Older adults live independently longer when monitored by care team and technology

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Finding ways to help older adults "age in place" has been a focus of researchers at the University of Missouri for more than a decade. Now, a new study shows their work at TigerPlace, an independent living community that uses sensor technology and onsite care coordination to maintain residents' health, is successful.

Researchers found TigerPlace residents stayed longer than seniors who live in other senior housing across the nation. Additionally, residents who lived with sensors in their apartments stayed at TigerPlace the longest. Length of stay is important because it indicates that residents' health remains stable enough for them to continue living independently rather than transferring to an advanced-care facility or a hospital. The technologically enhanced care coordination at TigerPlace could serve as a cost-effective care model for improving the health and function of older adults whether they live in senior housing, assisted living, retirement communities or their own homes.

"I knew we were increasing residents' lengths of stay based on care coordination because of the positive outcomes we observed in several prior studies, and I thought the sensors also would have an impact," said Marilyn Rantz, Curators Professor Emerita in the MU Sinclair School of Nursing. "But to double length of stay based on care coordination and then to nearly double again based on adding sensors, to me, is huge. That is huge for consumers. Comparing the cost of living at TigerPlace with the sensor technology versus living in a nursing home reveals potential savings of about $30,000 per person. Potential cost savings to Medicaid-

funded nursing homes, assuming the technology and care coordination are reimbursed, are estimated to be about $87,000 per person."

At TigerPlace, all residents receive care coordination from an onsite, interdisciplinary team consisting of a registered nurse and a licensed clinical social worker. The registered nurse focuses on physical health concerns while the social worker addresses mental health and relationship-based concerns. Some of the residents have sensors in their apartments that monitor walking patterns for increasing fall risk, respiration rate, restlessness and pulse, and detect falls. The health information is relayed to the care coordinators who can intervene to address health changes. Previous research by Rantz and her colleagues found health problems are detected one to two weeks earlier in individuals who live with the sensors.

For the current study, the researchers monitored length of stay for TigerPlace residents for nearly five years. The researchers found the residents who lived with sensors had an average length of stay of 4.3 years as compared to a stay of 2.6 years among residents living without sensors. The national median for time older adults spend in senior housing is 1.8 years, according to previous research.

"The sensors also enhance decision-making for the care coordinators," Rantz said. "The sensors help the nurse or the social worker focus on alerts to potential health problems. The alerts can also indicate potential depression, increasing confusion and/or other problems the person may be experiencing. With the sensors, the nurses get a head's up several days or weeks before the health condition becomes serious - before people will even detect it themselves and complain about it. It's all about early detection."

Rantz said she's hopeful the positive outcomes from care coordination and sensor technology at TigerPlace will translate to other senior housing

facilities and, ultimately, in older adults' own homes. Senior housing facilities could benefit from establishing onsite wellness centers and having an onsite nurse care coordinator, even for limited hours a week; having a designated person to monitor and attend to health concerns can keep conditions from worsening and help elders stay in senior housing, Rantz said. Rantz and her colleagues are in the pilot phase of Sinclair@Home, a service to help older adults live safely and independently in their own homes using sensor technology and off-site care coordination by a registered nurse.

"When we started TigerPlace, we hoped to learn new things about aging in place," Rantz said. "Now, 12 years later, this research reemphasizes that we're able to continue to discover new ways of helping people age well. We're learning the real benefits of how care coordination and technology can come together to find new solutions to the persistent problems of aging. Helping people stay functionally active and independent is what it's all about."

The study, "Enhanced registered nurse care coordination with sensor technology; Impact on length of stay and cost in aging in place housing," was published in Nursing Outlook in November.

More information: www.sciencedirect.com/science/ … ii/S0029655415002675

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