

From texting to apps, using cell phones for health

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With his cell phone strapped to his right wrist, Tyrone Harvey, 43, of Washington, left, talks with his doctor Gail Nunlee-Bland, M.D., about his diabetes, at Howard University Hospital in Washington, Friday, July 9, 2010. Harvey uses a cell phone to help manage his diabetes as part of a program that uses cell phone interactions to manage chronic diseases.(AP Photo/Jacquelyn Martin)

(AP) -- What if my blood sugar's too high today? Is it time for my blood pressure pill? With nagging text messages or more customized two-way interactions, researchers are trying to harness the power of cell phones to help fight chronic diseases.

"I call it medical minutes," says Dr. Richard Katz of George Washington University Hospital in the nation's capital.

He's testing whether inner-city diabetics, an especially hard-to-treat population, might better control their blood sugar - and thus save Medicaid dollars - by tracking their disease using Internet-connected cell phones, provided with reduced monthly rates as long as they regularly comply.

Consider Tyrone Harvey, 43, who learned he had diabetes seven years ago only after getting so sick he was hospitalized for a week, and who has struggled to lower his blood sugar ever since. In May, through a study Katz began with nearby Howard University Hospital's diabetes clinic, Harvey received a Web-based personal health record that he clicks onto using his cell phone, to record his daily blood sugar measurements.

If Harvey enters a reading higher or lower than preset danger thresholds, a text message automatically pings a warning, telling him what to do. And at checkups, doctors will use the personal health record, created by Indiana-based NoMoreClipboard.com, to track all his fluctuations and decide what next steps to advise.

"Hopefully you're paying more attention to your numbers, too," says Howard's Dr. Gail Nunlee-Bland, whose clinic uses an electronic health record - your official [medical history](#) - that can automatically link to NoMoreClipboard's consumer version and update it with things like medication changes.

The trend is called mobile health or, to use tech-speak, mHealth. If you're a savvy smartphone user, you've probably seen lots of apps that claim to help your health or fitness goals - using your phone like a [pedometer](#) or an alarm clock to signal when it's time to take your medicine.

Katz and other researchers are going a step further, scientifically testing

whether more personalized cell phone-based programs can link patients' own care with their doctors' disease-management efforts in ways that might provide lasting health improvement.

"Mobile phones provide that opportunity for persons to get the feedback they need when they need it," explains Charlene Quinn, an assistant professor at the University of Maryland medical school, who is testing a competing cell phone [diabetes](#) system from Baltimore-based Welldoc Inc.

After all, most of the population now carries a cell phone. Accessing the Internet with them is on the rise, too - nearly 40 percent of cell callers do, the Pew Internet & American Life Project reported last week - allowing more sophisticated digital health contact.

On the other hand, older adults are less likely to use smartphones. So are people who are sicker, with multiple chronic diseases, says Dr. Joseph Kvedar, director of the Center for Connected Health, a division of Boston's Partners Healthcare.

Kvedar notes that nearly any phone can handle simpler text-messaging programs. Among the biggest offered to date is the free text4baby, where government-vetted health tips timed to pregnant women's due dates are texted weekly to about 50,000 participants so far.

Do these kinds of technologies work? There's some short-term evidence, although no one knows if people stick with it once the novelty wears off:

-In a study of 70 Boston residents to improve cancer-preventing use of sunscreen, Kvedar found daily texts with reminders hooked to the weather forecast for six weeks increased sunscreen use by 40 percent.

-Researchers at New York's Mount Sinai Medical Center found episodes

of rejection dropped when they texted take-your-medicine reminders to 41 pediatric liver transplant recipients or their caregivers, adding another text nag to the parent if teen patients didn't quickly respond that they'd taken their dose.

-The University of California, San Diego, went a step further, designing a text-message program to encourage weight loss where participants texted back answers to such questions as "Did you buy fresh raw vegetables to snack on this week?" Answering allowed more customized texted diet tips. In a pilot study of 75 people, text-message recipients lost about four more pounds in four months than those given printed dieting advice.

-The Internet-based approach offers even more two-way interaction. This fall, Quinn will report results of a 260-patient study using a range of Welldoc phone features, including more real-time monitoring of the blood sugar fluctuations users enter. A small Welldoc pilot study found users' average [blood sugar](#) dropped over three months.

"What systems work best with patients has yet to be figured out," says George Washington's Katz, who is testing a version of that program, too - and worries not just about affordability when his study is over but whether interest will wane. "Otherwise, they find it's a nice toy to start with, and forget about it."

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