Electronic screening tool helps identify sepsis early

ANNA JAQUES HOSPITAL

Anna Jaques Hospital (AJH) is a community hospital on the Massachusetts-New Hampshire line with 123 inpatient beds and 10,000 discharges each year. The Gerrish Family Foundation Emergency Department at AJH receives over 30,000 patient visits every year.

Challenge

In 2015, the emergency department team identified the need to develop an electronic sepsis screening tool for use at triage and contacted the hospital's information technology (IT) department for help. **Sepsis can be difficult to identify in the ED, and having an easy-to-use screening tool in the EHR can help to flag sepsis cases sooner.**

Action

Anna Jaques Hospital has used MEDITECH MAGIC as its electronic health record system since 2000 and has an IT team with deep experience in configuring the platform to serve the needs of the hospital's clinicians. Anne Lentz is among those who have been working with the MEDITECH MAGIC platform since it was first implemented. She began the project to implement a sepsis screening tool by consulting the MEDITECH Sepsis Toolkit, which offers suggestions to MEDITECH users about how to configure their systems to implement tools related to the early identification and treatment of sepsis. In addition, the ED team brought guidelines from CMS that they wanted to use as part of triage and Anne compared that to the MEDITECH toolkit templates.

The team then started the build, first settling on the necessary questions, including vital signs and a question about whether the patient has an infection or has had a recent fever. They tested the screening tool to see how well it worked in practice. Anne and her counterpart in the ED leadership, Peter Tura, RN, took care to gather feedback from the nursing staff about how well the tool worked and to iron out any bugs.

In its current state, the ED sepsis triage screening tool is set to flag suspected sepsis for adult patients (age 18 or older) based on abnormal vital signs and suspected infection as determined by the triage nurse. If a patient has two of the following abnormal vitals – a pulse over 90, a respiratory rate over 20, a temperature over 100.4 or under 96.9, or a recent fever in the last six hours – plus an infection, the system flags the patient for "? Sepsis" which displays for both the nurses and the clinicians in the ED. The flag is bright fuchsia, which is designed to attract the attention of busy ED staff.

Exhibit A: Sample of Anna Jaques Emergency Department Screening Tool

Blood Pressure: 90/50   Pulse: 120   Respirations: 22   Mean Arterial Pressure (MAP):

Temperature: 100.5   Temperature Source+ Oral   Recent fever w/in 6h? Y

% O2SAT 98   O2 Device+ Room Air   O2 LPM:

Trigger count: 3   Suspected infection? Y   Sepsis Screening: ?Sepsis

The team made some adjustments both to the triggering criteria as well as to the display based on their particular needs. For example, the standard MEDITECH screen shots in MAGIC tend to display a lot of information and it can be hard to navigate for clinicians. Anne pared down the display so that it is easier to read, more intuitive to navigate and compatible with the documentation process at triage. They also made design changes to accommodate the workflow and to maximize readability of the information whether it was on the screen or printed. **Recently, the clinical team made a change to the question about recent fever to cut the window of time down from 24 hours to six hours to make the screening more specific.**

Anne's advice to others who want to pursue this kind of custom build is to keep it simple. "In terms of building this kind of alert, it's no more complex than other screening tools or scoring tools with guidelines that back them up. It doesn't have to be complex to be helpful," she said.

Anna Jaques Hospital

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