

November 15, 2017



TOUCHMARK FOUNDATION AND WASHINGTON STATE UNIVERSITY RESEARCHER TEAM UP TO INVESTIGATE THE USE OF SMART-HOME TECHNOLOGY FOR SENIORS

SPOKANE, Wash. – A network of small, unobtrusive sensors placed throughout a residence may someday help families and caregivers monitor the health and safety of senior citizens from afar. A researcher from Washington State University is studying the technology with Touchmark, which owns and operates retirement communities in nine states and Canada.

Five independent-living apartments and cottages at Touchmark on South Hill in Spokane have been outfitted with the sensors for a three-year study funded in part by the Touchmark Foundation, based in Beaverton, Oregon. Dr. Roschelle “Shelly” Fritz, a faculty member at the WSU College of Nursing in Vancouver, Washington, is the primary investigator.

Fritz and her team installed the specially designed sensors in about 15 locations in each of the residences. The self-contained sensors detect motion, contact, light, heat and humidity, but don’t have cameras or microphones. As part of the study, residents with multiple chronic conditions use telehealth for tracking their vital signs, speak with a nurse once a week, and Fritz visits each of them once a month to conduct a home-health nursing assessment.

As the sensors record movement, capable of transmitting multiple digital signals per second, Fritz’s team is identifying clinically relevant sensor data so engineers can create computer algorithms to recognize meaningful behavioral patterns. For instance, a sensor might detect motion near the kitchen sink at around the same time each night when a resident gets a glass of water before bed; the absence of that motion could trigger an alert to caregivers. Or, as was the case with one Touchmark resident, a single sensor triggered continuously at 2 a.m., something that was “out of context” for that person, which was an indication that the resident had fallen. This event was used to train intelligent algorithms so the smart home will be able to recognize, even predict, future falls and alert family or caregivers. As a health care professional, Fritz said she’s trying to understand the clinical implications of movement she sees in the data being collected – a key difference between the WSU/Touchmark study versus other so-called “smart home” applications for health care.

Another difference is that Touchmark residents involved in the study aren’t required to wear a sensor – a button to push in case of emergency, for example. Fritz, a former emergency room nurse, said she knows from experience that many people won’t use such “wearables” consistently.

“We have to have something better,” she said. “The technology exists to do something better.”

The Touchmark Foundation is donating up to \$60,000 over three years to fund the research. Because the work can be relevant in various home settings, including retirement communities, the Foundation offered Touchmark on South Hill site as a laboratory for Dr. Fritz's work, which will be expanded to other Touchmark communities as well as to under-served community-dwelling older adults in Washington and Oregon.

The Foundation, which has provided over 100 scholarships to nursing students and educators since its founding in 2002, approached WSU about funding basic research, said Bret Cope, chairman of the Touchmark Foundation.

"The Foundation is committed to influencing the future of health care," Cope said. "We see this study as something that can reach out across the nation, and the world for that matter, and provide a game-changer to health care and how it's provided." He added, "We want people to live a full life, and we recognize that with the growing shortage of health care providers, technology could help support that."

Touchmark Foundation:

The Touchmark Foundation, based in Beaverton, Oregon, is a 501(c)(3) public charity founded in 2002 to enhance the well-being of seniors by addressing key issues that affect their lives now and in the future.

Dr. Roschelle "Shelly" Fritz, Ph.D.:

Dr. Fritz is an Assistant Professor in the Washington State University College of Nursing Vancouver. Her academic research focuses on the application of technology in the delivery of health care in a newly emerging field, gerontechnology. Dr. Fritz, along with Dr. Diane Cook, of the WSU School of Electrical Engineering & Computer Science, and Dr. Maureen Schmitter-Edgecombe, of the Department of Psychology, recently landed a separate \$1.77 million federal grant to design and test health-assistive smart-home technology.

CONTACT

Touchmark Foundation: Jan Bellis-Squires, Public Relations Director, (503) 646-5186 office, (503) 708-2080 cell, JLB3@Touchmark.com.

WSU College of Nursing: Addy Hatch, Director of Outreach & Communications, (509) 324-7340 office, (509) 879-5732 cell, addy.hatch@wsu.edu.