

Soon, Cellphones Will Monitor Vital Signs of the Chronically Ill

By DONNA FUSCALDO

Dow Jones Newswires

For Mary Furlong, worrying is a way of life.

The mother of Sarah, a 12-year-old diabetic, Ms. Furlong is concerned that managing the disease might become more difficult as Sarah enters adolescence.

Friends and activities easily could get in the way of the regular trips Sarah must make to the school nurse to have her blood sugar checked. For some diabetics, failure to keep a close watch on blood sugar can result in medical complications.

"It's a fear for every parent of a teenage diabetic," says Ms. Furlong, a 43-year-old internist and mother of five. "When approaching adolescence, no matter how well the child responded to management, everything goes out the window."

Recognizing the need for easier and less-intrusive monitoring of vital signs like blood sugar, medical companies are enlisting an everyday device: the cellphone. They're teaming up with telecommunications companies to develop modified cellphones that can monitor things like glucose, weight and blood pressure, and automatically send the information to the doctor.

For diabetics, cellphones already exist with the capability of reading glucose test strips. For people with heart disease, devices under development will be able to monitor their vitals and send the information to a doctor on a regular basis, reducing the number of office visits.

Many of these devices are in the early stages of development, but companies such as Motorola Inc. and HealthPia America say this could be a big opportunity to not only improve the quality of life for chronic-disease sufferers, but also bring down the medical costs associated with the diseases.

HealthPia America, a Newark, N.J., telemedicine company, is working on a device that could give Ms. Furlong the peace of mind she needs. The device, similar to one already in use in South Korea, is a cellphone that has built-in biosensors. A diabetic simply has to prick her finger to get a blood sample that she applies to a standard test strip. The patient inserts the strip into the phone, which reads it and sends the data to a doctor or parent.

The technology is already in use in LG Electronics Inc. handsets in South Korea, which retail for about \$400. HealthPia America is just beginning trials in the U.S. and eventually hopes to snag Verizon Wireless as a partner. "We've had meetings with Verizon Wireless," says Steven Kim, chief executive. "We haven't signed anything yet."

Mr. Kim says the technology should receive Food and Drug Administration approval around February. Officials at Verizon were unavailable to comment.

Cellphone titan Motorola has teamed up with Partners Telemedicine, a Boston-based service of Harvard Teaching Hospitals, to develop preventive care via the cellphone. Using wireless sensors affixed like a patch to a patient's body, information such as blood pressure and weight can be sent automatically to a doctor. The wireless sensors would be able to talk to the phone using a short-range wireless technology called Bluetooth.

Using a secure Internet site, doctors would be able to set parameters for how many times a day they would want the readings. The doctor would be alerted automatically if the patient's vital signs fell below certain levels.

Currently, Motorola is in early trials of the device and hasn't set a time frame for when it will be available. Looking ahead, the company envisions a world in which a cellphone is at the center of managing a patient's care.

"The individual becomes the point of care, not the doctor or hospital," says Jose C. Laca, senior manager of the company's MotoHealth project. "This cellphone is the only electronic device on you and on 24 by 7." According to Mr. Laca, the cellphone someday will serve as the hub that delivers health information, advice and medical assistance.

"I think the technology would be very welcome," says Robert Rizza, president-elect of the American Diabetes Association. "It's very difficult to keep track of blood-glucose concentration."

But as with most new things, there will be barriers to adoption. For one thing, many sufferers of chronic diseases are older and may be less open to new technology. The companies also will have to convince doctors that the technology is practical and easy to use, and persuade regulators to approve it.

Lack of tech savvy among some patients "is a barrier," says Douglas Knoop, senior medical director at Blue Cross and Blue Shield of North Carolina. It "sort of outstrips the number of people that are interested or willing to use technology like that." And with concerns about patient confidentiality on the rise, a device that automatically transmits data could raise a red flag, noted Mr. Knoop.

But for people like Ms. Furlong, who have to worry about a teenage child with diabetes, it may be a no-brainer. Ms. Furlong says many would plunk down the cash if the technology worked as promised. But for others who don't have severe cases of diabetes or other diseases, it may be a harder sell.

The cost of the device and the likelihood of insurance coverage are questions that loom large, says Rodney Ho, 35, who has suffered from diabetes for more than 20 years. "The devil is in the details," he says.