



Wisconsin Hospitals Connect to Health Information Technology

Wisconsin hospitals are investing heavily in health information technology (HIT) that will improve care coordination and support decision making across the continuum of care, despite the heavy start-up and operating costs. These technologies are expected to improve the quality, safety and efficiency of Wisconsin's health care delivery system. To make this promise a reality, health care providers must first implement HIT and make use of their capabilities.

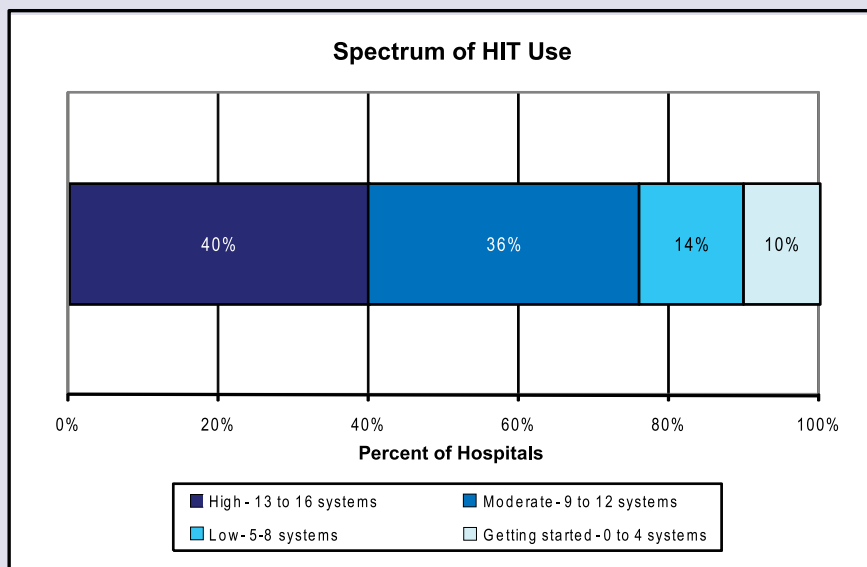
The Wisconsin Hospital Association (WHA) recently conducted a survey to determine how quickly hospitals have been able to adopt HIT and to identify barriers and costs involved in installing and implementing the necessary technology. The information in this report reflects the results of a survey of Wisconsin's 122 acute care hospitals and is based on Fiscal Year ending 2006. The survey had a 100 percent response rate.

Use of Health Information Technology

There are multiple systems on the market that hospitals can use to meet their HIT needs. This survey focuses on sixteen HIT systems that are utilized in hospitals today. There is not one system that hospitals can purchase to meet all of their patient information and operational needs. Therefore, the adoption of HIT systems is sequential with each hospital moving through the adoption curve at a different rate.

Evidence that Wisconsin hospitals recognize the value of HIT is shown in Graph 1. Nearly ninety percent (90%) of Wisconsin hospitals have either fully or partially implemented at least five HIT systems. Seventy-six percent (76%) have achieved a moderate or high level of HIT use, and forty percent (40%) have achieved a high level of HIT deployment. A high level of HIT use was reported by hospitals of all sizes, in both urban and rural areas of the state. For a list of HIT systems used in this report and details on the adoption rate for individual HIT systems, refer to the table on page 4.

Graph 1



Source: WHA Information Center

Electronic Medical Record

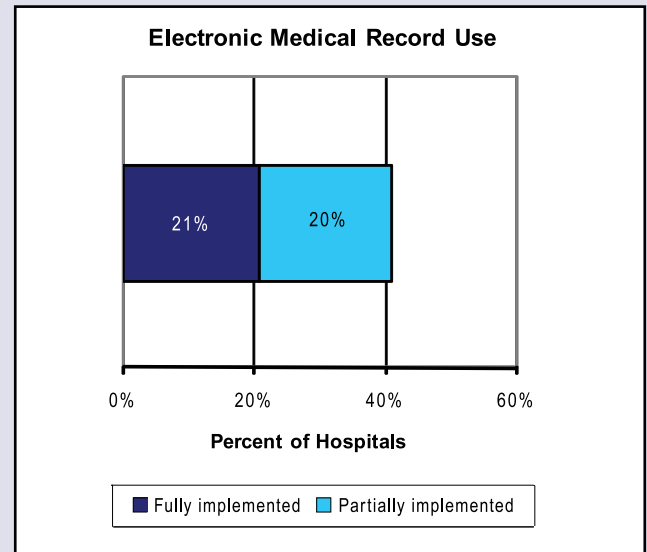
An electronic medical record (EMR) is a knowledge network that integrates electronically originated and maintained patient-level clinical health information derived from multiple HIT systems. To be useful, the EMR must replace the paper medical record as the primary source of patient information. To create an EMR, hospitals must put into service and link together a number of HIT systems. This complex integration often occurs over several years.

For the purpose of this report, an EMR contains all of the following systems:

- 1) Core master person index database
- 2) Lab information system
- 3) Pharmacy system
- 4) Enterprise medication administration record
- 5) Radiology information system
- 6) Order entry and results
- 7) Inpatient charting

Based on these criteria, forty-one percent (41%) of Wisconsin hospitals have either fully and/or partially implemented and twenty-one percent (21%) have fully implemented all of the HIT systems that contribute to an EMR.

Graph 2

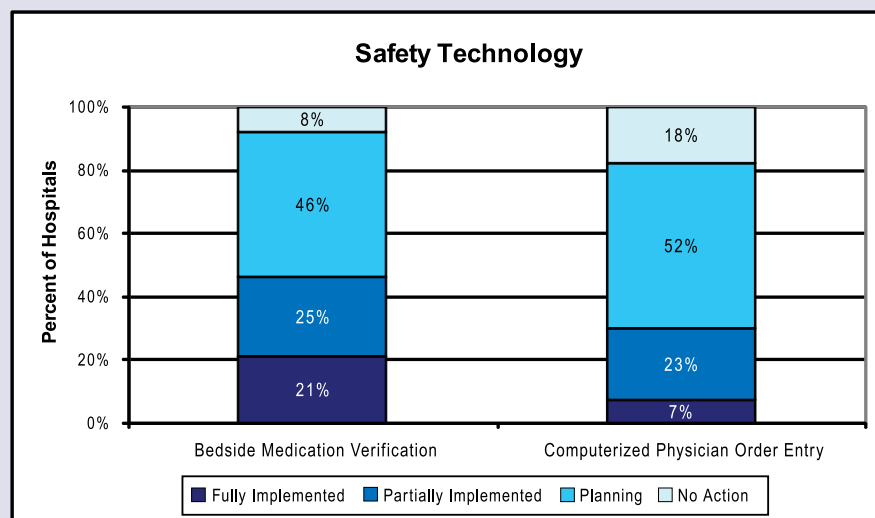


Source: WHA Information Center

Safety Technology

One of the key expectations of HIT is to reduce the risk of errors and improve patient safety through error checking and decision support functions. Two HIT systems used for this purpose are bedside medication verification and computerized physician order entry systems. Forty-six percent (46%) of Wisconsin hospitals have fully or partially implemented a bedside medication verification system, with an additional forty-six percent (46%) planning to do so. For computerized physician order entry, thirty percent (30%) have or are implementing this technology with fifty-two percent (52%) in the planning stage.

Graph 3

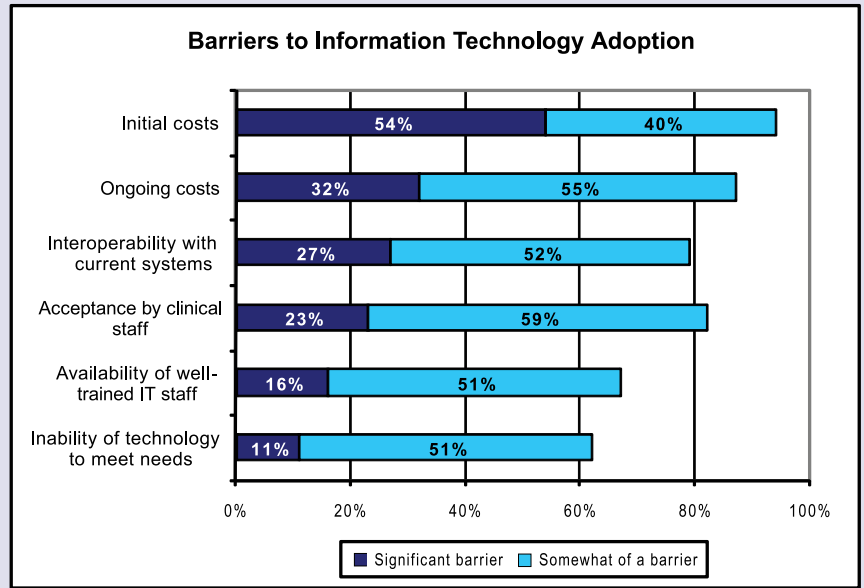


Source: WHA Information Center

Barriers to Health Information Technology Adoption

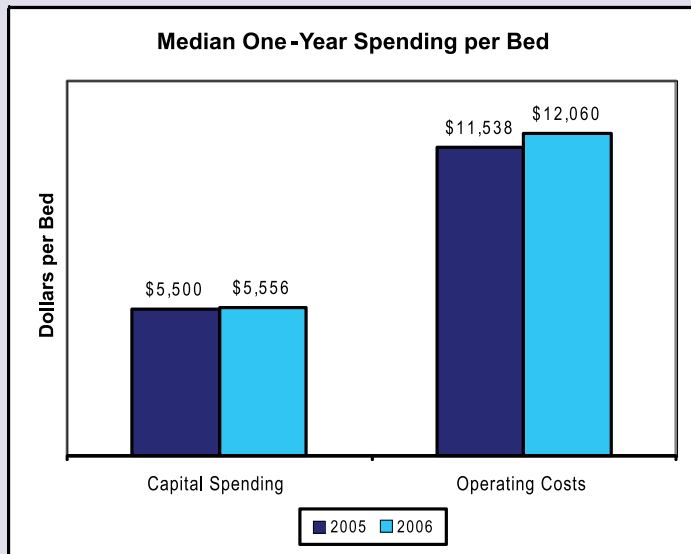
A 2006 survey conducted by the American Hospital Association identified numerous barriers to HIT adoption. Initial costs (94%) and ongoing costs (87%) were the most commonly reported barriers. Clinician acceptance (82%) and lack of interoperability with current systems (79%) also ranked high (See Graph 4). To address the issue of interoperability, the U. S. Department of Health and Human Services has contracted with the Certification Commission for HealthCare Information Technology to certify HIT systems that meet standards for interoperability, functionality and security.

Graph 4



Source: *Continued Progress: Hospital Use of Information Technology*, p. 15. American Hospital Association, 2007.

Graph 5



Source: *Continued Progress: Hospital Use of Information Technology*, p. 14. American Hospital Association, 2007.

Health Information Technology Costs

Hospitals expend significant resources on HIT with the amount largely dependent on hospital size and the technologies being implemented. Graph 5 provides the median hospital spending for capital investments and ongoing operations. The amounts are expressed in terms of dollars per bed to ensure a common comparison across all hospitals. In this survey, both capital spending and operating costs per bed increased from 2005 to 2006.

Summary

The benefits of HIT to patient care and health care delivery efficiency are well established, and Wisconsin hospitals have shown that they are committed to the use of HIT. The pace of implementation varies, with some hospitals just getting started, while others have already implemented an EMR and other safety systems. Barriers to more rapid implementation include initial and ongoing costs, as well as the lack of interoperability and acceptance by clinical staff. These barriers must be addressed in order for the promise of HIT to be fully realized. Today, hospitals bear the complexity and costs of implementing HIT, while many of the advantages are imparted onto those who use and pay for care. All health care system participants who benefit from electronic health information – patients, providers, employers, payers and government programs – have a stake in this investment.

Adoption Rate per HIT System

The hospital adoption rate by percentage for sixteen HIT systems is displayed below.

Health Information Technology System	Fully Implemented	Partially Implemented	Planning	No Plan at This Time
Master person index database	82%	7%	7%	5%
Lab information system	88%	9%	2%	1%
Pharmacy system	70%	17%	11%	2%
Enterprise medication administration record	41%	22%	30%	7%
Medication dispensing	49%	30%	12%	8%
Radiology information system	70%	11%	14%	4%
Computerized radiography	56%	30%	13%	2%
Picture archiving & communication system	58%	20%	19%	3%
Order enter & results	66%	20%	12%	2%
Inpatient charting	34%	21%	36%	8%
Bedside medication verification	21%	25%	46%	8%
Computerized physician order entry	7%	23%	52%	19%
Health electronic record portal	21%	24%	37%	18%
Bulk scanning	19%	30%	35%	16%
Surgery management system	37%	17%	29%	17%
Interface engine	53%	15%	17%	15%

Note: Due to rounding, not all system percentages total 100%.

