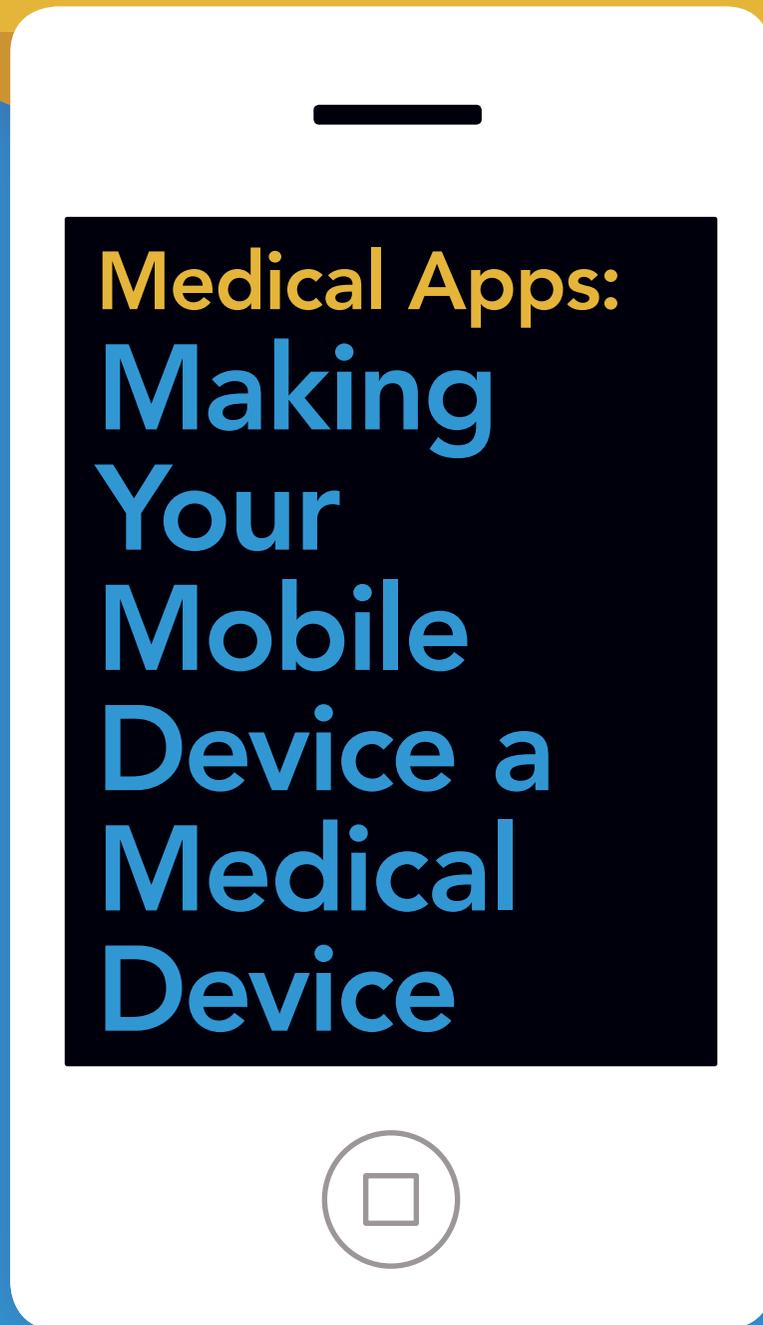


**Here's how to make your smartphone or tablet  
an indispensable practice tool.**



**David T. Walsworth, MD**

**M**obile devices, especially smartphones and tablets, are increasingly popular among physicians. Family physicians are moving in great numbers to harness their portability and functionality. Thousands of applications, or apps, are available within the medical sections of Google's Android Market and Apple's App Store. Although there is no medical category in the BlackBerry App World or the Windows Phone Marketplace, a search of either reveals multiple apps, including some of the most popular and useful for family physicians. Unfortunately, even when a medical category exists, the contents range from professionally useful to inappropriate.

Naturally, you'll find yourself wanting nonmedical apps as well as medical ones – anything from office suites (word processing, spreadsheet, and presentation software) to games. Fortunately, today's smartphones and tablets have plenty of memory to hold what you need. This article will focus on clinically oriented apps, however.

### Is this app for you?

It is easy to fill any device with free or paid apps. The trick is figuring out which ones will do the best job of providing the information you need. While I can recommend various apps and categories of apps I find useful, you'll no doubt end up trying and rejecting various apps in the process of building your collection to suit your needs. One thing to keep in mind as you go: Stand-alone apps can be useful, but their functionality is often included in more comprehensive suites that result in fewer total applications, less memory consumed, and fewer screens of icons to shuffle through to find the app you need.

Another consideration is how you expect to use each app. Any app that stores or transmits personal health information must comply with all of the applicable regulations and guidelines, including HIPAA (Health Insurance Portability and Accountability Act). Make sure you know where such apps store personal health information. Checking with counsel regarding whether a business partner agreement is necessary and doing sufficient due diligence are an investment in compliance that could protect your patient and you. In any case, seriously consider password-protecting your smartphone or tablet.

As you'll see below, I am recommending several broad categories of apps as well as individual apps within those categories. In some cases, such as virtual private networking or electronic health record (EHR) access, the issue is not so much choosing the best app as determining which one works with the mobile platform and the networking

platform your organization uses. In other cases, as with point-of-care tool suites or reference libraries, you may want to choose based on whether access is provided free by your hospital, practice organization, health plan, or university.

Additional recommendations can be found at the app store for each mobile platform, as well as at any of several online comparison sites, including these:

- <http://www.imedicalapps.com/app-review>,
- <http://www.macworld.com/appguide/browse.html?cat=Medical>,
- <http://www.iphonemedicalapps.com>.

For additional sites, try searching the Web for "medical app reviews." Of course, your colleagues are likely to have useful recommendations, and you may find pertinent discussions in online communities such as AAFP Connection, a members-only community for family physicians (<http://www.aafp.org/aafpconnection.html>).

In the end, you are the one who needs to determine

**Make sure you know  
where apps store personal  
health information.**



whether an app is useful and worth the cost. I like to think that evaluating medical apps is much like evaluating the literature; it's good to ask the following questions, which I've adapted from a similar set of questions in a 1993 *JAMA* article on using the medical literature:<sup>1</sup>

- Will I use this app frequently?
- If not, does it do its job so well that it has value for me?
- Do I trust the results?
- Do I trust the source?
- Does the value justify the cost?

Your answers to these questions will determine whether a given app is for you. But as a starting point, here are my recommendations:



#### Virtual network

Apps that create a virtual private network, often referred to as a VPN, give you a private "tunnel" through the Internet between your mobile device and a secure server, such as the server of your EHR system. A VPN keeps other users from accessing or copying your data as it passes through. Check with your

information technology professional regarding which one to choose and how to set it up so that you can access protected data securely.

## 2

### EHR connection apps

These applications allow you to access your EHR from your mobile device. Some are stand-alone apps. Some are websites that you can add to your favorites list. Combined with a secure connection (a VPN or a secure network), they allow you to access your EHR on the go. Ask your EHR vendor which app would work best with your EHR system.

Given the many medical apps available, it's important to choose carefully.

For connecting securely to your network and your EHR, you'll need to choose apps compatible with your existing systems.

Most other medical apps can be classified based on the kind of information they provide access to, from drug references to tools for searching the literature.

## 3

### Epocrates

Depending on how you practice, this may be your favorite app. I have been using Epocrates Essentials for the better part of a decade. Combining a medical reference library, a test interpretation database, and a drug database incorporating most major formularies, it is a potent tool for reducing phone calls and helping you take better care of patients. Even with an e-prescribing application in my EHR, I have found this useful as a point-of-care tool and for prescribing when formulary data is not otherwise available. There are several versions available:

- **Epocrates Rx** (drug reference): free,
- **Epocrates Rx Pro** (drug reference plus infectious disease guidelines): \$99 per year,
- **Epocrates Essentials** (clinical reference suite): \$159 per year,
- **Epocrates Essentials Deluxe** (clinical reference suite plus ICD-9 and CPT codes and a medical dictionary): \$199 per year.

All versions are available through <http://www.epocrates.com/mobile> for Android, Apple iOS, Blackberry, Palm, and Windows Mobile.

## 4

### Point-of-care references

While Epocrates Essentials has a very good suite of tools, calculators, and content, a more complete point-of-care tool kit is often useful. DynaMed, Essential Evidence Plus, and

UpToDate are all useful and full of information on common and uncommon conditions, as well as options for earning CME credit for searches completed. DynaMed and UpToDate are the most complete and, at \$395 and \$499 a year respectively, the most expensive. Essential Evidence Plus, available for \$85 a year, has more calculators than the others, which can help to make patient care easier and more evidence-based. Hospital libraries, university libraries, and EHR vendors will sometimes extend access to these tools; check before you purchase. Trial versions are available in some cases.

- **DynaMed:** Android, Apple iOS, Blackberry, Palm, Pocket PC, Windows Mobile; \$395 per year (<http://dynamed.ebscohost.com/access/mobile>),

- **Essential Evidence Plus:** any browser-equipped device; \$85 per year (<http://www.essentialevidenceplus.com>),

- **UpToDate:** \$499 per year for browser access; \$548 with Mobile Complete, which downloads all of UpToDate to your Apple iOS device (<http://www.uptodate.com>).

## 5

### Library tools

A point-of-care tool may not be enough. In today's world of rapid change and evidence-based care, the "best" way to handle a complicated problem may change rapidly. Electronic texts, or e-books, can actually be more up-to-date as well as have more depth than some point-of-care tools. Skyscape and Stat!Ref allow you to acquire a broad range of clinical resources and search across all of them. While the app itself is usually free and may provide some content, each resource usually carries a separate cost, generally for a one-year license with all available updates during the license period. Many common texts are available through multiple mobile library tools, and app versions of some texts are available through hospital and university libraries. Check the offerings of each mobile library if you are purchasing independently.

- **Skyscape:** Android, Apple iOS, Blackberry (<http://www.skyscape.com>),

- **Stat!Ref:** Android, Apple iOS, Black-



**Article Web Address:** <http://www.aafp.org/fpm/2012/0500/p10.html>

Electronic texts can actually be more up-to-date as well as have more depth than some point-of-care tools.



berry (<http://www.statref.com/products/srMobile.html>),

- **Unbound Medicine:** Android, Apple iOS, Blackberry, Windows Phone, Web (<http://www.unboundmedicine.com>).

## 6

### Research tools

Even the most current electronic publications cannot keep up with the medical literature. Thousands of studies are published every month. Most are available, at least the abstracts, on PubMed (<http://www.ncbi.nlm.nih.gov/pubmed/>). Many medical journals are available in app format if you are a member of the parent organization or have a subscription. *AFP By Topic* delivers editor-selected content from *American Family Physician* – content developed specifically for family physicians, often written by family physicians; it is available free for Android and Apple iOS platforms. *NEJM This Week* gives you access to the current issue of the *New England Journal of Medicine*. Check which of your journals are available on your platform.

- **PubMed on Tap:** Apple iOS; \$2.99 for full version, free lite version (<http://www.referencesontap.com>),

- **AFP By Topic:** Android, Apple iOS; free (<http://www.aafp.org/afp/afpbytopicapp>),

- **NEJM This Week:** Apple iOS; free (<http://www.nejm.org/page/about-nejm/mobile-applications>).

## 7

### Communities

Communities offer members the opportunity to discuss concerns, share stories, obtain unofficial consultations, and be part of a larger group. Exchanges range from professional to colorful. Information obtained can be useful or erroneous. As with any other free website, you should consider

the source before acting on the information. Communities also allow members to voice concerns and discuss common issues with others. Make sure you know whether community membership is limited to physicians before you post anything. The communities listed below are all browser-based and therefore accessible from any browser-equipped device.

- **AAFP Connection:** free; open to AAFP members (<http://www.aafp.org/aafpconnection.html>),

- **Doximity:** free; open to physicians only (<http://www.doximity.com>),

- **LinkedIn:** free (<http://www.linkedin.com>),
- **Medscape:** free (<http://www.medscape.com>),

- **Sermo:** free; open to physicians only (<http://www.sermo.com>).

With nearly 6,000 medical, health, and fitness apps available for mobile devices today, browsing app stores for promising ones can be extremely time-consuming – and not necessarily productive. You'll be much better off following recommendations from other users, from websites like the ones I mentioned, and, yes, from articles like this. Good luck in assembling your mobile armamentarium – and if you want to recommend apps I haven't mentioned, by all means do so! **FPM**

Send comments to [fpm@afp.org](mailto:fpm@afp.org).

1. Oxman AD, Sackett DL, Guyatt GH, et al. Users' guides to the medical literature: I. How to get started. *JAMA*. 1993;270(17):2093-2095.

### About the Author

Dr. Walsworth is an associate professor with the Department of Family Medicine, Michigan State University College of Human Medicine, East Lansing, Mich. Author disclosure: no relevant financial affiliations disclosed.

Point-of-care resources and library tools can provide everything from the latest bits of evidence to whole reference books.

For keeping up with the literature, choose library apps, and for sharing ideas with colleagues, join communities.

If you have additional apps to recommend, email suggestions to [fpm@afp.org](mailto:fpm@afp.org).