but real-world data on hospital costs and length of stay remain limited.



Intervention

An EDDS consisting of InelliVue MP5SC spot-check monitors, IntelliVue Guardian* software with automated early warning scoring, and professional implementation support services.



Objectives

Assess changes in inpatient costs and hospital length of stay before and after EDDS implementation in general care patients.



Methods

- Retrospective pre/post analysis of Medicare inpatient claims at a single U.S. hospital
- Compared costs, LOS, and clinical outcomes before and after EDDS implementation
- Outcomes were risk-adjusted for demographics, admission type, and comorbidity burden

*Product no longer in active support.



Results



Mean total costs per discharge **reduced by 18%**

\$16,201 → \$13,304;
p = 0.007



Median total costs per discharge **reduced by 25%**

\$23,648 → \$10,232;
p<0.001



Average length of stay **reduced by 1 day**

6.0 → 5.0 days;
p=0.033



No significant change in complications, mortality, or 30-day readmissions