What the Others Haven’t Told You: Lessons Learned To Avoid Disputes and Risks in EHR Implementation

EXECUTIVE SUMMARY

- Electronic health records (EHRs) have numerous benefits, but are also besieged with risks.
- Health care leaders must analyze potential risks throughout all EHR stages.
- Lessons learned from an EHR implementation may assist nurse leaders in avoiding disputes and risk.
- Strategies for reducing risk, liability, and ultimately litigation associated with EHR implementation are discussed.

THE AMERICAN RECOVERY and Reinvestment Act (ARRA), frequently referred to as The Stimulus Bill or Recovery Act, was signed into law in 2009 under the Obama administration. Embedded within the ARRA is the Health Information Technology for Economic and Clinical Health (HITECH) Act (U.S. Department of Health and Human Services [HHS], 2012a). The HITECH Act was incorporated into the ARRA to support the implementation and meaningful use of health information technology. Meaningful use has been defined by the Centers for Medicare & Medicaid Services (CMS) as having three main components: use of a certified electronic health record (EHR) in a meaningful manner, such as e-prescribing; use of certified EHR technology for electronic exchange of health information to improve quality of health care; and use of certified EHR technology to submit clinical quality and other measures (CMS, 2012). In an effort to encourage hospitals to implement EHRs, CMS has established incentive money for hospitals able to demonstrate meaningful use. Up to $27 billion is available for hospitals with EHRs proven to meet CMS requirements for meaningful use. In recent years, hospitals have raced frantically to implement EHRs in order to receive their share of these dollars.

Aside from CMS incentive dollars, a well-designed EHR is extremely valuable, not only to health care providers, but for their patients as well. Such advantages include more time for patient care, fewer medical errors, improved workflow, better capability to involve patients and families in care delivery, and immediate availability of pertinent clinical data (Lieber, 2011). It is easy to be blinded by the enormous potential benefits of the EHR. However, hospitals will be imprudent to focus solely on the advantages of an EHR. To do so will precariously minimize the potential hazards associated with this technology. In this article, the risks and new forms of liability associated with the emergence of this new technology will be discussed.

Potential Risks

Electronic health records are very robust and complex technology systems. These electronic systems are then integrated into an even more complex industry. EHR risks are present in all stages of the EHR life cycle (Harrington, Kennerly, & Johnson, 2011). At any point, the EHR life cycle (planning, design, development, testing, implementation, operations, and maintenance) is subject to risk produced by people, processes, work environment, and/or technology.

Notably, one large inherent risk with implementing an EHR is the failure of a successful implementation. In this scenario, ironically, EHRs are risky without ever being utilized. Hospitals risk time, money, and resources should they fail to implement or maintain a newly built EHR. Analysis of EHR implementations revealed the key to a successful execution entails (a) organization support and stability, (b) flexible implementation timelines, (c) adequate financial and human resources, (d) proper training, and (e) suitable changes in workflow (Spetz, Burgess, & Phibbs, 2012). A number of failed EHRs can be traced back to lack of physician engagement (Bria, 2011). To prevent failure due to lack of physician support, hospitals should be cautious not to introduce EHRs as simply a replacement of the paper record. Much like presenting new surgical or radiology technology, providers are more appreciative of new technologies that will improve their clinical practice and patient outcomes (Bria, 2011). EHRs should be regarded as a clinical tool that constantly builds evidence, allowing both nurses and physicians to learn from their own practice, and through the use of the tool create new evidence-based practices.

In the future, EHRs are likely to set the standard of care (Mangalmurti, Murtagh, & Mello, 2011). According to an American Hospital Association survey, currently only 35% of hospitals in the United States have implemented an EHR (HHS, 2012b). As bodies of literature substantiate EHRs improve patient safety, we can expect to see a growing number of EHRs in use.

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Electronic health records can be built to trigger reminders for provision of care and flag alerts for missed medications or other treatments. In doing so, the system becomes a tool designed to assist with the delivery of quality care. In the future, organizations that fail to implement an EHR can be considered as deviating from the standard of care. This failure, in turn, may place health care providers and organizations at risk should a patient be harmed. Savvy lawyers may argue an organization’s decision to deviate from the established standard of care is negligent, as it knowingly and unnecessarily places patients at risk.

Sometimes software programming errors are not discovered until after the EHR has been fully implemented and is well in use (Lieber, 2011). In these cases, there is significant risk for harmful errors to occur. Technology programming errors that fail to encrypt information could potentially expose hospitals to privacy breaches. Other software errors include miscalculation or erroneous reporting of clinical data values. If not identified, such errors could lead clinicians to make decisions that could potentially compromise patient safety. The design of the program is critical so that it creates a system where end users can locate data easily. If data are difficult to find, the provider and organization can be at risk. Additional software failures include lengthy system downtimes. Downtimes are more concerning when back-up systems do not contain the entire medical record. Inaccessible clinical data poses an additional risk for medical errors (Lieber, 2011). In comparison to paper records, EHRs are 40% more complete (Berk, Cohen, Callady, & Lauder, 2008). The key to mitigating various programming errors is to test, retest, and have end users trial prior to implementation. These extra steps involve programmers testing for bugs, reprogramming any identified errors, and retesting to ensure the programs are running as designed. After each reprogramming, end users should validate the system is working to meet their needs prior to implementation.

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<th>Strengths</th>
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<td><strong>Internal</strong></td>
<td><strong>Overall low physician support</strong></td>
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<td>• Motivated and engaged nursing staff</td>
<td>• Newly created information technology team</td>
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<td>• Support of executive leadership</td>
<td>• Limited education dollars for training</td>
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<td>• Will potentially improve patient safety</td>
<td>• All system training would need to be done by the nursing staff</td>
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<td>• Strong physician champion</td>
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<th>Threats</th>
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<td><strong>External</strong></td>
<td><strong>Some lessons learned from recent implementation at another hospital</strong></td>
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<td>• CMS expectations on meeting meaningful use criteria</td>
<td><strong>Industry-growing trend with EHRs</strong></td>
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<td>• Strict timelines to meet CMS stage 1 meaningful use</td>
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Table 1. SWOT Analysis

**Risk Identification and Reduction at a Community Hospital**

In May 2012, a moderate-sized hospital in Southern California launched its first EHR. Prior to the EHR build, an organizational needs assessment was conducted by the project lead. Needs were assessed by interviewing key nursing and executive leaders within the medical center. The needs of the organization, relative to implementing an electronic health record, were categorized into three main areas: (a) additional resources, both human and financial; (b) physician buy-in (the hospital has a large number of older physicians, many expressed their reluctance with converting to the EHR); and (c) nurse collaboration during the system build and implementation/training phases.

A SWOT analysis was created to illustrate opportunities and threats relative to implementing an EHR (see Table 1).

To address the top three identified needs, the organization judiciously monitored their financial budgets. The information technology team secured system office support for additional money with well-documented justifications. During the build phase, the implementation was pushed back 3 weeks to allow for more testing. The additional money needed was sought and approved. The physician champion worked diligently to establish buy-in with the medical staff. He partnered with the chief of staff to share the benefits of the EHR with the medical group. While there was certainly a strong effort, 2 months post-launch meaningful use requirements were not being met for physician documentation of patient problem lists. This is an issue other hospitals have faced; 16% of hospitals with new EHRs have also reported this as a barrier to achieving meaningful use (Jha et al., 2011). To date the hospital is still unable to gain compliance with this physician documentation and CMS incentive dollars are unlikely. The nurse engagement for the EHR remained strong; however, the availability of extra nurses to provide system training proved to be an overwhelming chal-
lenge. While most nurses were excellent trainers, a significant number were not skilled educators and communicators, and some simply did not acquire the expert knowledge of the system.

Two months into the operations phase, numerous programming errors were discovered. Clinical documentation designed with the intent of meeting quality standards lacked critical data fields. Nursing leaders discovered there was no capability for registered nurses to co-sign licensed vocational nurses, no ability for nurses to document telephone orders, and clinical information needed to meet CMS core measure requirements was nonexistent. The system was designed in a way that did not support the nursing administrative documentation policies. To further complicate matters, nurses and physicians were unable to navigate through the record efficiently. In the end, the EHR placed the organization at risk. Pertinent clinical documentation was omitted, such as patient discharge instructions, lab value reference ranges, respiratory therapy treatment notes, anticoagulation titrations, and nursing end-of-shift documentation. The information that was captured was difficult to retrieve due to the lack of adequate training and system design. The EHR did not read like a traditional medical record. Information retrieval was not intuitive and required multiple navigation points across several screens.

The numerous clinical documentation errors required the risk manager to be involved. To mitigate the risks, the information technology department arranged for weekly meetings to discuss needed EHR changes and the prioritization of each change. This level of risk required immediate action. While the risk manager and others were involved, there was no recognized need to involve the hospital’s counsel. The organization was confident the programming issues could be resolved within 1 month’s time. Proposed alternative solutions were to document on paper all EHR documentation with missing fields, or continue all documentation in the EHR to maintain consistency with newly implemented processes. The decision was made to resume paper documentation where necessary to meet regulatory and accreditation requirements. The omissions in the EHR record were concerning for several reasons: (a) The Joint Commission was expected to survey the hospital soon; (b) quality scores were falling significantly below standards, and (c) potential claims against the hospital would be hard to defend with missing clinical information.

**Liability and Litigation**

As the use of EHRs increase, health care organizations can expect to see an increase in legal disputes (Lieber, 2011). The Institute of Medicine (2012) recommends “hold harmless” verbiage be removed from EHR software vendor contracts. Concerns were raised that contractual language prohibited physicians from raising awareness around software errors resulting in patient harm. In light of these growing concerns, proposals have been made to create public monitoring system for EHRs. Recommendations include (a) reporting all clinical software errors resulting in patient harm, (b) EHR system and vendors should be certified as a way to demonstrate competency and quality in software implementation, (c) organizations should perform routine EHR risk assessments, (d) conduct random Joint Commission on-site inspections of systems and workflows, and (e) create a national adverse event reporting database specific to EHRs (Sittig & Warden, 2012).

**Conclusion**

Modern EHR systems are excellent tools, but one cannot lose sight of their potential hazards. The EHR has created a new liability risk for health care organizations and providers. Patient harm can result in medical malpractice claims stemming from EHR inefficiencies and errors. Organizations and providers can face legal fines and lawsuits for privacy breaches with the EHR. Organizations must be aware of the variety of potential perils to mitigate risk and patient harm.

**REFERENCES**


