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

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Speaker

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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 will rise from $2.7M in 2007 to $9.6B 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

Mobile Health Applications Flooding Marketplace
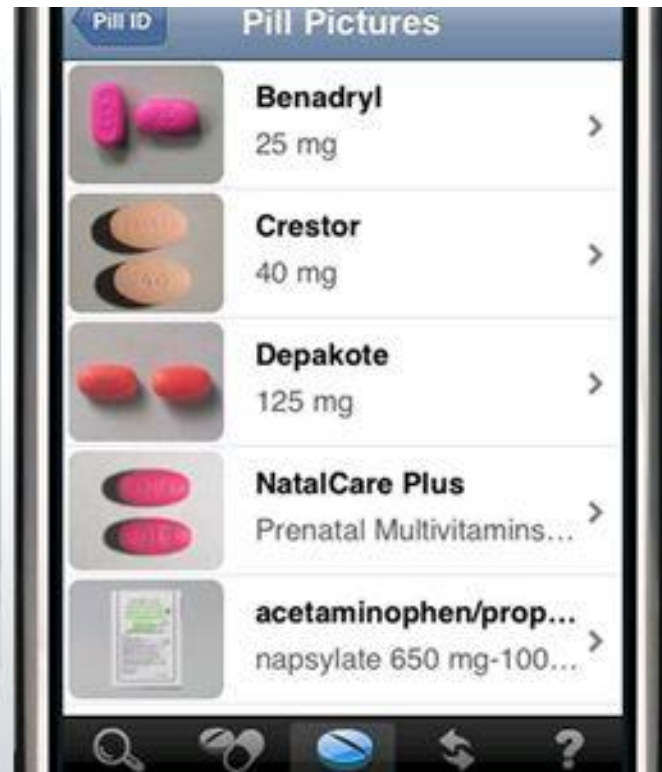
Number of Health Apps on the Rise

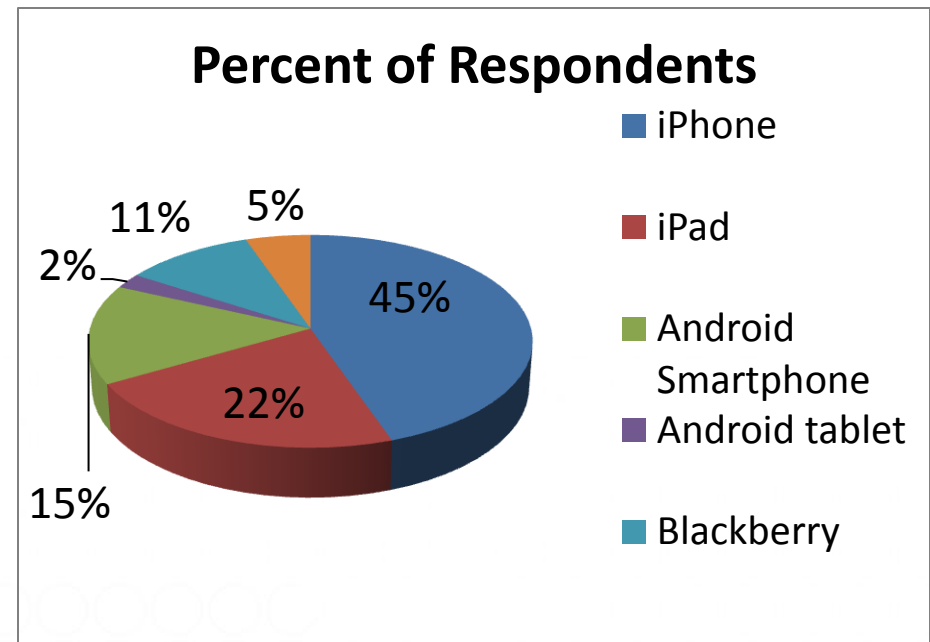| Application	Number of health applications available for download	Intended for consumer/ patient	Intended for healthcare professional	Number of downloads
iPhone	~6000	73%	30%	Unknown
Android	~600	81%	20%	3.5 million +
Blackberry	~200	70%	30%	Unknown

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

45% — iPhone
22% — iPad
15% — Android Smartphone
2% — Android tablet
11% — Blackberry
5%

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.

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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)
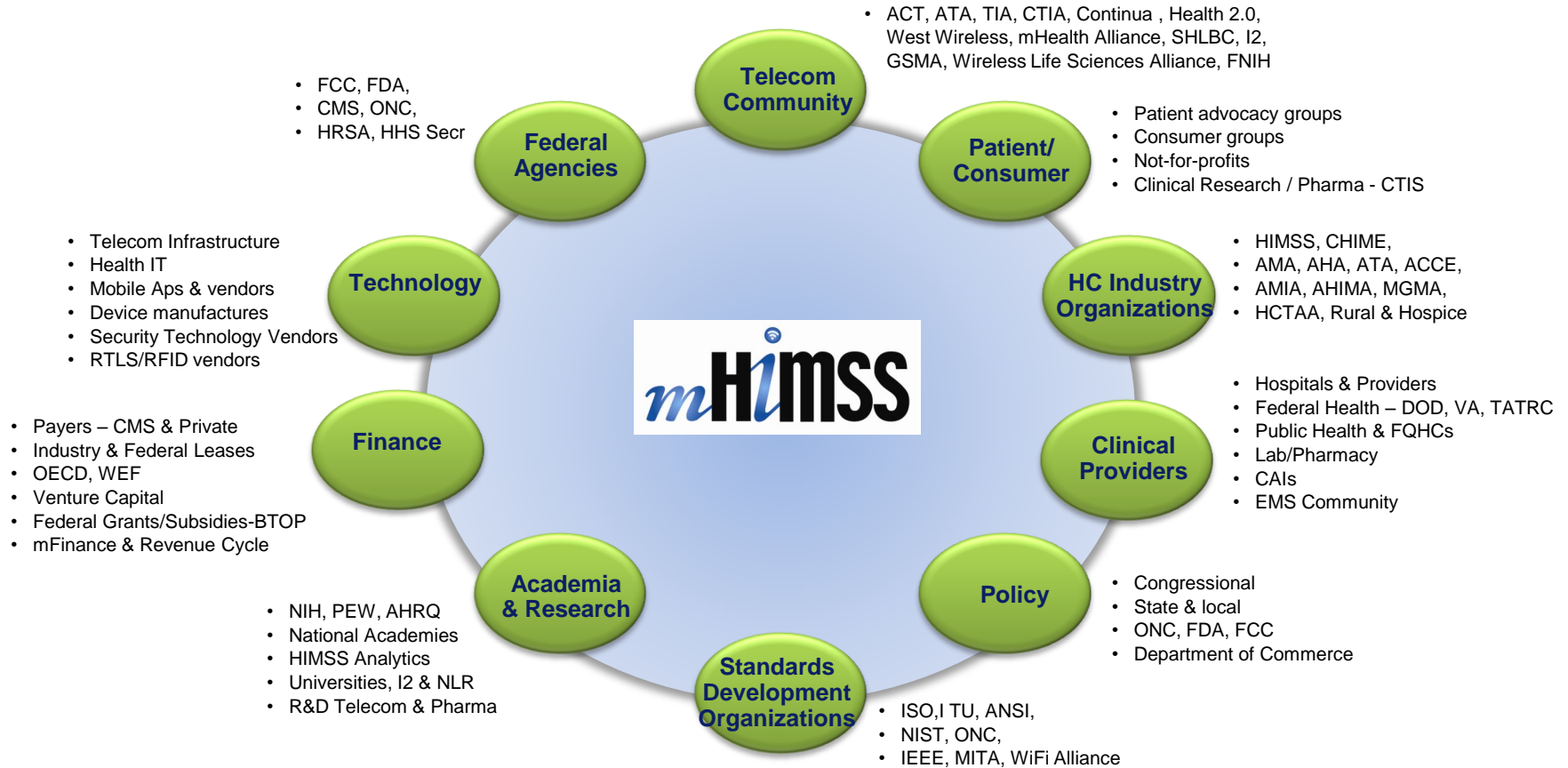 - Data Exchange
  - Workflow
  - Privacy and Security

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

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

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

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

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

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

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

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

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

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

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

mHIMSS

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

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Professional Groups Using Mobile Devices

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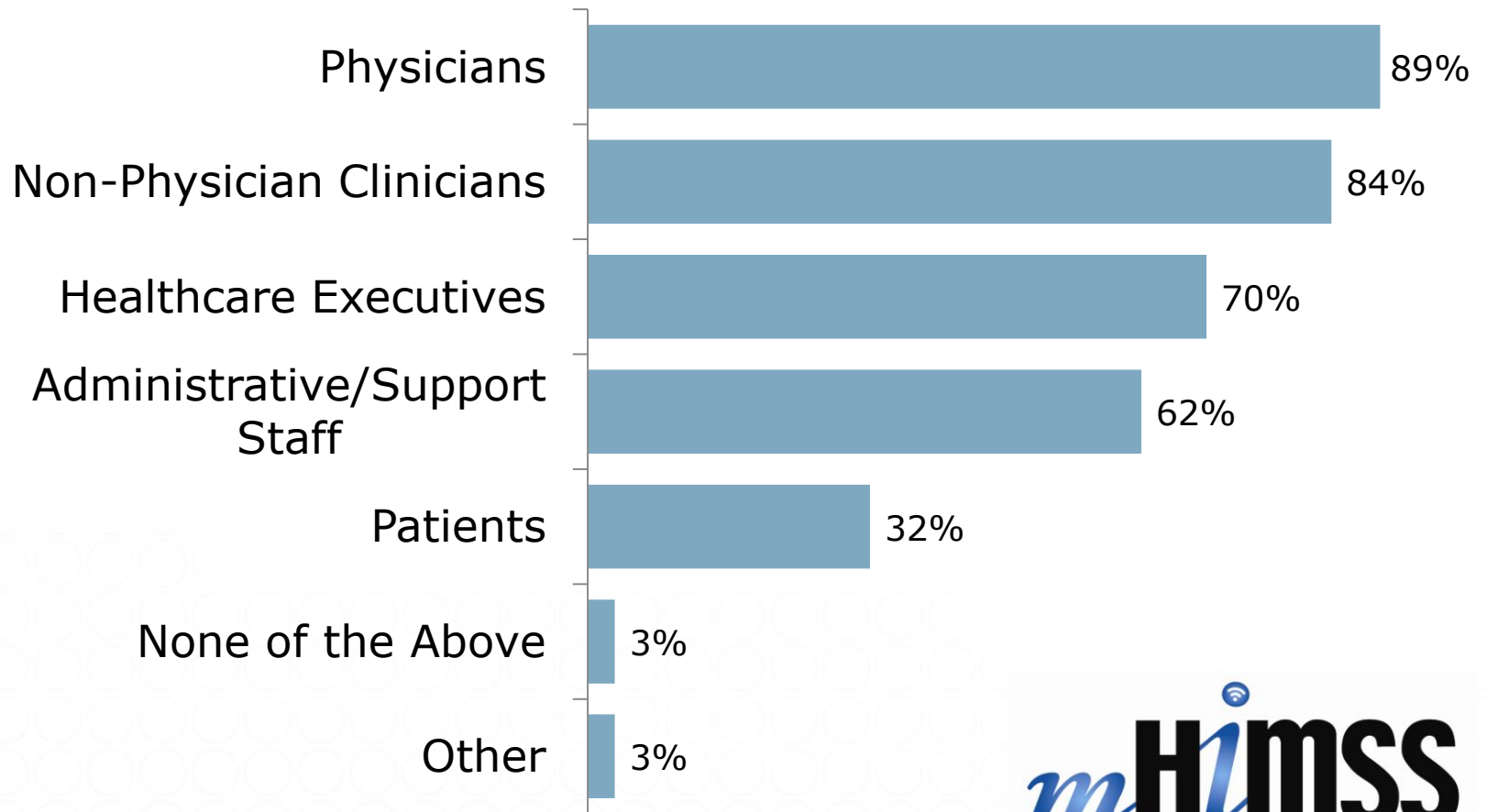
Organizational Support of Mobile Devices

- Supports Only Devices Owned by Organization — 55%
- Supports Devices Owned by End User — 41%
- None of the Above — 4%

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%
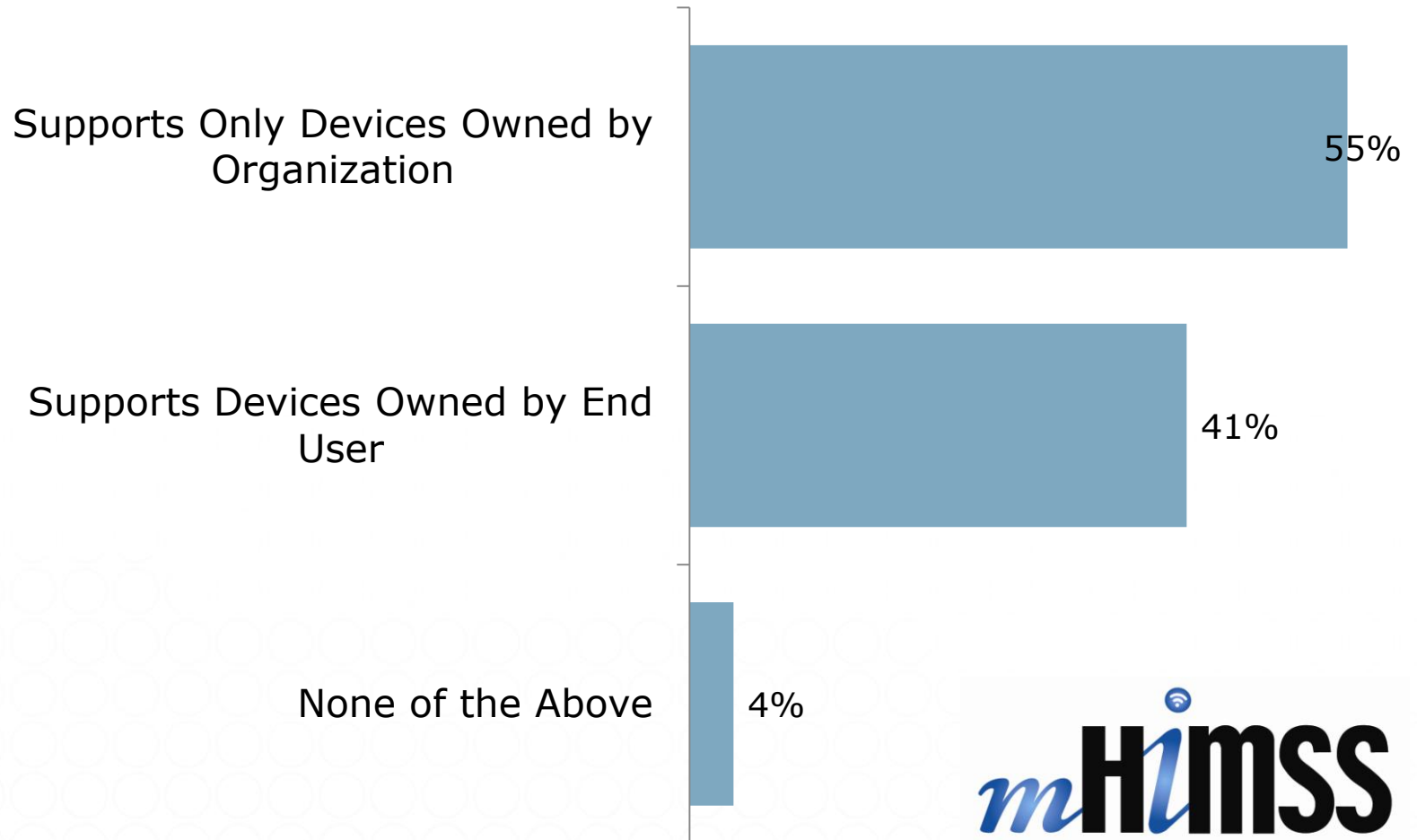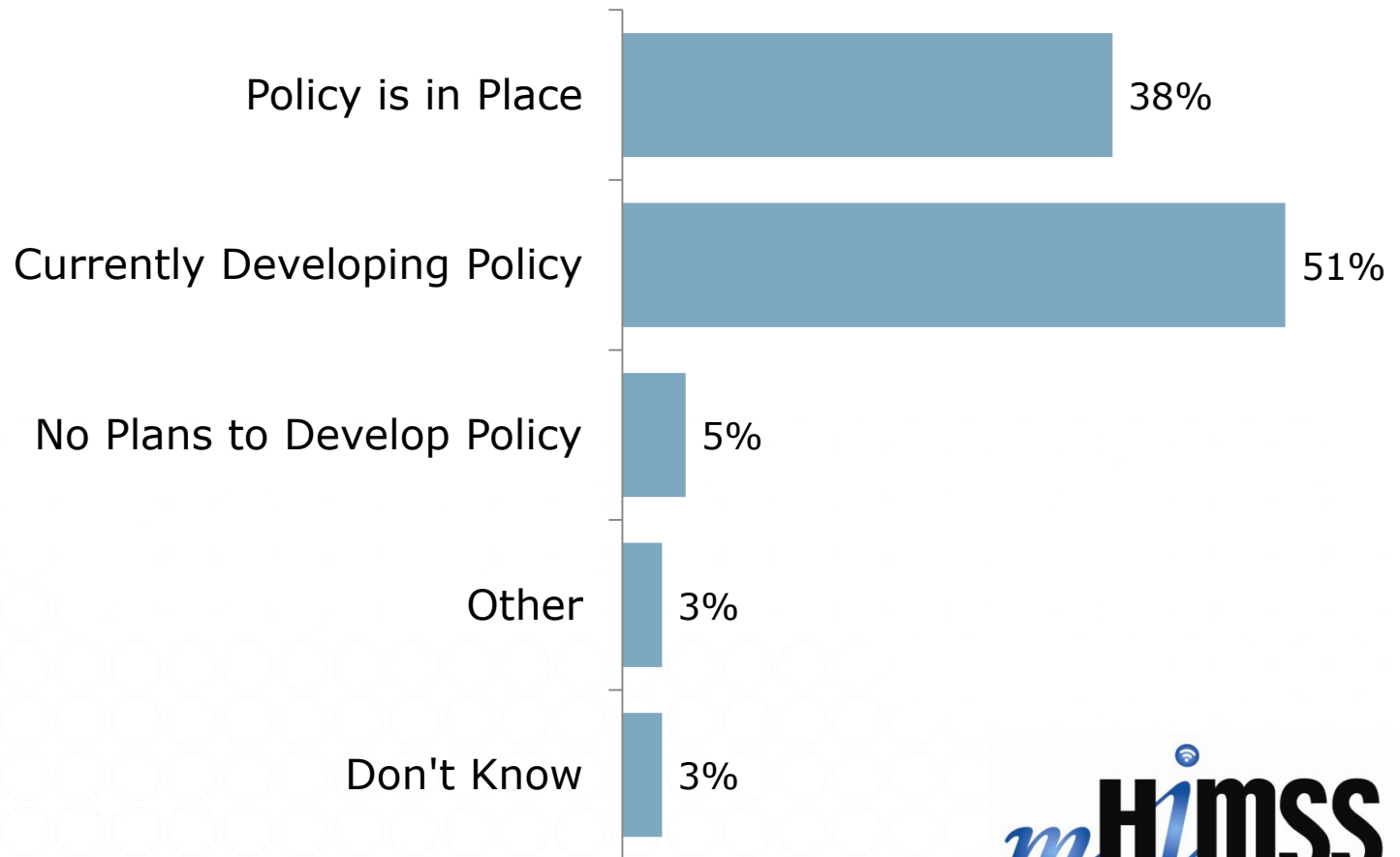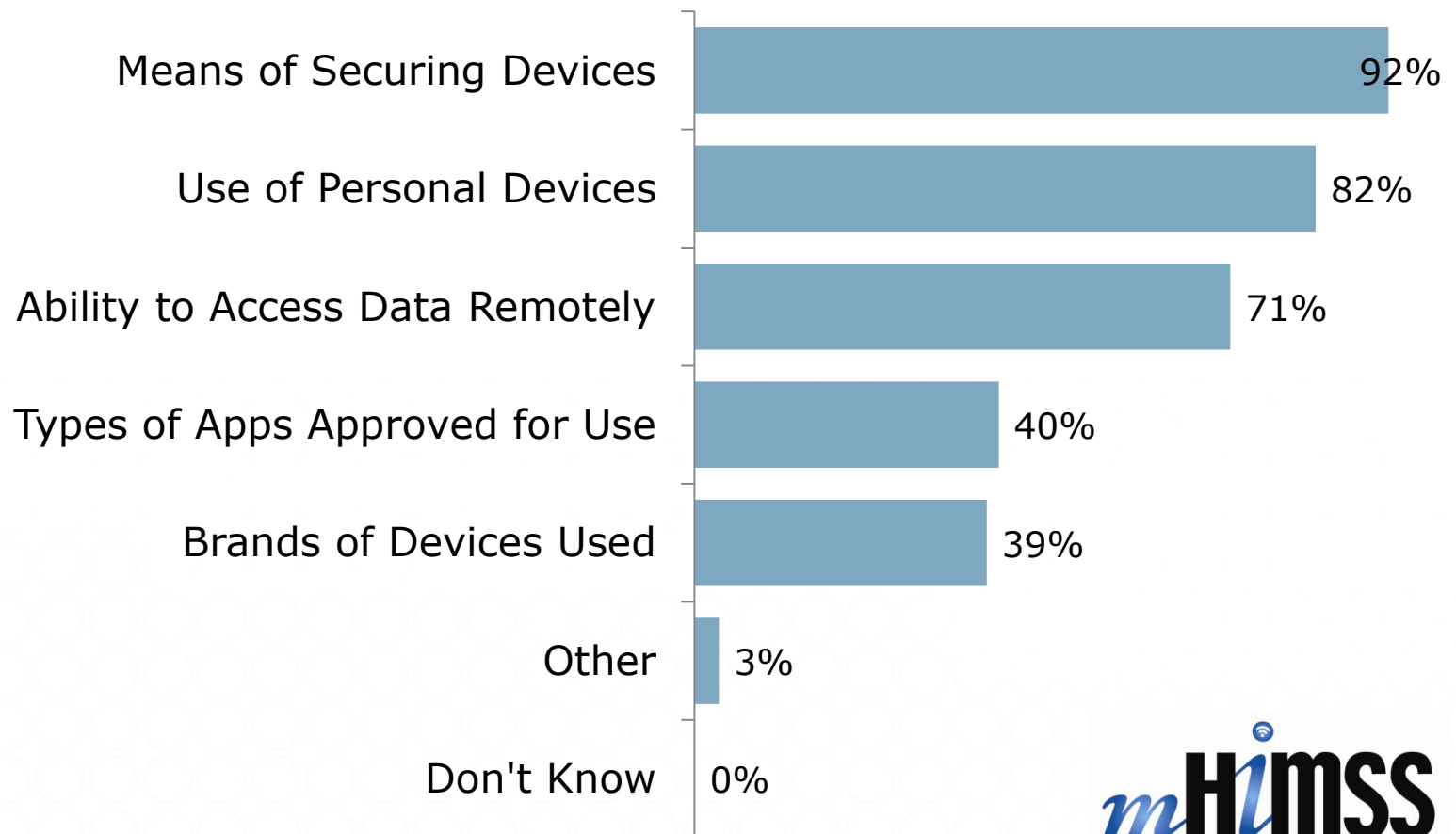
Timeframe for Implementing Policy
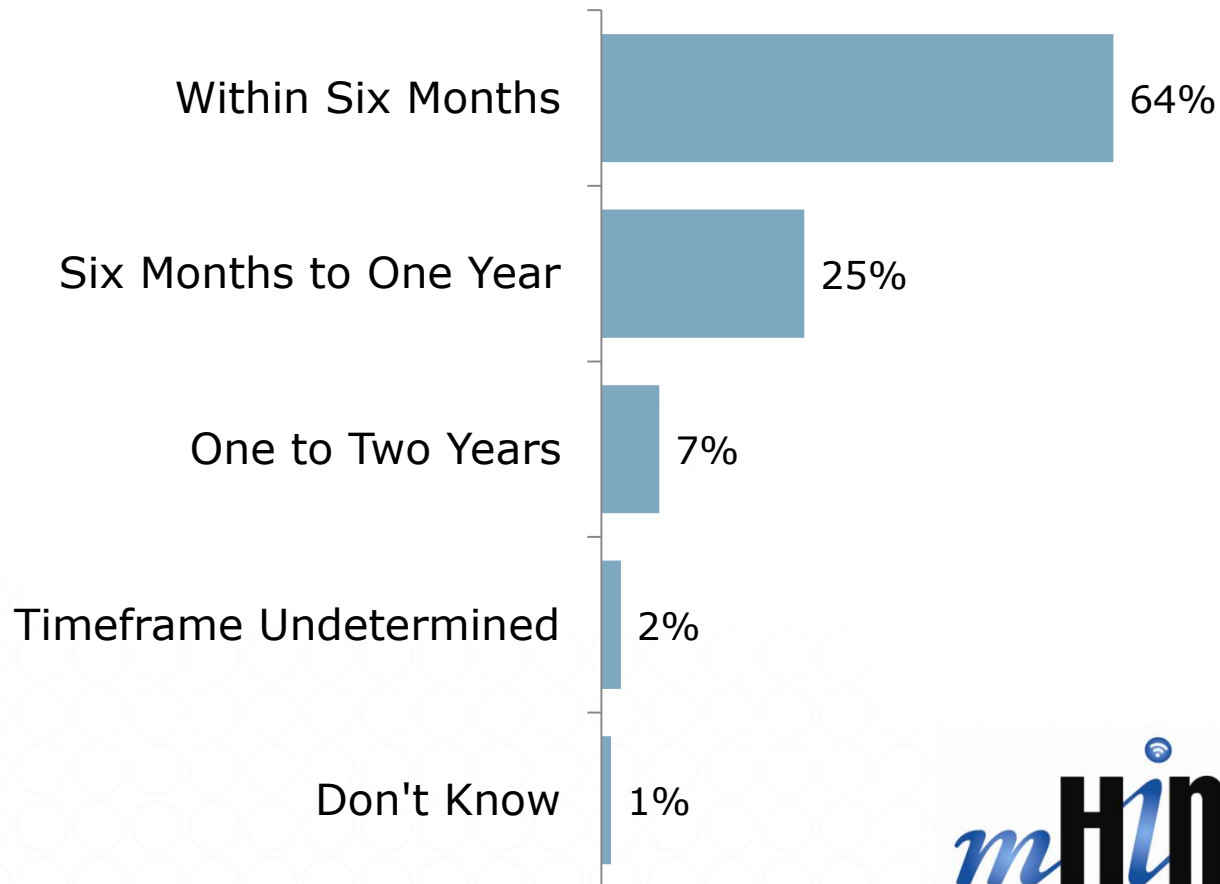
Areas Addressed by Mobile Technology in Proposed Policy

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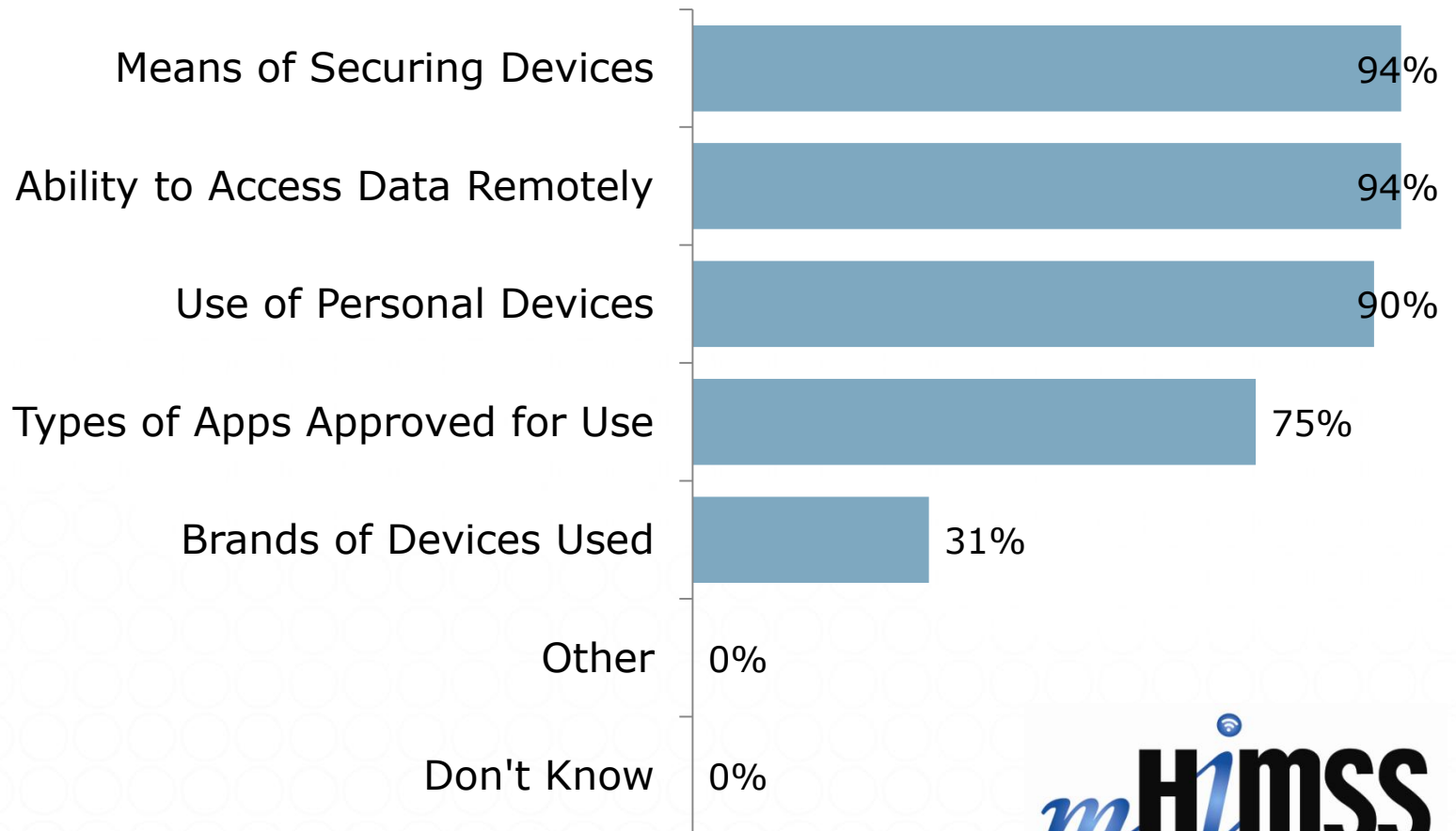
Mobile Devices Retain PHI
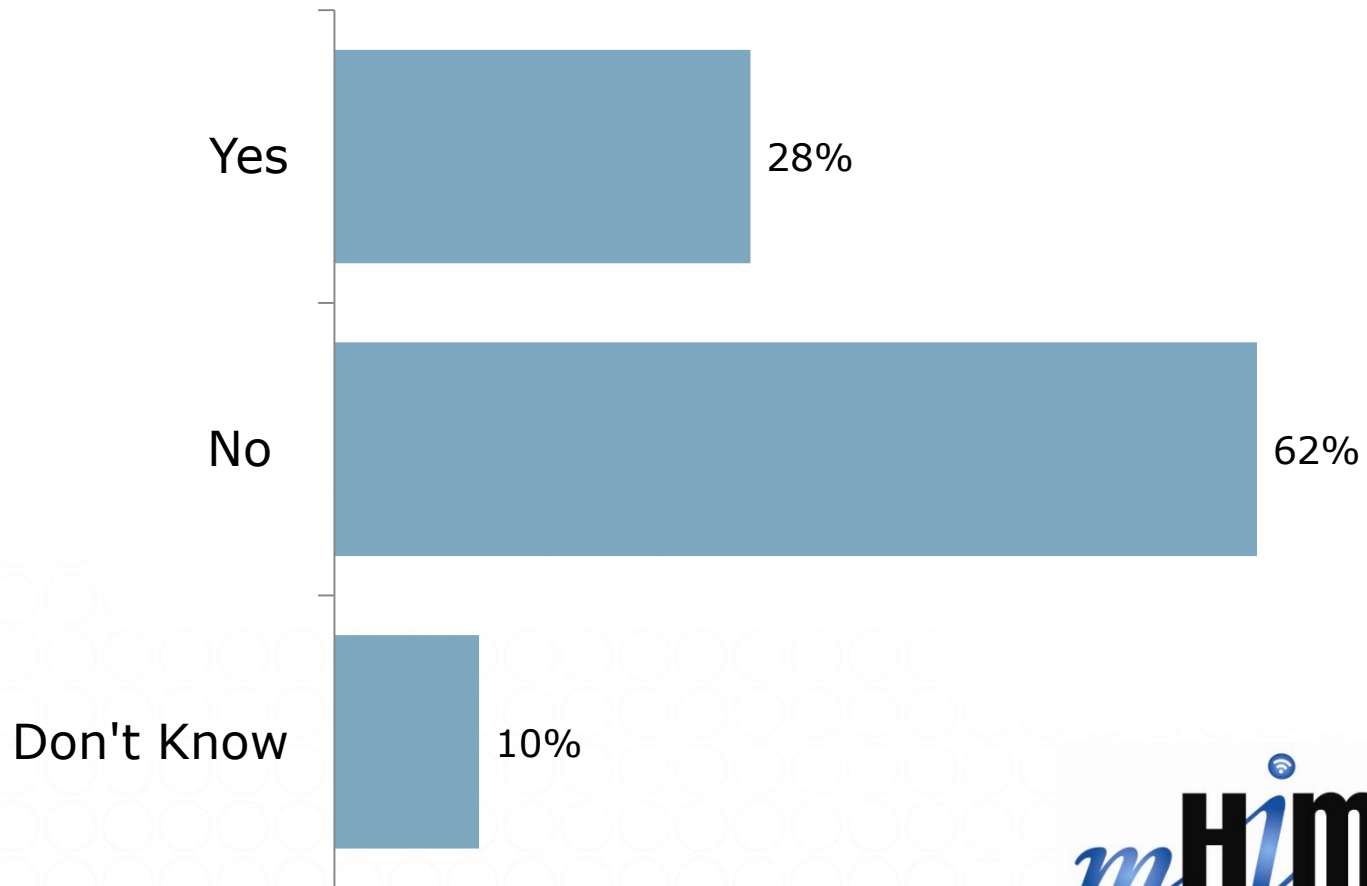
Locations From Which Clinicians Can Access Data Using Mobile Devices

Category	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%
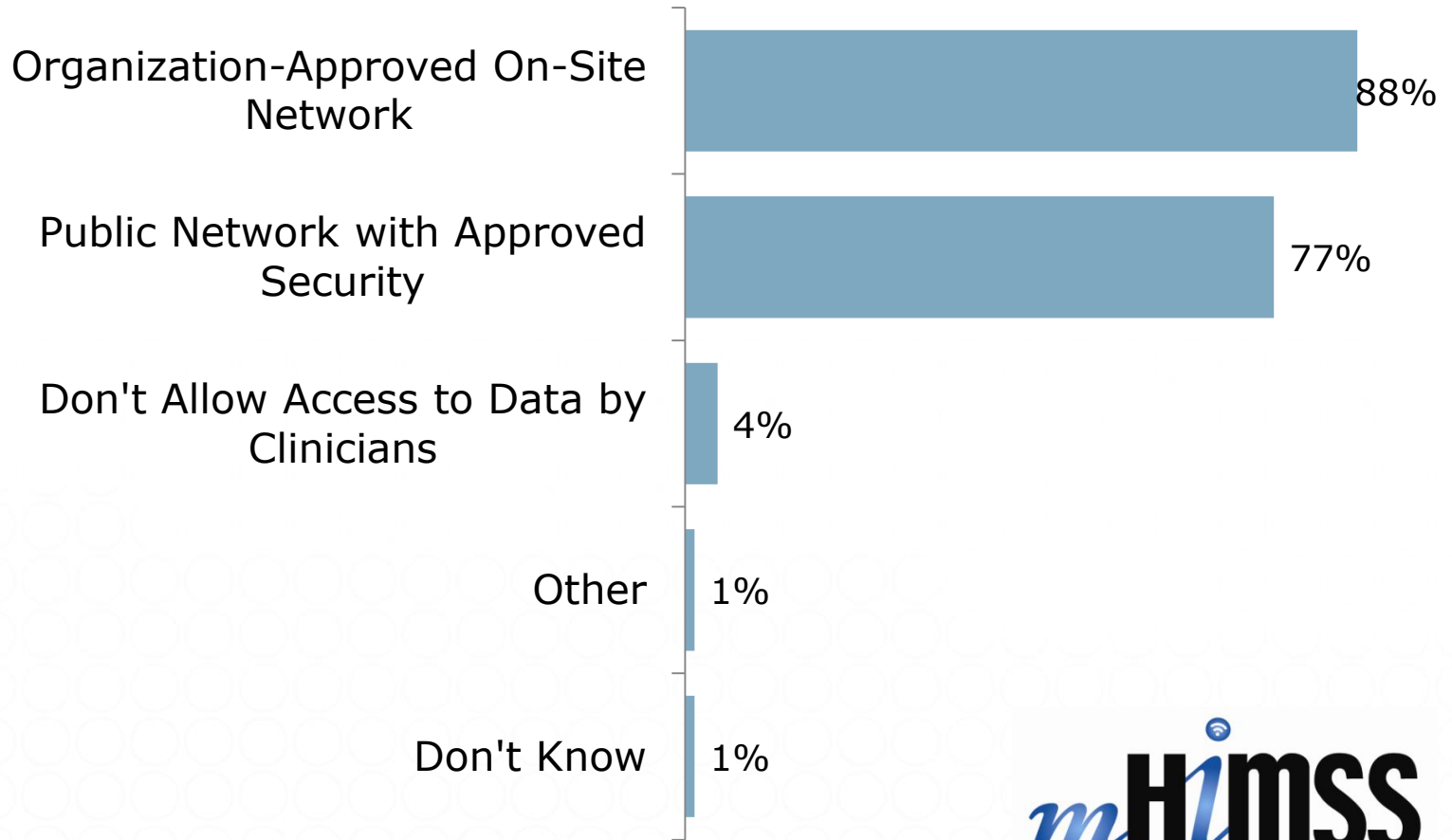
Clinician Use of Apps Top 10 Responses

Use	Percentage
Look up non-PHI Health..	84%
View Patient Information	75%
Education/Training Purposes	53%
Clinical Notifications	50%
Tracking Worklists	42%
Secure Communications..	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%
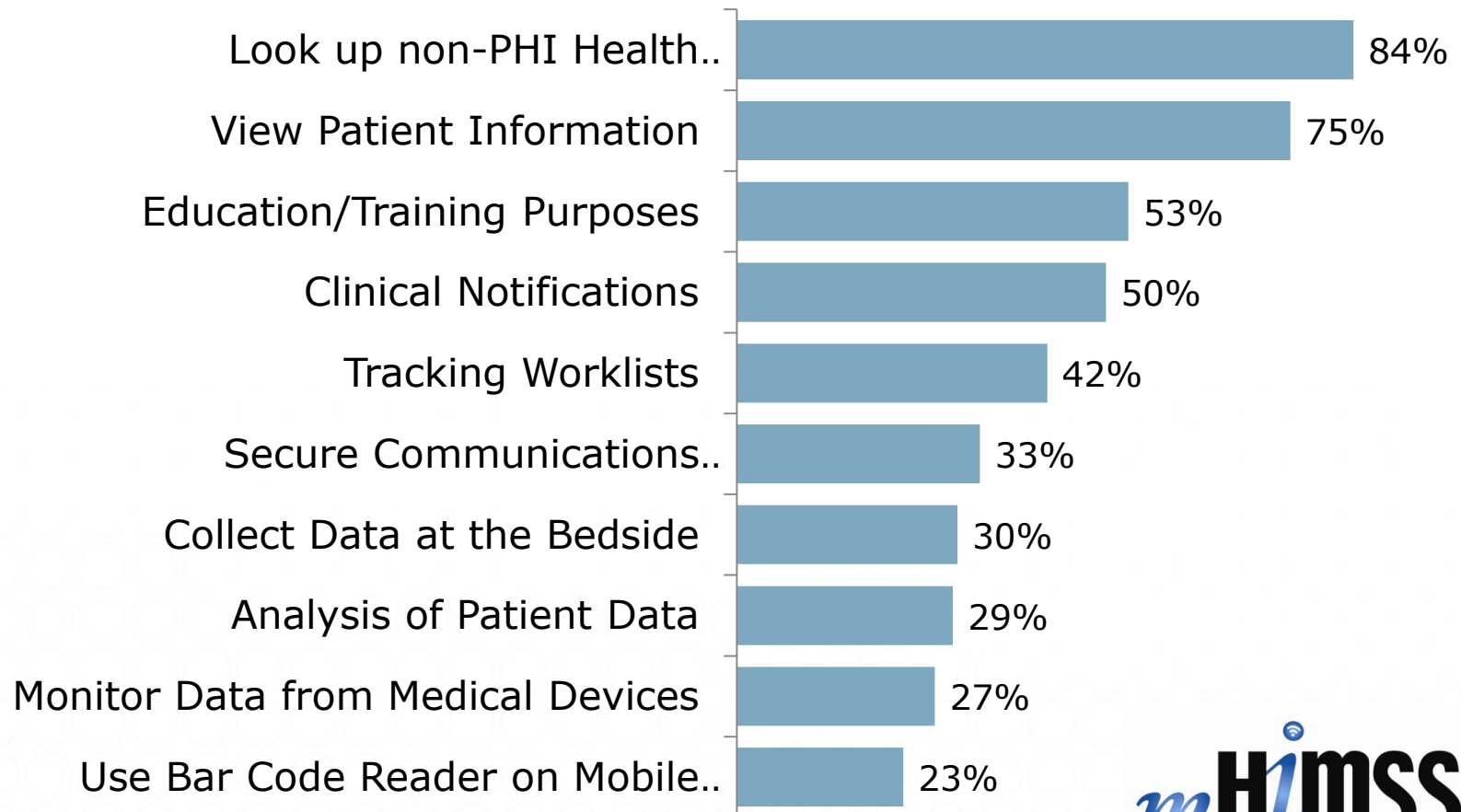
Barriers to Use of Mobile Technology

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%
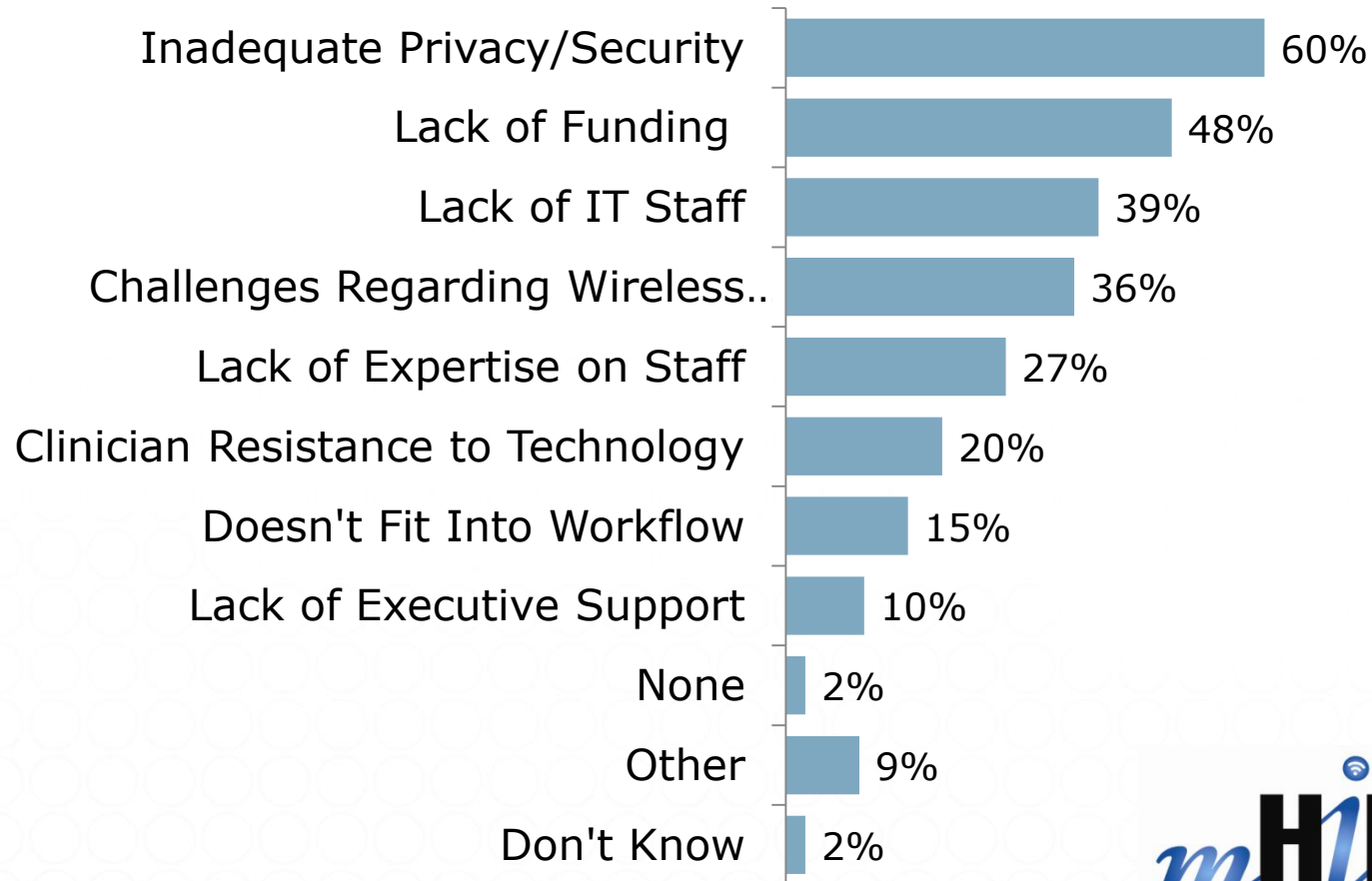
Mechanisms in Place to Secure Data on Mobile Devices

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%
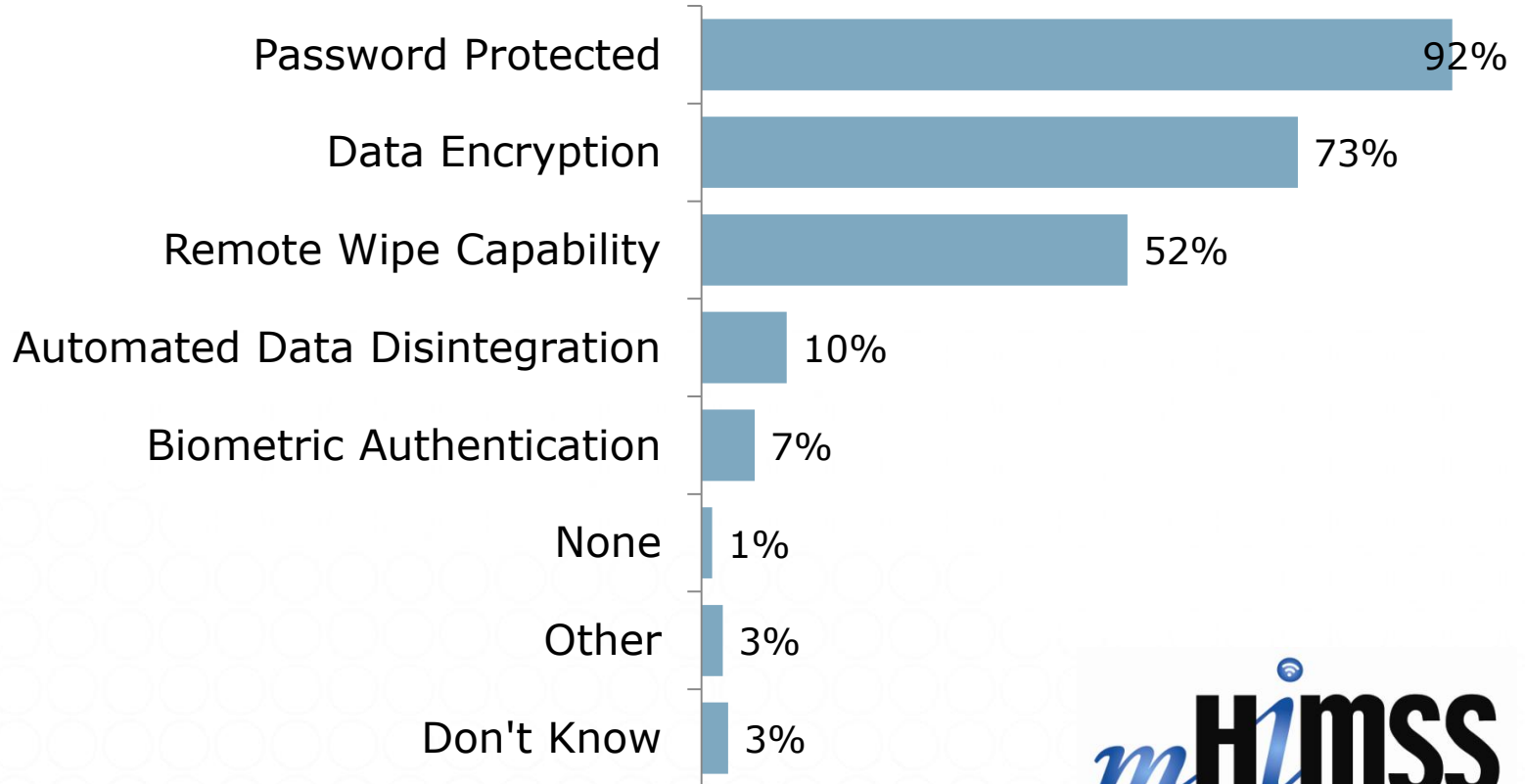
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Connecting the Mobile Health Ecosystem

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

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June 1, 2012

Five Ways Instant Communications Among Doctors

Benefit Your Entire Hospital

On-Demand Webinar
May 30, 2012

Design Tenet: Color Carefully

Presentation
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Health IT and Home Health Care

Tools & Topics
May 18, 2012

mHealth Ecosystem

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Medical Device Security

Privacy & Security Toolkits

News

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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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Bring Your Own Device & Consumerization

Wireless, Smartphones & Applications

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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

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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
  http://www.himss.org/ASP/topics_PStoolkit_MobileSecurity.asp

Questions?