It has been 15 months since the Health Information Technology and Clinical Health (HITECH) Act was passed as part of the American Recovery and Reinvestment Act stimulus package. In that time, the Office of the National Coordinator for Health Information Technology (ONC) within the Department of Health and Human Services (HHS) has embarked on a complex, orchestrated federal- and state-led initiative to lay the groundwork for funding electronic health record implementations by healthcare providers and electronic exchange of personal health information. This initiative is being led by David Blumenthal, MD, MPP, the current National Coordinator for HIT, which is now a permanent position within the HHS.

When Blumenthal was appointed National Coordinator in March 2009, he was practicing medicine as a primary care physician, teaching and conducting research as a professor of both medicine and health policy, and serving as a director of the Institute of Health Policy at Massachusetts General Hospital/Partners Healthcare System and the Harvard Medical School. Although not always a firm believer in the potential benefits of healthcare IT, today he is one of the nation’s leading proponents. In his own words:

As a primary care physician for over 30 years, I spent the first 20 shuffling papers in search of missing studies and frequently hoping, during middle-of-the-night emergencies, that I knew enough about patients’ medical histories to make good decisions. All that changed when I began to have access to patients’ electronic medical records. It made me a much better doctor. I would never go back and neither would the vast majority of American physicians who have made the leap into the electronic age.¹

The scope of the programs being funded and coordinated by the ONC can best be understood as four major pillars: 1) electronic health records, 2) health information exchange, 3) workforce training and support and 4) research and development on the use of IT to transform health-care delivery. The objective of this article is to describe briefly the progress that has been made on the first three pillars, which will have the most direct impact on physicians and hospitals over the next five years, including two grants awarded to the state of New Jersey.

Electronic Health Records (EHRs)

In a recent briefing posted on the ONC’s website, Blumenthal described the incentive program, created to encourage physicians and hospitals to adopt electronic health records (EHRs), in this way:

As many of you are aware, the HITECH Act provides incentive payments to doctors and hospitals that adopt and meaningfully use health information technology. Eligible physicians, including those in solo or small practices, can receive up to $44,000 over five years under Medicare or $63,750 over six years under Medicaid for being meaningful users of certified electronic health records. Hospitals that become meaningful EHR users could receive up to four years of financial incentive payments.
under Medicare beginning in 2011 and up to six years of incentive payments under Medicaid beginning in October 2010.\(^2\)

After a great deal of public feedback, the precise definition of what constitutes “meaningful use” of an EHR and the metrics required to report this capability to the Centers for Medicare and Medicaid Services (CMS) is expected to be announced in late spring 2010. The meaningful use requirements will be phased in over three stages with increasing criteria. Although the final rule is still pending, Figure 1 provides a high-level summary of the requirements for each stage and the maximum incentive payments under Medicare that eligible physicians could receive over this multi-year period.

The final rule for meaningful use will also reflect input by two federal advisory committees that report to the ONC: the Health IT Policy Committee and the Health IT Standards Committee. For example, the ability to exchange information requires an agreement on technology standards, and both the final rule for meaningful use and the certification requirements for EHR software will incorporate standards to ensure this type of interoperability. The co-chair of the Health IT Standards Committee, John Halamka, MD, provides a helpful analogy, saying: “…we could build train tracks without requiring a standard width, but ultimately a lot of track would need to be replaced with standardized track or there would be no interoperable system.\(^3\)

Vendors of EHR software can now apply for certification of their software packages for

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**Figure 1**

**Three Stages of Meaningful Use Incentives with Maximum Medicare Incentives for Payment Year**

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Stage 1: Data capture and sharing  
Stage 2: Advanced clinical processes with decision support  
Stage 3: Improved outcomes

From "Medicare and Medicaid programs: Electronic health record incentive program" (Proposed Rule), by Centers for Medicare & Medicaid Services. 2010, Federal Register, 75 (8).  
See also: "Health information technology: Initial set of standards, implementation specifications, and certification criteria for electronic health record technology" (Interim Final Rule), by Office of the National Coordinator for Health Information Technology, Department of Health and Human Services [http://healthit.hhs.gov]. 2010, Federal Register, 75(8).

This example is based on the Interim Final Rule and the Notice of Proposed Rule Making and is only for Medicare incentive payments.
hospitals and/or physician practices under a temporary certification program by ONC-authorized bodies to support stage 1 of the EHR incentives program. A permanent certification program will be established in time for stage 2. Many EHR vendors were previously certified by an ONC-sponsored body (the CCHIT) prior to the HITECH Act, but new certifications are required to ensure that the current version of a vendor’s software offers the required functionality, security and other capabilities to meet the meaningful use criteria. Lists of certified EHR packages will be publicly available once these new certification programs are underway.

**Health Information Exchange**

Electronic health records within physician offices and hospitals provide the foundation for the electronic exchange of personal health information. As Blumenthal explained in a November 2009 briefing:

> …information should follow the patient, and artificial obstacles – technical, business-related, bureaucratic – should not get in the way. As a doctor, I have many times wanted access to data that I knew were buried in the computers or paper records of another health system across town. Neither my care nor my patients were well served in those instances. That is what we must get beyond… The goal is to have information flow seamlessly and effortlessly to every nook and cranny of our health system, when and where it is needed, just like the blood within our arteries and veins meets our bodies’ vital needs.⁴

In the past, health information exchange (HIE) organizations—also referred to as RHIOs (regional health information organizations)—have been initiated in an uncoordinated way by state grants, federal grants and progressive hospitals and healthcare systems. Many states (including New York, Massachusetts and Indiana) have already made great strides in developing governance bodies and the IT infrastructure for exchanging patient data across various participating stakeholders. However, many other HIE initiatives prior to the HITECH Act have faced significant obstacles, including initial funding for planning as well as ongoing funding for running a RHIO. The HITECH Act allocated $564 million for an HIE grant program, which is designed to address multiple barriers of the past. In Blumenthal’s words, the program will help every state “…to develop or align the necessary policies, procedures and network systems to assist electronic information exchange within and across states, and ultimately throughout the healthcare system. A key to this program’s overall success will be technical, legal and financial support for information exchanges across healthcare providers.”⁵

The HIE funds have now been designated to all 50 states and six territories, and in March 2010 the New Jersey Health Care Facilities Financing Authority was awarded a grant for $11.4 million, to be released as the state reaches certain milestones. This New Jersey program will, in turn, channel funds to four selected regional HIEs that are collaborations between hospitals and medical practices, with the goal of developing a statewide HIE capability.

**Workforce Training and Support**

The HITECH Act also allocated $643 million for Regional Extension Centers (RECs) for the training and support of clinicians to help them select and implement certified EHRs and to achieve the meaningful use metrics described earlier. As Blumenthal himself observed:

> I know that healthcare providers are concerned about implementing new health information technology and finding professionals who can operate and maintain such systems. I know many
clinicians are unsure how they will develop or strengthen their skill set to incorporate using health IT efficiently and effectively without jeopardizing their communication with patients during a clinical visit. It seems like a daunting transformation to clinicians themselves and, indeed, for our healthcare system overall.⁶

On April 6, 2010, the ONC announced that the New Jersey Institute of Technology (NJIT) would receive $23 million in funding as a regional extension center, one of 60 across the country. This REC application had widespread support within the state by the Medical Society of New Jersey, chief information officers representing over 40 hospitals, the New Jersey Hospital Association, the state Medicaid director, as well as other educational institutions in the state, including Stevens Institute of Technology, Thomas Edison State College and a consortium representing New Jersey’s 19 community colleges.

Initially, the primary goals of all RECs will be to offer clinicians “hands-on technical assistance to support meaningful use of certified EHR systems.”⁵ The NJIT proposal set the goal of providing this support to a significant portion of the state’s 18,000 primary care physicians. Members of the ONC have also suggested that these RECs will provide a role similar to agricultural extension centers that were established by Congress in the early 1900s. Although not all clinicians have responded positively to this analogy, few would argue with the overall goal of this funding articulated by Blumenthal: “We hope this 21st century health IT extension program will have a similarly profound effect in helping healthcare providers through a major transition in our nation’s health system, ultimately improving the quality, efficiency, reliability, availability and equity of care for every American.”⁵

The Road Ahead

It is widely recognized that the road ahead for all these ONC initiatives is not likely to be a smooth one. In the past, the U.S. has been slow to adopt health information technology for many good reasons. One of the challenges will be to set the bars high enough to ensure successful outcomes without failing to take advantage of what some have called a once-in-a-lifetime opportunity to have broad-scale federal funding for multiple IT initiatives that will help to move the healthcare industry into the 21st century. In Blumenthal’s words:

We have to get providers on the escalator, get them moving up the escalator, keep them on the escalator toward more and more sophisticated and demanding uses of electronic technologies. We don’t want them jumping off, we don’t want them running back down in terror at what we’ve asked of them….⁷

Blumenthal’s long-term goal for the country is for EHRs and HIE to be viewed as mainstream technologies that are a part of the toolkit for every healthcare professional:

We have to start seeing health information systems as a mainstream technology that is part and parcel of medical practice, not something that is appended to it as an afterthought, not something that’s imposed on it, but something that will very soon be integrated into it and indistinguishable from all the other work that physicians and other health professionals do every day.⁷

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Carol V. Brown, MBA, PhD, is Distinguished Professor and Director of the Healthcare IT Management program at Stevens Institute of Technology in Hoboken, New Jersey.

1Blumenthal, D. (2009, August 19). Electronic health records and the 21st century health care system. www.healthit.hhs.gov/portal/server.pt?open=512&objID=1327&parentname=CommunityPage&parentid=26&mode=2&in_hi_userid=10741&cached=true. (This is the first in a series of briefings called “Coordinator’s Corner: Updates from Dr. Blumenthal,” which can be accessed from ONC’s website (www.healthit.hhs.gov). This website is the source for many of the Blumenthal quotations in this article.)


3Halamka, J. D. (2010, April). Making the most of federal health information technology regulations. Health Affairs, 29(4), 596 – 600.


