
Clinical Decision Support Improve Pneumonia Outcomes



A study published in the *American Journal of Respiratory and Critical Care Medicine* found that using a clinical decision support (CDS) tool can improve patient care and lower the mortality risk for pneumonia patients receiving emergency department (ED) care.

Even before the COVID-19 pandemic, pneumonia was a leading cause of death from infectious diseases in the US. Researchers at Intermountain Healthcare (Utah, USA) implemented the ED CDS tool in 16 of its community hospitals between December 2017 and June 2019 with the intention of evaluating the effects on patient outcomes and care processes. All patients 18 years and older with radiographic pneumonia on ED chest imaging were included in the study.



The CDS tool gathered key patient indicators from the electronic health record (EHR) to guide diagnosis, risk stratification, ordering of microbiology studies, site of care decisions, and treatment. These factors included age, fever, oxygen saturation, laboratory and chest imaging results, and vital signs to make recommendations on care, including appropriate antibiotic therapy, microbiology studies, and care setting recommendations.

ED clinicians used the CDS for 67% of eligible patients with pneumonia after the tool was deployed. Utilisation among clinicians was higher (69% vs 36%) in the larger hospitals than in the smaller rural hospitals. Overall, CDS use resulted in decreased intensive care unit admission, more appropriate antibiotic use, and 38% lower overall mortality. Future plans include designing the CDS tool to operate using EHRs of different hospital systems.

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