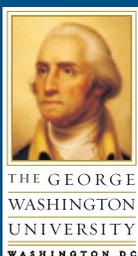


# Health Information Technology in the United States: Moving Toward Meaningful Use, 2010



## Executive Summary



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# Executive Summary

Since our initial report in 2006, *Health Information Technology in the United States: The Information Base of Progress*, the widespread implementation of health information technology (HIT) has remained a major policy initiative; however adoption of HIT and electronic health records (EHRs) has continued to lag. This may soon begin to change with the passage of the American Recovery and Reinvestment Act (ARRA) of 2009 and the Patient Protection and Affordable Care Act of 2010 (PPACA). ARRA contains significant financial incentives for clinicians to implement these systems and the PPACA further reinforces their importance with its long-term reliance on electronically generated data for improvements in health care quality, efficiency, and overall population health.

Recognizing that gains in efficiency and quality, as well as improvements in population health will require more than simply replacing processes that were once conducted via paper with a digital format, the legislation requires clinicians to demonstrate that they are using the technology in a meaningful way, both at the point of care and for quality reporting purposes. This report, *Health Information Technology in the United States: Moving Toward Meaningful Use, 2010*, reflects this shift in emphasis from adoption to use. While the report continues to track the nation's progress toward the widespread adoption of EHRs, this year we have a special focus on meaningful use criteria and the use of HIT for quality reporting and improvement.

The report builds on our previous work, initiated in 2005 by the Office of the National Coordinator for Health Information Technology (ONC), to design and deploy standardized measures of EHR adoption in national surveys of physicians and hospitals, which have since become part of the annual surveys conducted by the National Center for Health Statistics and the American Hospital Association. The report is funded by the Robert Wood Johnson Foundation, which has a long-standing commitment to understand and improve the quality of American health care. This commitment includes a multitude of efforts designed to address all dimensions of the health care quality problem. Because of the potential implications of EHRs for quality and efficiency of care, the Foundation has supported this report in order to share the lessons of the ONC work more broadly.

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## Introduction

This section summarizes the basic structure of the report and the major content areas that are included.

In this chapter, we describe the results of national surveys of physicians and hospitals on EHR adoption and readiness for meaningful use. This chapter also provides an overview of ONC funded initiatives to increase EHR adoption.

### Key Findings

- Recent data from national surveys of physicians suggest that the rate of EHR adoption is increasing. For example, findings from the 2009 National Ambulatory Medical Care Survey suggest that the percentage of physicians with a basic EHR rose from 17 percent in 2008 to 20.5 percent in 2009. The percentage of physicians with a fully functional system rose from 4 percent to 6.5 percent over the same time period.
- EHR adoption among hospitals continues to increase slowly. Between 2008 and 2009 the percentage of comprehensive EHR adoption among hospitals grew from 1.5 percent to 2.7 percent and the proportion of hospitals with a basic system increased by two percentage points over the same time period (7.2% to 9.2%).
- The functionalities that were most commonly reported as fully implemented across the hospital continue to be results viewing, such as lab reports (76%), radiology images (73%) and radiology reports (77%).
- Very few hospitals appeared to be fulfilling the Centers for Medicare and Medicaid Services (CMS) meaningful use criteria. Less than 1 percent of hospitals met all of the criteria in at least one unit.
- Critical access, small, public, non-teaching, and rural hospitals were the least likely to have adopted even a basic EHR.

In Chapter 2, we review the final meaningful use rule, as well as additional regulations put forth by the Patient Protection and Affordable Care Act (PPACA) related to HIT. This chapter includes a discussion of the issues and challenges that lie ahead for the regulatory implementation of this rule.

**Key Findings**

- The success of the meaningful use incentive programs will depend, to some extent, on the number of eligible providers who choose to participate. The criteria set a high bar for performance and some organizations and state representatives have suggested that they are not achievable.
- Many critical providers are not eligible for incentive payments including certain behavioral health, post-acute care, long-term-care, and home health providers. Nursing homes, other long-term-care facilities, and federally qualified health centers as “stand-alone” entities are also not eligible to participate. These providers care for a significant number of Medicaid patients. If these providers do not adopt EHRs because of their omission from the incentive program, the opportunity for health information exchange will be lost. Furthermore, their patients will not receive the benefits of greater quality and efficiency that EHRs are expected to bring.
- Most Medicaid agencies do not have the necessary infrastructure in place to implement and oversee meaningful use incentives programs. They will need to move quickly to establish these programs in order to ensure that Medicaid providers do not fall behind in EHR adoption. Whether agencies will have the staffing support, resources and guidance to build the required systems is not clear.
- To the extent that EHRs improve health care quality and efficiency, the meaningful use incentive program may worsen disparities by omitting certain safety-net providers who serve a substantial number of minority patients.

In this chapter, we first review the meaningful use criteria that involve health information exchange (HIE) and summarize the key features of the State Health Information Exchange Cooperative Agreement Program. We then review recent research on the progress of regional health information organizations and conclude with a discussion of the broader value that may be realized with the increased use of HIE.

### Key Findings

- Two of the required Stage 1 meaningful use criteria directly mandate health information exchange: transmitting prescriptions to the pharmacy electronically and demonstrating the capability of their EHR to electronically exchange key clinical information.
- Eligible providers can choose from the following optional capabilities to demonstrate meaningful use: conduct medication reconciliation between care settings; receive structured results in a readable format; provide a summary care record for patients; submit quality measures to CMS electronically; and demonstrate the ability to submit immunization and syndromic surveillance data to public health agencies. While several of the tasks can be completed without electronic data exchange, functional HIE will make them significantly easier to complete.
- Beyond the incentive payments tied to meaningful use, the Health Information Technology for Economic and Clinical Health Act (HITECH) directs funding to states to build out HIE capabilities. A total of \$548 million was awarded to 56 states, eligible territories, and qualified State Designated Entities. The states have substantial latitude in how they choose to enhance their HIE capabilities. The benefit of this state-based approach is that it allows for greater flexibility in designing an HIE strategy that can take into account state-specific differences in the legal/regulatory environment, the structure of the health care delivery market, and any existing efforts to establish HIE.
- At the end of 2009, there were 80 operational Regional Health Information Organizations (RHIOs) in the U.S. and 82 in the planning phase. The number of planning and operational organizations markedly increased between 2008 and 2009, nearly doubling from 42 to 80.
- Most RHIOs that were actively exchanging data functioned as independent entities and served (or planned to serve) more than 5,000 patients.
- Hospitals were the most common type of data provider among operation RHIOs, followed by laboratories and imaging facilities. Test results and demographic information from both outpatient and inpatient settings were the most frequently exchanged types of data.
- As states begin to implement strategies to expand HIE, empirical data on why some RHIOs succeed while others fail is critically important. Factors that were associated with success in our most recent RHIO survey were exchanging a narrow set of data and involving a broad group of stakeholders. The most commonly cited barrier was lack of funding. Further, the funding cycle of HIE, which requires a substantial upfront investment, penalizes early adopters and sets up an incentive for stakeholders to wait to join until the HIE is operational, resulting in a heavy reliance on grant funding.

- A final barrier to widespread implementation of HIE is stakeholders' concerns about privacy, data security, and legal/regulatory challenges. Rules about liability and data ownership must be established in a way that satisfies all participants, including patients.

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#### **Chapter 4: Building a Health Information Technology Infrastructure That Effectively and Efficiently Enables Quality Measurement and Reporting**

In this chapter, we describe an approach that will allow for the cost-effective and efficient collection and aggregation of data on the quality and costs of health care in the United States. It describes the opportunities and strategies necessary to make more rapid progress toward the widespread availability of performance results.

##### **Key Findings**

- Electronically generated data can support multiple policy initiatives including performance feedback to clinicians and providers, enabling consumers to make informed choices about where to seek care, and supporting policies that provide incentives to continuously improve outcomes while lowering costs.
- The current computing power of a typical EHR means that researchers and policy-makers no longer have to rely on the “data warehousing” model. Rather, a distributed model can be used in which personal health information is retained by entities directly involved in a patient’s care.
- A distributed model should be characterized by the following: technically sound, broad based and feasible data collection approaches; consistency with and reinforcement of the implementation of related reform efforts; and coordination across public and private sectors.
- Such a system would build on existing progress, reduce unnecessary burdens on providers by utilizing electronic data for performance measurement that is already used for care coordination, and effectively cover a large number of providers and patients in a timely fashion.
- Developing a data collection and aggregation infrastructure that is aligned with policy goals such as comparative effectiveness or post-marketing surveillance is critical. Such alignment will afford additional opportunities to reduce overall burden and administrative costs.

## Chapter 5: The Quality Supply Chain: Moving Toward Quality Measurement and Improvement Through Health Information Technology

In Chapter 5 we discuss how the development of and shift toward quality measures based on clinical data from EHRs should enable tremendous improvements in performance measurement.

### Key Findings

- Using EHRs for performance measurement should increasingly support the development of measures that focus on the clinical guideline branch points where there is significant variation in performance or overall poor performance.
- In 2008, the Agency for Healthcare Research and Quality (AHRQ) realized the critical importance of building quality EHRs that could facilitate performance measurement and supported the National Quality Foundation's Health Information Technology Expert Panel (HITEP). The HITEP developed the Quality Data Set (QDS), which provides a framework for identifying key data elements and reliable data sources.
- The ability to capture key data from EHRs has major implications for measurement. Using diagnoses from the automated EHR problem list, rather than coding on billing records, should increase the reliable identification of the target population.
- In order to make a major leap in measurement, interoperable systems will be required to track patients across providers and sites of care.
- Clinical decision support can also serve as a driving force for improvement. Building on QDS, it should be possible to develop a classification system for the clinical decision support (CDS) information to ensure that clinicians track and respond appropriately to necessary events, such as screenings or contraindications.
- While health information technology has great promise as a source of both measurement and improvement, significant barriers and methodological concerns need to be addressed. These include the following:
  - The use of delta or change measures;
  - Incorporation of patient risk;
  - Patient reported information;
  - Lack of interoperability;
  - Measure evolution and harmonization; and
  - Use of measures across EHRs.

In Chapter 6 we present examples of what meaningful use and its measurement might look like in local health systems and in the lives of patients and health care providers. This chapter focuses on understanding how patients, providers and systems use EHRs to work together to communicate, coordinate, measure and improve care.

**Key Findings**

- In each case reviewed in the chapter, we see the potential for using EHR data to understand the patient and provider interaction on a large scale.
- Efforts described in the chapter arose from several different loci within organizations including clinicians, researchers, risk management professionals, quality and outcomes improvement, reinforcing the ability of EHRs to simultaneously gather data and monitor and coordinate care.
- Differing levels of incentives for use across and within care setting will likely be necessary.
- These results begin to demonstrate what is possible and what will remain difficult. Evaluation of these processes of change is critical, and the ratio of investment in the development of these tools to the assessment of their effectiveness suggests that there is a greater desire to build and adopt than to measure outcomes. However, without rigorous evaluation it will be impossible to assess the extent to which this technology is used in a meaningful way that provides an overall benefit to patients.



This report was produced by a team of researchers at the Mongan Institute for Health Policy at Massachusetts General Hospital, the Harvard School of Public Health and the School of Public Health and Health Services at George Washington University. Report editors: Catherine M. DesRoches, Dr.P.H. and Michael W. Painter, J.D., M.D.

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