HIMSS Analytics

2014 Imaging Technology Study

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Authors
Maggy Tieche, Manager of Research
Brendan FitzGerald, Director of Research

Contributing Author
Tom Martin, Director, HIS

Introduction

As U.S. hospitals and ambulatories have embraced picture archiving and communication system (PACS) imaging technology, new needs around image storage and image sharing have emerged. The growing size of individual diagnostic images files led to increased capacity for storage needs. In turn expanded storage requirements present an opportunity for organizations to update systems and functionality which provides increased access to archived images.

Healthcare organizations are now facing needs to effectively share images within their organization and across outside organizations.

Over the years, HIMSS Analytics has tracked radiology PACS market penetration and vendor market share. Penetration currently stands at 91.3 percent for at least one RPACS modality, according to the HIMSS Analytics Database. The ability to share PACS images outside of the radiology department and utilizing a full complement of imaging modalities (e.g. CT, MRI, Ultrasound, etc.) is included on the path to achieving a full electronic medical record (EMR) on the HIMSS Analytics EMR Adoption Model℠ (EMRAM)[1].

This study was designed to explore the image viewing priorities and retrieval capabilities at organizations; including enterprise viewing capabilities or future project plans.

The report outlines the current radiology PACS market based on data from the HIMSS Analytics® Database. Insights were also gathered from PACS administrators and radiology department leaders at hospitals and healthcare systems as well as managers and directors of ambulatories with imaging services or imaging centers. Reasons into an organization's use of and selection of technology are researched as well.

The findings of this report highlight some of the needs of the U.S. PACS market and outlines what needs vendors can anticipate when working with providers.

[1] *See the Appendix for a profile of the EMRAM stages.*

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Executive Summary

This report leverages data from the HIMSS Analytics Database in addition to the insights from 280 U.S. hospital, healthcare system and ambulatory PACS and radiology leaders to explore provider's imaging environment needs and drivers.

Radiology PACS is reported to be in heavy use and the same entrenched vendors appear to dominate the market over the past several years. However, the findings show a market that is mixed on obtaining the next generation of storage and image sharing technologies. Respondents were near evenly split on the need for imaging environment replacements/upgrades (40.7 percent with no plans to replace/upgrade versus 42.6 percent that had plans for new system replacement or upgrade) and their organization's current use of enterprise image viewing (52.1 percent using versus 47.9 percent non-users.)

Limited storage capabilities highlight potential areas where providers may shift focus in the future. In fact, with plans to make images more widely available to clinicians and the reported need for images to be shared across locations and organizations, the speed and ease of image retrieval will be paramount. While the adoption level of existing radiology PACS implementations appear saturated, this study concludes that customer needs exist in for advanced functionalities.

Appendix

US EMR Adoption Model℠

Stage	Cumulative Capabilities	2014 Q2	2014 Q3
Stage 7	Complete EMR, CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP	3.2%	3.4%
Stage 6	Physician documentation (structured templates), full CDSS (variance & compliance), full R-PACS	15.0%	16.5%
Stage 5	Closed loop medication administration	27.5%	29.5%
Stage 4	CPOE, Clinical Decision Support (clinical protocols)	15.3%	14.5%
Stage 3	Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology	25.4%	23.9%
Stage 2	CDR, Controlled Medical Vocabulary, CDS, may have Document Imaging; HIE capable	5.9%	5.3%
Stage 1	Ancillaries - Lab, Rad, Pharmacy - All Installed	2.8%	2.5%
Stage 0	All Three Ancillaries Not Installed	4.9%	4.4%
Data from HIMSS Analytics® Database © 2014 HIMSS Analytics		N = 5447	N = 5453

About HIMSS Analytics

HIMSS Analytics collects, analyzes and distributes essential health IT data related to products, costs, metrics, trends and purchase decisions. It delivers quality data and analytical expertise to healthcare delivery organizations, IT companies, governmental entities, financial, pharmaceutical and consulting companies. Visit www.himssanalytics.org.

HIMSS Analytics is a part of HIMSS, a cause-based global enterprise that produces health IT thought leadership, education, events, market research and media services around the world. Founded in 1961, HIMSS encompasses more than 52,000 individuals, of which more than two-thirds work in healthcare provider, governmental and not-for-profit organizations across the globe, plus over 600 corporations and 250 not-for-profit partner organizations, that share the cause of transforming health and healthcare through the best use of IT. HIMSS, headquartered in Chicago, serves the global health IT community with additional offices in the United States, Europe, and Asia.

About the Authors

Brendan FitzGerald, Director of Research

Brendan FitzGerald is a Director with HIMSS Analytics, the research and consulting division of HIMSS, a global, cause-based, not-for-profit organization focused on better health through information technology (IT). His focus is creating syndicated research for the healthcare information technology (HIT) industry and executing customized client consulting projects.

With more than 14 years of experience in research, FitzGerald joined HIMSS Analytics from the financial services sector. He was an Associate Analyst in the Equity Research group at Deutsche Bank Securities and UBS covering a number of industries. He switched his focus from finance to healthcare IT when he moved from New York City back to Vermont where he worked for GE Healthcare and then for CapSite.

FitzGerald holds a Bachelor of Arts degree from St. Lawrence University.

Maggy Tieché, MBA, CPHIMS, Manager of Research

Maggy Tieché has worked in healthcare information technology (HIT) market research for over nine years. Her background includes qualitative and quantitative survey design, questionnaire creation, data collection methodologies, data analysis and report writing. She brings additional experience from working in the data collection and quality departments for the HIMSS Analytics Database.

Tieché holds a B.S. in Advertising from the University of Illinois, Urbana-Champaign, and an M.B.A. in Management and Marketing from the University of Illinois, Chicago.

Thomas R. Martin, PhD., MBA, Director, Healthcare Information Systems

Thomas R. Martin, PhD, MBA, is Director with HIMSS, a global, cause-based, not-for-profit organization focused on better health through information technology (IT) supporting the mHealth Community. Martin also provides support for the HIMSS Health IT Value Suite.

With more than 10 years of experience in healthcare, Martin joins HIMSS from the telecommunications and healthcare IT industries. He has lived and worked overseas in Australia, traveling extensively in Asia Pacific for business. Martin began his journey in healthcare working at the Cleveland Clinic Foundation. He has served as project lead for numerous IT implementations and mobile app developments.

Martin is the author of numerous articles and book chapters on the role of mHealth and the use of Cost Benefit Analysis in healthcare. He completed his dissertation titled Applications of Contingent Valuation and Conjoint Analysis in mHealth: Understanding the Willingness to Pay for Healthcare Smartphone Applications at the University of Delaware. He also holds a Master's degree in Business Administration from the University of Delaware. Dr. Martin's research interests include the application of cost benefit analysis, comparative effectiveness, and other economic valuations within the healthcare setting. He holds academic appointments at Georgetown University and St. Joseph's University.