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Robot a new face on geriatric care

With qualified humans scarce, remote-control eyes and ears help O.C. nurse check patients in Utah.

By **NANCY LUNA**

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San Juan Capistrano Nurse Anne Ellett observes Gloria Knap shuffle her feet as she walks - body pitched forward - down the halls of an assisted-living community.

Ellett, an expert in caring for Alzheimer's patients, asks Knap's nurse, Gia Osmus, about the 73-year-old woman's gait. Osmus replies, "It's sketchy at times."

The exchange appears routine, but it's far from normal.

You see, Ellett, vice president of clinical services for Silverado Senior Living in San Juan Capistrano, is nearly 700 miles away from Osmus and Knap, who are in Silverado's Salt Lake City facility. Ellett is among a handful of medical experts in the country making "virtual visits" with the help of the health-care industry's latest gee-whiz technology - a 5-foot-4-inch robot named Companion.

Undergoing pilot testing across the country this year, the robot - built by Santa Barbara-based InTouch - roams Silverado's halls, controlled remotely with a joystick used by caregivers on a moment's notice.

"The nice thing about it is that I can be completely spontaneous," said Ellett, who oversees care for residents living in Silverado's 12 facilities.

And that's critical for an industry struggling to provide care for the elderly. By 2030, 20 percent of the country's population will be 65 or older, up 12 percent from 2000, according to the American Geriatrics Society.

Yet studies show there is an insufficient number of geriatric specialists available to treat these patients - making Companion an attractive tool for caregivers.

"It's a great multiplier effect for the scarce resources - the medical expert," said Dr. Laura Mosqueda, director of geriatrics at UCI College of Medicine in Orange.

Companion gives Ellett a chance to act like a giant fly on a wall.

The robot, which is the only product InTouch makes, can move forward, backward and side to side as it "walks" with a human-like presence down halls at speeds of up to 2 mph. But unlike a real person, it has no arms,



HELLO: Jen Horton, background, and Alma Spangler, 93, share a laugh after Spangler mistook InTouch's Tim Wright, on screen, for a woman. The Companion robot has been at Silverado Senior Living Center in Calabasas since January.

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THE "COMPANION"

Height of robot: 5 feet, 4 inches

Weight: 215 pounds

Cost: Being leased as pilot test for \$3,000 a month

Speed: Robot moves up to 2 mph. The video camera and screen can rotate 360 degrees and pivot up and down.

Sensors: 24 infrared sensors are distributed around the robot

Drive system: An electric motor powered by two batteries and attached to three 5-inch urethane balls. This allows the robot to move forward, backward and sideways.

and its head - a 15-inch monitor - can rotate 360 degrees.

Its operator controls it with a joystick from a remote location.

"You need a crash course in video games just to use this," joked Ellett, as she maneuvered the robot recently through the Utah facility.

A camera mounted above Ellett's computer monitor captures her image and projects it in real-time on the robot's monitor. A high-speed Internet connection makes Ellett's screen presence nearly seamless.

IN CONTROL:
Anne Ellett of Silverado Senior Center in San Juan Capistrano, an assisted-living home for seniors, uses the Companion's controls to run the robot and talk with people at a senior-living home in Salt Lake City.



ON SCREEN: This is the flat panel display that the operator of the companion sees. The person Anne Ellett of Silverado Senior Center is speaking to is a former surgeon who now lives at a Salt Lake City senior center.



"Good morning," said Ellett, waving her hand in front of the camera to catch the attention of a resident in a hallway. "It's nice to see you. How are you feeling?"

Garner Meads, 89, tilts his head ever so curiously while looking at a grinning, hand-waving Ellett on Companion's monitor. He hesitates slightly and responds, "How are you?"

After a few minutes, Ellett learns that Meads is a retired surgeon and a new resident at the Utah facility. While chatting, she observes his speech, his memory recall and his overall attitude.

She can repeat these types of valuable encounters several times a day with residents in Utah and Calabasas - the other Silverado locale outfitted with a Companion. "I'm definitely reaching more people," said Ellett, who gets behind the controls up to 12 times a week.

Still, she admits she was skeptical of the robot when she first learned about it.

"I thought, 'We're talking about a robot taking care of patients? No,' " said Ellett. "Then I realized it was an extension of our expertise."

Experts said the robot provides caregivers a unique opportunity to view Alzheimer patients - who tend to have outbursts - in a natural setting, rather than an exam room.

"Somebody might be hell on wheels at home, but you bring them into the office, and they are an angel," said Mosqueda. "So whenever possible it's great to see their behavior where they live."



A health-care professional can operate the Companion from any location in the world using a computer equipped with a broadband wireless Internet connection.

Besides Silverado, two other facilities are testing the robot on a \$3,000 monthly lease: an Ohio retirement community and Johns Hopkins Medical Institutions in Baltimore.

Tim Wright, a spokesman for InTouch, said he expects to have 15 more robots in the field at acute-care and long-term care facilities by year's end. "We can't be happier," he said.

Locally, Mission Hospital in Mission Viejo has also shown interest in the robot, which is bringing new meaning to the term bedside manner.

"I initially thought it might frighten the residents," said Silverado's chief executive officer, Loren Shook. "But they really get a kick out of it."

Future generations of the robot are being developed by InTouch to include arms so it can push wheelchairs, open doors and take a patient's blood pressure, said company Chief Executive Officer Yulun Wang.

"All those things will happen in under five years," said Wang, an expert in robotics and telemedicine who founded the 15-employee company in 2002.

Medical experts say the robot's future looks promising.

"With continued pressure on keeping costs down, this type of patient-physician interaction will become routine," said Dr. Lou Kavoussi, a urologist using the robot at John Hopkins.

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