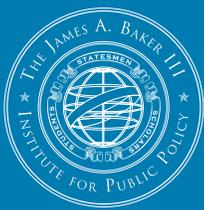


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IN THIS ISSUE

The commentary “Eight Rights of Safe Electronic Health Record Use” by Dean F. Sittig, Ph.D., and Hardeep Singh, M.D., M.P.H., appeared in the Sept. 9, 2009, edition of the *Journal of the American Medical Association*. Sittig is an associate professor of Health Information Sciences at The University of Texas School of Health Information Sciences at Houston and a member of The University of Texas-Memorial Hermann Center for Healthcare Quality and Safety in Houston, Texas. Dr. Singh is affiliated with the Houston VA Health Services Research and Development Center of Excellence. Dr. Singh is also the director of The Center of Inquiry to Improve Outpatient Safety through Effective Electronic Communication, Michael E. DeBakey Veterans Affairs Medical Center, and an assistant professor of medicine in the Section of Health Services Research, Department of Medicine, Baylor College of Medicine, in Houston, Texas.



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HEALTH POLICY research

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Is safe electronic health record use all about good technology?

“It is much more than just technology,” says Dr. Hardeep Singh of Baylor College of Medicine and the Michael E. DeBakey Veterans Affairs Medical Center. He contends that safe use of electronic health record-keeping requires an understanding of the complex interaction of organizational, technical and cognitive factors, as well as the practice workflow of physicians.

Hospitals and other health care organizations face increasing pressures to adopt electronic health records (EHR). But the potential benefits of EHRs, such as improved patient safety and quality of care, are limited by system features, user experience and policies at organizational and higher levels. Singh, along with colleague Dean Sittig, Ph.D., of the UT-Memorial Hermann Center for Healthcare Quality and Safety, recently proposed a set of eight conditions, or “rights,” for safe EHR use based on human factors engineering principles.

A clear prerequisite for safe EHR use is a system that is well-designed and capable of supporting the many functions that it is expected to perform. This requires not only adequate hardware and software free of bugs, Sittig and Singh say, but also an efficient user interface and appropriate clinical content. Breakdowns in care processes could result from errors or inadequacies in any of these features, at a potential cost to patient safety. For example, a poorly designed user interface that places too much information on one screen could increase the likelihood that a clinician would miss important data.

Another roadblock to safe EHR use is the availability of qualified and well-trained personnel, including software developers, trainers, implementers and maintenance staff with specialized knowledge and skills in clinical informatics. Systems should be implemented with a thorough understanding of their utilization in a clinician’s workflow, and with consideration as to where possible safety vulnerabilities exist. Sittig and Singh cite the American Medical

Informatics Association’s 10x10 training programs¹ as an example of initiatives to prepare competent EHR clinical informatics professionals.

Finally, Sittig and Singh describe ways in which organizational and regulatory factors play a crucial role in the safety of EHR use. They recommend that health care institutions carefully tailor their policies and procedures before EHR implementation. Simultaneously, policymakers at the state and federal levels must revisit policies that could hinder widespread adoption of EHRs, and they must prevent health care organizations from rushing to implement suboptimal EHRs. Because features designed with the best intentions may still yield unintended outcomes, Sittig and Singh call for ongoing monitoring and error reporting at the organizational and national levels to continually evaluate and optimize EHR systems.

To address these many facets of safe EHR use, the authors argue that a coordinated multidisciplinary effort is essential. Scientists, engineers and clinicians must contribute to a shared understanding of the complex issues posed by EHR implementation. “Without this understanding,” Sittig and Singh caution, “any solutions are certain to be far from optimal.”

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¹ American Medical Informatics Association, “AMIA 10x10,” <https://www.amia.org/10x10>.

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