

Health Information Technology in the United States, 2015:

Transition to a Post-HITECH World



Executive Summary



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The inaugural edition of the *Annual Report on Health Information Technology* in the United States was released in 2006. At that time, the technology landscape was very different than today. The iPhone® had not yet been released. Facebook had just become available to the general public and Twitter was in its infancy. Today, the landscape is markedly different. Ninety-percent of Americans have cell phones and of these, 64 percent own a smartphone. These mobile devices are used extensively for communication, searching for information, and sharing data. The explosion of applications and new mobile technologies has altered the way Americans communicate and share information across the spectrum. The change in the use of mobile technologies over the past nine years has been accompanied by an increased use of health information technology (HIT) in physician offices and hospitals. Unlike the growth in mobile technologies, which was supported by consumer demand, the growth of HIT proceeded more slowly and was advanced through significant policy changes and public investment.

The HIT adoption initiative has been tracking the landscape of HIT adoption before, during, and after this period of policy activity and public investment. In this final report, we review the progress made on HIT adoption, examine remaining barriers, and discuss options for ensuring that the nation continues to advance toward a truly interoperable health care system.

Chapter 1: Research, Policy, and Progress

In chapter 1, the authors review the work of the HIT adoption initiative, noting the highlights and milestones of the past eight years. The authors begin in the pre-HITECH era and end with the current estimates of HIT adoption among physician and hospitals. The most recently available survey data finds approximately three-quarters of U.S. nonfederal acute care hospitals have at least a basic electronic health record (EHR) system. While this represents a significant increase from the prior year, many fewer hospitals appear to be ready to meet Stage 2 meaningful use criteria and may be subject to penalties.

Chapter 2: Health Information Exchange: Community HIE Efforts

A key motivation for the recent large national investment in EHRs was to enable better information sharing across health professionals that would result in high-quality, efficient, and coordinated care. Prior to the passage of the HITECH Act, most health information exchange (HIE) activity was local and regional, emerging in various health care delivery markets where stakeholders, such as health care delivery organizations, payers and state governments decided to pursue it. With the passage of the HITECH Act in 2009, and the subsequent creation of the State HIT Cooperative Agreement Program, there was a more concerted federal effort to increase HIE. Despite this investment, HIE efforts have persistently struggled with challenges to financial viability and sustainability. In this chapter, the authors present recently collected data from a national survey of HIE efforts. Findings suggest that HIE efforts operate in the vast majority of states and should, in theory, be broadly available to health professionals within those states. In addition, HIE

efforts appear to be supporting the exchange of a broad range of types of clinical data, with a particular focus on summary of care records, discharge summaries, and test results. In addition, HIE efforts are working to support new models of care and payment, suggesting that HIE efforts are adapting to meet the needs of the changing health care delivery system. However, the survey also finds substantial challenges. These challenges encompassed technical, financial, governance, human resources, privacy and security, and patient consent. Moving forward, it will be important to understand whether there is some prioritization of these barriers and then understand whether there is a set of policy remedies that are feasible.

Chapter 3: Evaluating HITECH: Successes, Barriers, and Future Opportunities

In this chapter, the authors review the results of major HITECH programs, including the Regional Extension Center program, State Health Information Exchange Program, Health Information Technology Workforce Development Program, the Beacon Community Cooperative Agreement Program, the Strategic Health Information Technology Advanced Research Projects, and the Global Assessment Monitoring the National Implementation of HITECH. Collectively, the evaluation of these efforts finds while HITECH helped to initiate significant progress with regard to the adoption and use of HIT in the United States, in general, it fell short of achieving its overarching goals to establish a highly effective and efficient health care system enabled by the advanced use of HIT. A number of factors contributed to these shortcomings characterized by a combination of both broad and program-specific challenges. Overall, the ambitious goals of HITECH, while optimistic, overlooked barriers that were beyond the scope of the legislation and the programs it authorized. As the nation continues on the path to optimize the use of HIT, successes, barriers, and lessons learned through the HITECH cooperative agreement programs will continue to shape these efforts.

Chapter 4: Big Data: A Realistic Assessment of its Applications to Health Care

In this chapter, the authors discuss big data in the commercial marketplace, drawing on the literature and interviews with subject matter experts. The authors focus on the role of big data in the health care system, exploring definitions, challenges, limitations, and potential uses. The authors present several real-world applications that clinical organizations are implementing using big data technologies. Findings from this research suggests that there is indeed a strong potential for big data to transform the health care system, as long as concerns about data security, data sharing, the development of analytic capabilities, collaboration among stakeholders, and consumer engagement are addressed. This is a worthy agenda for federal agencies, health professionals, payers, vendors, and other key stakeholders to pursue during the next few years.

Chapter 5: Why Payment Reform and HIT Interoperability Must Follow the Same Innovation Route

In this chapter the authors argue that two forces have the potential to break through the current institutional impediments to providing a fluid and meaningful exchange of useful health information data: 1) the growing movement of payment innovation, and 2) the emergence of interoperable software architectures that can make data liquid and fungible.

Chapter 6: Roadmaps for the Future of National Health Information Technology Infrastructure

In this chapter, the authors profile and compare three of the most influential reports that speak to the development of our country's HIT infrastructure, and shaped current efforts, led by ONC, to bolster this infrastructure by specifically focusing on a key challenge: the lack of robust interoperability. These reports are: 1) the *Report to the President Realizing the Full Potential of Health Information Technology to Improve Healthcare for Americans: The Path Forward*; 2) *A Robust Health Data Infrastructure*; and 3) the 2014 report from the JASON Task Force. The review suggests that ONC's current approach to work toward nationwide interoperability has been heavily shaped by the ideas developed in these reports.

Chapter 7: Coordinator's Corner

In an effort to provide insight on how the national investment in HIT has, has not, and can catalyze broader efforts to transform health care delivery, the authors asked David Brailer, David Blumenthal, Farzad Mostashari, and Karen DeSalvo to reflect on their time as the National Coordinator for Health Information Technology. Their reflections are synthesized in this chapter.

This report was produced by a team of researchers at Mathematica Policy Research and the Harvard School of Public Health. Report editors: Catherine M. DesRoches, DrPH, Mathematica Policy Research; Michael W. Painter, JD, MD, Robert Wood Johnson Foundation; and Ashish K. Jha, MD, MPH, Harvard School of Public Health.

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