



## Healthcare Support:

# There's an App for That!

An increasing number of healthcare apps provide a range of functionality, and as they grow in popularity, safety is becoming an issue.

By Amy Scanlin, MS

**MANY COMPANIES ARE** creating interesting options in healthcare apps to make the population a little healthier. In fact, the market for these handy readers and trackers is expected to reach more than \$26 billion by 2017, according to a report by Research2Guidance, with more than 500 million smartphone users worldwide using them. Some mobile apps, which are really just a software platform designed to run on a smartphone, are “just-for-fun” fitness-type trackers; others can take that fitness log and tap into personal health records and even report the data to an individual’s trainer and physician. Still other apps have the capability, with an attachment or two, to become a blood pressure cuff, an ECG and any number of other devices that can move the app from merely a consumer application to a patient’s medical device. Some apps even require a doctor’s prescription.

Healthcare apps allow for greater functionality, better tracking of data and, with cameras and microphones, even allow the user’s phone to be a two-way communication tool for health communication. The World Health Organization’s Global Observatory for eHealth says this phenomenon of mobile health, or mHealth, has the possibility to take things to a whole new level. Think wellness management and healthcare to go!

Most apps are available for iPhones and Androids, with a few exceptions. Some are designed for physician use and are not available for consumers to purchase. Others are available by prescription only and, again, are not available for purchase in general app stores. However, about 50 percent of the nearly 100,000 wellness apps are available to download free, and most of those have the capability to provide information, fitness tips, guided meditation and the like.



More than 5,000 wellness apps have the ability to capture user data, some of which can remotely report that data back to health and wellness professionals, which reduces the need for doctor visits. Many apps also provide reward points as an extra incentive for reaching benchmark goals and to share progress via social media platforms.

### Mobile Prescription Therapy

A well-respected app with great functionality is the diabetes management app from WellDoc called BlueStar. This U.S. Food and Drug Administration (FDA)-approved, prescription-only app aims to assist diabetic patients through improved self-care via personalized advice and enhanced two-way communication with providers, as well as better tracking of their own condition through real-time information. A study of type 2 diabetics showed that patients who used the WellDoc app for glucose monitoring lowered their A1c levels by approximately 2.03 percent compared with a control group that saw a reduction of just 0.68 percent. Eighty-four percent of those patients had their medications adjusted compared with just 23 percent of the control group that saw a change. The app's GuidedComplianceTool, which tells patients when it's time to check their glucose levels and provides lifestyle change tips, was credited in part with these and other positive changes. (It should be noted that the control group also received the same lifestyle change suggestions.) Long-term success rates with the app are proving to be equally effective.

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This type of compliance enhancement capability holds such promise that the Maryland Chapter of the American Diabetes Association has partnered with WellDoc, and has hinted about more expanded collaboration in the future. "BlueStar falls into the category of mobile prescription therapy (MPT), according to the FDA," explains Ali Tighe, associate director of corporate development at the association. "This is not a drug therapy, but rather a way to provide important data that a healthcare provider can use to develop the best therapy for their patient and for the patient themselves to better understand what they need to do to control their type 2 diabetes."

Another type of mobile prescription can be found in the many pharmacy apps that allow patients to do things like refill prescriptions, identify pills by color and imprints, check medication interactions and schedule vaccinations in the store. Walgreens, Rite Aid, CVS, Walmart and many others offer similar services. Walgreens has even partnered with WebMD for virtual wellness coaching through its Balance Rewards healthy choices programs, and it has plans to integrate those programs into WebMD's Healthy Target mobile health improvement program. Healthy Target allows for uploading data from activity trackers, wireless scales and glucometers and allows users to receive tailored, physician-reviewed content, as well as motivational tips.

## Fitness and Wellness Apps

Fitness and wellness apps are probably the most common introduction individuals have into the world of health-enhancing mobile apps. With numerous fitness and nutrition trackers, these apps provide motivation and fitness tips, and some even offer guided meditation. There are any number of easy ways for people to get their start in the mobile world of wellness.

Debbie Ruth of Arlington, Va., uses a Fitbit and its app to track and communicate her exercise program with her personal trainer. "(My) trainer recommended the Fitbit," she said, and "once I 'friended' her, she could see my activity level and use the information to make adjustments to my

activities. Because I know she can see my steps, I work harder to meet my daily goals. This really has impacted my behavior! My trainer is very supportive. After reviewing the data, we use the information to plan our [personal training] sessions. For example, I have no problem walking a certain number of steps, but I lack aerobic fitness and weight training, so that is what we concentrate on during our sessions.

It's nice to see the progress during the day. If I only have 4,000 steps by late afternoon, I can plan to use the treadmill or arc trainer to reach my goal. I also like that the device sends messages about how close to my goal I am during the day; this is very encouraging."

The promise of improving health outcomes by using mobile apps led the National Cancer Institute to award \$365,000 to a University of Arizona study, a first of its kind that looks at how mobile apps can help women quit smoking while incorporating exercise and healthy eating to avoid weight gain. With pre-recorded positive affirmations and meditations of empowerment and, eventually, the woman's own recorded mes-



sages for playback, the hope is that the mobile app will help to incorporate the three behaviors together for better health.

Numerous studies show the benefits of mindful meditation — reduced stress, reduced blood pressure and heart rate, improved focus, and the list goes on. A mobile app of guided meditations and affirmations can help to quiet the mind and calm the nervous system. As Lysa Volpe, one of the meditation specialists at Miraval Arizona Resort and Spa in Tucson, Ariz., explains: “When we are able to bring our attention to one pointed focus as we do in meditation (for example an image, the breath or a mantra) without getting carried away into a story, we are able to calm the nervous system. What this means is that we can quickly go from a stressful state to moving to a more relaxed state. As we reduce the stress hormones of the body, like adrenaline and cortisol, we then reduce our heart rate and improve the efficiency of our immune system, which can be incredibly helpful with managing chronic conditions such as anxiety, pain and other illnesses.

“Likewise, with chronic pain, the body becomes fatigued and often reverts into a habit of functioning in a state of ‘fight or flight,’ which then means we become hyper aware of the constant subtleties of nerve endings being aggravated. With meditation, the sufferer will still experience the pain but will be far more apt to redirect their focus to maybe their breath or a neutral sensation of the body, therefore again calming their nervous system and diminishing the intensity of the pain. Overall, meditation is indeed a highly useful tool for chronic illness management.”

## Safety

FDA recently issued a guidance document regarding oversight of medical-related mobile apps that turn smartphone and tablet devices into medical devices such as those that, with attachments, can take blood pressure readings, ECG measurements, etc. The oversight will not apply to apps that track items like activity levels or food consumption because those types of apps do not have the potential to cause harm.

With FDA oversight of medical device products, the extension of that oversight to medical apps makes sense. According to Dr. Jeffrey Shuren, director for FDA’s Devices and Radiological Health, the arm that oversees medical devices, it’s not the platform in which FDA has interest, it’s the functionality of the platform. In other words, an ECG is an ECG no matter how it is taken. So far, FDA has already cleared more than 100 medical-related apps. That oversight is important because as the apps

market grows, there will surely be those that provide incorrect or misleading information, which has the potential to cause medical errors.

An option for people who are looking to vet information on an app’s usability and content is a rating system called AppRx, which was designed by HealthTap. With AppRx, doctors can rate apps on their usability, usefulness and whether they are medically sound. Once 30 doctors have rated an app, and those ratings have been reviewed by HealthTap’s review board, the ratings are made available to the company’s non-doctor customers, who can “applaud” an app they like as well.

No matter what type of mobile app is being used, data safety is always an issue. It’s one thing for a fitness tracking device to lack secure password encryption, but the risk becomes exponential when the encryption issue pertains to a patient’s medical and personal information. While patient information in an electronic health record must meet the security criteria of the Health Insurance Portability and Accountability Act (HIPAA), this requirement is somewhat fuzzy in the mobile app world because there is no standard that shows an app is HIPAA-compliant. According to the IMS Institute for Healthcare Informatics, apps that collect, store or transmit data that is considered to be protected health information must do so in a HIPAA-compliant manner, and those that connect to personal health records must transmit the data in a secure manner. In addition, all stakeholders must agree to and maintain in good faith their role in that protection.

## Popular and Here to Stay

The portability, utility and popularity of health and wellness apps clearly indicate they are here to stay. With this simple-to-use technology, improved well-being can be just a click away. But, finding the right app to fit one’s interests and style may be the hardest part with so many popular choices on the market. ■

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