

Electronic tool helps reduce deaths from pneumonia in emergency departments

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An electronic decision support tool helped to reduce deaths from pneumonia in four hospital emergency departments in a new study.

The findings, which will be presented at the European Respiratory Society (ERS) Annual Congress in Barcelona tomorrow (11 September 2013), could lead to improvements in pneumonia care and outcomes for patients.

Although guidelines for treating pneumonia exist, it is often difficult for these to be fully implemented in an emergency setting. The researchers therefore developed an electronic tool, linked to a patient's [medical record](#). Unlike a paper guideline, the tool automatically extracts data that predict the severity of pneumonia. The tool then provides recommendations regarding where the patient should be admitted to, which [diagnostic tests](#) are best to use and which antibiotics are most appropriate.

Researchers from Intermountain Healthcare and the University of Utah in the USA tested the effectiveness of the tool on [pneumonia patients](#) in seven emergency departments. The first group of 2,308 patients were analysed before the electronic tool was used. A later group of 2,450 patients were assessed when four of the seven emergency departments used the [electronic tool](#).

In both groups the researchers looked at [hospital admission rates](#), length of hospital stay, deaths, secondary hospitalisation rates and adherence to

guidelines.

The results showed a significant reduction in [death rates](#) in the emergency departments where the tool was used. Crude inpatient mortality rate fell from 5.3% to 3.5% and, after adjusting for severity, the relative risk of death was reduced by 25%.

Dr Barbara Jones, leading author of the study, said: "We are encouraged by the impact that our tool has had on death rates, and feel that it is most likely due to more accurate severity assessment and antibiotic decisions being made in accordance with the guidelines. While we are encouraged by the results, we plan to collect more data to explore how the tool is making this impact."

Dr Nathan Dean, senior author of the study, said: "Although doctors are free to choose at any time whether to follow the recommendations, we think that a tool that is individualised and integrated into the electronic health record is a much more efficient way of supporting decision-making and making treatment guidelines quickly accessible during an emergency situation."

Provided by European Lung Foundation

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