Pharmacy Automation and Technology

Health Information Technology Updates to Start the New Year

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We write our articles several months in advance. This month, we are writing at the time of the Presidential election and the American Medical Informatics Association (AMIA) meeting. We focus on health information technology (HIT) topics of interest from the meeting, beginning with a brief look at the HIT implications of the recent re-election of President Obama.

As 2012 is now behind us, we turn our attention to the new year. Clearly we all feel a sense of optimism when a new year is ushered in. The potential opportunities offered by a clean slate create enthusiasm and a positive outlook toward the upcoming 365 days. Every 4 years, however, the transition from December 31 to January 1 takes on heightened significance, because the country is either gearing up for 4 more years of the current President's leadership or is anticipating what changes a new resident in the White House may bring at the end of January. There are health information technology (HIT)-related implications of the re-election of President Obama, which is where we will begin our discussion.

We need to look back to the State of the Union address on January 20, 2004, to mark the beginning of the current efforts in the United States toward nationwide electronic health records (EHRs). Then President Bush articulated that "by computerizing health records, we can avoid dangerous medical mistakes, reduce costs, and improve care." The Office of the National Coordinator for Health Information Technology (ONC) was created shortly thereafter. Two years later on January 31, 2006, President Bush again reiterated the focus on EHRs when he stated, "We will make wider use of electronic records and other health information technology to help control costs and reduce dangerous medical errors." The ONC began with a modest budget (by US government standards) and an ambitious goal: more than half of Americans would have an EHR by 2014.

Fast forward to 2009. Regardless of where you stand politically, it's clear that the American Recovery and Reinvestment Act (ARRA) included major budgetary support for EHR efforts in the form of the Health

Information Technology for Economic and Clinical Health Act. It also legislatively mandated the position of National Coordinator, solidifying EHR work in the coming years. In the HIT community, however, there has been concern that a new President in office might mean changes in EHR funding. The re-election of President Obama indicates clear, continued funding of the country's hospitals and providers who are dedicating time, energy, and financial resources to EHR implementation.

Currently, efforts are focused on EHR implementation with small pockets of research into provider workflow or patient outcome implications of implementation. Early research suggests substantial changes in workflow with mixed results on patient outcomes, largely dictated by system design and user habits. We believe that the health care community is looking at years – likely decades – of research to identify the optimal way to design, implement, and use HIT to improve patient outcomes while also improving provider workflow. The research "ground" is fertile.

Closely related to the topic of EHR implementation, usability and interoperability were both areas of focus at the AMIA meeting. Many in the industry believe that practical interoperability is taking longer than it should, largely due to challenges of intellectual property, technical standards, politics, and a host of other reasons. We attended several sessions on the topic and came away with the impression that many of the decision-makers, leaders, and technical experts are at the table trying to address existing challenges. The user's experience has not been a high priority for vendors and is not a focus in the Meaningful Use Stage 1 criteria. However, if the vibe at the meeting is an accurate indicator, it appears that usability is going to begin to become a higher

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priority, coming right after interoperability in the list of priorities.

An interesting conceptual approach to EHR development that has been ongoing and was discussed at AMIA is the SMART (Substitutable Medical Applications, Reusable Technologies) platform architecture. Think of the SMART initiative as the development of an environment that supports interchangeable application capability. It is conceptually similar to apps that reside on your smartphone today. By aligning an app with SMART's application program interface (API), developers can create modular, customized software applications that can be "plugged" into existing EHR environments, addressing areas where the existing EHR falls short. SMART apps are built using industry standards and are envisioned as "closing functional gaps" in real-world systems. More information can be found at www.smartplatforms.org, including a list of existing SMART apps.

One idea that quickly comes to mind for a modular app that could plug into existing EHRs is a patient medication information tool. We want our patients to

be informed and equipped with the necessary knowledge to appropriately use their medications when they leave the hospital or clinic. They can obviously rely on external sources that may or may not be reliable. You might be interested to know that a SMART app already exists for this use. Meducation (www.pgsl.com) is a Web-based app that creates medication instructions that are written at a level that patients can understand, in the patient's preferred language.

From your daily work experiences, you can probably think of several apps that, when added to the pharmacy system, could greatly enhance clinical workflow. Stay tuned to the SMART initiative to see what ideas are moved into reality next. In the meantime, let us know your ideas for improving EHRs by adding modular apps that can be dropped in when needed and replaced when something better comes along. For example, might an interdisciplinary care team benefit from a shared app platform that supports integrated care? Stay tuned for more on this idea. E-mail Brent at foxbren@auburn.edu or Bill at felkebg@auburn.edu, or visit our blog to post your thoughts: www.pharmacy-informatics.com. ■

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