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**Vital readings come from home**

Device does many tasks a nurse would do in another setting

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Richard Dando's blood pressure is all over the place, hitting lots of highs and lows at unexpected times. When it's too low, he passes out, and there's not much doctors can do about it, he said.

He's 84, and his blood vessels have lost much of their elasticity. They don't expand and contract like they should.

He'd probably be living in a nursing home were it not for a little device that sits by his bed and does many of the tasks a nurse would do in a different setting.

Dando, who retired as manager of a printing company in New York, benefits from a growing trend in medicine called telemonitoring. A machine made by HomMed and approved by the Food and Drug Administration takes his blood pressure, heart rate, oxygen saturation, body weight and temperature every day — multiple times if needed — sending the results to his home health agency, Horizon Home Health. If Dando doesn't feel well, he can have the checks made and the data sent any time.

Doctors credit telemonitoring with preventing complications that require hospitalizations and unwanted emergency room visits.

A three-month medical study using the HomMed Health Monitoring System, published in the June 2000 issue of *Congestive Heart Failure*, found significantly fewer trips to the emergency room and a lower hospitalization rate for patients who use the monitor, compared with those who don't. And because it's easy to use, 98 percent of the patients in the study used the monitoring system every day.

The HomMed Home Monitoring System, which has Food and Drug Administration 510-K Class II approval (the highest level it gives a non-invasive medical device), is made up of two components: the monitor, which collects and transmits information from the patient's home, and the "central station," which receives it. The central station is more than a receptacle for data; it identifies and "reacts" to potential health problems.

Patients like Dando are assigned a vital sign baseline of appropriate measurements and parameters set so those who fall outside them will trigger an alarm. If the patient doesn't respond to the monitor's voice reminder, the central



Richard Dando demonstrates the HomMed monitoring device he uses each morning from his Sandy home as part of his care.

*Jason Olson, Deseret News*

station will be alerted to call the patient and ask about both well-being and why the signs weren't reported. The monitored data is stored and can be displayed using graphics to help physicians analyze the patient's response to treatment and care.



The HomMed monitoring device measures Richard Dando's blood pressure, heart rate and oxygen level and transmits the data over a phone line to his home-health agency.

*Jason Olson, Deseret News*

Dando's data is collected and sent over the phone lines or with digital wireless over a virtual private network to the Horizon office, where a staffer looks at it immediately so abnormalities can be seen right away. The information can be sent on to the physician if it requires attention, or it can be shipped at selected intervals for the doctor's review.

"It's pretty close to care you'd receive in a nursing home," said Dr. Joseph B. Liddle, who has a family practice in Pleasant Grove and monitors a few patients using the telemonitor system.

"I'm excited about this," Liddle said.

The patient's not "hooked up" all the time but can move around as much as the medical condition allows. Because — barring a specific concern — the monitoring takes place at scheduled intervals, it's easy, for example, to just prick a finger themselves and put that drop of blood on the test strip or put on the blood pressure cuff.

Aside from his blood pressure challenges, Dando's in "pretty good health," though he can't walk much without a walker. He needs the added stability in case his blood pressure drops. When that happens, he immediately hooks up to the machine and sends the data to the Horizon office.

He's been living by himself in Sandy for the past year but will soon move to a retirement center, not for health reasons but because he describes himself as a sociable creature, and "the thinking is I should be somewhere where there's interchange with other people every day. I get lonely."

His telemonitor will go along with him