



FUTURECARE REDEFINED

CLOUD, BIG DATA, MOBILE, AND SOCIAL OPTIMIZE THE EMR

EMC²

Introduction

The information gathered and shared through EMRs is enabling healthcare providers to improve patient care diagnosis and outcomes.

As providers work to leverage real-time data at the point-of-care, ensuring their EMR infrastructure is “future ready” is more imperative than ever.

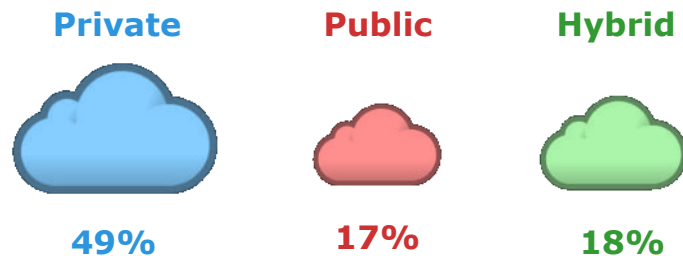
How are healthcare providers optimizing their EMR with **FutureCare-enabling technologies** – cloud, big data, mobile, and social?

To find out, MeriTalk and EMC surveyed 151 health IT leaders. Our **FutureCare Report** highlights the opportunities and how organizations can prepare for next-generation health IT.



Two-thirds of healthcare providers run EMR applications in the cloud

What percentage of your current EMR applications run partly or fully on any of the following?*



34% of respondents do not currently run EMR apps in cloud

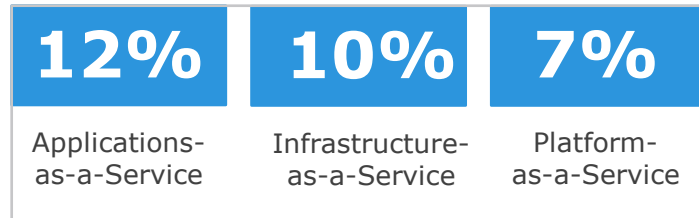


By **2016**, U.S. hospitals expect to save **\$6.86B** in annual IT spending with cloud models**

*Respondents asked to select all cloud models that apply **See slide 20 for details

Healthcare providers are starting to offer IT “as-a-service”

What percentage of your IT budget is currently used to deploy the following cloud services?



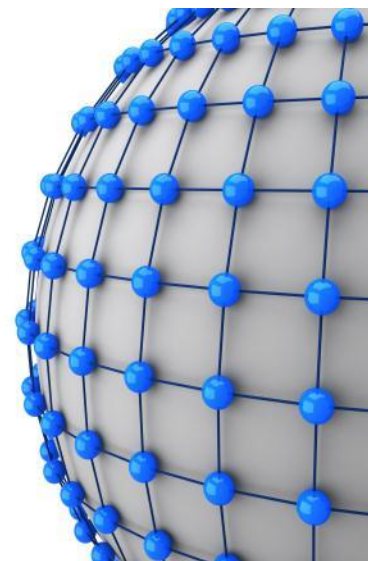
“We have started to establish roadmaps for the thoughtful adaptation of cloud technologies to improve the business including supplanting existing technologies with cloud-based models, and also new solutions that have not been previously considered”

Healthcare providers use Big Data to reduce readmissions and track outcomes

Healthcare providers are using big data and analytics in conjunction with their EMR to:*

Reduce avoidable readmissions	50%
Track and evaluate treatment outcomes	50%
Cost/benefit analysis to reduce risk	46%
Population health management	42%
Manage clinical and IT staffing levels	38%
Analyze and publish medical trends	33%
Avoid reimbursement adjustments	33%
Prescribe preventative care	24%

By **2016**, U.S. hospitals expect to save **\$7.20B** in annual IT spending with Big Data solutions**



*Respondents asked to select all that apply **See slide 20 for details

IT leaders say Big Data delivers improved patient care and financial benefits

What new innovative applications are you deploying or considering in the next year that will leverage big data?

“Tracking continuum of care to improve overall health outcomes and population health management”



“Analyzing everything we can to decrease readmissions, decrease costs, and give better patient care”

Real-time patient updates on mobile devices help caregivers react swiftly

What new innovative applications are you deploying or considering in the next year that will leverage mobile devices?

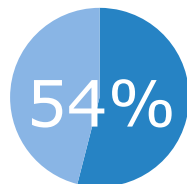
“Delivering fetal monitoring information to physicians on mobile devices so that they can remotely monitor patients and reduce poor outcomes”



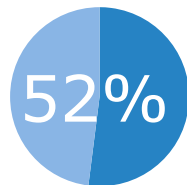
“Real-time data transmission apps; Insurance compliance and status apps”

Social technologies are enhancing communication and collaboration

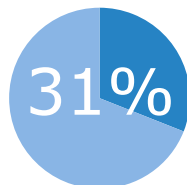
How is your organization using social technology in conjunction with your EMR?*



Facilitating secure collaboration



Communicating with patients and sending medication and follow up reminders



Collecting data from wearable technology



By **2016**, U.S. hospitals expect to save **\$3.77B** in annual IT spending with social technologies**

Social technologies are enhancing communication and collaboration

What new innovative applications are you deploying or considering in the next year that will leverage social technologies?

“Direct email and text messaging to connect healthcare providers and patients”

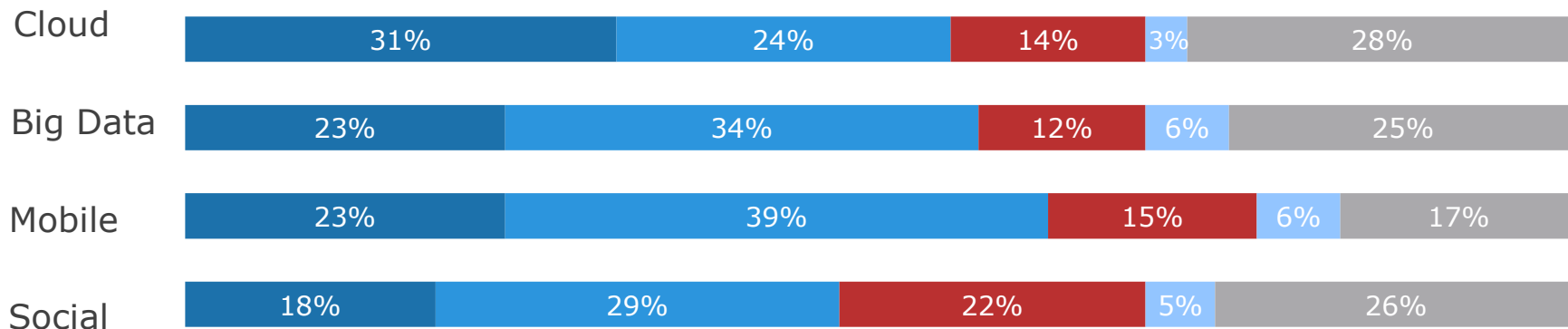


“We are implementing new positions that will strictly focus on streamlining and optimizing social media”

The FutureCare technology implementation wave is coming

What is your current deployment status for each of the following technologies?

■ Fully deployed ■ Partially deployed ■ Deploying within 12 months ■ Deploying in more than one year ■ No plans to deploy or unsure



Tipping Point: Many healthcare providers have deployed one or more FutureCare technologies and plan additional investments over the next 12 months

FutureCare tech improves data access, enhances care, and reduces costs

In the next two years, how will the following solutions impact your business and clinical workflows?*

Cloud



- 50%** Improve real-time data access
- 46%** Reduce overall cost of care
- 42%** Improve overall operations

Mobile



- 50%** Improve real-time data access
- 39%** Improve overall operations
- 37%** Improve overall health outcomes
- 37%** Reduce medical errors

Big Data



- 53%** Reduce overall cost of care
- 48%** Improve overall operations
- 46%** Improve financial reporting capabilities

Social



- 34%** Improve overall health outcomes
- 32%** Improve overall operations
- 29%** Improve real-time data access

The challenge: Healthcare providers say their infrastructure is not fully ready

When asked what steps they are taking to prepare their infrastructure for the evolution of their EMR, **just 4% said** they are already prepared



To optimize the EMR, providers will invest in security, performance, and cloud

Top Planned Future EMR Investments*

Enhance security systems	47%
Improve application performance	38%
Invest in cloud solutions	31%
Modernize backup and recovery infrastructure	31%
Increase mobile access	30%
Increase available storage	29%
Invest in converged infrastructure	15%

Nearly **one in five (19%)** global healthcare organizations have experienced a security breach in the past 12 months**



Health IT execs estimate that security incidents cost U.S. hospitals **\$1.6B** each year**



*Respondents asked to select the top three responses **Rx: ITaaS + Trust, MeriTalk, February 2014

Providers anticipate significant increase in FutureCare spending in 2015

How do you expect your 2015 IT spending to change for each of the following areas?

Cloud

62% say increase

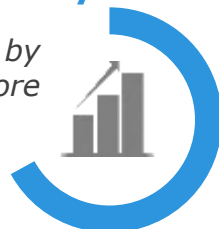
46% say by 10% or more



Big Data

67% say increase

43% say by 10% or more



Mobile

72% say increase

46% say by 10% or more



Social

60% say increase

35% say by 10% or more



Note: Working within IT budget constraints, providers have plans for additional investments in FutureCare tech areas in the next two years.

Providers expect to gain IT savings with cloud, big data, mobile, and social

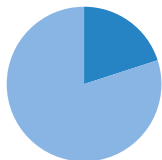
By 2016, U.S. healthcare providers anticipate they can save:*

Cloud



\$6.86B

20% of IT budget

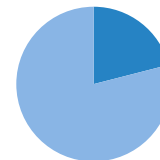


Big Data



\$7.20B

21% of IT budget

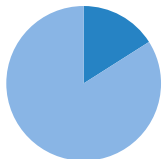


Mobile



\$5.49B

16% of IT budget

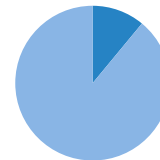


Social



\$3.77B

11% of IT budget



*Based on their annual IT spending. Note: Working within IT budget constraints, providers have plans for additional investments in FutureCare tech areas in the next two years

Recommendations

- **Examine FutureCare Investments:**
 - Prioritize and rank cloud, big data, mobile, and social opportunities for 2015 and 2016
 - Map goals to available budgets and anticipated savings
- **Start with Cloud as Foundation for FutureCare:**
 - Review cloud model options – private, hybrid, and public and identify the best path to migrate appropriate workloads
 - Operationalize “IT-as-a-Service”
 - Support cloud modernization efforts and increased efficiency by establishing a service catalog, self-service portals, service level agreements (SLAs), and IT governance to facilitate “IT-as-a-Service”
- **Review Security Tools and Processes:**
 - Execute a security audit to ensure adequate, updated protocols are in place (technical and human)
 - Remediate gaps



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Methodology and Demographics

- MeriTalk, on behalf of EMC, conducted an online survey of 151 hospital IT decision makers in August 2014.

Organization Type:	
33%	Stand-alone hospital
67%	Integrated Delivery Networks (IDN)/regional or national healthcare systems

Organization Size by Bed Count:	
56%	More than 1,000
17%	501-1000
18%	201-500
9%	51-200

Job Title:	
10%	Chief Information Officer
9%	Chief Technology Officer
6%	Chief Medical Informatics Officer
17%	Director of IS or IT
58%	Other IT Management

100% of respondents are familiar with their organization's use of or plans for Electronic Medical Records (EMR)

The report has a margin of error of +/- 7.95% at a 95% confidence level.

IT Savings Methodology

Cloud Savings: Based on forecasted enterprise IT spending for U.S. hospitals in 2016 of \$34.3B and estimate by survey respondents that cloud will save them 20% of their IT budgets in two years = \$6.86B in annual IT savings in 2016

Big Data Savings: Based on forecasted enterprise IT spending for U.S. hospitals in 2016 of \$34.3B and estimate by survey respondents that big data will save them 21% of their IT budgets in two years = \$7.20B in annual IT savings in 2016

Mobile Savings: Based on forecasted enterprise IT spending for U.S. hospitals in 2016 of \$34.3B and estimate by survey respondents that mobile technologies will save them 16% of their IT budgets in two years = \$5.49B in annual IT savings in 2016

Social Savings: Based on forecasted enterprise IT spending for U.S. hospitals in 2016 of \$34.3B and estimate by survey respondents that social technologies will save them 11% of their IT budgets in two years = \$3.77B in annual IT savings in 2016

Source: Gartner, Enterprise IT Spending for the Healthcare Provider Market, 1Q14 Update

Note: Working within IT budget constraints, providers have plans for additional investments in FutureCare tech areas in the next two years.

Survey Definitions

Private Cloud: A model of cloud computing leveraging a distinct and secure cloud-based environment in which only the specified healthcare IT organization can operate

Public Cloud: Standard cloud computing model where a service provider makes resources available to the general public over the Internet

Hybrid Cloud: Combination of private and public clouds enabling IT organizations to manage some resources in-house and act as a broker of secure IT services for other externally provided services

Big Data Analytics: Process of examining big data in an effort to uncover hidden patterns, unknown correlations, and other useful information

Social Technology: Any technology that facilitates social interactions and is enabled by a communications capability, such as the Internet or a mobile device

Application-as-a-Service: Automated provisioning of an environment that includes compute, network, and storage with an application and all supporting configurations so the application is ready to run

Platform-as-a-Service: A cloud service delivery model that offers a computing platform and a solution stack as a service over the Internet

Infrastructure-as-a-Service: A standardized, highly automated provision model, where compute resources, complemented by storage and networking capabilities, are typically paid for per use, hosted by a service provider, and offered to customers on demand