



Electronic Health Record Implementation: Costs and Benefits

Overview

The costs of implementing a comprehensive Electronic Health Records (EHR) system to meet the "meaningful use" provisions expected by the Department of Health and Human Services will require a significant investment. The costs can vary widely among physician groups and hospitals. The primary variables include the size and complexity of each providers' operations, the implementation strategy, and the suite of services being implemented.

The benefits that each system achieve also depends on a number of factors. As a health IT administrator or decision maker, it is vital to understand how an EHR system will help improve care, control costs, and maximize potential incentive payments from the American Reinvestment and Recovery Act of 2009 (ARRA).

Dell Services: Providing Insights and Answers

Comprehensive implementation of EHR systems is a complex issue. With more than 20 years of experience in planning and deploying information networking systems for both hospitals and physician groups, Dell Services can help you determine the best solution for your unique operating environment.

Our team of professionals is constantly tracking the latest developments related to the ARRA and EHR implementation. We are providing the following information as a helpful guide to help you evaluate and plan the costs and benefits associated with EHR implementation. The following mini-case studies and data were compiled from two key studies, The Congressional Budget Office (CBO) Paper: "Evidence on the Costs and Benefits of Health Information Technology" and a recent study from the HIMSS Davies Awards Program, "The ROI of EMR-EHR: Productivity Soars, Hospitals Save Time and Yes, Money."

Benefits of Implementing Health Information Technology

Economic/Financial

- Both internal and external savings
- Annual net savings to the healthcare sector of about \$80 billion (in 2005 dollars), relative to total spending for health care of about \$2 trillion per year if all providers and hospitals appropriately implement EHRs
- Lower malpractice insurance costs for providers

Efficiency

- Reduce the duplication of diagnostic tests
- Help prevent medical errors with more accurate and complete information about patients
- Automate transfers of test results, clinical information, and prescriptions among health insurers, physicians' offices, hospitals, laboratories, imaging facilities, pharmacies, and public health agencies, to save money on manual transfers

Quality/Safety

- Remind physicians about appropriate preventive care
- Identify harmful drug interactions or possible allergic reactions to prescribed medicines
- Eliminate problems associated with illegible medication orders
- Maximize/standardize both data and quality of patient care

Regulatory Compliance

- Advance compliance programs with accessible institutional policies and by laws covering topics such as: do-not-resuscitate orders and restraint orders
- Allow staff to run daily reports to comply with state directives that require physicians to confirm their identities before administering controlled substances to patients
- Help comply with JCAHO and CMS mandates requiring allergy assessments and diagnosis upon admission
- Help charge entry clerks determine Medicare eligibility

The Costs of Implementation

Budgets for information technology for hospitals typically range from 1-3 percent of overall operating expenses. Hospitals that are part of integrated delivery systems with highly sophisticated clinical IT capabilities (including those in outpatient settings) may have IT budgets that exceed four percent. Total implementation costs are likely to include:

- The initial fixed cost of the hardware, software, and technical assistance necessary to install the system
- Licensing fees
- The expense of maintaining the system
- The up-front "opportunity cost" of the time that health care providers could have spent on care-related activities, but instead devote to learning how to adopt and use the new system

Case Studies

Citizens Memorial:

- Has software records on 92 percent of patients the institution sees
- Net patient revenues increased 23 percent after EMR-EHR implementation
- Physicians have the option of entering orders at hospitals, long-term care facilities, or even remotely
- Orders are compared in real-time with rules and standards designed to reduce errors and improve quality of care, including medication interactions, allergy checking, presentation of pertinent results, and order-specific rules

Queens:

- 100 percent of patients have electronic records
- EHR alerts and flags cue physicians to orders requiring co-signatures, abnormally high or low results, changes in a patient's location, and orders to ancillary departments such as radiology, laboratory, pharmacy, dietary, and respiratory therapy
- Completion of JCAHO mandated summary lists increased from 3.7 percent in a paper environment to 100 percent during the 6-month EMR/EHR conversion period

Cincinnati Children's:

- Found a 52 percent decrease in time spent on the medication cycle entering and receiving orders, shortening the care process for patients and staff
- Orders permanently unsigned by physicians dropped from 40 to 10 percent
- Experienced a reduction of 24 percent in verbal orders for controlled substances
- Compliance with pain assessment protocols jumped substantially

Maimonides Medical

- Uses reports in OB/GYN to improve performance and submit results to the state's Department of Health—Statewide Planning and Research Cooperative System
- Delivery time of medication dropped from approximately 4.5 to 1.5 hours

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At A Glance

Average EHR Implementation Costs

The CBO recently conducted a study and reported that, on average, EHR implementation costs for hospitals amount to approximately \$14,500 per bed for implementation. Annual operating costs amount to \$2,700 per bed per year.

For physician groups, the CBO reported that total implementation costs for office-based EHRs ranged from \$25,000 to \$45,000 per physician, with annual operating, licensing, and maintenance costs ranging between \$3,000 and \$9,000 per physician.

Dell Services Can Help

Having served the healthcare industry for more than 20 years, Dell Services has the depth of experience needed to understand the unique challenges facing healthcare organizations as they seek to fully implement EHRs. Using our extensive industry expertise and innovative solutions, we can help your organization maximize the opportunities available through this landmark drive to implement EHRs for every American by 2014.