Health Apps: Only a Tap Away

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Purpose of this CE

To provide attendees with tools to assess and recommend useful "healthcare apps" to assist patients in optimizing health outcomes, while incorporating use mobile apps in daily pharmacy practice.

Objectives:

1. Describe the role of Health Apps in information technology
2. Evaluate and validate the content and references used in Health Apps for healthcare providers and patients
3. Discuss strategies for incorporating Health Apps in your daily practice
4. Explain how to access and download Health Apps using mobile devices
5. Explore Health Apps utilization in pharmacy practice through a live demonstration

By the Numbers...

- As of May 2012, >40,000 health apps existed in the USA
- By 2018, 50% of >3.4 billion smartphone and tablet users will have downloaded healthcare apps
- IMS Institute for Healthcare Informatics apps analysis of Apple Store apps (2013): More than 2/3s of apps were related to the consumer
- Epocrates Survey (2012): >60% physicians are recommending apps to their patients

Health Apps/ Mobile Apps/ Apps

- IMS Institute for Healthcare Informatics
  - "A mobile application (or mobile app) is a software application designed to run on smartphones, tablet computers, and other mobile devices."
  - Available through a variety of mobile operating system’s distribution platforms:
    - Apple App Store, Google Play, and Windows Phone Store
- World Health Organization
  - mHealth: "a medical and public health practice supported by mobile devices, such as phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices."

Health Apps/ Mobile Apps/ Apps

• US Food and Drug Administration - Mobile Medical Apps (MMAs)
  - 09/25/2013: “The FDA is taking a tailored, risk-based approach that focuses on the small subset of mobile apps that meet the regulatory definition of ‘device’ and that:
    - are intended to be used as an accessory to a regulated medical device, or transform a mobile platform into a regulated medical device
    - (Does not regulate mobile devices or mobile app stores)

<table>
<thead>
<tr>
<th>FDA Regulates</th>
<th>FDA Will Exercise Enforcement Discretion</th>
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<tbody>
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<td>Apps that transform a mobile platform into a regulated medical device</td>
<td>Apps that may be used for the diagnosis of diseases or other conditions, or also for decision-making to cure, mitigate, treat, or prevent a disease.</td>
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Examples of MMAs that are NOT Medical Devices

- Electronic copies of medical textbooks or reference materials with generic text search
- Educational training tools for medical training
- Apps used for general patient education and facilitate patient access to commonly reference information (vs. use to diagnose a disease)
- Apps that generate office operations in healthcare setting
- Apps that are used as generic aids or general purpose products

Examples

- Physician’s Desk Reference
- Medical flash cards
- Board certification apps
- Tutorials for CPR administration
- Pill ID based on description
- Billing codes
- Analyze insurance claims
- Recording audio
- Communication mechanisms

Examples of Mobile Apps For Which the FDA Will Exercise Enforcement Discretion

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European Commission

“any instrument, apparatus, appliance, material or other article, whether used alone or in combination, including the software necessary for its proper application intended by the manufacturer to be used for human beings for the purpose of: Diagnosis, prevention, monitoring, treatment or alleviation of disease; Diagnosis, monitoring, treatment, alleviation or compensation for an injury or handicap; Investigation, replacement or modification of the anatomy or of a physiological process; Control of conception”

Strategies for Validating Health Apps

- Review the scientific literature for papers reviewing apps
- Search app clearinghouse website
- Search app store to review the app descriptions, user ratings, and reviews
- Conduct social media query within professional and, if available, patient networks
- Pilot test the app
- Elicit feedback from patients

Are there clinical trials that demonstrate evidence-based benefits?

May help identify strengths and weaknesses

May reveal evidence on app usability, functionality, efficacy

May reveal new app trends, liability by certain user groups, and other substantive data

Pilot by a healthcare provider, including examinations of functionality, accuracy of content, and usability

Patients can provide valuable insights and indicators of success in utility (e.g., did the patient successfully modify a health behavior?)

Smartphone Medication Adherence Apps


Objective

Evaluate smartphone medication apps and identify opportunities and barriers

Methods

Top Ten Highest Rated Apps: MyMedSchedule, MyMeds, MedSimple, Med Agenda, RememبرPrescription, Dosecast, TRxControl, MediMemory and PillManager

Outcome

Apps with the highest ratings based on the 3-point desirability scale

Results

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Happtique

- Subsidiary of the Greater New York Hospital Association
- Aimed to certify medical health and fitness apps
- 19 certification standards
- DOES NOT evaluate effectiveness or safety
- Reviewed by internal partners, and medical professional societies
- Physicians can send their patients a "digital health prescription"

Happtique

- Shut down in December 2013
- Health IT firm revealed security gaps in the apps that received Happtique certification
- Partnership with SocialWellth to repurpose and focus on the hospital group
National Health Service (NHS) Health Apps Library

- Team review "to make sure that apps are relevant to people living in England; comply with data protection laws and comply with trusted sources of information, such as NHS Choices"
- Clinical review by a "clinical assurance team", to include physicians, nurses, and safety specialists focusing on the potential for harm


http://www.nhs.uk/pages/healthappslibrary.aspx

"The library came under fire late in September 2015 after a study, co-authored by researchers from Imperial College London, revealed that several NHS-approved apps were leaking data about their users, as reported by Computer Weekly."

iMedicalApps

- Independent online medical publication with a goal to provide reviews, research, and commentary of mobile medical technology
- Experience-based/ opinion-based reviews from physicians, residents, allied health professionals, or mHealth analysts


http://www.imedicalapps.com/

my health apps

- Aim to highlight best practices in health app development, unmet needs of users, and classify apps

http://myhealthapps.net/

"Other Considerations"

my health apps

- Reviewers include: empowered consumers, patients, carers, patient groups, charties, and other not-for-profit organizations
Quality of Information

- Who developed the health app?
  - Individuals
  - Academic research groups
  - Patient organizations
  - Medical organizations
  - Corporate-backed developers
  - Pharmaceutical manufacturers
  - Large consumer/retailing brands
  - Health insurance groups
  - National health systems

Quality of Information

- Who funded the health app?
- Who endorses the health app?
- Is this health app medically researched and approved?
- What guidelines or references are cited by the health app?
- Are providers and/or patients involved in piloting the app?
- How often does the developer update the content of the information?
- What kind of support services are provided for the health app?
- Does the app have any certifications?

Assessing Functionality

- Information: level of detail of information, type of formats that information is presented (e.g., text, picture, video, audio, etc)
- Instruction: provides instruction to the user
- Tracking and Guidance of Data: ability to track and capture user entered data, graphically displays user entered data, outputs user data, can link to a sensor, provides guidance based on entry
- Remind/Aler: built-in reminder function
- Communication: uses email and/or text messaging, provides secure communication, provides links to social networks
- Phone functions: use of GPS, camera, voice recorder, other sensors

Risk Identification

- Harm
  - What is the impact of wrong interpretation?
  - Is it medically sound?
- Privacy & Security
  - How does the app adhere to the Healthcare Information Portability and Accountability Act (HIPAA)?
  - Is patient information communicated/transmitted via a secure method?

Legal

- Liability - What’s the difference between recommending vs. prescribing a health app? If there are any repercussions from you recommending the health app, will you liable?
- Are these health apps endorsed by my organization with legal agreements?
MyMedSchedule

- Endorsed by the Journal of American Pharmacists Association
- The founder of the app is the featured speaker for the keynote presentation at APHA 2016

MyMedSchedule

Search app stores to review the app descriptions, user ratings, and reviews

Not enough ratings to display average review rating

MyMedSchedule

Pilot the app!

What do patients think?
What do other pharmacists think?

m-Health Adoption by Healthcare Professionals: A Systematic Review


Objective

The aim of this systematic review was to synthesize current knowledge of the factors influencing healthcare professional adoption of mobile health (m-health) applications.

Methods

Perceptions of healthcare professionals regarding barriers and facilitators to m-health utilization
- Systematic Literature Review covering a period of 2000-2014
- Four electronic databases (PubMed, EMBASE, CINAHL & PsychInfo) & reference from included studies
- 29 healthcare professionals and 6 app developers
- Two authors independently assessed study quality and performed content analysis using a validated extraction grid with pre-established categorization of barriers and facilitators

Results

A total of 4223 potentially relevant papers of which 33 met the inclusion criteria.
Main perceived adoption factors to m-health at the individual, organizational, and contextual levels were the following:
- Perceived usefulness and ease of use
- Design and technical concerns
- Cost
- Time
- Privacy and security issues
- Familiarity with the technology
- Risk benefit assessment
- Interaction with others (colleagues, patients, and management)

Conclusion

This systematic review provides a set of key elements making it possible to understand the challenges and opportunities for m-health adoption by healthcare providers.

Healthcare Apps for Daily Practice

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<td>Free</td>
<td>APhA</td>
<td>APhA</td>
<td>Clinical Herbs Database</td>
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<tr>
<td>CDC News &amp; Vaccine Schedules</td>
<td>Apple, Android, BlackBerry &amp; Windows</td>
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<td>Free</td>
<td>A Unique Healthcare IT Company CMS</td>
<td>ICD 9 to 10 Converter</td>
<td></td>
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Demo Time

1st
The Basics:
Apple ID, App Store & Downloading/Installing Apps

Now
Let's Explore Apps:
About Herbs, DrugInfoLine, MTBC 9-10 & Orange Book Express

About Herbs

DrugInfoLine
End of Demo

What types of health apps **ARE** regulated by the FDA?
A. Apps that are electronic copies of medical references  
B. Apps that are educational training tools for medical training  
C. Apps that encourage and motivate patients to quit smoking  
D. Apps that help to identify tablets or capsules based on basic physical descriptions

What is a potential area of risk to assess for when evaluating a health app?
A. How does the app adhere to the current medical guidelines?  
B. Does the app offer access across different mobile operating systems?  
C. How does the app adhere to the Healthcare Information Portability and Accountability Act (HIPAA)?  
D. All of the above

What type of strategy for validating health apps may offer indicators of success in utility?
A. Review the scientific literature for papers reviewing apps  
B. Elicit feedback from patients  
C. Search app stores to review the app descriptions, user ratings, and reviews  
D. All of the above
Health Apps Toolkit:
Presented by the Academy of New Practitioners

Sign-up to become a Health Apps Validator today!

Questions?
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