

Time to Reboot

Resetting Health Care to Support Tobacco Dependency Treatment Services

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In 2009 and 2010, the U.S. Congress passed two landmark pieces of legislation that may allow preventive health practitioners to hit the “reset button” on the U.S. healthcare system. The first of these was the Health Information Technology for Economic and Clinical Health (HITECH) Act, embedded as Title XIII of the American Recovery and Reinvestment Act of 2009. The second was the Patient Protection and Affordable Care Act of 2010, referred to colloquially as the “healthcare reform” bill. Regardless of political opinions over whether the bills do too much or too little, together these legislative mandates have the potential to improve preventive services in meaningful ways: first, by changing the administrative architectures for clinical decision making, and second, by altering the reward structures for preventive services.¹

Meaningful Use and the Health Information Technology for Economic and Clinical Health Act

Momentum for the HITECH Act can be traced back to the previous presidential administration. Then-President George W. Bush announced a goal for the nation, to connect the majority of Americans to electronic medical record (EMR, or more generally electronic health record, EHR) by the year 2014.² By 2009, which was 5 years into the presidential challenge, progress in achieving full-scale implementation of EHRs appeared to be slow while the costs of not modernizing were continuing to escalate.³ A panel of experts commissioned by the National Research Council (NRC) concluded that the problem was not on the technology side. The problem was on the cognitive and organizational sides; that is, in figuring out how to make the technologies work as indispensable supports for improving patient outcomes.⁴ The NRC committee recommended that funding agencies reapportion their in-

vestments away from new technology development for its own sake and instead focus their investments on creating systems that offered better cognitive support for physicians, patients, and their families.⁴

With the NRC report as context, Congress required that the new investments enabled by the HITECH Act adhere to a certification of **meaningful use** in order to qualify for monetary incentives in the short run and to avoid fiduciary penalties in the long run.^{5,6} As it turned out, meaningful use would be the fulcrum by which the nation’s investments in health information technology could be leveraged for meaningful implementations of true healthcare reform.¹

Meaningful Use for Tobacco Dependency Treatment Services

At the time of writing this commentary, the meaningful-use criteria were still open for public comment and will undoubtedly change in level of detail in the years to come.⁷ Nevertheless, there are five major categories of meaningful use that have been suggested by advisory committees and that will likely continue in one form or another. They include:

1. creating a system that is safe, timely, and effective;
2. enhancing patient engagement;
3. supporting greater continuity of care;
4. improving population health;
5. protecting patients’ interests in privacy for personal health information.⁷⁻⁹

Each merits discussion.

Safety and Effectiveness

The first set of meaningful-use criteria are related to the IOM’s objectives to build a “new health system for the 21st century.”¹⁰ Such a system would be engineered from a human-factors perspective to build in incentives for utilizing evidence-based care, be easily understandable from a user’s perspective, provide appropriate defaults, give feedback on performance, compensate for error, and structure decision making.¹¹⁻¹³ Moreover, because an electronically enabled health system could allow both for structured intervention and structured data collection, a

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0749-3797/\$17.00

doi: 10.1016/j.amepre.2010.08.017

“learning healthcare system” could employ data from the EHRs to improve the fidelity of adherence to clinical guidelines for tobacco dependency treatment services,¹⁴ and even to refine the evidence base for what works in real-world clinical environments.^{15,16}

Patient Engagement

The second set of meaningful-use criteria could pick up where decades of science on the behavioral aspects of tobacco dependency left off. Research into web-assisted tobacco interventions (WATIs),¹⁷ tailored informatics applications,¹⁸ self-help guidance techniques,¹⁹ and assistive personal technologies²⁰ has yielded promising results for engaging patients and their families²¹ in the personal management of dependency-related problems. At the same time, work is progressing on the biomedical informatics front to investigate the use of personal health records, or PHRs, in giving patients access to—and control of—their own personal health records.²² The challenge is to bring these two bodies of research together to create personally accessible health information environments that can be used to sustain motivation and improve self-determination for patients in the long run.

Continuity of Care

Another point of consideration is the discontinuity that occurs when a patient receiving either physical or psychosocial treatment services moves from one system to another, or even when the diagnosis of a new disease drives the patient from primary care to specialty care.²³ EHRs can help address this discontinuity by connecting patients to their providers in virtual ways across geography and over time.^{23,24} Such a system could use reminders and longitudinal reports to enable a sense of situational awareness among all members of the care team, and they could employ both synchronous (i.e., real-time channels such as “live chat”) and asynchronous (i.e., delayed-time channels such as e-mail) messaging facilities to offer patients a lifeline 24 hours a day, 7 days a week.²⁵ Not surprisingly, both the HITECH Act and the Affordable Care Act have provisions to tackle this problem head-on.¹ By focusing on continuity-of-care issues from both the social and technologic subsystems, it is easy to imagine a system that will be continuously available to patients, even at moments of threat from relapse. It is also easy to imagine a system that would provide greater connectivity between hotlines and providers’ offices, between primary care and psychosocial service providers, and between patients and multiple members of their support team.

Population Health

One of the greatest advantages of implementing an interoperable data system within a learning healthcare en-

vironment is the ability to track progress across populations.²⁶ Executive *dashboards*, visual displays of an organization’s progress on selected indicators, have been modeled on top of EHR systems to help administrators and care teams identify deviations in outcomes across subpopulations. Such systems might be particularly useful in the area of tobacco addiction as vulnerable groups with co-morbid conditions routinely enter in and out of clinical record systems. With a coordinated health information exchange firmly in place, dashboards could be created at state and national levels to provide accountability and resource allocation information to the public and to policymakers.

Privacy

Much has been said about protecting the confidentiality of patients’ personal health information as data systems become ubiquitous in healthcare settings.²⁷ Doing so is essential for protecting patients’ rights and for protecting the crucial fabric of trust that should exist between provider and patient. Privacy as mediated through information systems can be protected in two ways. One is to create the technologic solutions that will protect the information as it passes through the backbone of the Internet as has been done in the area of e-commerce and financial management. The other is to create the appropriate regulatory environment that will protect patients’ right to privacy, while respecting the public’s need for progress in fighting disease. This balancing act is admittedly difficult. Too much regulation or fear of litigation can squelch progress on the research and quality-control front. Striking the balance is worth the effort, though. Data from the NCI’s Health Information National Trends Survey suggest that the majority of Americans (74.4%) wanted researchers to have access to their data as a way of combating disease.

Conclusion

As has often been the case throughout the global economy, it takes time for organizational practices to catch up with the potential savings of improved productivity from investments in information technology. In the late 1980s, economists were musing about the “productivity paradox”—or why it is that investments in information technology had not yet produced the gains in efficiency that would protect return on investment. By the mid 1990s, fears of a productivity paradox evaporated as technology-infused companies soared to the top in charts monitoring productivity gains.²⁸ In 2009, health economists had noted that the healthcare sector was lagging behind most other sectors in effective use of information technologies and that true gains in combating escalating

healthcare costs could not be realized until that deficit had been addressed.²⁹ In response, Congress passed the HITECH Act to catalyze the adoption of health information technology. Doing so may have given tobacco addiction researchers the tools they need to reboot the health-care system in a way that will improve smokers' chances of quitting tobacco for good. Ensuring that evidence-based practice fulfills the potential of a substantively altered healthcare environment will be the challenge of the next decade.

No financial disclosures were reported by the author of this paper.

This paper was supported by ClearWay MinnesotaSM as part of a supplement entitled ClearWay MinnesotaSM: Advancing Tobacco Control Through Applied Research (Am J Prev Med 2010;39[6S1]).

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