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Electronic Health Records: Lessons from the iPhone

Open programs to third-party developers, say two tech-savvy physicians.

By Emily Singer

Thanks to the \$19 billion designated for health-care information technology in the recent stimulus bill, electronic health records (EHRs) have garnered a great deal of attention in the past few weeks. The bill sets aside \$17 billion in incentives for physicians and hospitals that use qualifying EHRs beginning in 2011, and \$2 billion for the development of standards and best-practice guidelines over the next two years.

The bill does little to specify the types of technology that health-care providers must use, leaving the details to a newly appointed [national coordinator for health information technology](#). Given the amount of money at stake, both EHR vendors and the medical community are anxious to see exactly how these details will unfold over the next two years. In an article in the current issue of the *New England Journal of Medicine*, physicians [Kenneth Mandl](#) and [Isaac Kohane](#) outline their prescription for creating an effective EHR system. Their approach is modeled on successful IT products outside of health care, including the iPhone and Facebook, which rely on innovative applications from third-party programmers. Mandl and Kohane propose what they call a platform approach, in which EHR vendors sell a flexible, basic platform that is designed to work with components from other vendors, much as the iPhone works with applications made by a myriad of third-party developers.

Mandl and Kohane, both members of the Harvard/MIT Health Sciences and Technology Program at [Children's Hospital Boston](#), spoke with *Technology Review* about why their approach is crucial in digitizing health care.

Technology Review: Why should EHRs be more like the iPhone?

Isaac Kohane: On the iPhone, if you don't like how an application does a particular task--managing a to-do list, for example--you can download one of ten other available task-management software systems. That's because Apple created a market for third parties to create new applications. Consequently, better applications are being developed, creating a competitive market.

TR: How does that compare with health-care IT systems?

IK: The contrast is stark. Most existing programs are these big monolithic applications designed to solve all the challenges and tasks that developers conceived there to be at a hospital or doctor's office. If the practitioner doesn't like a specific thing, they can't replace it. They either have to tough it out and deal with a system that doesn't fit their needs, spend lots of money and more time with the vendor to customize the application, or throw out the whole system and start again. We know from the iPhone and Facebook and their widgets that this just isn't necessary.

Kenneth Mandl: We have to assume that we don't know what functionality we [will] want five years from now. We need to build a system that will evolve with our thinking, with our science, and with our health-care system.

TR: Would patients benefit from this kind of approach? Will we soon be able to view lots of different test results on our iPhones, for example?

IK: Yes! The platform model will greatly ease the ability for vendors of personal health records to offer connectivity or subscription services on hospital or practice platforms. This will accelerate access to the patient, including on the iPhone.

TR: What kind of third-party applications are you thinking about?

IK: Genetic testing in clinics has been available for more than 20 years, yet studies show that most doctors don't know how to order and interpret such tests. Few EHRs support any genetic testing or interpretation of genetic tests. If you had a platform model, a number of companies, including some of the existing [direct-to-consumer] ones, could build applications to order tests and provide interpretation.

TR: The aim of the stimulus bill, obviously, is to stimulate the economy. Will this approach help?

IK: We see this as being stimulating to the economy, because it allows scores of companies to develop business plans around these applications. The basic platforms could be sold by existing vendors but be designed to load third-party applications. It would create a much larger ecosystem of competing, evolving health-care applications driven to meet the different niches of health-care practice. Urban and rural practices, for example, don't need the same kind of support.

TR: Does the recent stimulus legislation move us in the right direction or the wrong

direction?

IK: The legislation is not specific enough to endorse the platform approach or argue against it. The concern is that the money has to be spent awfully fast. If nothing particularly innovative is done soon, it's the shovel-ready applications [which would likely closely resemble existing EHR programs] that will be implemented, and those are monolithic. We would argue that one of the most important things government could do is propose rapid adoption of a platform model that would allow third-party applications.

TR: Recent studies suggest that very few hospitals and physicians' offices are using EHRs. How will that affect implementation efforts over the next two years?

KM: You can look at low adoption rates as a glass half empty or half full. The empty view is that we have not been successful in getting the technology out there. But we are looking at the glass as half full. There are lots of offices out there that are ready for something completely new.

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San Diego, CA

Wednesday, April 22, 2009 - Friday, April 24, 2009

<http://www.infocastinc.com/cleantech>

[Web 2.0 Expo San Francisco](#)

San Francisco, CA

Tuesday, March 31, 2009 - Friday, April 03, 2009

<http://www.web2expo.com/sf>

[MIT Sustainability Summit: Discovering New Dimensions for Growth](#)

Cambridge, MA

Friday, April 24, 2009

<http://sustainabilitysummit.mit.edu/>

[The Front End of Innovation](#)

Boston, MA

Monday, May 18, 2009 - Wednesday, May 20, 2009

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[MIT Sloan CIO Symposium: Sustaining CIO Leadership in a Changing Economy](#)

Cambridge, MA

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