Mobile Learning for Mobile & Busy Pulmonologists

NAMDRC 37th Annual Meeting March 28, 2014

SiNae Pitts, PhD
Ms. Pitts has declared no conflicts of interest related to the content of her presentation.
• Scholarly subject matter experts
• Cutting edge mobile technologies & platform approach
• Content plus workflow tools for meaningful use
Eight in 10 physicians use smartphones in their daily practice and six in 10 use tablets. Over half (55%) use both smartphones and tablets in their daily practice. The top use of smartphones is for accessing drug information while tablets are used most to access medical research. In addition, mobile apps are being used by 24% of physicians, making these the top digital/social media channel used for work purposes.

- Prevalent
- Practical
- Personal
The emerging field of mobile health (m-health) has enabled consumers to use smartphone technology to answer their own health-related questions with the quick tap of a touchscreen. Here’s a look at m-health and the impact it’s making on our culture and our well-being:

- 78% of doctors use smartphones and medical apps
- ~85% of U.S. consumers are interested in m-health solutions
- 56% of doctors who use mobile devices say they expedite decision making
- 40% say they decrease time spent on administration
- Only 28% of smartphone users and 18% of tablet users describe themselves as “very satisfied” with the quality of medical apps currently available

**U.S. PHYSICIAN SMARTPHONE ADOPTION**

- 85% of U.S. physicians owned or used any smartphone professionally in 2012

**ONLINE PATIENT–PHYSICIAN COMMUNICATION**

- 39% of U.S. physicians communicate online with patients via email, secure messaging system, instant messaging, or online videoconferencing
- 86% of clinicians—doctors, nurses, and nurse practitioners—now use smartphones in their practice areas every day, up from 78 percent in 2012
- 53% of all clinicians use tablets daily, up from 34 percent in 2012

**PATIENT USE OF MOBILE TECHNOLOGY**

- 13% have accessed, stored, or transmitted personal health information or records in the past year
- 40% are interested in doing so
- 52% say they would like access to tools or websites that enable them to review quality rankings, satisfaction rankings, and patient reviews for specific doctors and hospitals
- 52% are comfortable in consulting with their physician through a video connection


*Booz & Co, 2013*
Q1: What is your primary mobile device for work?

A. iPhone
B. Android (Samsung, Google, LG, Motorola, etc)
C. Blackberry
D. Other Smartphone (Windows, Palm)
E. Non-smartphone aka Flip phone
What is your primary mobile device for work?

A. iPhone
B. Android (Samsung, Google, LG, Motorola, etc)
C. Blackberry
D. Other Smartphone (Windows, Palm)
E. Non-smartphone aka Flip phone

69% 19% 6% 3% 3%
Q2: What is your primary mobile device for personal use?

A. iPhone
B. Android (Samsung, Google, LG, Motorola, etc)
C. Blackberry
D. Other Smartphone (Windows, Palm)
E. Non-smartphone aka Flip phone
What is your primary mobile device for personal use?

A. iPhone
B. Android (Samsung, Google, LG, Motorola, etc)
C. Blackberry
D. Other Smartphone (Windows, Palm)
E. Non-smartphone aka Flip phone

71%
20%
7%
0%
2%
7%
Q3: Do you use a mobile tablet?

A. For Work only
B. For Personal use only
C. For both
D. Do not use a tablet at all
Do you use a mobile tablet?

A. For Work only
B. For Personal use only
C. For both
D. Do not use a tablet at all

- A: 3%
- B: 20%
- C: 43%
- D: 35%
Q4: Which mobile tablet do you use?

A. iPad  
B. Android tablet  
C. Kindle  
D. More than one tablet type
Which mobile tablet do you use?

A. iPad  
B. Android tablet  
C. Kindle  
D. More than one tablet type

82%  
3%  
6%  
9%
Types of mobile learning apps

- USMLE
- Board Review
- CME and MoC
- Point of Care (guides and calculators)

There are more than 10,000 medical/healthcare apps available in Apple’s iTunes App Store.

It’s the third-fastest growing app category for both iPhone and Android phones.

~85% of doctors use smartphones and medical apps.

40% say they decrease time spent on administration.

*Booz & Co, 2013
Other professional apps

- Journal and publication
- Reference
- Document and Reference management
- Events & Meetings

*App reviews by docs: http://www.imedicalapps.com/

*CDW.com/mhealth

On average, CLINICIANS USE 6.4 DIFFERENT MOBILE DEVICES IN A DAY.

NEARLY 50% take no steps to secure that data.

38% of physicians with a compatible mobile device use medical-related apps daily.
ACCP Radiology Cases

American College of Chest Physicians

$4.99 Buy

No Customer Ratings
Rating: 4+

© American College of Chest Physicians

Description

ACCP Radiology Cases

Expand your knowledge base in the radiologic study of patient conditions with the new ACCP Radiology app, featuring 18 interactive case-based scenarios with relevant pathology-related images. Developed by nationally recognized experts, this app is designed to stimulate and challenge the clinician’s thought processes regarding interpretation and problem-solving skills as they relate to radiology....
ACCP Mechanical Ventilation 1
Sharp Vision Software

$iPad$ Screenshot

ACCP Mechanical Ventilation 1

No Customer Ratings
Rating: +

© American College of Chest Physicians

Description
Experience the new ACCP Mechanical Ventilation 1, a new app offering ICU physicians training in ventilator waveforms and graphics. Realistic ventilator waveforms and graphics are depicted with insight from industry professionals. The app was created by the American College of Chest Physicians (ACCP), the global leader in providing education in cardiopulmonary, critical care, and sleep medicine.
Description

Experience the new ACCP Bronch+ bronchoscopy training app, featuring five short scenarios, designed for the interactive learning of bronchial procedures. The app was created by the American College of Chest Physicians (ACCP), the global leader in providing education in cardiopulmonary, critical care, and sleep medicine.

Key Features

...
CHEST 2013
PSAV – Presentation Services

This app is designed for both iPhone and iPad

No Customer Ratings
Rating: 4+

© QuickMobile Inc. 2013

Description
Planning for CHEST 2013 is now faster and easier with the official mobile application for the meeting held October 26-31 in Chicago, IL.
Response of Chronic Cough to Acid-Suppressive Therapy in Patients With Gastroesophageal Reflux Disease

Peter J. Kahrilas, MD; Colin W. Howden, MD; Nesta Hughes, PhD; Michael Molloy-Bland, DPhil

Published online March 01, 2013

ORIGINAl RESEARCH | MARCH 2013

Response of Chronic Cough to Acid-Suppressive Therapy in Patients With Gastroesophageal Reflux Disease

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【Author Information】
CHEST. 2013,143(3):605-612
doi:10.1378/chest.12-1788

Related editorial/commentary:
» Chronic Cough and Gastroesophageal Reflux Disease: How Do We Establish a Causal Link? (CHEST. 2013;143(3):567-569)

Figure 2
Effects of neutrophil elastase on phagocytosis. NE is abundant in the airways of patients with COPD. This enzyne cleaves cell surface complement receptors, thus reducing uptake of opsonized bacteria and also the...
This app is designed for both iPhone and iPad

No Customer Ratings
Rating: +4

LINKS
Privacy Policy
Developer Website

© 2012 American College of Chest Physicians

DESCRIPTION

American College of Chest Physicians

Screeshots

FEATURED ARTICLES

ORIGINAL RESEARCH: AUGUST 2013
Safety and Feasibility of Interventions: Pulmonologists Performing Bedside Percutaneous Endoscopic Gastrostomy Tube Placement

Lorenz T. Ganzinetti, M.D., Nicola Scarzella, M.D., Raffaele Carniel, M.D., and Marco G. Canpolat, M.D.

ORIGINAL RESEARCH: JUNE 2013
Asymmetry Diminished in Exhaled Breath Condensate and Serum of Children with Asthma

Michael Connolly, Aglaee Darche, Stinn McGlothin, Michael G. Tager, and Hélène Peronneau

ORIGINAL RESEARCH: AUGUST 2013
Quality Assessment of Asthma Clinical Practice Guidelines: A Systematic Appraisal

Patricia S. Sze, Allan M. Levy, Brian Strollo, Andrea V. Jaramillo, Anya Park, Gordon Rehder, and Terri E. Berkman

Enhanced Rehabilitation Using 3D Body Motion Feedback in Patients with Ipsilateral Hemiparesis Post-Stroke

Tatsuya Takasugi, Naoko Nomura, Eriko Yamano, Yukie Ota, and Hiroshi Urata

ENDOBRONCHIAL VALVE PLACEMENT AND BALLOON OCCLUSION FOR PERSISTENT AIR LEAK DISEASE OVERVIEW AND NEW CURRENT PRACTICE GUIDELINES FOR 2013

Karen A. Davis, Kirk E. Franks

ORIGINAL RESEARCH: JUNE 2013
Posttraumatic Stress Disorder in Survivors of Acute Lung Injury: Evaluating the Impact of Chronic BPD

Lori A. Gagne, Evren O. Sever, Jonathan A. Cohen, Max M. Huang, Joel B. Dupont, and Matthew S. Yepez

ENDOBRONCHIAL VALVE PLACEMENT AND BALLOON OCCLUSION FOR PERSISTENT AIR LEAK DISEASE OVERVIEW AND NEW CURRENT PRACTICE GUIDELINES FOR 2013

Karen A. Davis, Kirk E. Franks

ORIGINAL RESEARCH: AUGUST 2013
SCREENSHOT 1

SCREENSHOT 2

COMMENTARY

Published online August 01, 2013


Related commentary:


ABSTRACT

Standards and guidelines for the development of chest practice guidelines are now available, and a number of training guidelines are in the key standards. Even current chest practice guidelines, however, generally suffer from a cumbersome development process, suboptimal presentation formats, inefficient dissemination to clinicians, and an inadequate facilitation of shared decision-making with patients. To address these limitations, we have recently developed a novel program for managing guideline development, UNCG (Unified National Care Guidelines) that includes a comprehensive framework and tool to facilitate the creation, dissemination, and dynamic updating of evidence-based guidelines. With the development of an online application that contributes to an authoring and publication platform that allows guideline content to be written and submitted in a database, published directly on our web platform, and extended to a community of users, this application facilitates efficient dissemination, cost-effectively distributed guidelines, and dynamic updating of guidelines. In this article, we introduce the UNCG guidelines and demonstrate the value of this approach in the development of evidence-based guidelines for chronic lung disease. We invite guideline organizations to partner with us, to implement similar approaches to enable the cost-effective dissemination of evidence-based guidelines for chronic lung disease.
ACCP-SEEK CME
Amphetamobile

Details  Ratings and Reviews  Related

No Customer Ratings
Rating: 4+

TOP IN-APP PURCHASES
1. ACCP-SEEK CME $199.99
   Pulmonary Medicine Set 2
2. ACCP-SEEK CME Critical Care Medicine Set 2 $199.99
3. ACCP-SEEK CME Pulmonary Medicine Volume 23 Set 2 $199.99
4. ACCP-SEEK CME Sleep Medicine Set 2 $199.99

LINKS
Developer Website

Description
Earn 50 AMA PRA Category 1 Credits™ while enhancing your knowledge of chest medicine with case-based questions to test your recall, interpretation, and problem-solving skills. Sample 10 questions free when you install the app, and earn CME for less than $4/credit hour on purchase!

Compatible with iOS 5.1 and later
UpToDate Mobile Access
Treat Your Patients Anywhere

With an UpToDate® Anywhere or an individual subscription, you can answer medical questions when and where they arise from a tablet or mobile device. Choose the solution that's right for you!

UpToDate for Android™ devices
UpToDate App for iPhone® and iPad®
UpToDate for Windows 8 phones and tablets

If you are unable to use one of our top rated apps, it's easy to access UpToDate through the mobile web – simply open the browser on your mobile device and go to www.uptodate.com.
Price
- Free

Likes
- Proper staging
- Suggests treatments based on stage

Dislikes
- User interface is not very attractive

Conclusion
- Having a TNM stage calculator at hand is very useful and the fact that this app also provides the available treatments is a plus.
- The User interface is somewhat lacking but does not play a major role in detracting from the overall app.

iMedicalApps recommended?
- Yes

Google Play Link

Rating: (1 to 5 stars): 3/5
- User interface – 2
- Multimedia usage – 1
- Price - 4
- Real world applicability -4

For Internal Medicine Students, the Pretest Serves as a Useful Review

This is an app review for Pretest Medicine, written by a third-year medical student who recently completed the internal medicine rotation. The app is compatible with iPhone, iPod touch, and iPad.

Emergency Medicine Secrets flashcard app is useful but disappoints with interface

Emergency Medicine Secrets is an app which many emergency medicine students and physicians may find particularly useful. However, the excessively high cost places it out of reach for most of the potential user base (a common problem
## Mobile Device Uses

<table>
<thead>
<tr>
<th>Mobile Device Use</th>
<th>Percentage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to drug information (dosage calculators, side effects, interactions, etc.)</td>
<td>72%</td>
<td>55%</td>
</tr>
<tr>
<td>Communication with nurses and other staff</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>Access to medical research</td>
<td>63%</td>
<td></td>
</tr>
<tr>
<td>Access to evidence-based clinical reference tools at the point-of-care with patients</td>
<td>50%</td>
<td>42%</td>
</tr>
<tr>
<td>Communication with patients</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Access to medical records/other patient data</td>
<td>43%</td>
<td>17%</td>
</tr>
<tr>
<td>Access to information for reimbursement/billing purposes</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>13%</td>
<td>9%</td>
</tr>
</tbody>
</table>

**Question:** In which of the following ways do you use mobile devices within your practice? Choose all that apply.

*Wolters Kluwer Health 2013 Physician Outlook Survey*
Q5: What types of learning are important to your career? More than one response is allowed.

A. Board review
B. CME or Maintenance of Certification (MoC)
C. Clinical techniques
D. Non-pulmonary, other sub-specialty
E. Other professional development (practice management, medical record keeping, etc)
What types of learning are important to your career? More than one response is allowed.

A. Board review
B. CME or Maintenance of Certification (MoC)
C. Clinical techniques
D. Non-pulmonary, other sub-specialty
E. Other professional development (practice management, medical record keeping, etc)
Q6: Which is your preferred format for professional learning?

A. Printed material
B. Audio or visual material
C. Lecture
D. Online
E. Mobile
Which is your preferred format for professional learning?

A. Printed material
B. Audio or visual material
C. Lecture
D. Online
E. Mobile

A. 35%
B. 20%
C. 23%
D. 20%
E. 3%
Q7: What kind of apps do you use for your profession? More than one response is allowed.

A. Reference
B. Journals and publications
C. Electronic Medical Records
D. Professional Education
E. Calculators or Point of Care guides
What kind of apps do you use for your profession? More than one response is allowed.

A. Reference
B. Journals and publications
C. Electronic Medical Records
D. Professional Education
E. Calculators or Point of Care guides
What makes for a good learning App?

1. High quality content authored/edited by known reputable sources
   a. Up to date and timely
   b. Multi-media supporting images, audio, and video

2. References for further reading and learning
   a. Hyperlinks
   b. Reference terms and key words

Only 28% of smartphone users and 18% of tablet users describe themselves as “very satisfied” with the quality of medical apps currently available.
What makes for a good learning App?

3. Ease of use
   a. Indexing
   b. Full text search
   c. User interface

4. Annotations and note taking
   a. Highlighting
   b. Text notes
   c. Audio notes
What makes for a good learning App?

5. Self-assessment and score keeping
   a. Right and wrong answers
   b. Questions remaining

6. Statistics and Peer responses?
   a. Social sharing

7. Quiz modes?
What makes for a good learning App?

8. CME accreditation

9. Purchase model?
   a. Content in bulk-Volumes, Sets, Chapters
   b. Content by Topic or Sub-specialty
   c. Subscription based
Future Directions?

Recommendations & Feedback?

Meaningful Use?
  a. How has learning changed your practice?
  b. Changed patient outcomes?

Other ideas?
Download and Try for Free