

Mobile Health Technologies: Keeping the Patient at the Center of Care

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Learning Objectives

- Address key development in patient monitoring and patient engagement via mobile devices and apps.
- Discuss increasing awareness and importance of cybersecurity in mobile devices and apps privacy and security.

Perfect Storm of Healthcare

- **DEMAND:**

Rapidly increasing age of population: 3 million baby boomers hitting retirement age every year x next 20 years

- **SUPPLY:**

Physician shortage and attrition

Healthcare costs are unsustainable

Mobile Health Tech: Basics

- The technology is here
- Healthcare sorely lagging behind retail & finance
- Main barriers are cultural, regulatory
- Patients and caregivers are mobile
- Mobile is *mandatory* for patient engagement
- Mobile *will* improve provider-patient relationship
- Mobile will improve workflows

Mobile Health Tech: Basics

- Mobile allows *point of care* scheduling documentation, patient education, communication
- The best transitional care modality
- Is patient-centric
- Telehealth video visits will be the norm
- Remote patient monitoring provides better data

Care Models Changing

- Shift from hospital to home
- Bundled payments shift care to outcomes-based management
- Metrics require Big Data
- Big Data requires more data points and analytics
- More data points result in useful trending data not snapshots

Mobile Health Technologies

- Remote patient monitoring:
Sensors: wearable, implantable, environmental
- Telehealth
- Mobile medical apps

The Ideal RPM System

- Provides continuous surveillance ***with only actionable, trending data***
- Unobtrusive
- Interoperable with other devices and EHR/portals
- Has associated robust analytics
- Has associated clinical workflow process (closing the loop)

Remote Patient Monitoring



Aging at Home Monitoring



Blood Pressure



Motion



Weight



Door

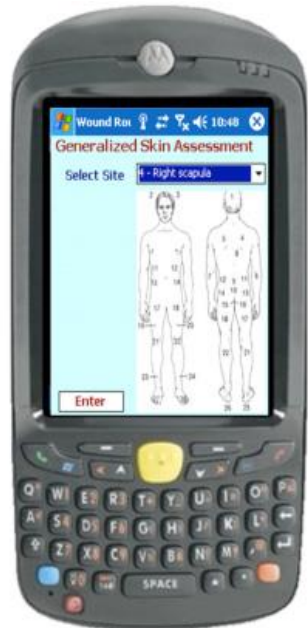


Telehealth



- Provides care to rural areas
- Provides prompt services from unavailable specialists
- Provides better continuity of care

Mobile Medical Apps



DOWNLOAD A HEALTH APP AND CALL ME IN THE MORNING



89% of **PHYSICIANS** would **RECOMMEND** a mobile **HEALTH APP** to a **PATIENT**

93% believe that mobile health apps can **IMPROVE** a patient's **HEALTH OUTCOME**



find value in having a mobile **HEALTH APP** connected to **EHRs**

SIX OUT OF TEN



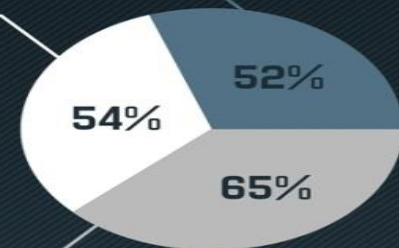
PHYSICIANS

said a **TOP BENEFIT** was the ability to **PROVIDE PATIENTS** with **AUTOMATIC APPOINTMENT ALERTS** and **REMINDERS**

PREVENTATIVE CARE

DIABETES

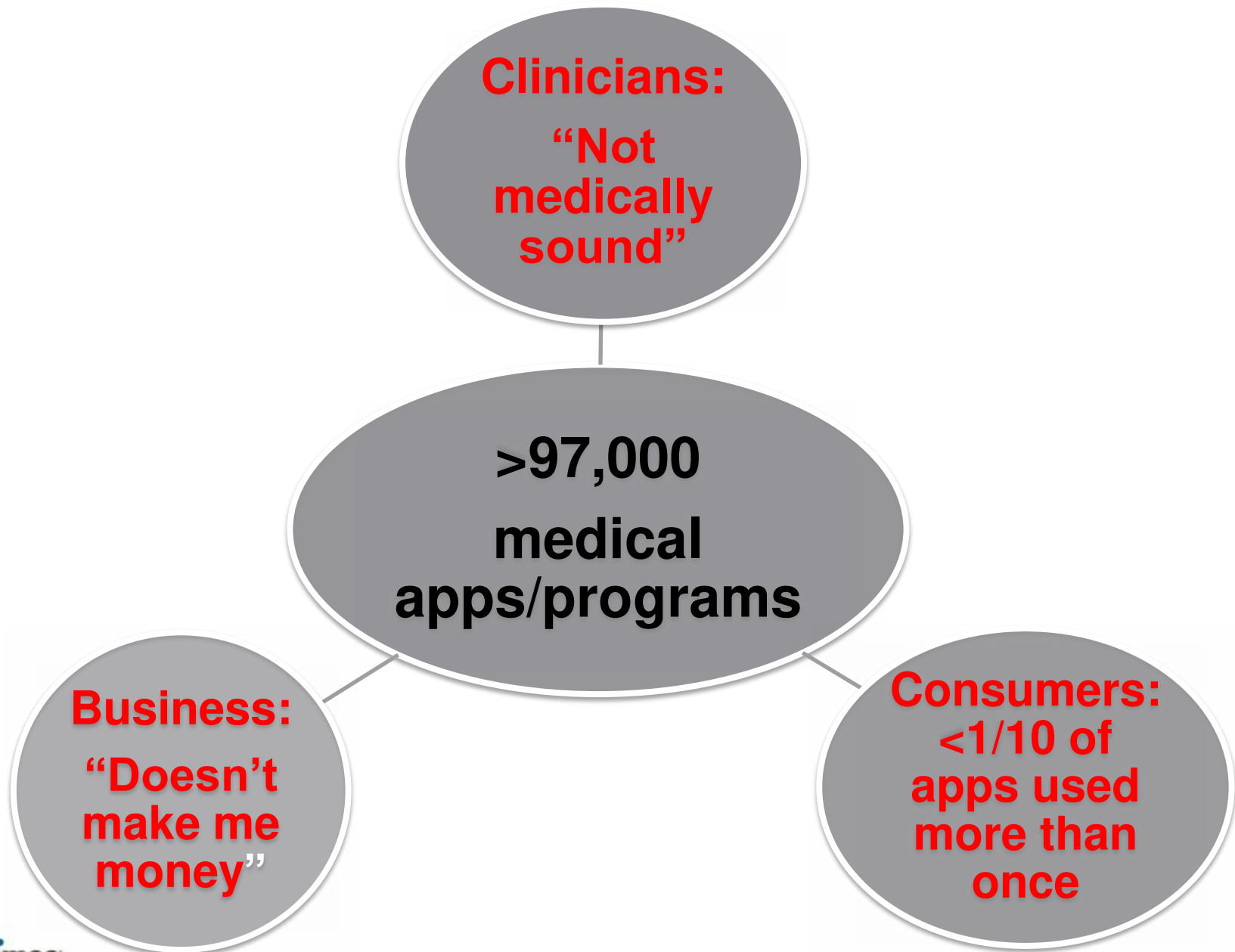
the **TOP THREE HEALTH ISSUES** where a mobile health application **LINKED** to an EHR could **MAKE** an **IMPACT**



MEDICATION ADHERENCE

eClinicalWorks

eClinicalworks® conducted an online survey with responses from 2,291 healthcare professionals in the United States. All interviews were conducted between January 18 and 24, 2013. The sample included responses from 649 physicians.



Five Pitfalls of Designing a Medical App

- The motivation for the app development is misguided
- Lack of clinician involvement
- Poor attention to usability
- Not knowing the healthcare landscape
- Not building to regulatory specifications

<http://davidleescher.com/2013/01/31/five-pitfalls-of-designing-a-medical-app/>

Mobile Medical Apps: Regulatory Issues

- FDA Guidance Sept 2013
 - Emphasizes criteria for oversight is degree of patient safety
 - Only medical devices or products which transform a device to a medical device will be regulated
 - Labeling to be big part in whether or not a product is intended as a medical device
 - Gives excellent examples and anecdotes
 - **Most apps will NOT be regulated:**

Mobile Medical Apps Guidance: Takeaways

- FDA guidance leaves review of reliability of non-medical device related apps to the developer or user
- Consider mobile device management intermediary
- CMIO or physician leader should oversee mobile strategy in addition to CIO

Barriers/Challenges to Adoption

- Regulatory: Multiple Bills in Congress
- Awareness
- Change in culture of healthcare (patient-centric, engagement)
- Standards:
 - Proof of efficacy, privacy/security
 - Guidelines for adoption
 - Reimbursement

Levels of Security

- At the app development level



- At the mobile device level



- At the enterprise level



BYOD Facts*

- 89% of healthcare BYODers work from their smartphone
- 40% of them don't have phones protected with a password
- 53% access unsecured wireless networks

*Cisco Survey, 2013

Measures Used to Secure Mobile Devices*

- Password protected 93.79%
- Data encryption 70.81%
- Remote wipe capability 68.94%
- Automated data disintegration 15.53%
- Biometric authentication 8.70%
- 29% of respondents: mobile devices retain PHI

*3rd Annual HIMSS Analytics Mobile Tech Survey

MMAs: Policy/Procedure Risks

- No “acceptable use” policy
- No minimum password requirements or requirements for change frequency
- Lack of privacy breach protocol
- Failure to deliver “sticky” privacy training

MMAs: Technology Considerations

- Encrypted PHI
- Secure wireless networks
- Co-mingling of hospital data (patient PHI) and personal data
- Support/enforcement of minimum password requirements
- Blocking of untested and unapproved apps
- Remote wipe and/or delete/lock

HIMSS mHealth Roadmap

- A resource for healthcare enterprises and providers to adopt mobile health technologies.
- Six sections:
 - New Care Models
 - Technology
 - Privacy & Security
 - Payment, ROI, Reimbursement
 - Navigating the Regulatory Framework
 - Standards & Interoperability
- <http://www.himss.org/mobilehealthit/roadmap>

HIMSS Mobile Health Initiatives

- Mobile Health Committee
- Mobile Health Physician Task Force

Thank You!

Questions?