

New technologies are improving the lives of seniors

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If Betty Lewis falls at the Edgemere senior living community, a pendant she wears around her neck will alert the staff. The device picks up the motion of the fall and notifies staff members at the North Dallas facility so Lewis doesn't have to hit the alert button.

The device also will tell the Edgemere staff the general location of where she has fallen.

"The pendant will pick up the arc of that fall," said John Falldine, Edgemere managing director. "It sends the same signal to us as though the resident had hit the button."

That gives comfort to Lewis, 90. "It serves the purpose that I need," she said.

Edgemere's pendant alert system is one of many technologies that are changing the lives of seniors and their caregivers for the better.

"It will change the (senior-living) industry in that it will help residents, it will help families and it will help businesses like Edgemere extend residents' independence," Falldine said.

"In the past," he said, "about all you had to do to extend independence was ambulation devices. If a resident is not as sure on their feet, you can get a walker, you can get a wheelchair, you can get motorized carts."

Today it's much more than that.

At a July conference in Dallas of the National Association of Area Agencies on Aging, exhibitors included companies that sold telephones for seniors with hearing loss, and "telemedicine" providers that help patients share vital data with their doctor from their home.

"Technology is a new frontier as far as having support to ensure that people can age successfully," said Sandy Markwood, chief executive of the association. "It's not a replacement for friends, family and community support, but it is a great augmentation to that."

The business potential is huge.

"We are a society that is growing older by the minute," according to Semico Research Corp., a Phoenix-based semiconductor marketing and research company. "By 2030, there will be over 72 million people over the age 65 in North America alone. And one thing is certain: None of the elderly wants to end up in a nursing home."

Most of us want to grow old in our homes, surrounded by our families and friends and living a normal life.

"Technology is how we can enable those 72 million people to accomplish this goal," Semico said in a report it issued last year.

"The aging-in-place market will see revenues over \$30 billion by 2017," Semico said. "Almost 70 percent of the over 120 million unit shipments will come from wellness peripherals like glucose meters, blood pressure monitors and smart scales."

This booming market includes such things as:

- Wearable and embedded devices that can monitor, record and transmit health information to physicians.
- "Intelligent" mobility aids such as autonomous wheelchairs or robotic walkers.
- Devices that dispense medication, provide reminders and monitor adherence.
- Sensory stimulation devices to improve a senior's balance.
- Technology-enhanced memory aids and GPS-based anti-wandering systems.
- Personal [emergency response systems](#), such as Lewis' pendant.

FOR THE INDIVIDUAL

"There are a number of technologies that are more targeted to the individual to support aging," Markwood said. "Those may be health-related technologies that are really focused on helping people monitor their vital signs or their activity levels."

Those working with seniors are also using the Internet for games that help people maintain their cognitive skills.

"The brain games and those types of things have really grown," Markwood said.

FOR THE HOME

There are also a growing number of technologies aimed at helping seniors function well in their homes.

"Those are the types of things that may involve environmental sensors that may show if somebody had fallen," Markwood said. "It could be something tracking carbon monoxide or carbon dioxide. Did you lock your doors? Those type of motion detectors.

"These are things that people of all ages could use, but they are specifically helpful for people who become more frail."

Preventing falls is a major goal at Edgemere, said John Muia, resident care manager.

"Falls are a leading cause for senior deaths and repeat hospitalizations throughout the country," he said.

Edgemere is also working with a company to purchase "smart beds" that will monitor residents' movements, breathing and heart rate.

FOR CAREGIVERS

Markwood noted that there are other types of technologies that are helpful to caregivers.

"Those could be the personal emergency management functions where if somebody falls or somebody's in trouble, they can push a button that notifies the caregiver," she said.

Video monitoring systems allow caregivers to view remotely and respond quickly to problems. However, some are concerned these may invade the privacy of the senior.

Caregivers can also get help online. For example, Cariloop operates a website that matches families with senior care homes and service providers.

"Our team at Cariloop is focused on one such experience - transition," said Michael Walsh, Cariloop founder and [chief executive](#).

FOR CONNECTIONS

Finally, there is [technology](#) that keeps seniors stay socially connected.

Social isolation is a killer for seniors. Things that keep them active or connected with others improve their emotional and physical health.

For seniors with [hearing loss](#), a telephone with a screen that displays what a caller says word for word can be a lifesaver. Similarly, smartphones or tablets can provide face-to-face communication.

"It's important that if somebody has some mobility limitations and can't get out, that they're connecting to their family, that they're connecting to an online bridge club, because it keeps them engaged," Markwood said. "Being able to connect with somebody on Skype is a great alternative if you can't have somebody in your room."

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