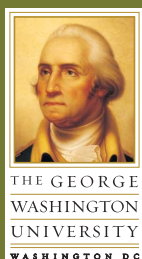


Health Information Technology in the United States: On the Cusp of Change, 2009



Executive Summary



MASSACHUSETTS
GENERAL HOSPITAL



Robert Wood Johnson
Foundation

About the Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation® (RWJF) focuses on the pressing health and health care issues facing our country. As the nation's largest philanthropy devoted exclusively to improving the health and health care of all Americans, the Foundation works with a diverse group of organizations and individuals to identify solutions and achieve comprehensive, meaningful and timely change. For more than 35 years the Foundation has brought experience, commitment and a rigorous, balanced approach to the problems that affect the health and health care of those it serves. When it comes to helping Americans lead healthier lives and get the care they need, we expect to make a difference in your lifetime. For more information, please visit www.rwjf.org.

About the George Washington University Medical Center

The George Washington University Medical Center (GWUMC) is an internationally recognized interdisciplinary academic health center that has consistently provided high quality medical care in the Washington, D.C., metropolitan area for 176 years. The Medical Center comprises: the School of Medicine and Health Sciences, the 11th oldest medical school in the country; the School of Public Health and Health Services, the only such school in the nation's capital; GW Hospital, jointly owned and operated by a partnership between the George Washington University and Universal Health Services, Inc.; and the GW Medical Faculty Associates, an independent faculty practice plan. For more information on GWUMC, please visit www.gwumc.edu.

About the Institute for Health Policy

The Institute for Health Policy (IHP) at Massachusetts General Hospital (MGH) and Partners Health System is dedicated to conducting world-class research on the central health care issues of our time. The mission of the IHP is to improve health and health care of the American people by conducting health policy and health services research, translating new health care knowledge into practice, informing and influencing public policy, and training scholars and practitioners of health policy. For more information on IHP, please visit www.instituteforhealthpolicy.org.

Executive Summary

In our inaugural report in 2006, *Health Information Technology in the United States: The Information Base of Progress*, and our subsequent report, *Health Information Technology in the United States: Where We Stand, 2008*, we detailed the challenges faced by policy-makers working toward the goal of increased adoption of electronic health records. Since that time the role of health information technology in promoting higher quality, more efficient health care has taken a central position in the current health care reform debate. There is broad bipartisan support to speed health information technology (HIT) adoption, and the American Recovery and Reinvestment Act of 2009 (ARRA) has made promoting a national interoperable health information system a priority, authorizing significant resources to achieve this goal.

This report builds on our previous work, initiated by the Office of the National Coordinator for Health Information Technology (ONCHIT) in 2007, to design and deploy standardized measures of electronic health record (EHR) adoption in a national hospital survey. This report, like its predecessors, is funded by the Robert Wood Johnson Foundation (RWJF) which has a longstanding commitment to understanding and improving the quality of American health care. This commitment includes a multitude of efforts designed to address all dimensions of the quality problem, including inequities in care. RWJF has supported this report in order to share the lessons of the ONCHIT work more broadly and review what is known about the state of EHR adoption and its implications for improving health care quality.

Introduction

This section summarizes the basic structure of the report. It briefly reviews the purpose of the report and the major content areas that are included. In addition, this section describes the research team and expert consensus panel.

Chapter 1: Beyond the Doctor's Office: Adoption of Electronic Health Records in U.S. Hospitals

In this chapter we describe the results of our 2008 hospital survey and provide estimates of the adoption of both basic and comprehensive EHRs among U.S. hospitals. Further, the chapter discusses both barriers to and incentives for adoption at the hospital level.

Key Findings:

- A national survey of hospitals conducted by the HIT Adoption Initiative in collaboration with the American Hospital Association (AHA) estimates that less than 2 percent of non-federal general acute care hospitals in the United States had a comprehensive EHR based on a definition created by our Expert Consensus Panel (ECP). An additional 7.6 percent had a basic EHR.
- Having an EHR (either comprehensive or basic) was associated with several hospital characteristics. Teaching hospitals, those with more than 500 beds, and hospitals that were members of a system or located in an urban area more commonly reported having EHRs.
- The individual functionalities most commonly reported as fully implemented across all units of the hospital were electronic viewing of laboratory (77%) and radiology (78%) reports, and radiology images (78%). Approximately one in five hospitals reported fully implemented computerized order entry and clinical decision support.
- Financial barriers were most likely to be cited as hindering technology adoption. Inadequate capital was cited as the major barrier by more than 70 percent of hospitals without an EHR.
- Not surprisingly, given the focus on financial barriers, additional reimbursement for EHR use and financial incentives for implementation were the policy options most often cited as likely to have a positive impact on adoption.

Chapter 2: Electronic Health Record Adoption Among Hospitals that Care for the Poor

In this chapter, we provide estimates of the adoption of basic and comprehensive EHRs, and key clinical functionalities among hospitals serving the poor in the United States. This chapter also examines the relationship between EHR adoption and quality metrics among these hospitals.

Key Findings:

- We define safety-net hospitals using the Disproportionate Share Index (DSH) as a surrogate measure for the proportion of poor patients served by a given hospital. The index is based on the proportion of elderly patients served by a hospital who also are eligible for Supplemental Security Income and the fraction of non-elderly patients with Medicaid coverage. A high DSH Index score indicates a high proportion of poor patients.

- High-DSH hospitals cared for a substantially higher proportion of Medicaid patients, elderly Black patients, and elderly Hispanic patients. They also cared for a substantially lower proportion of Medicare patients than low-DSH hospitals.
- Rates of EHR adoption did not differ between high- and low-DSH hospitals. However, high-DSH hospitals had significantly lower rates of adoption of certain electronic clinical functionalities including electronic medication lists and discharge summaries.
- We found a highly statistically significant relationship between the proportion of poor patients and quality scores: a 10 percent increase in DSH Index was associated with a 0.5 percent lower performance on quality metrics for acute myocardial infarction (AMI), 1 percent lower score on metrics for congestive heart failure (CHF), and a 1.5 percent lower score on surgical complication prevention metrics.
- However, among hospitals with an EHR, a high DSH Index was **not** associated with lower quality, suggesting that the effect of the DSH Index is mitigated by the presence of an EHR.
- Financial barriers to adoption were of particular concern to hospitals serving a high proportion of poor patients. High-DSH hospitals were more likely than those with a low DSH Index to cite inadequate capital as a major barrier to EHR adoption.
- The financial incentive provisions in ARRA have important implications for hospitals that care for a high proportion of poor patients. These hospitals, with fewer Medicare patients, will rely on the adoption funds that state Medicaid programs provide. It remains to be seen whether cash-strapped states will have the financial resources to support the incentives necessary to increase adoption among these organizations.

Chapter 3: State Roles in the Advancement of Health Information Technology

In this chapter we examine the role that state governments may have in fostering the widespread adoption of HIT and health information exchange (HIE).

Key Findings:

- Between 2005 and 2008 a total of 168 pieces of HIT related legislation were passed by state governments. The Health Information Technology Economic and Clinical Health Act (HITECH) of ARRA will provide unprecedented opportunities for states to effectively expand HIT efforts through grant, loan and financial assistance programs.
- State HIT legislation typically falls into one of five major categories: planning and oversight, HIE, advancing adoption and implementation, funding, and privacy protection and security.
- State governments can serve as an ideal venue for engaging HIT implementation and facilitating discussion among public and private stakeholders. Many states have taken active roles in promoting HIT adoption and implementation by developing a study commission or task force. HITECH will provide enhanced funding for this role.

- States are exploring the use of various policy levers and incentives for advancing adoption and implementation. These include: executive orders and legislation; infrastructure development; licensure standards; consumer engagement; and incentive programs.
- To date, the majority of states have not provided direct funds for ongoing HIT efforts; rather they have relied on one-time appropriations for specific initiatives and projects.
- States have undertaken the following activities to advance HIE: (1) convening stakeholders; (2) coordinating efforts with local, regional and national initiatives; (3) identifying barriers; (4) advancing standardization and interoperability; and (5) managing privacy and security concerns.
- States face a number of serious challenges to achieving comprehensive adoption of interoperable HIT. States must balance the current immediate fiscal climate against the potential downstream financial benefits of HIT implementation. The ability of states to balance these constrained budgets, while at the same time engage in sustained HIT efforts is unclear, making it pivotal for states to maximize the funding opportunities presented by ARRA.

Chapter 4: Recent Federal Initiatives in Health Information Technology

In this chapter, we examine the American Reinvestment and Recovery Act (ARRA), with a particular focus on “meaningful use” incentives and how these will affect providers caring for vulnerable populations.

Key Findings:

- The success of the financial incentive programs in ARRA may hinge on the definition of two critical terms: “certified EHR” and “meaningful use.”
- Meaningful use may be an important tool for motivating physicians and hospitals to take full advantage of EHRs, but if the requirements are too high, the definition itself could become a barrier to adoption.
- Any program of EHR certification must take the meaningful use standards into consideration to ensure that certified EHRs will enable providers to meet the standard and qualify for federal incentives.
- Meeting the broad policy objective set by ARRA of designing, building, operating and governing a nationwide health information structure depends on many systemwide innovations that promote interoperability and communication among providers, including HIE.
- ARRA’s explicit focus on providers with heavy Medicaid case loads and requirements that EHRs link to HIEs creates a direct connection between safety-net providers and the development of HIE, as these providers will rely on financial incentives through states’ Medicaid programs.

Chapter 5: Potential Implications of Widely Adopted, Meaningfully Used HIT: Is Quality Measurement and Reporting About to Take Flight?

This chapter focuses on a potentially important effect of widespread EHR adoption: how it will change public reporting of quality data. This technology may make clinical data extraction both efficient and inexpensive, which would facilitate large-scale clinical performance measurement efforts.

Key Findings:

- The evidence that measuring the quality of care and reporting those measures publicly promotes improved patient outcomes remains ambiguous. Nevertheless, virtually every major credible national consensus body that has commented on the nation's health care quality problems has emphatically urged the development and use of measures for public reporting. Further, the HITECH mandated definition of meaningful use of the EHR specifically anticipates use of this technology to construct performance measures for reporting.
- Up to this point, most of the current measurement and reporting progress has occurred using claims-based, not clinical, data. Claims-based measures provide important information for quality improvement. They also, however, have a number of important limitations. Most believe it is important that measurement efforts move quickly to use clinical data extracted electronically from a variety of sources. In particular, there is intense interest in the ability of widely adopted EHRs to provide this information to advance the measurement and reporting enterprise. However, with the current state of information technology, it is often very difficult to construct measures in part or in full based on clinical data extracted from the medical record. Policy-makers must take this limitation into account when defining both certification standards and meaningful use definitions.
- Two main barriers stand in the way of large-scale electronic record use for collecting and reporting clinical quality measures. First, the current level of EHR adoption in general is dismally low in virtually all clinical settings. Second, adoption of records and systems with the ability to enhance and accelerate measurement and public reporting is likely even lower still, if present at all.
- The quality measurement and reporting experience, combined with the potential enhancement and acceleration of widespread meaningfully applied HIT, could prove to be the necessary accelerator for rapid improvements in the quality and efficiency of care Americans receive.

This report was produced by a team of researchers at the Institute for Health Policy at Massachusetts General Hospital and the School of Public Health and Health Services at George Washington University. Report editors were: Catherine M. DesRoches, Dr.P.H.; and Ashish K. Jha, M.D., M.P.H.

The report also was informed by the discussions of an Expert Advisory Group and an Expert Consensus Panel. The authors gratefully acknowledge the support of the Robert Wood Johnson Foundation and the efforts of the federal Office of the National Coordinator for Health Information Technology on behalf of this report.

© 2009 Robert Wood Johnson Foundation

Robert Wood Johnson Foundation
www.rwjf.org

Massachusetts General Hospital
Institute for Health Policy
www.instituteforhealthpolicy.org

George Washington University
School of Public Health and Health Services
www.gwumc.edu/sphhs