New recommendations can help health providers prepare for electronic record push

September 8 2009

A new framework of recommendations created by health informatics researchers may help doctors and hospitals prepare for a federal initiative to expand the use of electronic health records (EHRs). The recommendations from faculty at The University of Texas Health Science Center at Houston, the Michael E. DeBakey Veterans Affairs Medical Center and Baylor College of Medicine appear in a commentary in the Sept. 9 edition of *JAMA*, the *Journal of the American Medical Association*.

"With high-quality, well-designed, and carefully implemented systems, highly-reliable, safe health care will be achieved," said Dean Sittig, Ph.D., commentary author, associate professor at The University of Texas School of Health Information Sciences at Houston and member of The University of Texas - Memorial Hermann Center for Healthcare Quality and Safety.

The American Recovery and Reinvestment Act of 2009 created approximately $20 billion in incentives for individuals and organizations to "meaningfully" use electronic health records beginning next year. Previous studies report that 4 percent of physicians in the outpatient setting and 1.5 percent of U.S. hospitals have a comprehensive electronic health record system.

"This framework can help make sure that electronic health records are used safely and effectively as doctors continue to adopt them," said Hardeep Singh, M.D., M.P.H. co-author and assistant professor of

medicine and health services research at the VA Health Services Research and Development Center of Excellence and Baylor in Houston.

This framework of recommendations proposed by Sittig and Singh provides guidance for key stakeholders who are either currently involved or who will soon be involved with electronic health records.

"While using electronic health records, we not only have to consider issues related to technology, but also issues related to people who use them, how they interact with technology and how the electronic health record fits with the work flow of the clinic or organization that adopts it," said Singh, who noted that if the Computerized Patient Record System developed by the Department of Veterans Affairs was included in the EHR-use study, the percentage of U.S. hospitals with a comprehensive electronic health record system would nearly double to 2.9 percent.

VA's electronic health record system covers many aspects of patient care, including reminders for preventive health care, electronic entry of orders, display of laboratory test results, consultation requests, and pathology and imaging studies.

"The American Recovery and Reinvestment Act stipulates that clinicians and healthcare organizations can receive incentive payments for 'meaningful use' of EHRs. Depending on the definition and timeline for 'meaningful use,' this legislation could result in a rush to implement sub-optimal systems," said Sittig, co-author of a new book that addresses EHR issues and is titled "Clinical Information Systems: Overcoming Adverse Consequences."

For Americans to realize the full potential of electronic health records, which include reduced cost, less duplication and greater quality, Sittig and Singh believe all eight essentials, which are based on a systems

engineering model for patient safety, should be followed.

1. Hardware and software - Before implementation starts, the clinician and healthcare organization must have the proper hardware and software. "Anything that slows or disrupts the clinician's work flow could negatively affect patient safety," the authors wrote. "While free electronic health record software available is available, such as Veterans Information Systems and Technology Architecture (VistA) developed by VA, all of the other seven essentials in the framework must also be addressed for safe and effective use," Sittig said.

2. Content - To make sure that information is shared effectively, the federal government has taken steps to standardize the terms used to describe clinical findings. "Adoption of a standard vocabulary is prerequisite to implementing advanced clinical decision support," the authors wrote.

3. User interface - The information should be easy to access and to enter. Ideally, the interface should present all the important patient information in a way so that clinicians can rapidly recognize problems, and respond to them appropriately.

4. Personnel - For EHRs to work safely, healthcare organizations will need to hire trained and knowledgeable software designers, developers, trainers and implementation and maintenance staff. The American Medical Informatics Association has identified the knowledge and skills necessary for many of these jobs. The School of Health Information Sciences at Houston currently offers educational programs and degrees in these areas.

5. Work flow and communication - The EHR system needs to be thoroughly tested within the clinic or hospital prior to implementation. Any bugs in the system should be fixed ahead of time.

6. Organizational characteristics - There should be a system to report errors and identify obstacles to care. "Innovation, exploration and continual improvement are key organizational factors for safe EHR use. The VA is a model of many of these organizational features," the authors state.

7. State and federal rules and regulations - Care must to be taken to make sure regulations protect patient safety and privacy.

8. Monitoring - Oversight, even after initial adoption and use, is crucial to the success of the switch from paper-based patient records to electronic records.

"These issues are essential to maximize patient care benefits and minimize unintended errors from technology," Singh said.

The commentary is titled "Eight rights of safe electronic health record use." The authors received support from the National Library of Medicine, the VA National Center of Patient Safety, the Houston VA Health Services Research and Development Center of Excellence and the Agency for Health Care Research and Quality.

Source: Baylor College of Medicine (news : web)