Mobile Computing in Healthcare: Privacy and Security Considerations and Available Resources

HOA Mobility Conference– Sept 27, 2012

transforming healthcare through IT ™

Speaker

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HIMSS

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Agenda

- Explore the mobile computing landscape in healthcare

- Discuss privacy and security challenges

- Review Mobile Use Survey

- Review available mobile security resources

The Propagation of Mobile Technologies

- 90% of the world population lives in range of a wireless signal

- 70% of the 5 billion cell phone users are in third world countries

- 50% of all cell phone users will be able to access the web on their cell phones by 2015

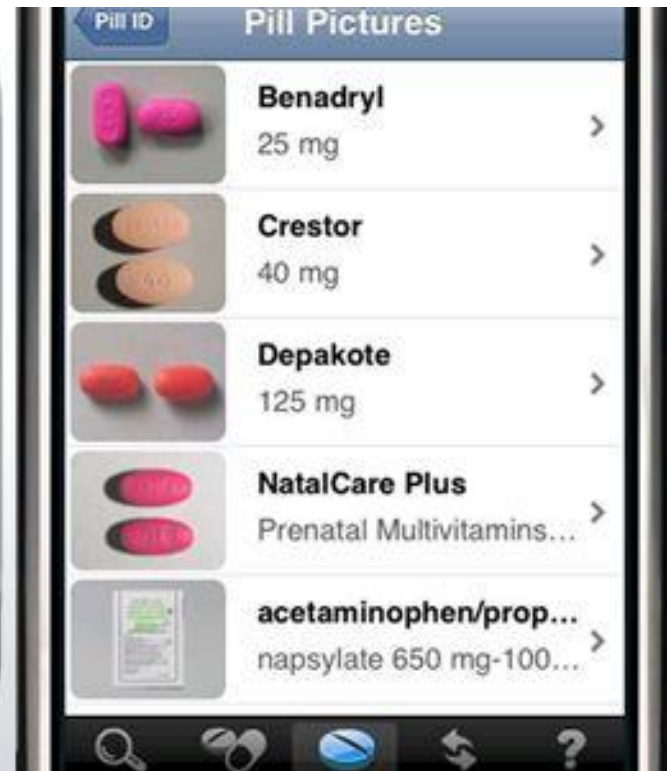- 100 countries currently using some form of mobile health technology

US Mobile Health Market

- Wireless health market has risen from $2.7M in 2007 to $10 B in 2012

- 80%+ physicians in U.S. have smartphone
  - Two-thirds use online content for professional needs

- 95% physicians using handheld devices/smartphones download apps for medical info

Source: FirstWord[SM], Dossier. (May, 2010) Trends in Mobile Medicine: Smartphone Apps for Physicians *[Market Intelligence Report].*

Mobile Health Applications Flooding Marketplace

Number of Health Apps on the Rise

Application	Number of health applications available for download	Intended for consumer/ patient	Intended for healthcare professional	Number of downloads
iPhone	~6000	73%	30%	Unknown
Android	~600	81%	20%	3.5 million +
Blackberry	~200	70%	30%	Unknown

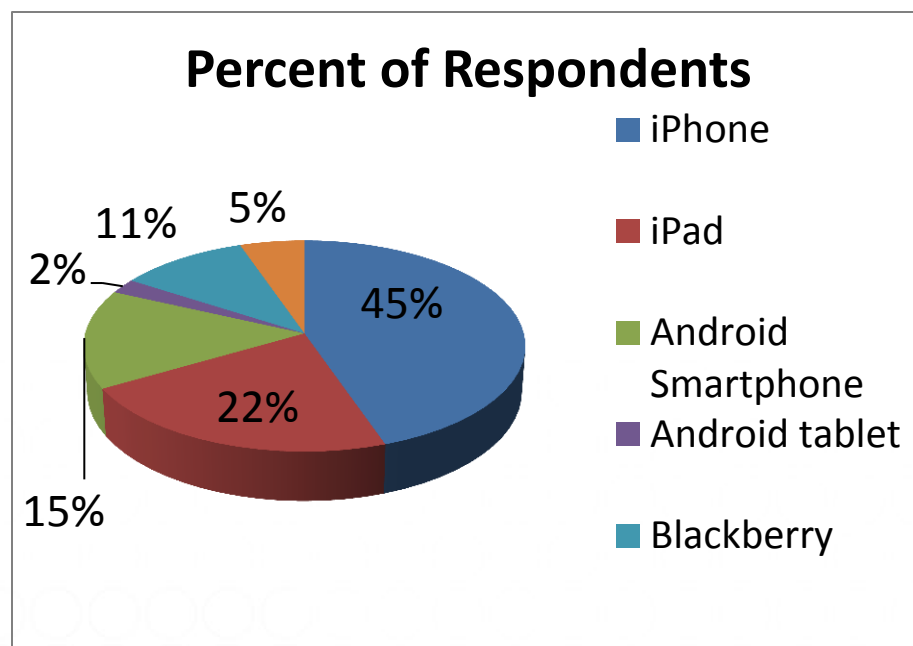# Transforming the Clinician/Patient Relationship

- Services once available only at a physician's office will become available on demand through low tech affordable solutions

- Mobile video will transform education

- Expect mobile and health technology to converge

Surprising Find in Study on Physician Smartphone Users

- More than 80% physicians own a mobile device, compared with only 50% of the general U.S. population

- 44% that do not own a mobile device intend to purchase one in 2011

- 25% physicians are using smartphones <u>and</u> tablets in their practices

- Physicians with 20-plus years experience most frequent users of tablets

Percent of Respondents

- iPhone
- iPad
- Android Smartphone
- Android tablet
- Blackberry

5%
11%
2%
45%
22%
15%

Resource: Modahl, Mary. (June 15, 2011) Tablets Set to Change Medical Practice. QuantiaMD.com. Retrieved June 23, 2011, from http://www.quantiamd.com/q-qcp/QuantiaMD_Research_TabletsSetToChangeMedicalPractice.pdf.

And, Use of Mobile Technology is Highly Complex…

- Data exchange requirements
  - Proper, accurate, and confidential collection and protection of a broad range of data
  - These exchanges are not yet tailored to healthcare

- Workflow challenges
  - Smartphones and tablet computing fit with lifestyle, personal, and professional needs of clinicians
  - CIOs facing an onslaught of user demand
  - Tremendous challenges and opportunities to connect with patients and consumers

- Privacy/Security continues to be a concern

Key Issues to Address

- Equip IT professionals to:
  - Address current clinical staffs' mobile demands
  - Get ahead of the wave

- Ensure we address all components of mobile health simultaneously:
  - Technologies (Medical Devices, Home Health, Communication Platforms)
  - Data Exchange
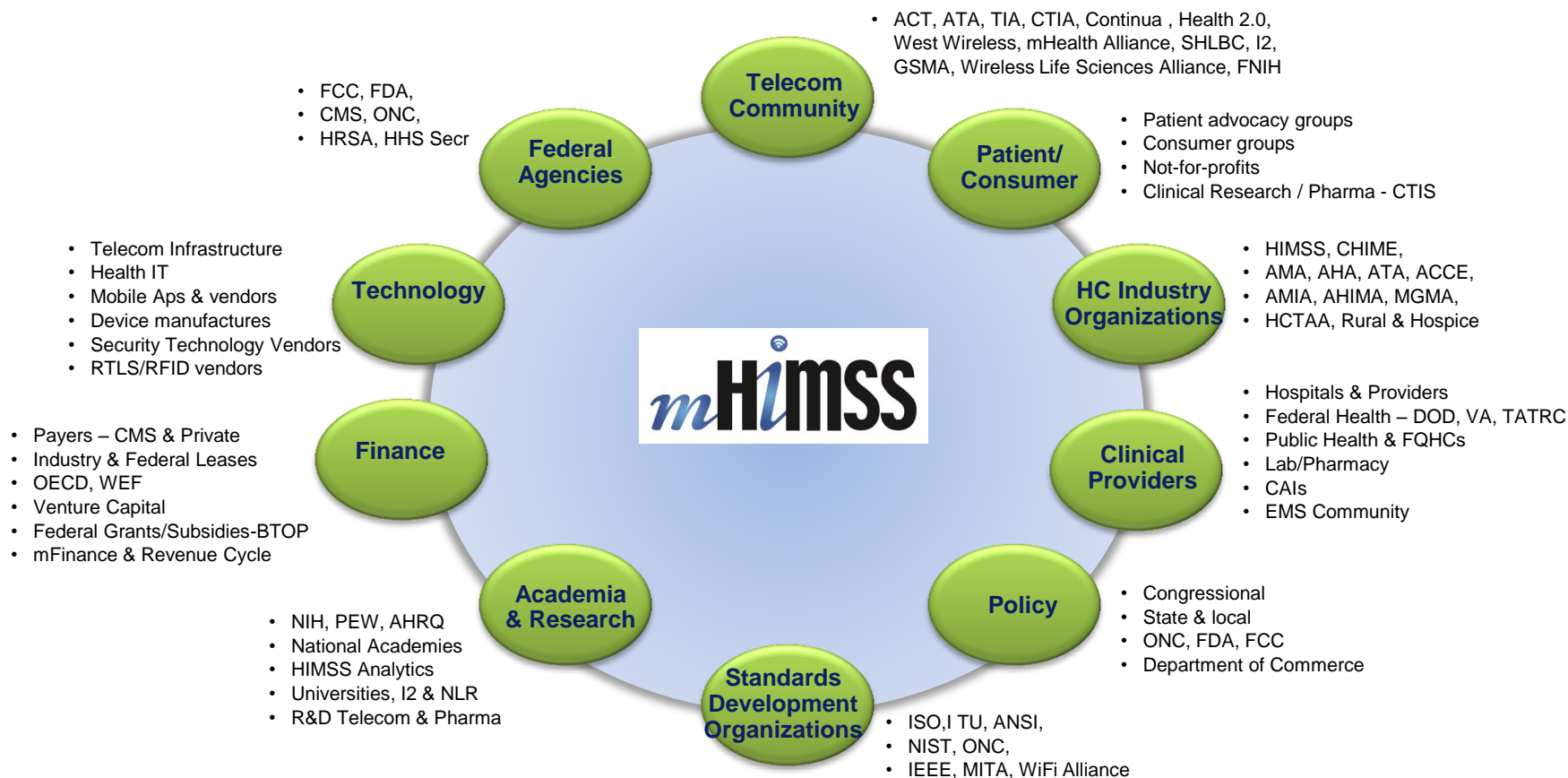 - Workflow
  - Privacy and Security

mHIMSS Initiative

- Problem Statement: The exceptional promise of mobile health's ability to improve access, outcomes and control costs will not be realized because the sheer magnitude of mobile options is overwhelming existing operations, infrastructure, security, policy, legal, and integration capabilities of the US and global healthcare systems.

- Goal Statement: Over the next five years, all stakeholders will embrace and harness the power of mobile technology to improve access, health and control costs, transforming healthcare in the USA and globally.

- mHIMSS is an organization-wide domestic & global focus on mobile & wireless, establishing mHIMSS members as strong credible leaders on this topic

Mobile Health Stakeholders

- ACT, ATA, TIA, CTIA, Continua , Health 2.0, West Wireless, mHealth Alliance, SHLBC, I2, GSMA, Wireless Life Sciences Alliance, FNIH

- FCC, FDA,
- CMS, ONC,
- HRSA, HHS Secr

Telecom Community

Federal Agencies

Patient/ Consumer
- Patient advocacy groups
- Consumer groups
- Not-for-profits
- Clinical Research / Pharma - CTIS

- Telecom Infrastructure
- Health IT
- Mobile Aps & vendors
- Device manufactures
- Security Technology Vendors
- RTLS/RFID vendors

Technology

HC Industry Organizations
- HIMSS, CHIME,
- AMA, AHA, ATA, ACCE,
- AMIA, AHIMA, MGMA,
- HCTAA, Rural & Hospice

- Hospitals & Providers
- Federal Health – DOD, VA, TATRC
- Public Health & FQHCs
- Lab/Pharmacy
- CAIs
- EMS Community

- Payers – CMS & Private
- Industry & Federal Leases
- OECD, WEF
- Venture Capital
- Federal Grants/Subsidies-BTOP
- mFinance & Revenue Cycle

Finance

Clinical Providers

Academia & Research

Policy
- Congressional
- State & local
- ONC, FDA, FCC
- Department of Commerce

- NIH, PEW, AHRQ
- National Academies
- HIMSS Analytics
- Universities, I2 & NLR
- R&D Telecom & Pharma

Standards Development Organizations
- ISO,I TU, ANSI,
- NIST, ONC,
- IEEE, MITA, WiFi Alliance

Key Mobile Issues

- Privacy & Security

- Infrastructure

- Finance & Reimbursement

- Policy & Regulation

- Standards & Interoperability

- Usability & Accessibility

- Infection Control

- Research

- Quality Care & Patient Safety

- Efficiency & Workflow

- Patents, IP, Commerce & Innovation

- Access to Information & Technology
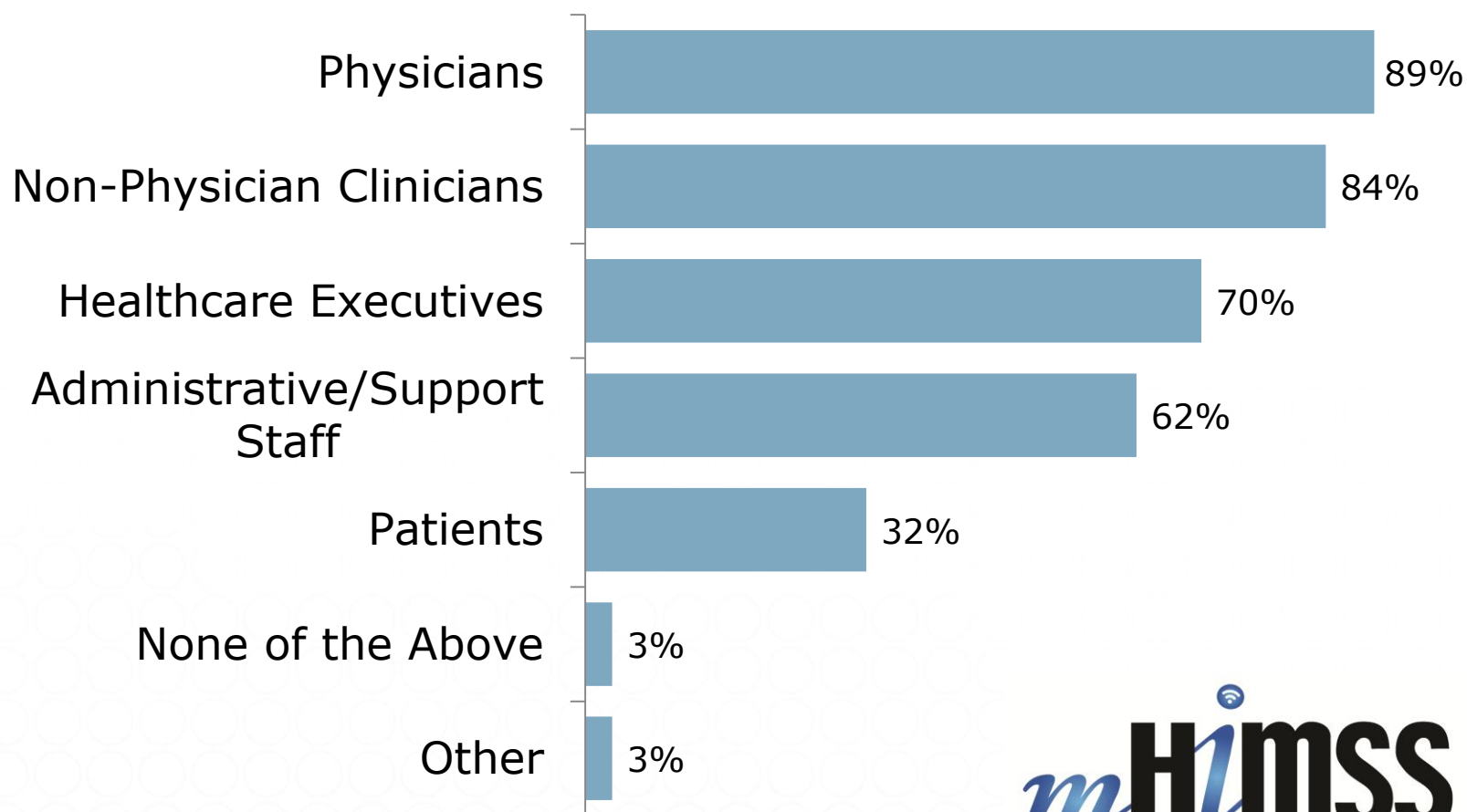
HIMSS Mobile Survey

December 2011
Hospital / Health Systems N=164

- Mobile & wireless technology has advanced quicker and are being adopted faster than hospital policies

- Many hospitals are allowing the use of private mobile & wireless devices without policies & procedures in place

- P&S concerns remain a barrier to adoption & use

- 41 % are allowing use of device owned by the end user
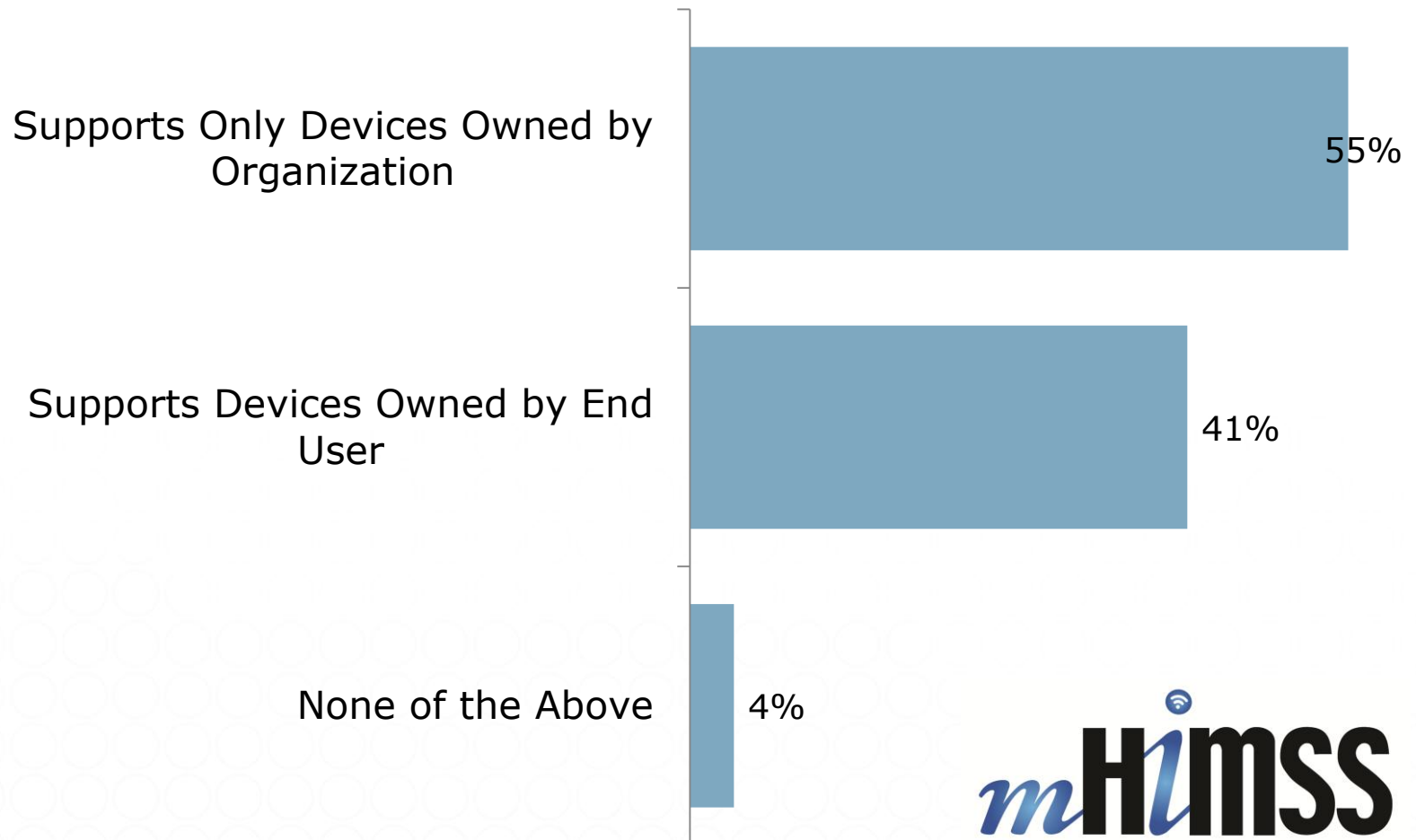
- 28% of devices are retaining PHI

- 77% are accessing data on public networks
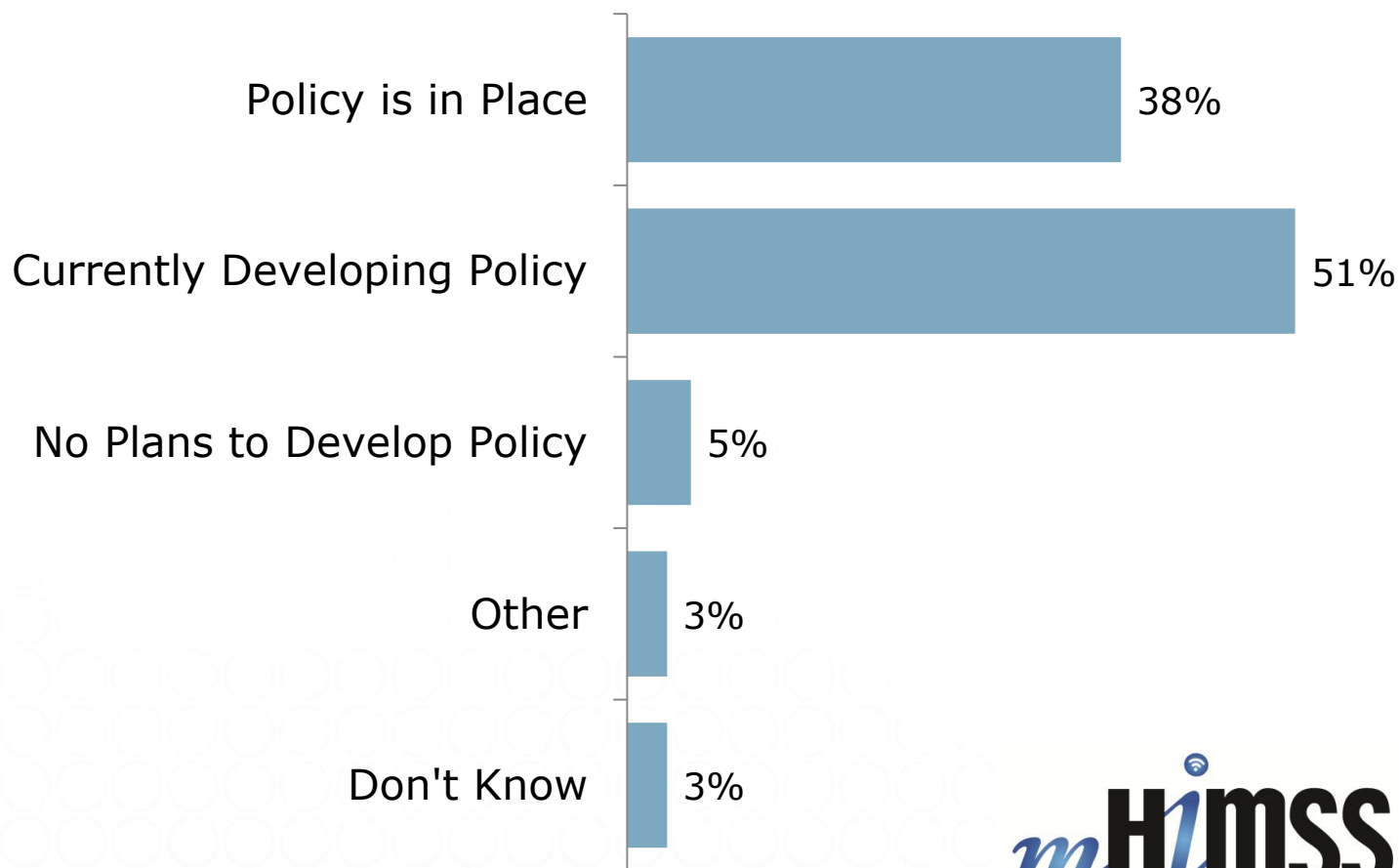
Professional Groups Using Mobile Devices

- Physicians: 89%
- Non-Physician Clinicians: 84%
- Healthcare Executives: 70%
- Administrative/Support Staff: 62%
- Patients: 32%
- None of the Above: 3%
- Other: 3%

Organizational Support of Mobile Devices

Mobile Technology Policy

Areas Addressed by Mobile Technology Policy

Area	Percentage
Means of Securing Devices	92%
Use of Personal Devices	82%
Ability to Access Data Remotely	71%
Types of Apps Approved for Use	40%
Brands of Devices Used	39%
Other	3%
Don't Know	0%
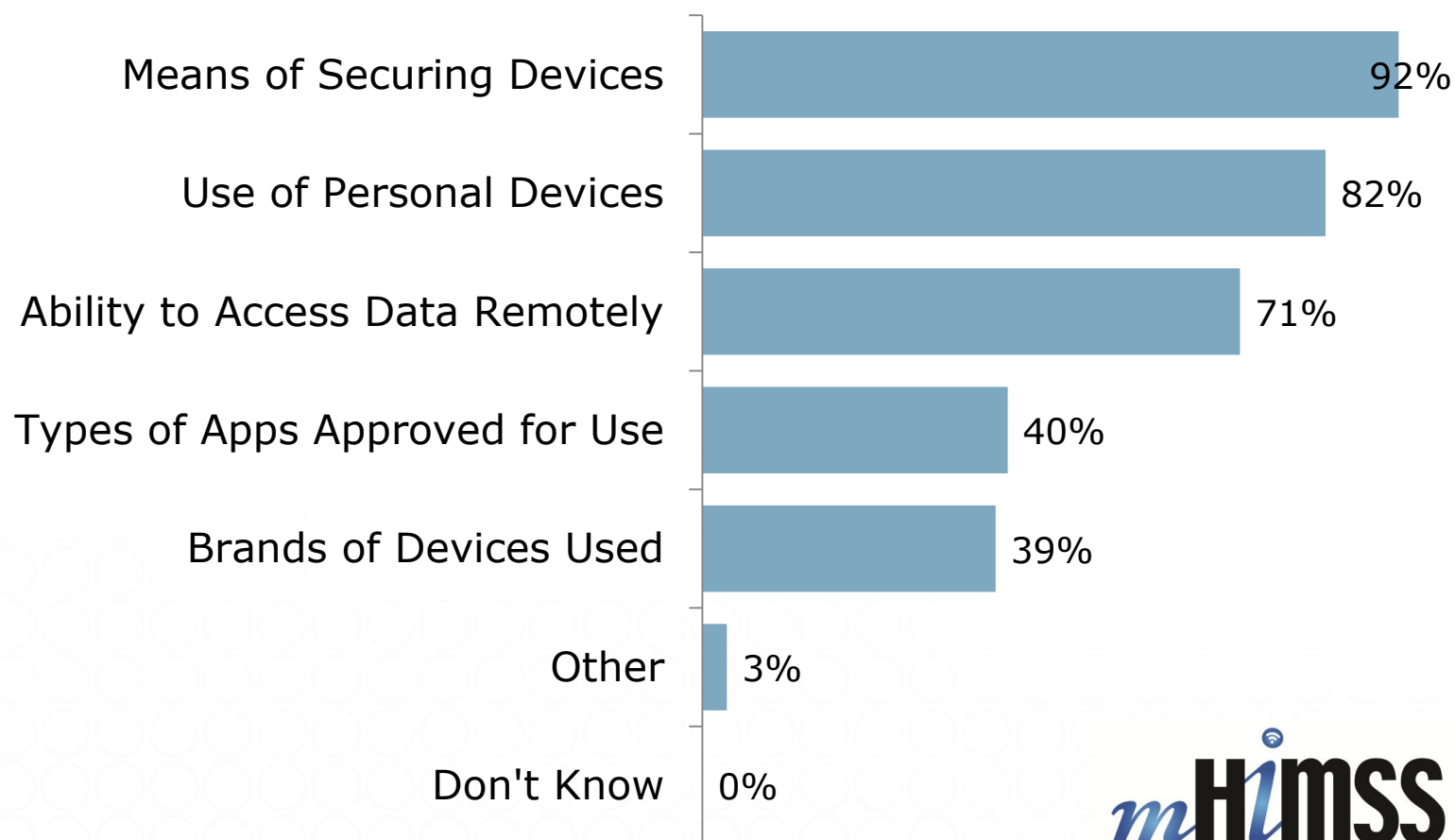
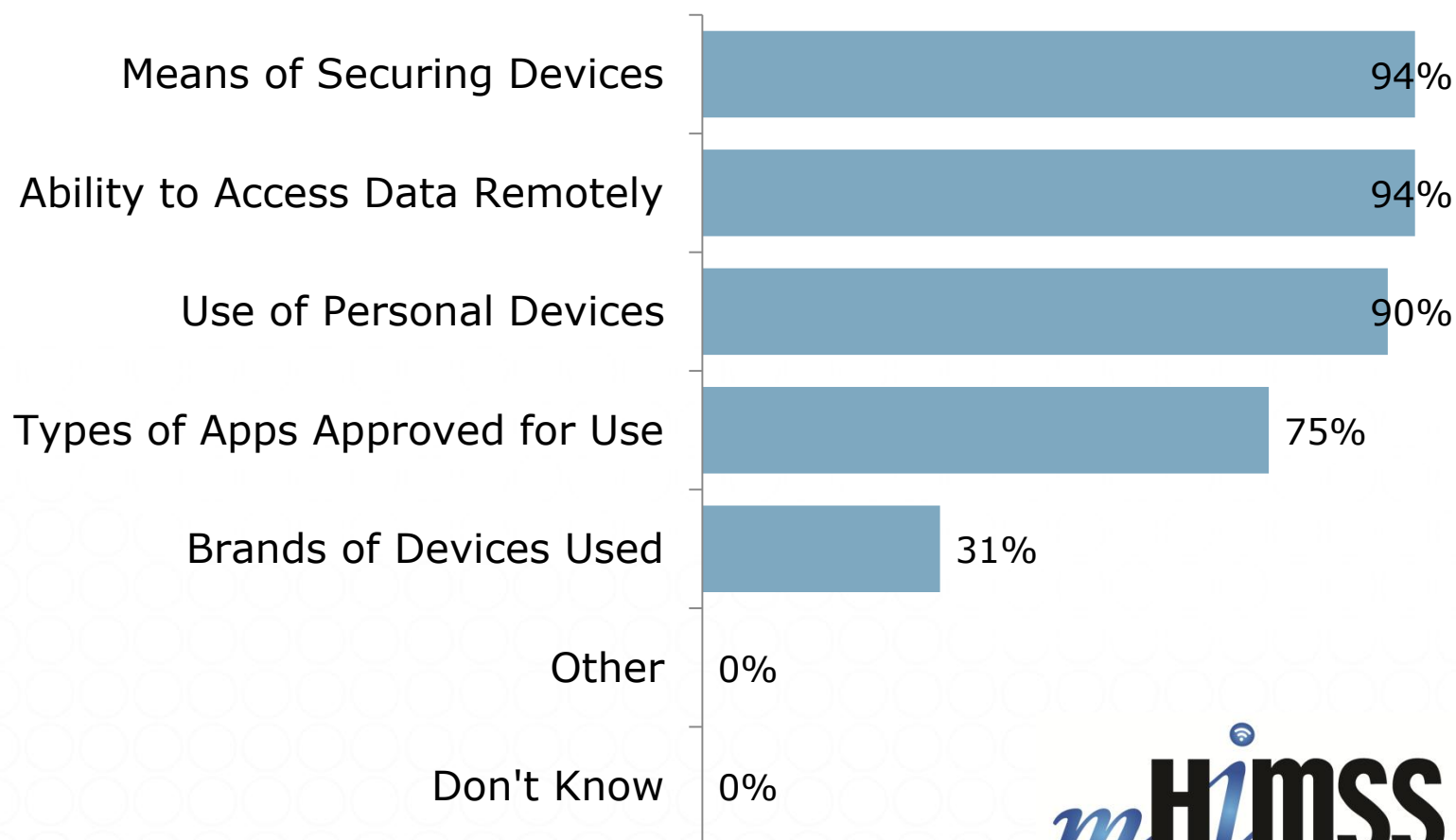# Timeframe for Implementing Policy
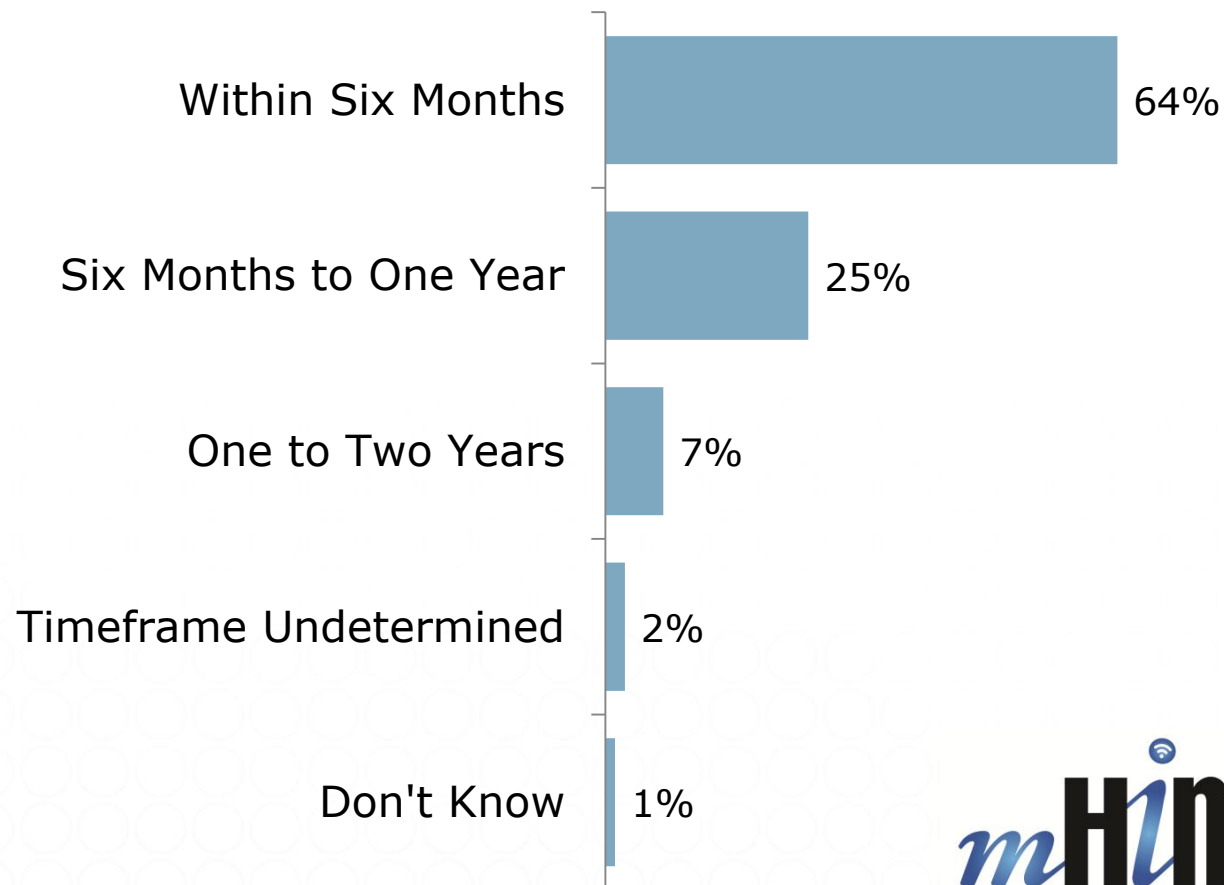
Areas Addressed by Mobile Technology in Proposed Policy

- Means of Securing Devices — 94%
- Ability to Access Data Remotely — 94%
- Use of Personal Devices — 90%
- Types of Apps Approved for Use — 75%
- Brands of Devices Used — 31%
- Other — 0%
- Don't Know — 0%

Mobile Devices Retain PHI
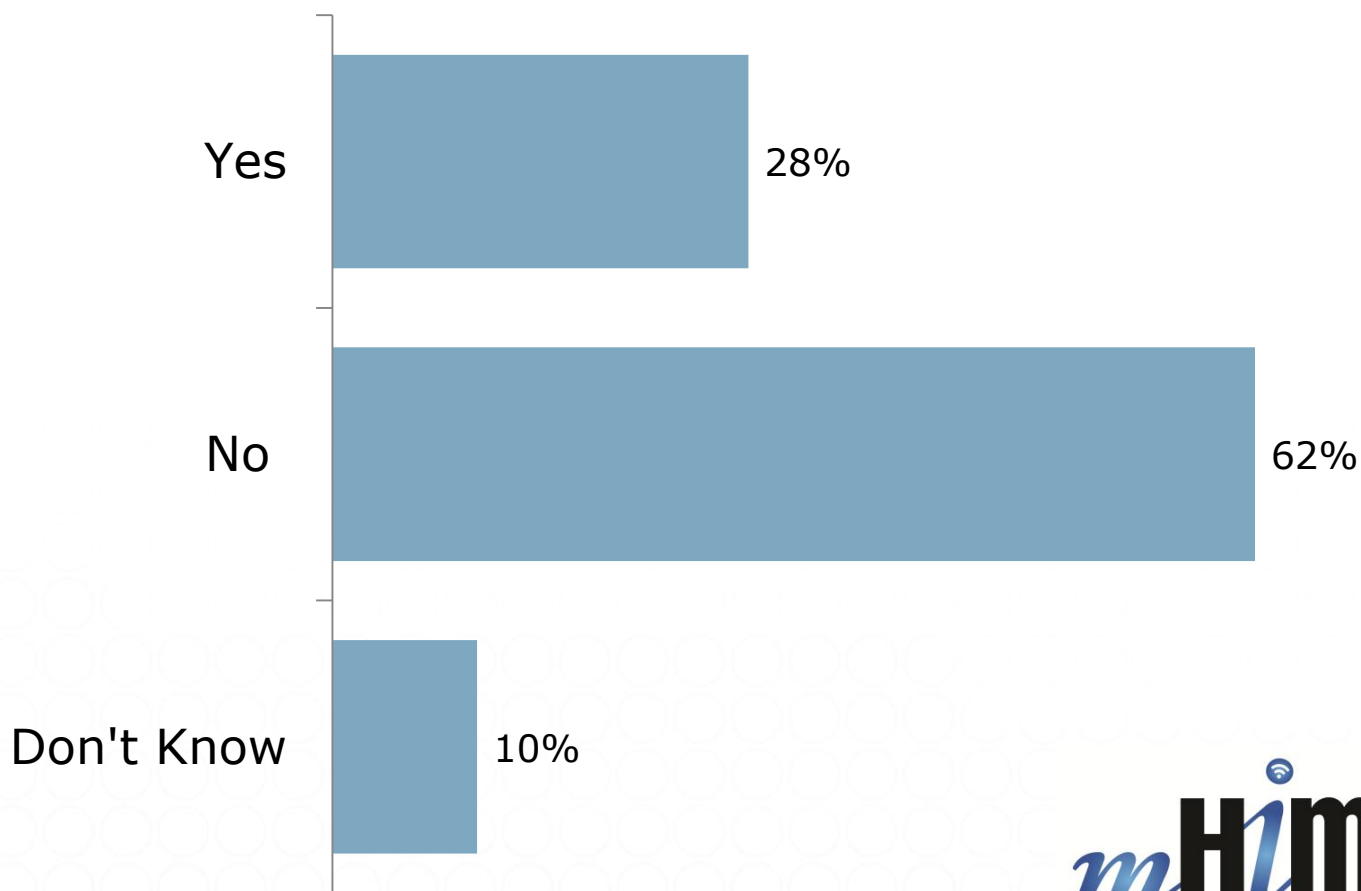
Locations From Which Clinicians Can Access Data Using Mobile Devices

Location	Percentage
Organization-Approved On-Site Network	88%
Public Network with Approved Security	77%
Don't Allow Access to Data by Clinicians	4%
Other	1%
Don't Know	1%
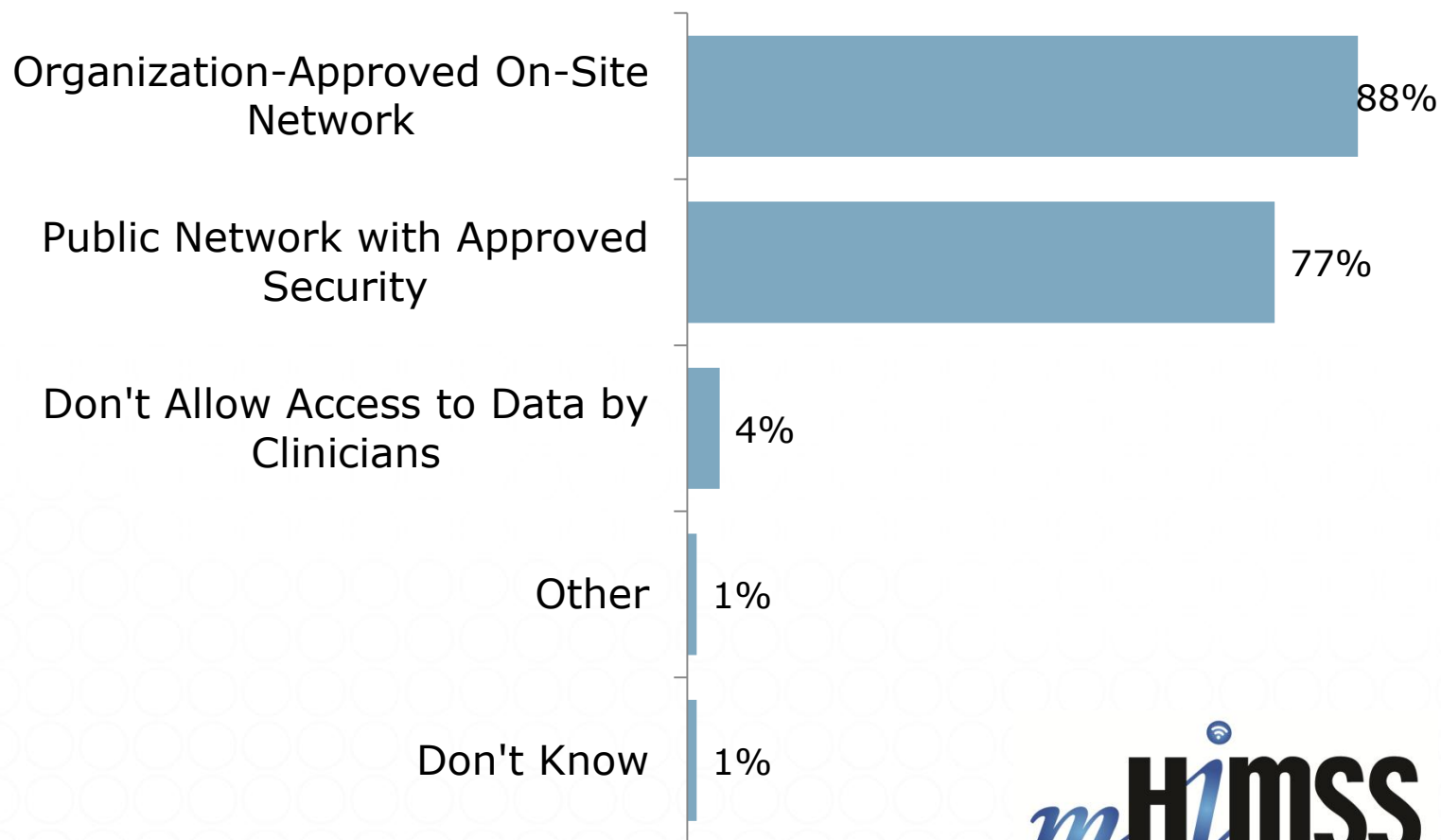
Clinician Use of Apps Top 10 Responses

Use	Percentage
Look up non-PHI Health Information	84%
View Patient Information	75%
Education/Training Purposes	53%
Clinical Notifications	50%
Tracking Worklists	42%
Secure Communications Regarding...	33%
Collect Data at the Bedside	30%
Analysis of Patient Data	29%
Monitor Data from Medical Devices	27%
Use Bar Code Reader on Mobile...	23%
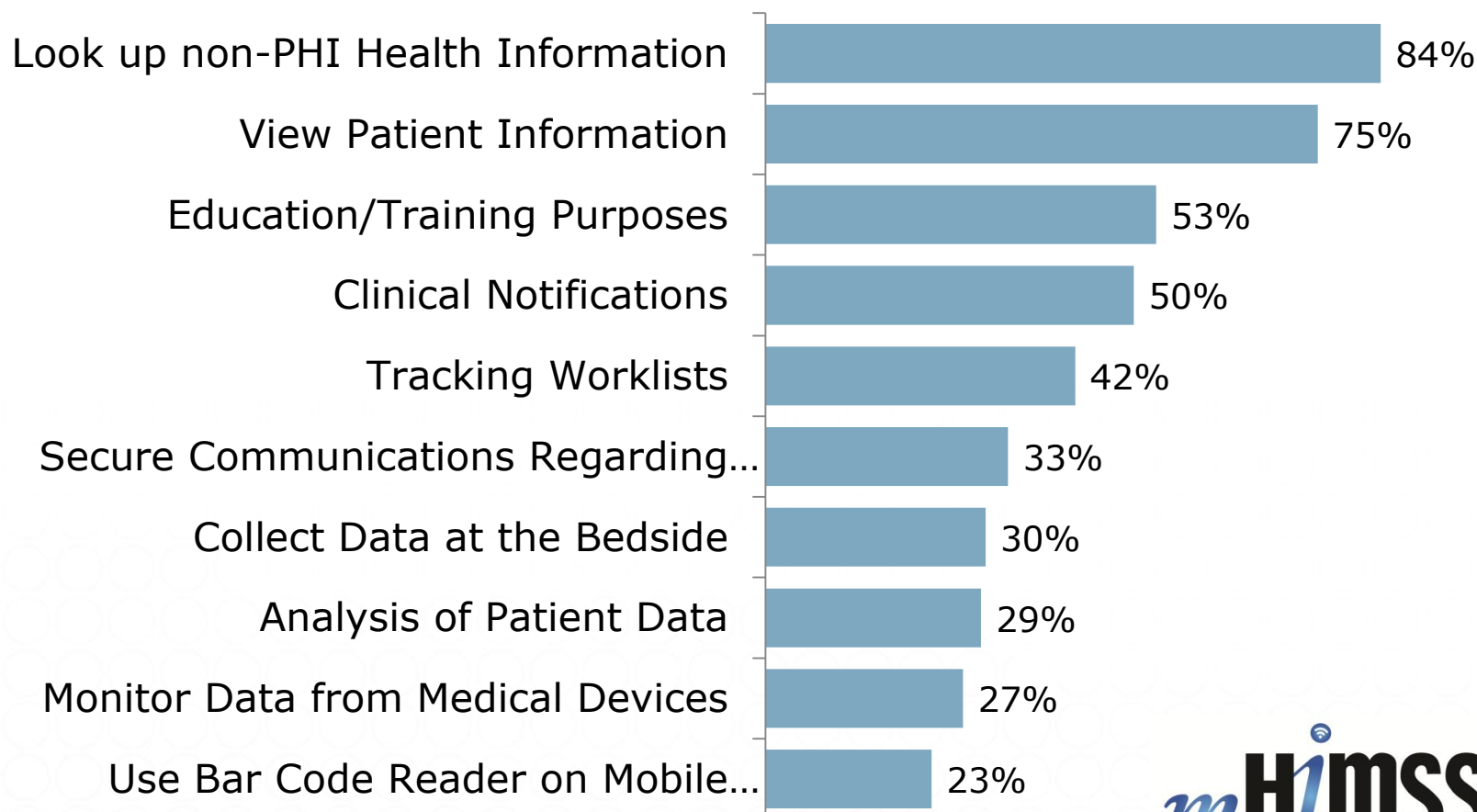
Barriers to Use of Mobile Technology

Barrier	Percentage
Inadequate Privacy/Security	60%
Lack of Funding	48%
Lack of IT Staff	39%
Challenges Regarding Wireless…	36%
Lack of Expertise on Staff	27%
Clinician Resistance to Technology	20%
Doesn't Fit Into Workflow	15%
Lack of Executive Support	10%
None	2%
Other	9%
Don't Know	2%
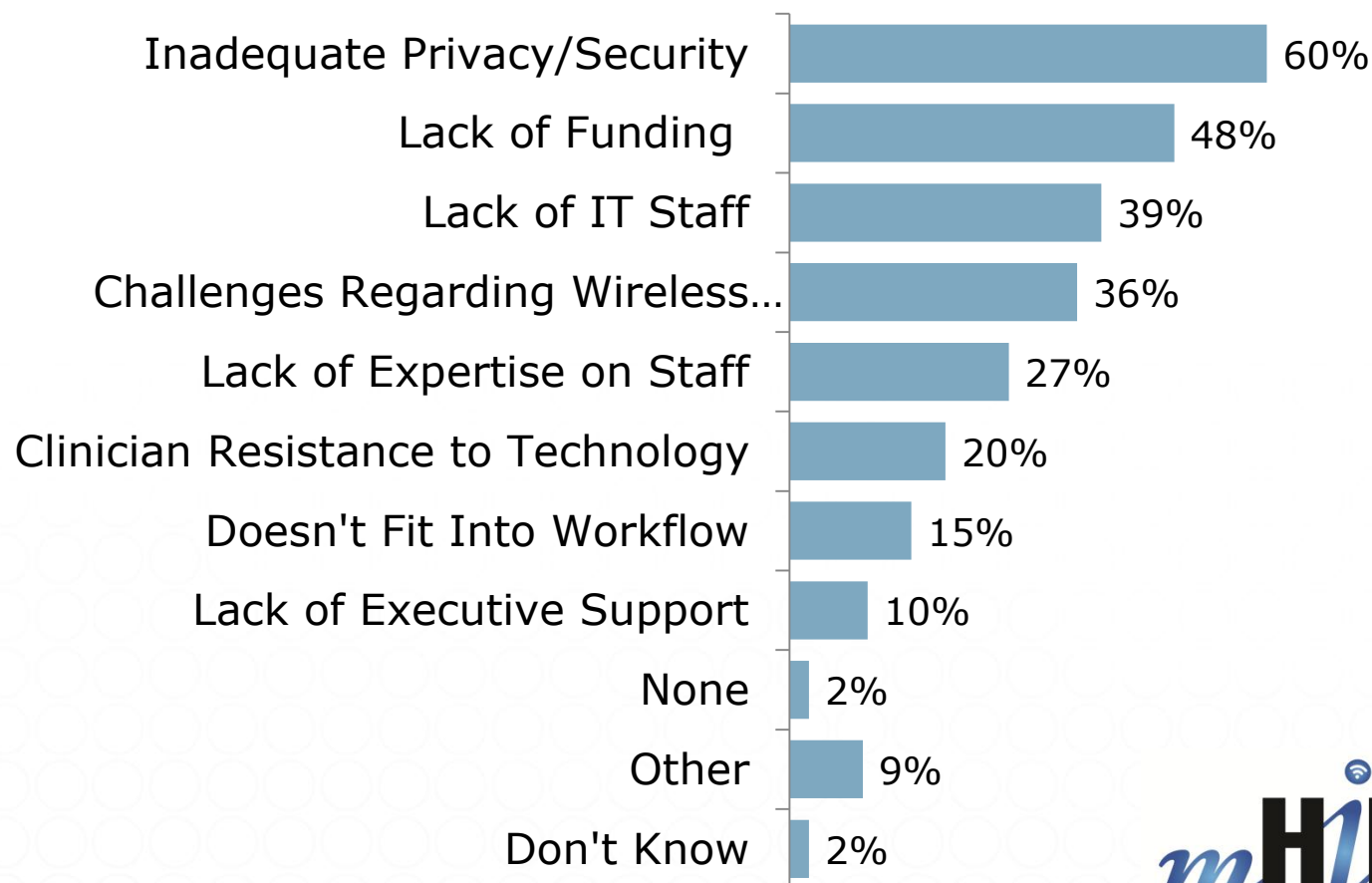
Mechanisms in Place to Secure Data on Mossile Devices

Mechanism	Percentage
Password Protected	92%
Data Encryption	73%
Remote Wipe Capability	52%
Automated Data Disintegration	10%
Biometric Authentication	7%
None	1%
Other	3%
Don't Know	3%
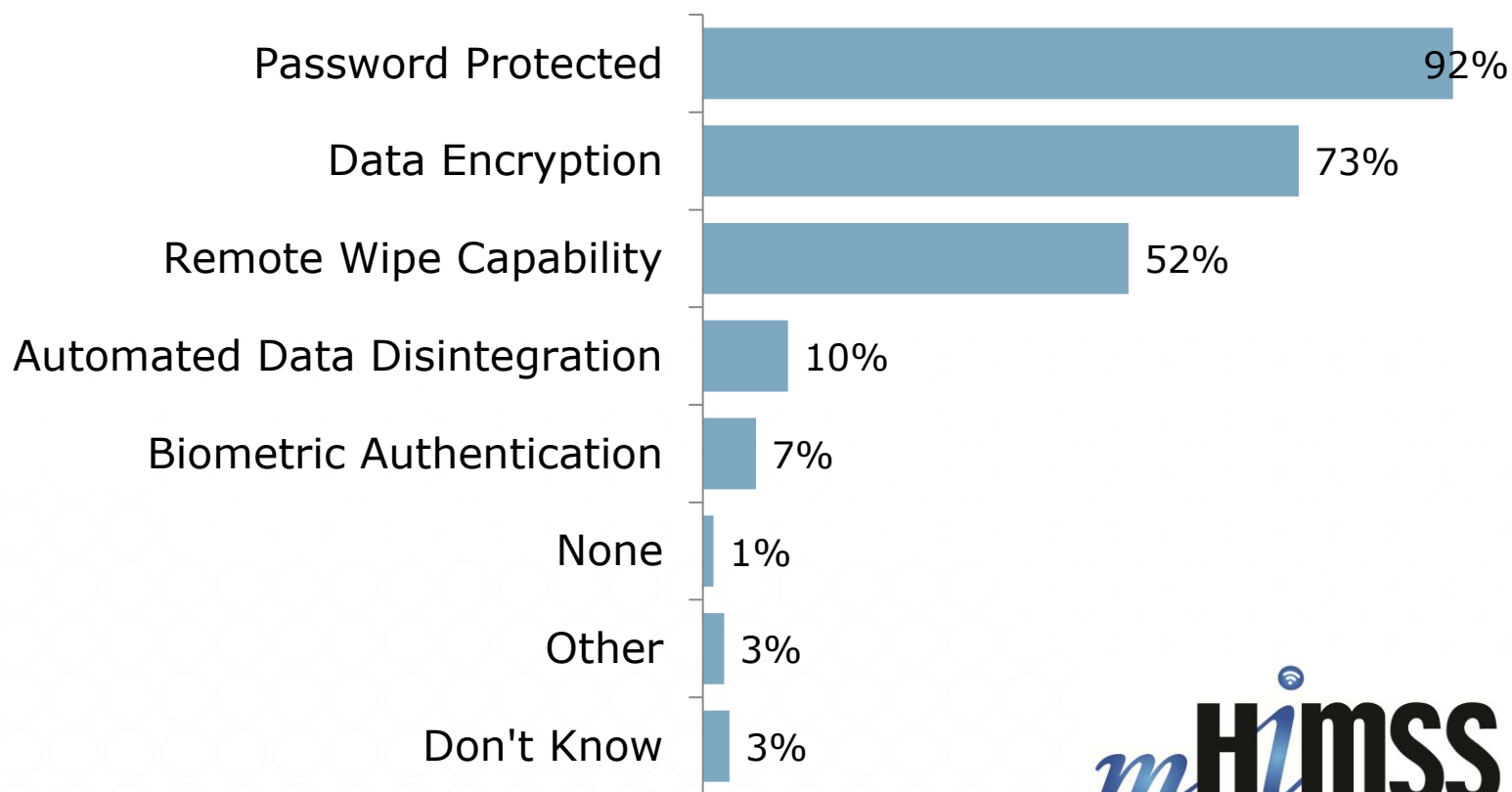
2012 mHealth Summit
December 3-5, 2012 Washington, DC

Topic Category	Example Sessions
Business Case	**mHealth Industry Roadmap**
	Converting to mHealth: How to Drive Change
	Driving an mHealth Strategy: Clinical Intelligence & Industry
	The mHealth Value Chain: Opportunities & Barriers
HC Uses	Surveillance and Population Health
	Research & Clinical Management Tools
	Health and Disease Management: • Weight Management • Cardiovascular & Diabetes Disease Management • Maternal & Child Health • Pulmonary Disease Management (Asthma, Tuberculosis) • Mobile Gaming for Better Health
Implementation	Medical Device Security
	BYOD: Now Please Make It Work

mHealth Industry Roadmap

Goal - equip providers with knowledge of the current and future mHealth market as well as provide practical guidance & steps they must take to successfully embrace the use of mHealth inside and outside their institutions.

- Overview of Current State
  - Use Cases, Emerging and Best Practices
  - Policy, Mandates and Regulations if Applicable
- Proposed Future State
- Strategies, Priorities and Recommendations for Action
  - Stepping Stones to Achieve Future State
  - Risks and Mitigation Strategies
- Measuring & Benchmarking

Resources

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mHealth News, Education & Resources for Mobile Healthcare Technology | mHIMSS - Windows Internet Explorer

http://www.mhimss.org/

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From glow caps to cell scopes, mobile health future is near
June 4, 2012
The future is getting closer for emerging mobile technologies to take a critical role in engaging consumers to make better health decisions, and in... More ▸

Walmart clinics go live with the cloud
June 1, 2012
It's about to get a bit cloudy for Walmart retail stores. Instead of bringing rain, however, these clouds are precipitating something much more... More ▸

House approves FDA bill, medical devices to see new regs
May 31, 2012
Lawmakers recently found themselves in the unfamiliar territory of bipartisanship when

Twitter recap: mHealth, apps and devices for physicians

At the Connecting Healthcare + Social Media Conference on Friday, Felasfa Wodajo, senior & mHealth Editor of iMedicalApps.com, surveyed some of the recent developments in mHealth

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COMMUNITY UPDATE

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Be sure to check out @Edna_Boone and her discussion on 5 Ways Mobile Tech can improve your health

mHealth Summit: Call for Reviewers

HIMSS Response to Meaningful Use Stage 2 NPRM

Registration for the 2012 mHealth Summit is Now Open!

The mHealth Summit call for proposals is now open. Submission Deadline: June 29, 2012 – 12 PM-EST

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http://www.mhimss.org/event/call-presentations-registration-now-open-2012-mhealth-summit

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Connecting the Mobile Health Ecosystem

Mobile phone adoption has exploded across the globe, spreading more rapidly

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White Paper
June 1, 2012

Five Ways Instant Communications Among Doctors

Benefit Your Entire Hospital

On-Demand Webinar
May 30, 2012

Design Tenet: Color Carefully

Presentation
May 23, 2012

Health IT and Home Health Care

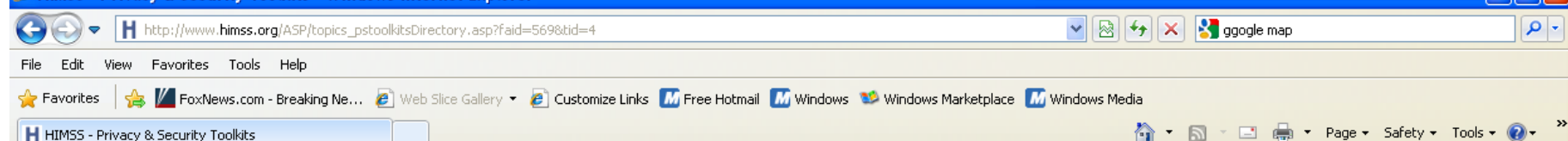**Tools & Topics**
May 18, 2012

mHealth Ecosystem

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HIMSS Annual Security
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Legal and Regulatory

Information Systems
Security

Medical Identity Theft

Privacy Impact
Assessment

Privacy & Security for
RHIOs/HIEs

Privacy and Security for
Personal Health Records

Privacy & Security
Committee, Task Forces
and Work Groups

Resources from our
Corporate Members

Medical Device Security

Privacy & Security
Toolkits

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Privacy & Security Toolkits

Be prepared for healthcare IT challenges with HIMSS Privacy and Security Toolkits. Each Toolkit contains resources, best practices and case studies on a variety of important privacy and security topics. Begin exploring today!

Privacy & Security Toolkit
Outlines general principles and examples of how healthcare entities can manage the privacy and security of their electronic information to meet compliance requirements.

Privacy & Security Toolkit for Small Provider Organizations
Smaller organizations will find guidance in this toolkit for implementing an appropriate set of policies and procedures for their organization.

Patient Identity Integrity Toolkit
Learn about patient identity integrity and the many issues involved in reliably and safely matching patient identity across systems.

Risk Assessment Toolkit
Learn how to conduct security risk assessments and implement a risk management process in your healthcare organization.

Mobile Security Toolkit
Manage the security of mobile technologies in your healthcare IT environment based on industry best practices.

Cloud Security Toolkit
Understand cloud computing and its associated security challenges to make informed

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🔧 Mobile Security Toolkit

The HIMSS Mobile Security Toolkit assists healthcare organizations and security practitioners in managing the security of their mobile computing devices.

As the healthcare community becomes more sophisticated in its adoption and use of information technology systems, organizations are increasingly making use of mobile technologies to meet the demands of their employees and increase workflow efficiencies.

This Toolkit will help you understand the security risks and issues associated with incorporating mobile devices into your organization, and how to develop mobile security policy implementations for corporate and personally-owned devices. It contains resources with tips on securing your wireless network, smartphones and other mobile devices.

Get Started - Introduction to Mobile Security

More Toolkits - Privacy & Security Toolkits Directory

Got feedback? Send comments & submit ideas for new content!

mHIMSS

For more information on mobile in healthcare visit mHIMSS - an initiative entirely focused on transforming healthcare through mobile technologies.

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Bring Your Own Device & Consumerization

This section provides background information, benefits, concerns and guidance needed for healthcare organizations to make informed decisions on how to appropriately address the use of consumer-owned mobile devices in the workplace.
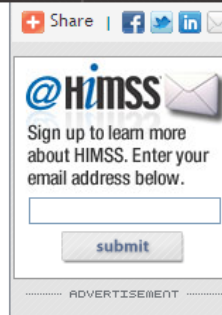
Considerations for Employee-Owned Mobile Devices

Sample Mobile Device User Agreement

Mobile: How to Say 'Yes' Securely

Security Challenges BYOD Presents

BYOD: Get Ahead of the Risk

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Mobile Resources

- www.mHIMSS.org

- mHIMSS Mobile Survey

  http://www.himss.org/content/files/2010_HIMSS_SecuritySurvey.pdf

- The Future of Mobile Technologies and mHealth: Staying Securely Connected: A HIMSS Virtual Forum

  http://www.himssvirtual.org/20120426_VF_PrivacySecurity/index.asp

- 2012 mHealth Summit

  http://www.mhealthsummit.org/index.php

- HIMSS Mobile Security Toolkit
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Questions?