



Healthcare Featured Article

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Mhealth is Pushing Patients Toward Perfecting Own Practice of Healthcare



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Mobile healthcare technologies are helping consumers manage their own wellness, chronic diseases and possibly even saving their lives.

At a time when 17 percent of the U.S. gross domestic product (GDP) is spent on healthcare and healthcare itself is actually growing 2 percent faster than the GDP, mobile healthcare companies believe they have the answers for making it more affordable and convenient to stay and get well.

Coupled with an aging population and soaring levels of chronic diseases, [mobile healthcare](#) now provides potential for managing healthcare costs, as well as allowing the patient himself to keep track of blood sugar, heart rate and other vital signs critical to staying well.

As of November, there were 17,000 [healthcare](#) apps for mobile devices.

Endomondo is a mobile app which uses GPS to track distances covered in sports like running and cycling and allows users to share the results. The company did a 12-week pilot with 120 white-collar workers in Copenhagen who all started using the app. The most active segment increased their activity by 13 percent but, more surprisingly, the most inactive segment increased their activity by 148 percent, going from an average of 1.8 to 4.5 hours of sport per week.

Hidalgo makes wearable sensors which track an array of vital signs like heart rate and send the data back to a central server, where it can be monitored for when it's time to take a break (many firefighters, a main user of this device, often overestimate their endurance). The U.S. Marine Corps has also used the system on soldiers on operational duties in Iraq.

Since Swedish research shows that 40 percent of accidents involving a single car are due to fatigue, other apps can prevent many deaths and injuries. Anti sleep pilot is an iPhone ([News - Alert](#)) app to help prevent fatigue-related driving accidents. The app calculates a fatigue level in real-time, helps drivers maintain their alertness via reaction tests and notifies them when it's time to take a rest break.


But it's perhaps in handling chronic disease when mobile healthcare apps demonstrate their value most. Studies have shown that 75-85 percent of healthcare spending goes to diseases like diabetes and heart disease. Experts say remote monitoring of these chronic conditions can reduce mortality by 35-56 percent and hospitalization by up to 47 percent.

With diseases like diabetes, patients are often asked to keep a diabetes log book or enter data manually. Most don't stick to it. Welldoc, which was founded by an endocrinologist, has developed a product to measure, monitor and manage chronic diseases.


This mobile-phone based system can provide alerts, such as checking blood sugar using a glucose monitor, or taking medication, or coaching in the management of chronic disease. An expert system observes a range of patient data over time and uses this to suggest recommendations to the patient and care-givers. Through the use of continuous communication between the patient and care providers using data logged via the patient's mobile phone, clinicians can assess and revise patient care almost immediately.

The devices available for monitoring health indicators, from glucose meters and blood pressure monitors to mobile ultrasound, are getting smaller and more sophisticated all the time. One company has even developed a smartphone with a built-in electrocardiogram (ECG) for those who suffer from heart disease. A 24-hour health concierge service ensures that every ECG is analyzed and responded to within 10 minutes.

Mobile healthcare apps are also available for the elderly. One system uses a customized Android ([News - Alert](#)) tablet called Angela, which gives one-touch access to email, Facebook, video chat and other services, and does not require any particular computer skills. Angela also acts as a hub for data gathered by a variety of health, environment and activity sensors in the home.

Health sensors include weighing scales, pulse oximeters (which measure oxygen levels and heartbeat) and blood pressure monitors. Alerts can also be received when a relative has been in the house all day but the refrigerator hasn't been opened. The data gathered by the sensors is saved using cloud computing via a 3G wireless connection and then integrated into Google ([News](#)  - [Alert](#)) Health's online health records.

But it's not all clear sailing for mobile healthcare just yet. Awareness of Mhealth apps is low among patients and medical professionals. Research has shown that among members of Generation X who had a chronic condition, only 9 percent were aware of Mhealth applications and a mere 3 percent owned one.

And insurers have not all jumped on the bandwagon either. Consumers are often prepared to pay for wellness applications directly but the big money is in convincing the insurance companies and employers that Mhealth can reduce medical costs. AT&T ([News](#)  - [Alert](#)), for one, is using Welldoc's system internally to reduce employee health insurance costs as well as marketing the system to insurers.