



Tuesday, May 26, 2009

BUSINESS

AT&T, Other Firms Test Devices to Help Monitor Patients From Afar

By ANDREW D. SMITH / Special Contributor to The Dallas Morning News

businessnews@dallasnews.com

08:24 PM CDT on Monday, May 25, 2009



JOHN A. BOWERSMITH/Special to DMN

These special insoles being developed by Texas Tech University and AT&T contain accelerometers capable of detecting when the wearer falls. That information is sent wirelessly to an alert system.

Doctors, hospitals and high-tech companies such as Dallas-based AT&T are excited about a new generation of devices that will let medical professionals track patient progress. These wireless devices automatically send doctors stats that people already measure — weight, blood pressure, etc. — so doctors can intervene at the first sign of trouble rather than waiting till patients feel bad enough to seek help.

Long-term treatments for diabetes, high blood pressure and other chronic killers work only if patients care for themselves properly.

That's why doctors, hospitals, and high-tech companies such as Dallas-based AT&T Inc. are so excited about a new generation of devices that let medical professionals track patient progress.

These wireless devices automatically send doctors stats that people already measure — weight, blood pressure, etc. — so doctors can intervene at the first sign of trouble rather than waiting till patients feel bad enough to seek help.

The Department of Veterans Affairs already uses such "telehealth" technology on 35,000 patients.

Now, private health groups – working with insurers, universities and technology makers – have begun tests that could lead to widespread deployment over the next couple of years.

"A lot of this is old technology," said Bob Miller, executive director of AT&T's communications-technology research department. "But we're putting it together in ways that will help millions of people live dramatically better lives."

The old technology in question includes thermometers, scales and blood-pressure cuffs. Even the wireless data transfer relies largely on established systems, such as Wi-Fi and Bluetooth, that have been modified to save power.

Combined, however, these old technologies create something new.

Doctors can suddenly see – and confront – daily fluctuations in important indicators. If, for example, a hypertensive patient's blood pressure begins to rise, his doctor can check whether he's eating properly or taking his pills. If patient behavior doesn't explain the problem, the doctor can change the treatment, observe the effect in real time and tweak as necessary.

Such early interventions could prevent many of the acute attacks that gradually transform a functional person into an invalid. They may also help save society from financing costly emergency room visits and other intensive treatments.

"Many patients struggle to follow complex treatment regimes," said David Whitlinger, president of the Continua Health Alliance, a technology industry consortium that develops and promotes open standards for medical devices.

"After each serious problem, they vow to stay healthy, but eventually they slip up and begin a downward spiral that ends in the emergency room. Then the cycle begins again.

"It's incredibly dangerous for patients and incredibly expensive for everyone else – and now we think we can stop the cycle by enabling doctors to nip problems in the bud."

PREVENTING PROBLEMS

As wireless networks make it easier to share patient data, device makers are coming up with new tools to spot possible problems.

A New York company called 24Eight, for example, has designed insoles laced with pressure sensors and accelerometers. These sensors monitor how walkers distribute weight and differentiate between good balance and deteriorating balance that puts a person at risk for a fall.

If all works well, the insoles will allow doctors to restrict elderly patients to wheelchairs just before their balance deteriorates to the point where they could hurt themselves.

That may sound like a modest breakthrough, but it could be enormous.

A nursing home with 200 patients averages about one fall a day. Of those, studies show, one in three will require an ER visit, and one in 20 will lead to a fatal complication within six months.

24Eight is working with AT&T, Texas Instruments Inc. of Dallas and Texas Tech University to test its balance-sensing insoles – along many other devices – at the Garrison Geriatric Center in Lubbock.

"We haven't collected enough data yet to discuss results, but we think it's incredibly important to shift the focus of care from treating problems to preventing problems," said Andrew Dentino, head of geriatric and palliative medicine at Texas Tech's medical school.

For all the potential of balance-sensing insoles and other cutting-edge devices, wireless technology may do even more for simpler products such as plastic pill organizers.

Forgotten medication creates huge health problems that could disappear if pill dispensers sounded the alarm at each missed dose. The first message might be an actual alarm to remind the patient. The second might be a text message sent to a relative, caregiver or doctor.

OBSTACLES REMAIN

Despite the potential benefits, big obstacles still hinder the adoption of telehealth technology.

For many years, the biggest problem was compatibility. Each device maker built its products from scratch, so products from different companies couldn't talk to one another.

Continua believes it has largely solved this problem.

The organization began operations in 2006, after Intel convinced 25 large device makers to support a standards-making body. Since then, it has grown to include more than 180 companies and has issued its first set of standards. Devices that adhere to those standards will soon be widely available.

Going forward, the problem will be finding doctors who can receive the information those devices transmit, and finding some way to pay doctors fairly for analyzing that information.

Most doctors still lack the electronic record systems that would allow them to collect and store readings from telehealth devices.

According to a government-sponsored survey published last year in the *New England Journal of Medicine*, only 17 percent of the nation's doctors use electronic record systems.

The Obama administration hopes to raise that number by giving doctors \$19 billion over the next few years to buy electronic systems, but many observers expect slow progress.

Even if doctors do go digital, they will need to work with insurers to devise a fair way to bill for remote monitoring.

"No question: There are serious obstacles," said Ron Banister, an assistant professor of anesthesiology at Texas Tech. "But if the trials demonstrate benefits as large as we hope to see, then a lot of this stuff will become very common in the next two or three years."

<http://www.dallasnews.com/sharedcontent/dws/bus/stories/052609dnbusattmed.3b68acd.html>