

Electronic Health Records – Beyond Meaningful Use

A. Ahmad¹

¹Duke University Health System and Duke University Medical System, Durham, NC, USA

Keywords

EHRs, ARRA, clinical systems, meaningful use, AMCs, electronic health records

Correspondence to:

Asif Ahmad, MS, MBA
Vice President, Diagnostic Services & CIO
Associate Dean, Academic Computing
Duke University Health System and Medical Center
Hock Plaza, Suite 1201, 2424 Erwin Road
Durham, NC 27705
E-mail: asif.ahmad@duke.edu

Appl Clin Inf 2009; 1: 265–267

doi: 10.4338/ACI-2010-06-IE-0037

received: June 13, 2010

accepted: July 8, 2010

published: August 11, 2010

Citation: Ahmad A. Electronic health records – beyond meaningful use. *Appl Clin Inf* 2010; 1: 265–267
<http://dx.doi.org/10.4338/ACI-2010-06-IE-0037>

For academic medical centers (AMCs), the past decade has seen two watershed moments in the adoption of health information technology (HIT). The first of these was the Institute of Medicine's 2001 landmark call to action urging the widespread adoption of modern medical informatics, including electronic health records (EHRs), computerized physician order entry, and the leveraging of existing data resources [1]. And indeed, the past few years have seen significant uptake and use of HIT in the healthcare and clinical research enterprises. But while many institutions have been eager to work with these new tools, few were fully prepared to adopt these systems and only a handful were able to show measurable improvements in the quality and safety of the health care they were delivering.

However, the second watershed moment – the recent emphasis on *meaningful use* as a key priority of HIT projects funded through American Recovery and Reinvestment Act (ARRA) grants [2] – illuminates the potential pitfalls of a simplistic approach to implementing EHRs and other aspects of HIT. It is seductively easy for healthcare institutions, including academic medical centers (AMCs), to focus on EHRs as aggregations of more or less desirable features and capabilities. However, if AMCs are to achieve the true goal of meaningful use by "...[enabling] significant and measurable improvements in population health through a transformed healthcare delivery system [3]," and even progress beyond this goal, a different perspective will be required.

We at Duke have argued [4] for just such a change in perspective, one that views HIT as critical tool of patient care, research, and continuous quality improvement that must be thoughtfully integrated with carefully designed workflows and existing institutional data stores. We would further argue that for AMCs, achieving meaningful use in the context of EHRs must go beyond the basic steps of selection and adoption, where EHRs are too often viewed in terms of their functionality alone, to instead focus on measures of care delivery quality, electronic adoption, and patient engagement.

For this approach to succeed, it is imperative that AMCs emphasize learning from within and applying knowledge through the thoughtful leveraging of health analytics to ensure that their EHR systems continuously evolve to become better and more integrated care delivery platforms. Success in this context will hinge upon the organization's capacity to harness the EHR to drive a cycle of continuous learning and improvement. At Duke, we have identified five foundational aspects that we believe are critical to an AMC's journey through and beyond meaningful use:

- First, EHRs must enable and support translational research by helping to rapidly move scientific discovery from the laboratory to the patient bedside.
- Second, EHRs must support patient empowerment and engagement.
- Third, EHRs should help to streamline care delivery models/roles. The emphasis must be on the entire care process and not, for example, on IT silos focused on inpatient/outpatient and physician/nursing systems.
- Fourth, EHRs must enable improvements in cost efficiency (clinical research and care delivery).
- Fifth and finally, EHRs must enable knowledge extraction and application to the entire environment, working as a feedback mechanism to fuel the cycle of continuous quality improvement.

Getting to this point will not be easy. Many U.S. AMCs still seem to view the purchase and deployment of an EHR system as sufficient in itself. Using knowledge extracted from EHRs as the foundation for building learning healthcare environments within hospitals and systems is a concept that is not well understood or even much discussed. Although some of the nation's AMCs have advanced the idea of integrating health informatics and business analytics into the healthcare enterprise, current commercial EHR systems are not designed to support the critical capabilities outlined in the five points above.

We as a nation must move past the simplistic assumptions that underlie the naive adoption of EHRs by engineering a disciplined approach to developing indicators that we can use to track and evaluate HIT in terms of its impact on patient care, research, and organizational efficiency. We stand at a critical juncture in the national effort to translate the promise of HIT into real health improvements for individuals and populations. Instead of participating in a mad dash to purchase the most popular single vendor EHR system of the moment, we should instead focus on use of clinical knowledge that could be achieved from "best of breed" multi-vendor integration of various

subsystems which may already be deployed. AMCs should seize this opportunity to focus on technologies that can accommodate continuous redesign and that can be adapted to meet the changing needs of clinicians, researchers, hospital staff, patients, and communities.

References

1. Institute of Medicine. Chapter 7: Using information technology. In: Crossing the quality chasm: A new health system for the 21st century. Washington, D.C.: National Academy Press; 2001.
2. American Recovery and Reinvestment Act Web site. Agency plans: Department of Health and Human Services Health Information Technology Recovery Plan. Available at: http://www.recovery.gov/transparency/agency/reporting/agency_reporting5program.aspx?agency_code=75&progplanid=7607 (accessed June 3, 2010).
3. U.S. Department of Health and Human Services Web site. Meaningful use: a definition. Recommendations from the Meaningful Use Workgroup to the Health IT Policy Committee, June 16, 2009. Available at: http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_11113_872720_0_0_18/Meaningful%20Use%20Preamble.pdf (accessed June 3, 2010).
4. Ferranti JM, Langman MK, Tanaka D, McCall J, Ahmad A. Bridging the gap: leveraging business intelligence tools in support of patient safety and financial effectiveness. *J Am Med Inform Assoc* 2010; 17(2): 136-143.