We Know What to Do

By Barry P. Chaiken, MD, FHIMSS

Almost eight years ago Richard Hillestad and his colleagues from the Rand Corporation predicted that electronic medical record systems (EMRs) would generate cumulative efficiency and safety savings of $142 to $371 billion during a 15-year period, an average of $81 billion annually (Hillestad et al., 2005). These savings were based upon assumptions of a low-end 1.5% productivity improvement from information technology (experience of the retail industry) to a high-end 4% productivity improvement (half of telecom industry experience). Just seven years later, Arthur Kellermann and Spencer Jones from Rand revisited Hillestad's work and conclude the following:

> Although the use of health IT has increased, the quality and efficiency of patient care are only marginally better. Research on the effectiveness of health IT has yielded mixed results. Worse yet, aggregate expenditures on health care in the United States have grown from approximately $2 trillion in 2005 to roughly $2.8 trillion today (Kellermann & Jones, 2013).

This Kellerman report evaluates four assumptions made in the original article by Hillestad and attributes the shortfall in observed versus projected results to shortcomings in four areas. Hillestad assumed the following in making his projections: 1) robust interoperability and interconnections of health IT systems, 2) wide adoption of health IT systems by clinicians, 3) effective use of health IT systems to impact care, and

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4) changes in incentives and reimbursement systems that emphasized quality rather than revenue.

No surprises here. Anyone who toils in the health IT field knows that these four items represent the key challenges that we all work to overcome as we deploy our health IT applications. Counter to the pessimistic view that the billions of dollars spent on EMRs and other health IT systems are wasted resources, these investments offer a powerful force that, when the conditions are right, will significantly impact quality, safety, and cost. Let's take each assumption individually and review its prospect for changes that will allow health IT to deliver on its promises.

Interoperability and Interconnectedness

For many years, financial institutions refused to be interoperable or interconnected. These companies viewed barriers to the transfer of funds among institutions as a way to prevent their customers from moving their accounts to a competitor. Automatic teller machines or ATMs quickly changed the thinking of banks. Initially, banks competed for business by working to install more ATM machines than their competitors to attract customers. At more than $10,000 a machine, banks soon realized that this race to the top—saturating a geographic area with ATMs—was an unwinnable battle. Instead, banks joined together to build interoperable systems allowing any customer of any bank to use any ATM. In addition, they levied a small charge for use of a competitor's ATM, thereby turning a cost center—ATM banking—into a very profitable line of business.

As healthcare moves from a fee-for-service business to a prospective payment model, organizations will shift their focus from withholding patient information to erecting barriers that make it difficult for patients to switch providers, to activities that foster their ability to manage the health of patients effectively and efficiently. The value to all providers of having a complete medical record to treat patients under a prospective payment model linked to quality will be higher than not sharing patient information to prevent patients from leaving a provider network. EMR

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Clinician Adoption

Twenty years ago, newly minted physicians frequently referenced the spiral-bound *Washington Manual for Medical Therapeutics* they carried during patient rounds. Today, physicians in training continue to rely upon this same reference tool, except the guide now appears as a smartphone or tablet app. All categories of clinicians now regularly utilize health IT applications during patient care activities.

As new graduates roll up through the professional ranks and older clinicians retire, the number of clinicians highly skilled in utilizing health IT in patient care will markedly expand the adoption of health IT applications. Many organizations now seek clinician leaders to guide the effective deployment of health IT and hire physician or nurse chief medical information officers to manage the strategic direction of the health IT infrastructure. In response, EMR vendors are adapting their technology to the demands of these IT-savvy clinical professionals.

Effective Use

Dr. Paul Bataldan from the Dartmouth Institute summed it up best:

Every system is perfectly designed to get the results it gets.

Implementing EMRs to mimic the use of the replaced paper-based medical record almost guarantees no significant change in clinical and financial outcomes. Yet, copying existing workflows represents the least painful path to deployment and adoption as it requires the least amount of change among clinicians. Therefore, it is no surprise that many organizations chose to implement their EMRs without the necessary analysis and process redesigns to effectively leverage the functionality inherent in EMRs.

Nevertheless, we continue to learn best practices both in workflow and the synergistic utilization and integration of disparate technologies. Similar to other industries, this discovery takes time. By the end of the decade, a critical mass of best practices will emerge, propelling organizations to deploy those best clinical workflows to achieve desired results.

Changes in Payment

Ah, the Holy Grail. Humans respond enthusiastically to financial incentives, so as long as providers are incented to provide more care to generate high revenue, they will provide more care. With passage of healthcare reform, the incentives are changing. Accountable Care Organizations (ACOs) offer a new test of prospective, capitated payments that focus on quality and safety rather than the delivery of services. Insurers now find it more difficult to "cherry pick" low-cost, healthy enrollees as individuals can no longer be denied coverage due to pre-existing conditions.

The Center for Medicare and Medicaid Services (CMS), along with other payors, now rewards quality while reducing reimbursements for the overutilization of services. The focus on preventing now-unreimbursed re-admissions of Medicare patients to hospitals demonstrates this new focus on quality over quantity of services. These new incentives push providers to find ways to utilize health IT to help deliver required results.

Informaticists are just now learning how to effectively deploy clinical decision support tools that both improve care and drive the effective utilization of trained professionals. Clinical decision support positions clinicians to practice at the top of their license and in roles most consistent with their skills and experiences.

The response to those grabbing onto the report by Kellerman and Jones as evidence of the failure of the HITECH

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act and our overall investment in health IT should be an emphatic, "Be patient." The tipping point to great successes is close and getting closer. Healthcare presents a much more complicated terrain than retail or telecom, where knowledge gaps in biology, chemistry, and physiology coupled with the personal nature of providing medical care make constructing the optimum health IT workflow extremely difficult. Effectively utilizing health IT is a process that we are diligently working on today. We know what to do, and have no doubts, we will deliver as promised.

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REFERENCES

Goodman, C. (2005). Savings in electronic medical record systems? Do it for the quality. *Health Affairs, 24*(5), 1124-1126.

Hillestad, R., Bigelow, J., Bower, A., Girosi, F., Meili, R., Scoville, R., & Taylor, R. (2005). Can electronic medical record systems transform health care? Potential health benefits, savings, and costs. *Health Affairs, 24*(5), 1103-1117.

Himmelstein, D. U., & Woolhandler, S. (2005). Hope and hype: Predicting the impact of electronic medical records. *Health Affairs, 24*(5), 1121-1123.

Kellermann, A. L., & Jones, S. S. (2013). What it will take to achieve the as-yet-unfulfilled promises of health information technology. *Health Affairs, 32*(1), 63-68.

Walker, J. M. (2005). Electronic medical records and health care transformation. *Health Affairs, 24*(5), 1118-1120.