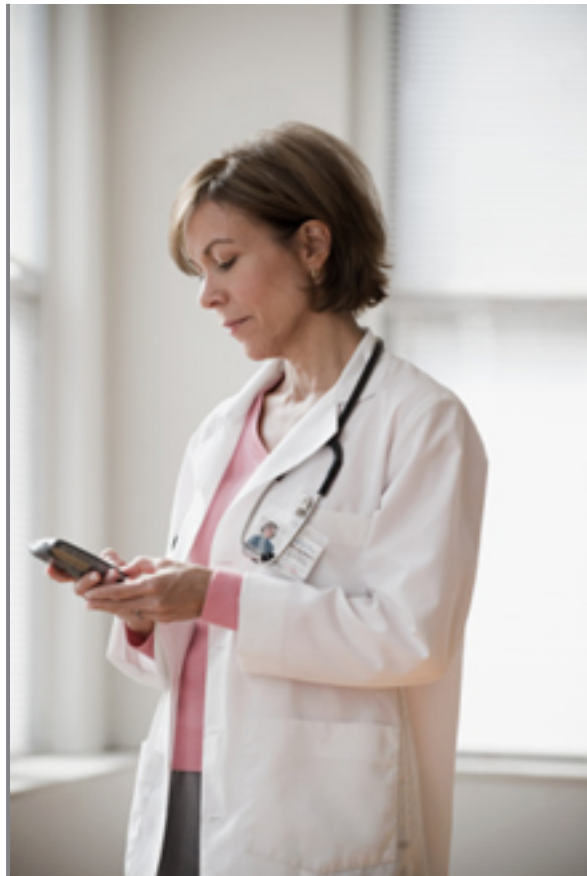


Fifth Edition



Essentials of the U.S. Hospital IT Market

HIMSSanalytics™
Innovative Research | Informed Decisions

Essentials of the U.S. Hospital IT Market

5th Edition

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Introduction



Objective of the Report

HIMSS Analytics™ is a respected and trusted source of information and knowledge for the healthcare information technology (IT) industry. The HIMSS Analytics™ database captures information on more than 5,200 hospitals and 32,000 medical facilities in the United States. With this data, HIMSS Analytics can analyze and assess industry trends related to legacy IT systems, emerging IT systems, current technologies, and emerging technologies. Our analysis of this data will accomplish the following objectives:

- Present a forecast of market spending for key application environments, as well as the overall market.
- Present the market status for major financial and clinical applications with relevant market drivers.
- Present vendor market share positions relative to major financial and clinical applications.
- Present predicted growth rates for key healthcare applications.

Research Methodologies

HIMSS Analytics collects data on a continuous basis to create its database of hospitals and associated organizational entities. Data gathered by HIMSS Analytics is first captured with structured frameworks. The data is then “scrubbed” in a quality assurance procedure to ensure the data is accurate and reliable. Data used for research and analysis is subjected to analysis for emerging market shifts as well as changing market drivers and technology adoption. The resulting research analysis is then peer reviewed by HIMSS Analytics researchers, with a final review provided by HIMSS Analytics executives.

HIMSS Analytics Database

The HIMSS Analytics database includes current status or future plan information on more than 100 applications, networked medical devices, servers, desktops, wireless, network, security, and specific departmental technologies in use by these facilities.

The database also includes demographic information regarding hospital ownership positions in integrated delivery systems (IDSs), the key management contacts for the IDSs and hospitals, and the relationship with owned or affiliated ambulatory or sub-acute facilities. Hospitals participating in the annual study receive 48 free benchmark reports that compare hospitals to 10 peers relative to staffing, budgeting, and operating support metrics, which include the HIMSS Analytics EMR Adoption ModelSM (EMRAM) comparisons that provide insights into IT sophistication and intensity. We also provide 28 IDS benchmark reports to support the more complex task of creating peer evaluations for multi-hospital systems.

Executive Overview

The Health Information Technology for Economic and Clinical Health Act (HITECH) provisions of the American Recovery and Reinvestment Act of 2009 (ARRA) promoted meaningful use criteria, which will be used to determine the funding that hospitals and clinics will derive from implementing electronic medical record (EMR) technology. The government's activities around testing the market relative to the meaningful use requirements stopped or slowed the funding for EMR projects for some segments of the market.

Several issues arose in the first use of meaningful use. One was that payment would be made for each Medicare Provider Number. The problem is that some organizations have multiple hospitals under the same number. The second problem is relative to compliance. Does a hospital have to comply with all meaningful use criteria in 2011, 2013, and 2015 to get funding for each year? Or will funding be provided for partial compliance?

Governmental market-testing activities relative to meaningful use stopped or slowed some EMR funding.

Recently, several U.S. senators sent a letter to the Office of the National Coordinator (ONC) to ask that these issues be resolved so that all hospitals can receive payments, as well as requesting that some hospital-contracted physicians be allowed to participate in the ARRA/HITECH funding incentives. We believe their actions will result in changes to the Act relative to funding for the above issues.

The healthcare IT industry's success in using ARRA/HITECH funding effectively will be driven by its ability to cooperate and communicate during the next five years. Perhaps the emerging social networks (e.g., Twitter, Facebook, and LinkedIn) can be used to help facilitate communities that foster the success of their members.

The ARRA/HITECH funding is especially important to the U.S. healthcare IT industry. The economic recession has significantly affected a normally recession-proof medical industry. First, bond markets collapsed, and many hospitals with variable bond rates continue to experience a much higher bond servicing expense. Also, hospitals seeking to raise capital through bond offerings had to delay or cancel their projects. Hospital investments related to their endowment funds still have not recovered. This has resulted in hospitals having poor financial metrics, which in turn has resulted in banks refusing to lend money to hospitals for ARRA/HITECH projects.

While 2009 was a tough year economically, hospitals in some regions did show some signs of recovery. We also saw that hospitals increased their Stage 3 EMRAM metrics by almost 15 percent. (For further details, see chapter 10 of the *Essentials* report, which addresses EMRAM.) It is clear that several hospitals moved forward with their EMR projects in 2009 in preparation for the ARRA/HITECH funding.

While 2009 was a tough year economically, hospitals in some regions did show some signs of recovery.

Hospital capital spending for IT application solutions in 2010 is projected to be 46.5 to 48.3 percent of the total IT capital budget. This is up approximately 2 percent from 2009. This percentage of IT application spending relative to total capital spending is projected to increase through 2015 because of the ARRA/HITECH funding impacts.

Hospitals still have unfunded mandates to address. The conversion to version 5010 Health Insurance Portability and Accountability Act (HIPAA) standardized claims formats (deadline: January 1, 2012) and the upgrade from International Classification of Diseases, Ninth Revision (ICD-9) encoding to ICD-10 (10th Revision) encoding for classifying medical services (deadline: October 1, 2013) will place another level of IT and management burdens on hospitals. Spending on revenue cycle management (RCM) applications for either upgrades or replacements to address evolving market requirements (e.g., Recovery Audit Contractors and bundled payments for episodes of care) will continue to intensify over the next five years.

Unfunded government mandates ranging from version 5010 electronic data interchange transaction standard updates and ICD-10 conversions will force hospitals to critically assess their RCM and health information management (HIM) IT applications for compliance capabilities. Ongoing government (i.e., meaningful use) and employer pressures will continue to drive hospitals to evaluate their quality and outcomes measures, reporting, and management. It is obvious to us that the government is driving the industry toward the Accountable Care Organization (ACO)

model with its meaningful use requirements. The good news is that with ARRA/HITECH funding to cover EMR environment spending, hospitals that have achieved at least EMRAM Stage 4 by 2011 should have more capital available to help transform their RCM environments.

Key healthcare IT vendors and consulting companies will continue to consolidate the market over the next five years. Key acquisitions in 2009 are shown in Table A1.

Acquired Company	Acquiring Company
ACTIVE DATA SERVICES	DIVERSIFIED INFORMATION TECHNOLOGIES
AIM HEALTHCARE SERVICES	INGENIX
AMERICAN HEALTHNET, INC.	HEALTHLAND
ANODYNE HEALTH PARTNERS, INC.	ATHENAHEALTH, INC.
BRIDGEFORWARD SOFTWARE, INC.	iSOFT
CONFIRMA, INC.	MERGE HEALTHCARE
CROWN SOFTWARE, INC.	NETSMART TECHNOLOGIES, INC.
DATA DOMAIN	EMC CORP.
DATASCOPE	MAQUET, INC.
E&C MEDICAL INTELLIGENCE	BRIGHT HOUSE NETWORKS
EMAGEON	AMICAS
FORHEALTH TECHNOLOGIES, INC.	BAXA CORPORATION
GOMEZ	COMPUWARE COVISINT CORPORATION
INGRAM & ASSOCIATES	INGENIX
INTELLIDOT CORPORATION	PATIENT SAFE SOLUTIONS
LMS MEDICAL SYSTEMS	PERIGEN
MED MEDIA	EMSYSTEMS, LLC
MED-DISPENSE, LLC.	METRO FLO
MEDEM	MEDFUSION
MEDICAL DICTATION SERVICES, INC.	TRANSCEND SERVICES, INC.
MEDICAL DICTATION, INC.	TRANSCEND SERVICES, INC.
MEDWARE, INC.	IMEDX INC.
PHASE 2 CONSULTING (P2C)	PREMIER, INC.
POSTPATH INC.	CISCO SYSTEMS, INC.
PREMISE CORPORATION	ECLIPSYS CORPORATION
R3 HEALTH PARTNERS	VITALIZE CONSULTING SOLUTIONS, INC.
RADARFIND CORPORATION	TELETRACKING TECHNOLOGIES, INC.
SCIHEALTH, INC.	MEDIWARE INFORMATION SYSTEMS, INC.
SOLCOM, INC.	EDCO GROUP, INC.
VALCO DATA SYSTEMS, INC.	HYLAND SOFTWARE, INC.

Table A1

The healthcare IT market will continue to consolidate (as manifested in the recent acquisitions of QuadraMed by private equity firm Francisco Partners and of Concuity, Inc., by The Advisory Board Company). The acquisition pace will be the quickest in the ambulatory market over the next five years.

Approximately 20 healthcare IT applications tracked by HIMSS Analytics will have a projected compounded annual growth rate of 4 percent or greater in the 2010–2015 time frame. ARRA/HITECH funding will focus hospitals on key clinical applications, and unfunded mandates and payment reductions will force hospitals to invest in improved RCM applications.

An evaluation of the EMR Adoption Model scores over 2008–2009 shows that hospitals are continuing to advance the care delivery capabilities of their EMR environments (see Figure 1) even during the recession, particularly in hospitals that are progressing from Stage 2 to Stage 3. However, significant advances were also seen in Stage 4 and 5 over 2008. This advance will continue, driven by ARRA/HITECH funding incentives.

EMR Adoption Model Trends SM (2008–2009)			
Stage	Cumulative Capabilities	2008 Final	2009 Final
Stage 7	Complete EMR*; CCD* transactions to share data; data warehousing; data continuity with ED*, ambulatory, OP*	0.3%	0.7%
Stage 6	Physician documentation (structured templates), full CDSS* (variance & compliance), full RPACS*	0.5%	1.6%
Stage 5	Closed-loop medication administration	2.5%	3.8%
Stage 4	CPOE*, CDSS (clinical protocols)	2.5%	7.4%
Stage 3	Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS* available outside radiology	35.7%	50.9%
Stage 2	Clinical data repository, controlled medical vocabulary, CDSS, may have document imaging, HIE* capable	31.4%	16.9%
Stage 1	Ancillaries—laboratory, radiology, pharmacy—all installed	11.5%	7.2%
Stage 0	All three ancillaries not installed	15.6%	11.5%

Data from HIMSS Analytics™ Database © 2010

N = 5,166

N = 5,235

* CCD = continuity of care document; CDSS = clinical decision support system; CPOE = computerized practitioner order entry; ED = emergency department; EMR = electronic medical record; HIE = health information exchange; OP = outpatient; PACS = picture archiving and communications system; RPACS = radiology picture archiving and communications system

Figure 1

The biggest market concern is for the small community hospitals and their ability to achieve meaningful use criteria for 2011, 2013, and/or 2015. We have observed two scenarios emerging that may indicate a feasible pathway for these hospitals to achieve meaningful use.

The first is large IDS organizations that are extending their applications via their data centers to small community hospitals. This could be an effective model, because the larger IDS organizations can help facilitate the implementation and adoption of EMR applications for smaller organizations that do not have the human resources or skill sets to effectively implement and continuously support EMR environments.

The second potential pathway is collaboration among several small hospitals to create common data centers that serve all of their facilities. This combined effort provides the capital, human resources, and skill sets necessary to economically provide and support EMR applications to all members. We will continue to monitor the market for these emerging trends to see what impact they have in the market in 2010 and beyond.

Market Overview



Key Vendors

The key vendors in the hospital IT market are multinational companies with large portfolios of IT solutions that cover most business and clinical environments for healthcare delivery systems. These vendors are referred to as “enterprise vendors.” Their portfolios of solutions range from financial solutions to EMR environments to applications that are used in ancillary departments.

An emerging strategy for the large enterprise vendors that also provide medical devices used in healthcare delivery is to tightly couple their IT applications with their medical devices. Representative examples of where this strategy is being deployed by vendors include:

- GE Healthcare (GE): integration of cardiology applications with cardiology devices, the integration of operating room (OR) management applications with medical devices used in the operating room environment, and the integration of GE’s picture archiving and communications systems (PACS) environment with its radiology information system.

- McKesson Provider Technologies (McKesson): integration of its robotic and medication-dispensing cabinets with its patient safety software—computerized practitioner order entry (CPOE), pharmacy, and electronic medication administration record (eMAR); integration of its radiology PACS (RPACS) environment with its radiology information system; and integration of its cardiology PACS (CPACS) environment with its cardiology information system.
- Siemens Healthcare (Siemens): integration of its radiology PACS (RPACS) environment with its radiology information system, and integration of its cardiology PACS (CPACS) with its cardiology information system.

Overall, the top enterprise healthcare IT vendors for the U.S. hospital market are:

- Cerner Corporation (CERN: Nasdaq); <http://www.cerner.com/public/>
- CPSI (CPSI: Nasdaq); http://www.cpsinet.com/default_IE.php
- Eclipsys Corporation (ECLP: Nasdaq); <http://www.eclipsys.com/>
- Epic Systems Corporation (private); <http://www.epic.com/>
- GE Healthcare (GE: NYSE); <http://www.gehealthcare.com/worldwide.html>
- Healthcare Management Systems (HMS—private); <http://www.hmstn.com/>
- Healthland (private; acquired by Francisco Partners); <http://www.healthland.com/>
- Keane Healthcare Services (KEA: NYSE); <http://www.keane.com/industries/healthcare-and-life-sciences.aspx>
- McKesson Provider Technologies (MCK: NYSE); <http://www.mckesson.com>
- Medical Information Technology, Incorporated (MEDITECH—private); <http://www.MEDITECH.com/>

- QuadraMed Corporation (private; recently purchased by Francisco Partners); <http://www.quadramed.com/>
- Siemens Healthcare (SI: NYSE); <http://www.medical.siemens.com>

Niche vendors that specialize in applications for ancillary departments or departmental systems continue to play major roles in some application segments. Representatives of niche vendors within specialty environments include:

- ADP: payroll services (ADP: Nasdaq); <http://www.adp.com/>
- Kronos, Inc.: time and attendance systems (private); <http://www.kronos.com/>
- Lawson Software: enterprise resource planning (LWSN: Nasdaq); <http://www.lawson.com/>
- Mediware: pharmacy, blood bank (MEDW: Nasdaq); <http://www.mediware.com/>
- Oracle Corp./PeopleSoft: enterprise resource planning (ORCL: Nasdaq); <http://www.oracle.com/index.html>
- Philips Healthcare: intensive care systems, cardiology information systems, PACS systems for both radiology and cardiology, and obstetrical systems (AEX: NYSE); <http://www.medical.philips.com/us/>
- Picis/MSM: operating room management, emergency department, and intensive care unit (ICU) applications (private); <http://www.picis.com/>
- SCC Soft Computer: laboratory, radiology, pharmacy (private); <http://www.softcomputer.com/>
- Sunquest Information Systems: laboratory and radiology (private); <http://www.sunquestinfo.com/Pages/index.html>
- Surgical Information Systems: operating room management; <http://www.orsoftware.com/>

- 3M Health Information Systems (3M): encoding, dictation, transcription, and HIM management applications (MMM: NYSE); http://solutions.3m.com/wps/portal/3M/en_US/3M_Health_Information_Systems/HIS/
- Unibased Systems Architecture: enterprise scheduling (private); <http://www.unibased.com/>

Healthcare Consulting Companies

The IT consulting market to U.S. hospitals continues to consolidate, as manifested in the acquisitions of Perot Systems by Dell and ACS by Xerox in 2009. These acquisitions will redefine market dynamics for standard consulting engagements (e.g., strategic planning, vendor selection, implementation) or outsourcing services. Obviously, a consolidation of consulting companies focused solely on healthcare by larger consulting entities is taking place and will result in broader and more integrated healthcare service offerings by the acquiring companies.

The challenge for companies making these acquisitions is to keep intact the talent and cultures in the acquired organizations—and some are struggling in this effort. These acquisitions will drive the emergence of new consulting companies formed by people who depart the acquired companies (i.e., Encore Health Resources) or who depart the consulting companies being cleaned up for sale. Other consultants will create boutique firms that specialize in niche consulting models and, if successful, will be acquired again in the continuous cycle of healthcare consulting.

The challenge for companies making acquisitions is to keep intact the talent and cultures of the acquired organizations.

Healthcare consulting services will be center stage, because ARRA/HITECH will drive aggressive acquisitions of EMR applications for both hospitals and ambulatory clinics. The ability of the U.S. healthcare market to achieve the levels of EMR functionality defined by the ARRA/HITECH meaningful use criteria will be directly related to the breadth and depth of consulting skills and staff augmentation that will be available from the entire healthcare IT consulting market.

The potential demand for consultants to assist the industry with implementing more advanced EMR environments should provide an opportunity for many college graduates over the next five years to begin careers in healthcare.

However, the question is whether we will have enough experienced and skilled consulting personnel to train and mentor these people. We also believe a shortage of experienced and skilled consultants may drive a shortage of clinicians in hospitals as consulting companies provide enticing opportunities for these healthcare delivery professionals to experience a new uses for their skills.

Top firms providing standard consulting service engagements to hospital are:

- Accenture
- ACS (acquired by Xerox)
- Beacon Partners
- BearingPoint
- Cerner Corporation
- Courtyard Group
- CSC
- Deloitte
- Encore Health Resources
- Hayes Management
- IBM
- McKesson Provider Technologies
- Perot Systems Corporation (acquired by Dell)
- Siemens Healthcare

Top firms providing outsourcing services to hospitals are:

- ACS
- CareTech Solutions, Inc.

- Cerner Corporation
- CSC
- Eclipsys Corporation
- IBM
- McKesson Provider Technologies
- Perot Systems Corporation (Acquired by Dell)
- Siemens Medical Solutions

Siemens Healthcare, McKesson Provider Technologies, Eclipsys Corporation and Cerner Corporation represent enterprise vendors that expanded the scope of their service offerings for consulting and outsourcing solutions. These services units are becoming significant revenue streams for these companies.

The focus by the multi-industry consulting firms on other healthcare segments (e.g., pharmaceutical/biotech, payers) has provided opportunities for several small and regional consulting companies (boutique firms) to increase their consulting service market share.



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info@himssanalytics.org

230 East Ohio Street | Suite 600 | Chicago, IL 60611-3269

877-364-2500 | <http://www.himssanalytics.org>