

Taking care of elderly -- by remote control

Jennifer Youssef / The Detroit News
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Devices for elderly

Hundreds of devices are on the market or are being tested that help monitor the well-being of senior citizens in their homes. Among the categories of what is called geriatric assessment technology:

Emergency call systems: Allow seniors to press a button or set off an alarm when they have a medical emergency.

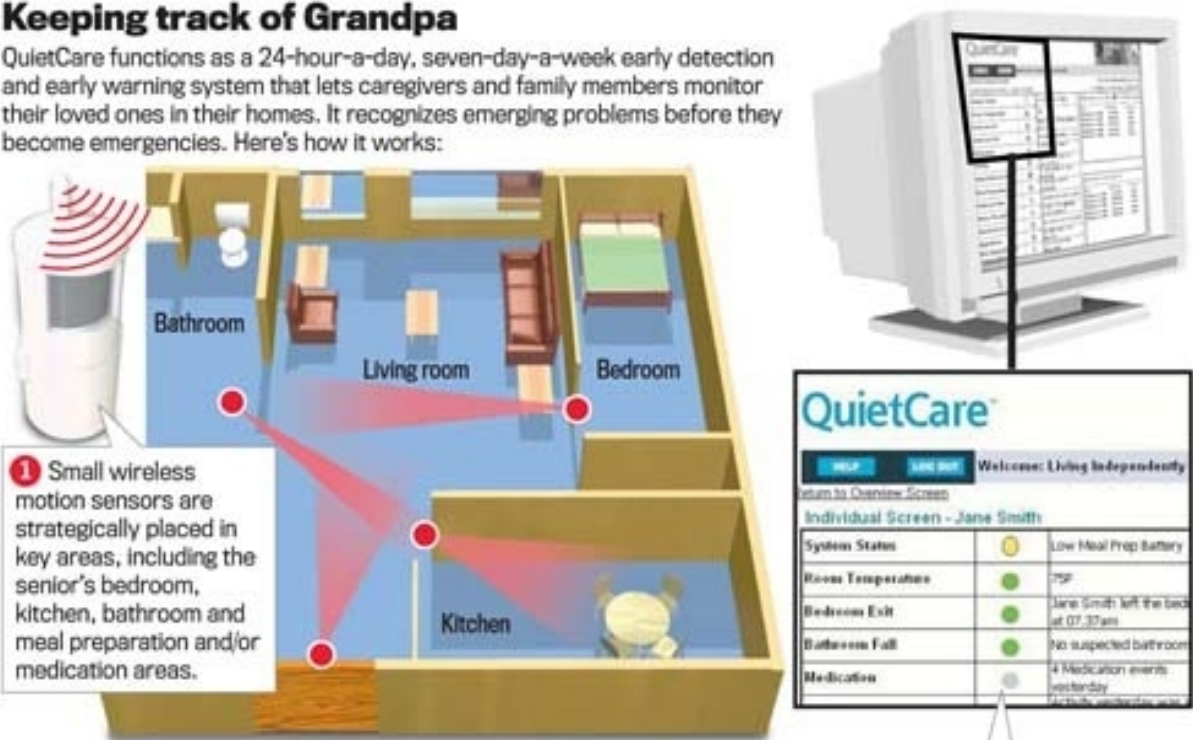
Wander management systems: Allow monitoring of seniors and others who are at risk of wandering from their homes.

Fall management systems: Allow caregivers to determine quickly if a person has fallen and can't get up.

Medicine management systems: Help seniors and their caregivers organize medications and provide reminders when to take them.

Keeping track of Grandpa

QuietCare functions as a 24-hour-a-day, seven-day-a-week early detection and early warning system that lets caregivers and family members monitor their loved ones in their homes. It recognizes emerging problems before they become emergencies. Here's how it works:



1 Small wireless motion sensors are strategically placed in key areas, including the senior's bedroom, kitchen, bathroom and meal preparation and/or medication areas.

2 The base station gathers information and regularly transmits it over telephone lines to QuietCare's computers.

3 Changes in the senior's activities are analyzed so caregivers can be alerted to problems by call center professionals, or via e-mail, cell phone, text message or pager, or by checking a password-protected Web site.

QuietCare™		
Welcome: Living Independently		
Return to Overview Screen		
Individual Screen - Jane Smith		
System Status	🟡	Low Meal Prep Battery
Room Temperature	🟢	75°F
Bedroom Exit	🟢	Jane Smith left the bed at 07:37am
Bathroom Fall	🟢	No suspected bathroom
Medication	🟡	4 Medication events yesterday View Medication History

Base station

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Phyllis E. Baker didn't worry about her 80-year-old father's health or safety until he lost consciousness and was rushed to the hospital two years ago.

That was when Baker moved him out of his Inkster home to an assisted living community close to her Indianapolis residence. But he missed his friends and community and moved back to Metro Detroit.

But this time, through the rapidly advancing field of geriatric technology, Baker can keep track of her dad's daily activities and health from 350 miles away.

For \$199 to install and \$79.95 a month for service, she put a new system called QuietCare in her father's home that tracks his movements and health and alerts a 24-hour emergency center if there is a potential problem. "It gives me peace of mind," Baker said.

From talking pill bottles to motion sensors that keep an eye on seniors who tend to wander to computerized monitors that detect health problems such as a spiked pulse, hundreds of new technological devices are hitting the market each year that allow older adults to live at home and maintain their independence.

And there's growing evidence that such technology can dramatically reduce health care costs by detecting issues early and limiting the need for constant medical supervision.

The demand for such devices will grow as 75.8 million baby boomers head into their golden years. The number of Americans 65 and older will rise from 36.8 million in 2005 to about 71.5 million in 2030, according to the U.S. Administration on Aging.

The QuietCare system Baker uses includes six motion sensors, placed strategically throughout the house, that relay messages to a computer connected to an alarm company. The system monitors the daily movements of Baker's father -- when he takes his medicine, when he goes into the bathroom and how long he stays there, when he prepares a meal in the kitchen. The system notifies an alarm company if there is anything unusual.

For example, QuietCare will alert the system to a possible fall if a sensor detects a person entering a room but not exiting in a reasonable amount of time.

Baker also can check in on father's movements throughout the day via the Internet. "It makes me, as one of his caregivers, more comfortable about leaving him alone at home," she said.

Giving seniors control

One pressing issue researchers at the Wayne State University Institute of Gerontology have encountered is the fight that occurs when elderly adults who want to remain independent feel suffocated by a caregiver.

Technological devices such as QuietCare can help resolve some of the conflicts by allowing seniors to stay in their home and have privacy, said Thomas B. Jankowski, associate director of research.

"This kind of technology has a lot of promise," he said. "It gives (seniors) control. It's very disruptive for someone who has lived in their home for so many years to up and move."

Jankowski and his colleagues are working on a more advanced motion detector system that also picks up sounds such as a person falling and monitors temperatures inside a home.

Researchers are developing sensors that track a senior's breathing patterns and heart rate when they are in bed and devices that feel vibrations on the floor and contact a caregiver if it detects someone has fallen.

The emerging field comes as more seniors are choosing to spend their golden years at home instead of a retirement community or nursing facility, said Chris Chesny, president of the MidMichigan Visiting Nurse Association. In 2001, 24.9 percent of the association's patients older than 80 were living at home; in 2006, that number was 34 percent.

Nurses check monitors daily

The association provides 150 elderly patients with a shoe box-sized telemedicine monitor that lets seniors take their vital signs and transmits the results over a telephone line to a computer at a central base, where a nurse checks all 150 readings once a day.

Having a telemedicine monitor has made Margaret Edmonds, 87, of Midland more aware of potential health problems before they get so serious that she has to go to the hospital. The device measures her blood pressure, oxygen level and pulse, and asks her questions about her fused left foot. It also tells her when she needs to take more medicine for her high blood pressure.

"I wouldn't take my blood pressure without the machine," she said.

The monitor has come in handy a few times for Thelma Shanks-Bryant, 95, of Detroit. Even though her niece, Bonni Walker, moved into her apartment in May to take care of her, Walker isn't a medical professional and she likes having a device that tells her if her aunt's vital signs are normal or if she needs medical attention.

The manager at the Visiting Nurse Association of Southeast Michigan's Oak Park office contacted Walker last week when the monitor showed that Shanks-Bryant's pulse was high. The manager had Walker assess her aunt's condition and discovered the problem was only temporary.

Cost savings are huge

Caregivers' anxiety over medical issues may lead them to institutionalize seniors long before they need to, said Majd Alwan, director for the Center for Aging Services Technologies, a coalition of 600 technology companies, universities and elder-care providers that seeks solutions to problems associated with aging.

And the cost savings of keeping a senior at home rather than in an institution, along with the early detection of medical problems that technology can provide, is tremendous.

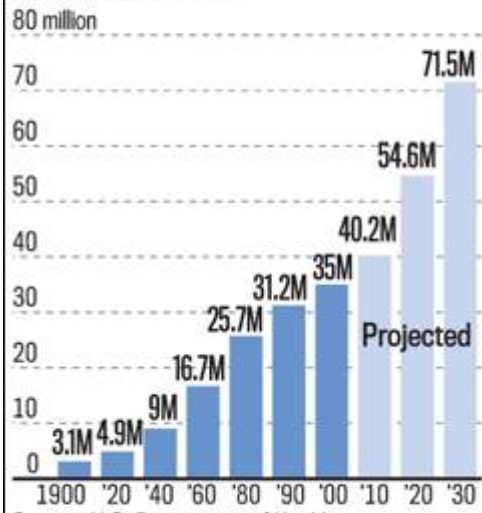
In a 2005 study, data collected over three months showed that monitored seniors incurred an average health care bill of \$828.91, while those who did not use high-tech tools racked up an average bill of \$3,236.38. The study also found that monitored seniors went to the emergency room and doctor's office fewer times and had shorter hospital stays. "I firmly believe these devices will allow more seniors to age at home," Alwan said.

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Getting grayer

The number of Americans age 65 and older will burgeon between the years 2010 and 2030, when baby boomers start hitting age 65.

People 65 and older:



Source: U.S. Department of Health and Human Services
The Detroit News

<http://www.detnews.com/apps/pbcs.dll/article?AID=/20070607/LIFESTYLE03/706070407/1040>