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Silent guardians

Motion sensors, virtual dinner companions and a talking pill could help baby boomers age more independently.

By [H.J. Cummins](#), Star Tribune

Today, motion sensors can monitor the comings and goings of elderly Americans so they can live safely and independently in their own homes.

One day soon, a cellular telephone will detect any new quaver in the voice, and a cuff link will notice any worrisome change of gait.

Eventually a talking computer screen will tell the elderly whether they should take an aspirin for a headache -- considering their 12 or 16 or 20 other medications.

Yesterday's science fiction is tomorrow's assisted living, say prognosticators now watching 77 million baby boomers grow old.

The boomers' wish to age independently has businesses jumping in with a host of new products and services. The businesses include giants such as Intel and Pfizer as well as Minnesota enterprises such as Shoreview-based Ecumen, a nonprofit with senior housing centers in 80 communities, and HealthSense in Mendota Heights, which sells a monitoring system it calls eNeighbor.

And for good reason: One projection has the digital home-health market growing 36 percent a year, to \$2.1 billion in 2010. And the United States is behind Europe and Japan when it comes to developing such technologies.

To help new technology reach Minnesota seniors, Rep. Joe Atkins, DFL-Inver Grove Heights, plans to introduce a bill Monday with tax credits of up to \$1,000 for assistive technologies -- everything from telephone amplifiers to devices yet to be imagined -- that help them stay in their homes.

Early alerts

In June 2005, Ecumen put motion sensors called QuietCare in the rooms of six of its residents,

spokesman Eric Schubert said. That number is now more than 600.

The sensors figure out a resident's daily routine, and any deviation sends a computer message to the housing staff. The extra monitoring can keep residents longer in assisted living and out of nursing homes, for example, Schubert explained.

Ecumen also plans to sell the monitoring service beyond its walls to elderly residents looking for a little support to stay in their homes.

One of the first QuietCare clients at Ecumen's Lakeview Commons in Maplewood was Honor Hacker, 81, a retired high school teacher who has been at the assisted-living center since June 2004. Six devices, each slightly smaller than an eyeglasses case, are placed high on a wall in each room, as well as in refrigerators and medication containers in each apartment.

"You're completely unaware that they're there," Hacker said.

But once last year, the sensors reported little movement in Hacker's apartment -- unusual for the busy retiree, center director Wendy Trafficie said -- which triggered quick follow-up treatment for an upper respiratory infection.

That's especially important for Hacker, who has asthma.

For families looking to install a motion-detection system in a home, the going rate is between \$200 and several thousand dollars plus \$60 to \$100 a month in monitoring fees, according to Bryan Fuhr, one of the owners at HealthSense.

HealthSense's eNeighbor product went on sale last June, and most have been installed in Twin Cities homes, Fuhr said. The eNeighbor system is set up to first call the client at home if the sensors pick up anything unusual.

If the client answers and says, "Everything's fine," that's the end of it, Fuhr said. Otherwise, the system proceeds down a list of pre-designated contacts: a neighbor, then a son or daughter, then 911, for example.

HealthSense is developing a variation on this for the Defense Department for use by people with traumatic brain injuries, he said.

High technology

Helping the trend along is boomers' comfort with technology.

In an Ecumen survey of almost 600 Minnesotans ages 42 to 60, nine in 10 said that they use the Internet and that they expect technology to help them live longer and more independently, Schubert said.

"People of all ages are not afraid of technology any more," said Cecelia Horwitz, executive director of the Center for Future Health in New York, which published a 2007 report titled "Self Care's Promising Future." "What they are afraid of is that there's more data about them so the insurance companies might cut them off," she said. "That's a big issue."

Another issue is regulatory hurdles slowing down research and development in this country, said Kathy Bakkenist, an Ecumen vice president and public policy chair of the Center for Aging Services Technologies, an industry and research consortium.

"Intel right now is setting up to test a series of products in Ireland, because they cannot get permission to test [them] in the United States," Bakkenist said.

She expects that Minnesota Sen. Norm Coleman and Rep. Jim Ramstad soon will introduce a bill in Congress to support a two-year study to promote the potential of assistive technology.

What that technology will be is the subject of many imaginations now.

A "virtual dining table" is being developed that can connect distant family and friends with real-time video and sound, Horwitz said. It's companionship for people living alone, and helps to ensure they don't skip meals.

Also in the works is "Chester, the Talking Pill," an animated character on a computer screen, Horowitz said. If elderly users aren't feeling good, the computer will know all their medications and possible side effects.

"The system can even be intuitive," she said. "If you ask if you can take some aspirin, it can say, 'Your doctor says you can take Tylenol.' Then the system will ask, 'Why? Do you have a headache?' and even, 'On a scale of 1 to 10, how bad is your headache?' "

Feed that computer readings such as blood pressure or heart rate, collected by tiny monitors in earrings or a belt or a shirt, and "Chester" could announce: "Have a glass of water. You're dehydrated," Horwitz said.

All that technology promotes more self-care, which keeps people independent, she said.

"You don't want to create a need for more doctors," Horwitz said. "You want to empower patients to take care of themselves as much as possible."

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