

By Susan D. DeVore and Keith Figlioli

DOI: 10.1377/hlthaff.2010.0250
 HEALTH AFFAIRS 29,
 NO. 4 (2010): 664-667
 ©2010 Project HOPE—
 The People-to-People Health
 Foundation, Inc.

Lessons Premier Hospitals Learned About Implementing Electronic Health Records

Susan D. DeVore (susan_devore@premierinc.com) is president and chief executive officer of the Premier health care alliance, a 2006 Malcolm Baldrige National Quality Award recipient, in Washington, D.C.

Keith Figlioli (keith_figlioli@premierinc.com) is senior vice president of health care informatics for the Premier health care alliance.

ABSTRACT Implementing health information technology (IT) is a major strategic objective for providers. To pinpoint considerations that tie to success, the Premier health care alliance surveyed hospitals to develop an electronic health record best-practices library. Compiled from diverse health care organizations, the library outlines considerations to support “meaningful use” in the areas of computerized physician order entry, medication management, clinical documentation, reporting of measures, privacy, information exchange, management of populations’ health, and personal health records. Best practices also uncovered strategies for securing executive leadership, culture change, communication, and support for clinicians. This paper summarizes lessons from the library, providing recommendations to speed up health IT implementation.

Implementing health information technology (IT) in a systematic manner is a major strategic objective involving careful coordination, open communication, and collaboration across the provider community. To date, much of the literature has focused on working through technical challenges associated with “wiring” the health care system, including functionality issues, technical specifications, and overarching requirements needed to qualify for funding under the Health Information Technology for Economic and Clinical Health (HITECH) Act, which was enacted as part of the American Recovery and Reinvestment Act (ARRA) of 2009. Although these are important issues to resolve, they do not address the gray areas associated with implementation that ultimately will have a bigger impact on the success or failure of the effort.

But it is possible to learn from leading health systems to pinpoint considerations that directly tie to success. The Premier health care alliance, a national network of 2,300 nonprofit U.S. hospitals and 63,000 other health care sites, recently surveyed its members¹ to cull “lessons learned” from electronic health record implementation.

The objective was to develop a best-practices library that outlines areas that should be considered before and during implementation. This information is independent of any one particular electronic health record technology, and the compilation from a diverse set of health care organizations demonstrates the value of sharing knowledge to support more rapid achievement of “meaningful use” of health IT.

Backed by literature and real-world lessons learned from those far along in implementation efforts, the best-practices library features specific guidance on achieving the so-called meaningful use objectives now set forth in proposed federal regulations promulgated in response to the HITECH Act. These include proposed requirements in the areas of computerized physician order entry, medication management, clinical documentation, reporting of quality measures, privacy and security, health information exchange, management of populations’ health, and personal health records. Equally important are the best practices that emerged around executive leadership, culture change, communication, and strategies for securing buy-in from clinicians.

In this paper we summarize the top lessons learned from the best-practices library, and we provide recommended strategies to ensure smoother, faster health IT implementation.

Lesson 1: Challenge Of Cultural Changes

Cultural changes have proved to be far more challenging than technology issues or budgetary concerns. Although it's important that systems be affordable and that technology accomplish strategic goals, health IT implementation will not be as successful if strong consideration isn't given to managing the unique personalities of the users involved. Health IT implementation represents a sweeping change away from business as usual to an entirely new approach in health care—one that will require process and behavior changes from nearly all health care workers. As such, it's important to see the effort as an exercise in change management, not an IT initiative.

When changes are viewed through that lens, leadership must take the initiative to ensure that they are rolled out gradually to avoid a reaction of “too much, too soon” from users. Second, forums should be created for users to weigh in so that objections can be identified and dealt with before full-scale implementation. Above all, usability must take center stage, and systems, work flows, and content must be carefully designed so that it's easy to do the right thing and challenging to make a mistake.

Lesson 2: Value Of Clinical Champions

Clinical champions need to be brought on board, and multiple communication channels should be used to convey the benefits of change. Clear, regular communication from the top levels of management is imperative to spur adoption of technology and work-flow change. Communication should start from the very outset of the project and continue at each stage of the project rollout, involving all members of the senior management team using a variety of tools, including e-mail, newsletters, and face-to-face meetings.

But communication isn't enough. Management leaders must recruit clinical champions—physicians, nurses, and other providers—and involve these team members in the process from the beginning, providing input into design, work-flow sign-off processes, and live support. Further, to get physician support, surveyed hospitals recommend that senior medical leadership be tapped to contribute to the design process and to communicate with other physicians

regularly about the usability and benefits of the new technology.

Lesson 3: Need For Medical Staff Training

According to surveyed hospitals, hands-on health IT training for medical staff is far more effective than classroom-style education. Because the system will require technical education as well as behavior changes, hospitals reported that it was far more effective to have trainers shadowing physicians so that questions could be answered on the spot, anytime, anywhere.

Such an approach has multiple benefits. For one, users are trained to use the new technology on the job, in the environment where they will be expected to translate lessons learned into clinical practice. For another, trainers can document common questions and technical issues as they happen in real settings. Finally, using a technology is often the best way to become comfortable with it, and physicians who train in practice are more likely to realize benefits early and promote the new tools.

Lesson 4: Integrate Alerts And Reporting Of Measures

To maximize the investment in health IT, reporting of quality measures and alerts should be integrated into any implementation effort. Throughout the best-practices library, hospitals reported that the power of health IT to “save time” was not a compelling argument to create buy-in from clinical staff; nor was efficiency alone enough to justify a return on investment. Instead, technology needed to be linked consistently to quality and safety goals. To accomplish this, careful thought must be given to the linkage between clinical decision support, order sets (that is, the activities, or orders, associated with a specific medical procedure), and quality reporting, to ensure that evidence-based care is reinforced seamlessly.

According to surveyed hospitals, it is critical to identify the information needed to support quality reporting and ensure that it is integrated into the order sets and clinical decision-support functions. For example, a consistent process is needed for documenting aspirin administered within an hour of admission for a patient with acute myocardial infarction in a structured format—not in free-text notes.

However, it's easy to go too far in this area, with reminders and hard stops prompting physicians so often that “alert fatigue” sets in. To manage this, alerts should be limited to the most important or commonly overlooked areas, and

they should be rolled out gradually and optimized before additional reminders are integrated into the system. Hospitals should also review alert reports to ensure that they achieve the desired results. In one case, a surveyed hospital reported working to track the percentage of alerts that were closed in less than two seconds, which would indicate that they hadn't been read at all. With this information, the hospital then could determine whether the alert is truly needed or additional education is required.

Lesson 5: Rigorous Security

A rigorous security program needs to be designed that includes procedures for responding to security incidents, including those that involve handheld devices. According to the Health Insurance Portability and Accountability Act (HIPAA) Security Rule, an *incident* is the attempted or successful unauthorized access to or use, disclosure, or modification of information or interference with security operations in an information system. Surveyed hospitals reported that the first step toward a successful security policy is to implement procedures to respond to and report such incidents, incorporating postincident analysis that can measure the effectiveness of the policy. Also critical is to update incident response plans regularly to reflect lessons learned, so that policies are continually strengthened to address current and emerging threats.

It is also important to build policies specific to mobile devices and handhelds. Although convenient, handhelds bring with them a host of special security issues, including loss and lack of encryption, particularly if the handheld is owned by the physician rather than the hospital. Any security policy must, at a minimum, address these potential risks. However, it may be advisable to err on the side of caution and prevent the use of certain mobile devices when patients' health information is involved.

Lesson 6: Clear Policies To Document Communication

Clear policies are needed to document both informal and special forms of communication that may need to be documented in the electronic health record. When implementing health IT, surveyed hospitals reported that care must be taken to address unofficial forms of documentation, such as "sticky" notes or work lists, that are not part of the official medical record. Informal messages and notes may continue to be used in a health IT-enabled environment. But hospitals should examine why clinical staff members use

It's key to take a broad view of the budget, to avoid being surprised by the total cost.

these methods and determine whether there is a communication gap that could be resolved in the design of the electronic health record.

Informal arrangements and shared understanding among the clinical team must be confronted. For instance, nursing teams today may enter orders without a prior order from a physician, based on a shared understanding of past history or current practice. Often these orders are documented as oral and later signed by physician, even though they were never given ahead of time. Implementation of health IT will require that all such cases be identified and corrected.

Further, surveyed hospitals recommended that all special circumstances be identified and addressed in the medical record, to avoid confusion. For instance, there may be certain instances, such as certifying brain death, where more than one signature is required, and the record must be flexible enough to allow for that.

Lesson 7: Flexible Budgets

Budgets should be built to account for the unexpected. Too often, budgets aren't expansive enough to fund the indirect costs of implementation, including infrastructure to support increased electronic data, applications to optimize work flow, user or staff time to participate in design and training, applications and upgrades needed to optimize work flow, and fine-tuning after implementation. Surveyed hospitals reported that it's key to take a broad view of the budget, to avoid being surprised by the total cost.

Budget areas that are notoriously left out include compensation for physician champions, if applicable; evidence-based medicine or clinical documentation tools; third-party consulting for project management, process redesign, or training; increased help desk support to address staff questions; and unknowable contingencies. To be successful, leaders should ensure that the hospital budget for health IT incorporate these areas and can address last-minute "must-haves" with some degree of flexibility.

Conclusion

To qualify for incentive payments as part of the HITECH Act, providers will have to develop health IT implementation plans that fit within the government's overarching vision, working out the business relationships, processes, and technology platforms that work best for their patients and unique local networks. A "one size fits all" approach will not work. However, in

examining lessons learned from other hospitals and health systems, providers can be sure to avoid leaving out important considerations. Taken together, these lessons can help focus implementation efforts on specific tasks required to achieve meaningful use—leveraging the experience of others to achieve effective and efficient implementation process. ■

NOTE

¹ Responding organizations included Albert Einstein Healthcare Network, Alegent Health, Anmed Health, Catawaba Valley Medical Center, Commonwealth Health Corporation, Danbury Health Systems Inc., Enloe Medical Center, Geisinger Health System, Grenada Lake Medical

Center, Haywood Regional Medical Center, Henry County Health Center, Huntington Hospital, LifeBridge Health, Methodist Health System, Murray-Calloway County Hospital, Norton Healthcare, Overlake Hospital Medical Center, Park Nicollet Health Services, Saint Francis Hos-

pital and Medical Center, Saint Vincent Health System, Sharp HealthCare, Sinai Health System (Chicago), South Central Regional Medical Center, SSM Health Care, St. Elizabeth Medical Center, Thompson Health, UMC Health System, and Valley Health System.