

Aging in place goes high-tech

Monitors, motion sensors, even games can stave off nursing homes

By **WALTER HAMILTON**
Tribune Newspapers

Dorothy Rutherford is anxiously typing at her home computer, filling in answers to an online spelling game.

"I hate it when I can't get this last word," the 86-year-old retiree says as she studies the jumbled letters "nadobna." Rutherford tries "banana," then "bandana," to no avail. She smiles broadly when the computer beeps its approval of "abandon" a few moments later.

Rutherford isn't just whiling away the hours in retirement. She is on the front lines of an initiative to help elderly Americans stay in their homes as long as they can — a concept called aging in place.



Dorothy Rutherford, 86, takes comfort in being monitored.

Gerontologists say aging in place vastly improves the quality of life for seniors and is a lot cheaper for society than group homes and institutions.

The trick is to do so without jeopardizing the health and safety of older people, which is why Rutherford is playing the

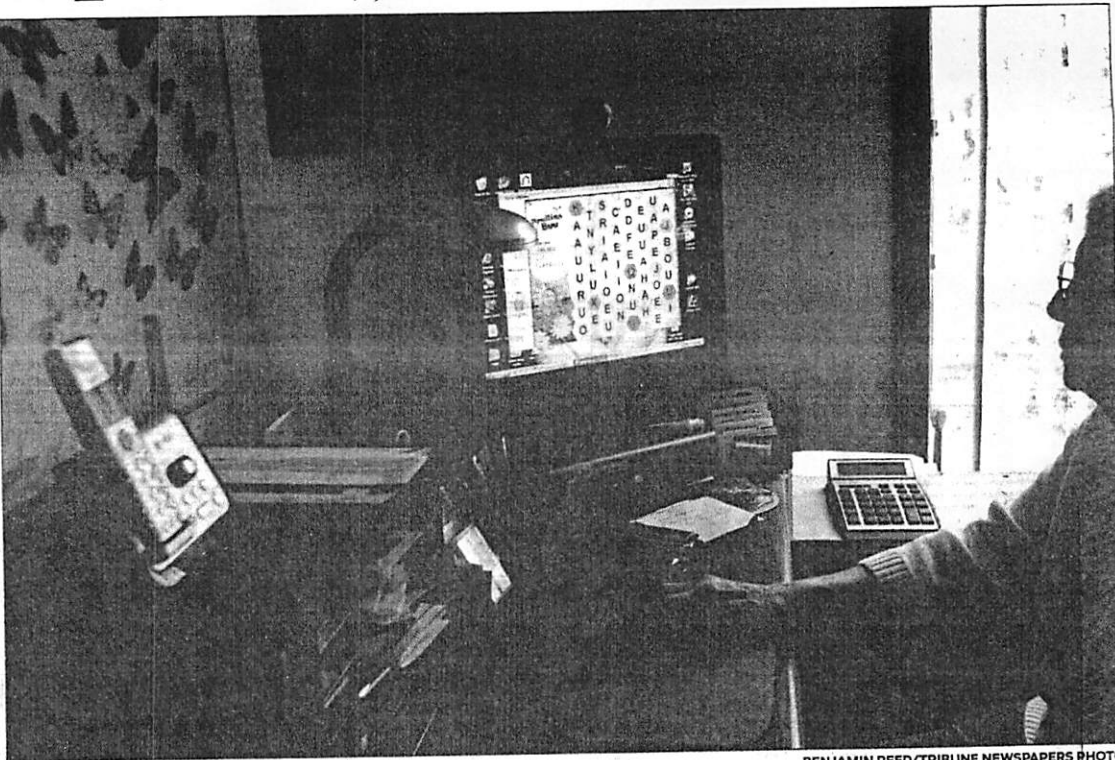
word jumble game. The results of the game, as well as typos and even the intervals between keystrokes, are monitored for abnormalities that could foreshadow physical or mental infirmity.

She is one of 480 people taking part in several pilot programs in Portland, Ore., that outfit homes with technology so elderly people can be monitored for illness or infirmity.

The studies are being conducted by the Oregon Center for Aging & Technology, with partial funding from Intel Corp. With the first wave of baby boomers turning 65 this year, corporations such as Intel see lucrative business opportunities tending to a generation of people accustomed to doing things their own way.

"This is a race to see who's going to invent 21st-century care services for boomers," said Eric Dishman, health policy director at Intel-GE Care Innovations, a joint venture that Intel formed this year with General Electric. "Worldwide, there's this enormous market opportunity."

To that end, Rutherford's two-bedroom condominium has been outfitted with an array of electronic-monitoring gear that



BENJAMIN REED/TRIBUNE NEWSPAPERS PHOTO

Taking part in a pilot program in Portland, Ore., Rutherford has her home outfitted with technology that monitors her gait and eating habits and lets others check on her remotely through a camera-enabled robot. Above, she uses a computer tool that tests her cognition.

might eventually find its way to retail shelves — all of it light-years away from those medical-alert necklaces advertised in TV commercials.

Motion sensors along hallways and ceilings record her gait and walking speed. A monitor on her back door observes when she leaves the house, and one on the refrigerator keeps tabs on how often she's eating.

A few months ago, the former waitress even tested a robot with a Skype-like video monitor that lets faraway relatives check on loved ones.

Rutherford's granddaughter Katie Cooper piloted "Celia" from home in rural Wyoming, steering the machine — shaped like a 4-foot paper clip on wheels — around Rutherford's house as they spoke. At first, Cooper struggled to control Celia, bumping the robot into tables and running over a shopping bag. But she got the hang of it quickly.

"My grandmother's furniture hasn't changed in 20 years. I knew the layout of the house," she said. "Anybody who's ever

played a video game would have no problem using this."

The equipment in Rutherford's home is monitored by researchers at the Oregon lab, which was established in 2004 and developed most of the gear.

For it all to catch on, however, major obstacles must be overcome. Among the biggest are persuading families to shell out several hundred dollars or more for sensors, and monthly monitoring fees that can top \$100.

Neither Medicaid nor most private insurance policies cover these expenses, said Dr. Jeffrey Kaye, director of the Oregon aging and tech lab.

There is a downside: Some experts on the aging population worry that making it easier for elderly people to stay in their homes could reduce the incentive for children to visit or create a false sense that technology can foresee every problem and address every need.

"This technology has the potential to isolate people as well as connect people because it has the potential to replace

(human) contact," said Tamara Hayes, senior researcher at the Oregon tech lab.

"But used properly," she added, "it enhances relationships because it lets you use your energy thinking about the things that matter rather than, 'Did Mom get up and take her pills?'"

For Rutherford, anything that helps her stay in her home is worth it.

A waitress for more than 50 years, Rutherford is an avid chef who mixes two dirty martinis before dinner each night. She lost her husband to emphysema seven years ago.

"I've been here for 24 years," she said. "I don't want to go somewhere else. I don't want to be under somebody else's thumb, and I don't want to live in assisted living or a retirement home."

She knows many aspects of her life are being monitored but takes comfort in it. "It really gives you a sense of security," she said. "In a way, I know that there is something out there taking care of me."

whamilton@tribune.com