Health Information Technology and High-Value Health Care: Realizing the Health IT Payoff

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While American physicians are famous for quickly adopting the latest device or technology, there is one technology whose uptake has been very slow: electronic health records (EHRs). Until recently, most physicians and hospitals relied on a centuries-old approach: pen and paper. In 2008, two years after the launch of the iPhone, just 1 in 6 physicians was using an EHR. And the impact of relying on paper was obvious. Without electronic systems, even simple health care tasks, such as making sure a prescription is read and filled correctly, were both difficult and expensive to perform reliably.

In response to the slow uptake of EHRs, the federal government stepped in. In 2009, Congress passed the HITECH Act, which mandated nearly $30 billion in incentives, most directed to physicians and hospitals, to promote widespread adoption and use of EHRs. (http://www.nejm.org/doi/full/10.1056/NEJMp0912825) The results have been striking. By 2012, nearly half of physicians were routinely using EHRs.

Coupled with the steadily rising adoption numbers is, however, a growing sense that our collective investment in EHRs may not pay off. While early studies promised that EHRs could transform health care delivery, more recent evidence suggests that current approaches to EHR use are not generating real value for the health care system. (http://annals.org/article.aspx?articleid=1709804, http://www.ncbi.nlm.nih.gov/pubmed/20368593) The question confronting us is this: What else do we need to do, beyond adopting this new technology, to produce real, near-term performance improvement in the delivery of health care?

For clinical leaders and policymakers focused on how to ensure that the national investment in EHRs results in value—better care at lower costs—we suggest three priority areas for focus: health information exchange, smart yet flexible clinical-decision support, and learning from EHR data. These three ideas are key for two reasons. First, they are largely within the control of health care delivery organizations, and second, there is reasonably good evidence that each can rapidly generate substantial value if done well. And yet doing them well is a challenge. We therefore describe key considerations for organizations seeking to put these ideas into action and use their EHRs to drive improved quality and efficiency.

In our highly fragmented health care delivery system, lack of clinical data exchange leads to care that is duplicative, inefficient, and error-prone. Physicians are hamstrung in their ability to make good clinical decisions when they lack critical information about care that might have occurred in other settings (such as knowing what happened to your patient when he or she was in the emergency room last week). And coordinating care for expensive and complex patients is particularly difficult.
when their information is trapped in the EHRs in the various settings where they receive care. Interoperability is difficult for several reasons, but chief among them is organizational mindset. (http://www.ncbi.nlm.nih.gov/pubmed/23840051) Too many organizations view data as a competitive advantage, and their decisions about sharing data are driven by strategic, rather than patient-centered, factors. As the technological barriers to sharing come down, organizations that want to get real value out of their EHRs must engage with other providers to share their information. And this means not just getting data from others, but sharing their own data as well.

The second way in which EHRs could generate substantial near-term value is through a smarter, more flexible approach to clinical decision support, or CDS. These decision tools, when embedded in the EHR, can be very powerful. Computers are exceptional in their ability to follow rules, and by extension, ensure that those who use them follow rules. When two drugs should never be prescribed together, a programmed hard-stop can ensure that it doesn't happen, an action that is effectively impossible on paper. Geisinger Health System has taken decision support one step further; for heart bypass surgery, Geisinger created “a bundle of 40 evidence-based practices, developed an improved workflow process[...], and worked to hardwire each element of the bundle into the EHR through templates, order sets, and reminders.” (http://www.commonwealthfund.org/Publications/Case-Studies/2009/Jun/Geisinger-Health-System-Achieving-the-Potential-of-System-Integration.aspx) This approach reduces unnecessary and often wasteful variation and improves care for the majority of patients for whom there is a clear right decision or course of treatment.

Standardized approaches like Geisinger's have not been widely adopted, however, often owing to physician opposition. Clinicians argue that patient preferences and individual clinical needs mean that few rules apply in 100% of cases. For example, there are important instances in which two drugs that have significant interaction may nonetheless need to be given. Worse, many current CDS tools are inflexible, creating frustration and propelling clinicians to stop using them altogether.

Organizations should pursue smarter clinical decision tools that help guide physicians to provide evidence-based, standardized care but leave room to customize care for the individual patient. It is also critical that decision support tools be easily updatable. Clinical knowledge changes rapidly, and so must the tools working to promote the application of this knowledge.

This leads to the third and arguably biggest area of opportunity for organizations: the use of EHR data for learning through performance measurement, monitoring, and improvement. One of the major impediments to improvement in health care has been the lack of reliable, timely performance data. Clinicians have little information about how their own patterns of care differ from those of other clinicians or from industry norms. EHRs offer timely, clinically rich data that can be analyzed in real time to assess performance and identify opportunities for improvement. Some leading organizations are building clinical and quality dashboards that provide front-line staff and managers with feedback. As the broader delivery system moves toward paying for value (as opposed to just paying for more health care services), EHRs have the potential to become an indispensable tool to help organizations learn what they do well, where they can improve, and how. The tool becomes more powerful when individuals, teams, or even entire organizations experiment with new approaches to care delivery and use real-time measures to assess the impact. This virtuous cycle of measurement, experimentation, feedback, and refinement could transform practices and hospitals into data-driven, learning organizations.

EHRs have been hyped by many as a panacea that will automatically lead to the delivery of high-value care. Experience to date suggests that unlocking the promise of EHRs will be much more challenging. In other industries, the adoption of IT took a decade to pay off in improved productivity. Our health care system does not have the luxury of time. A key lesson from other industries is that, over the course of that decade, organizations had to redesign the way they worked in order to take advantage of newly available IT capabilities. In health care as well, EHR payoff will undoubtedly require many changes. Three of the most
promising include greater health information exchange, smarter clinical decision support, and the use of data to generate learning. Though none of these will be easy, we believe that they will serve as the lynchpin in making high-value healthcare a near-term reality.

Insight Points
• The U.S. is making a large national investment in adopting and using electronic health records (EHRs) to transform healthcare delivery.
• Ensuring that EHRs lead to high-value care will require broader strategies for how to use these systems.

Organizations seeking to use EHRs to deliver high-value care should pursue three specific approaches - engaging in health information exchange, use of smart yet flexible clinical decision support, and learning from EHR data.