EMRs Could Help Prioritize ICU Resources

A national shortage of critical care physicians and beds means difficult decisions for healthcare professionals in determining which of the sickest patients are most in need of access to the intensive care unit. Emerging health technologies – including reliable methods to rate the severity of a patient's condition – may provide powerful tools to efficiently use health resources, says a team of University of Michigan Health System researchers in the *New England Journal of Medicine*.

"The lack of critical care beds can be frustrating and scary when you have a patient who you think would benefit from critical care, but who can't be accommodated quickly. Electronic health records are untapped tools that may help us efficiently use valuable critical care resources," says hospitalist and lead author Lena M. Chen, M.D., M.S. [1], assistant professor in internal medicine at the University of Michigan and an investigator at the Center for Clinical Management Research (CCMR), VA Ann Arbor Healthcare System.

The UMHS and VA study referenced in the article finds that patients' severity of illness is not always strongly associated with their likelihood of being admitted to the ICU, challenging the notion that limited and expensive critical care is reserved for the sickest patients. ICU admissions for non-cardiac patients closely reflected severity of illness (i.e., sicker patients were more likely to go to the ICU), but ICU admissions for cardiac patients did not, the study found. While the reasons for this are unclear, authors note that the ICU's explicit role is to provide care for the sickest patients, not to respond to temporary staffing issues or unavailable recovery rooms.

A few integrated healthcare systems such as the Veterans Affairs (VA) Healthcare System and Kaiser Permanente Northern California have already tapped into the ability of electronic health records to generate reliable estimates of the risk of dying within 30 days for every patient on admission. This type of data could determine, for instance, whether a patient had a three percent chance or 80 percent chance of dying within the next month. Calculations are based on real-time data of laboratory results, demographics, co-existing conditions and vital signs. Authors note that this existing technology may be used to help assess ICU admissions.

"We are not suggesting this calculation be used alone in making these decisions but it's another tool that may – with more research – eventually help physicians making difficult triage decisions. It may potentially help address our critical care shortage too," says Chen, who is also a member of the U-M Institute for Healthcare Policy and Innovation. Today, critical care in the U.S. costs more than $80 billion a year. With an aging population and growing demand for critical care, the shortage of ICU resources has become a major healthcare issue.

There are other benefits for healthcare institutions that explore the role of health information technology in ICU care. The Medicare and Medicaid EHR Incentive

Programs provide financial incentives for providers who show that they are “meaningfully using” electronic health records to improve patient care. “There are serious incentives for hospitals to use electronic health records in a meaningful way and it’s important to identify aspirational goals for health IT now, “ Chen says. “We may not have the abilities to achieve all of these goals today, but it’s important to put them in place to support a longer term vision of how health IT might transform patient care.”

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