Case Study:
Using AI to Help Detect and Prevent Falls

John Knox Village

SafelyYou

Categories:

- Reduced Response Time & Incidences
- Increased Resident/ Staff/Family Safety & Satisfaction
- Increased Peace of Mind
- Improved Regulatory Compliance & Outcomes
- Reduced Time on the Ground & Costs

About the Organization

Organization Name:
Village Assisted Living at John Knox Village

Main Contributors:
Anthony Columbatto, VP of Health & Community Services, John Knox Village, and Marie Winter-Calvillo, Administrator, Village Assisted Living

Organization Type:
Assisted Living Memory Care in a Life Plan Community

Organization Description:
Village Assisted Living is part of John Knox Village, a single-campus not-for-profit Life Plan Community in Lee's Summit, MO, a suburb of Kansas City. The community comprises independent living, assisted living, memory care, and more.

Project Description

By 2030, older adults in the U.S. will experience a combined 52 million falls each year—costing $101 billion annually.[1] Those living with Alzheimer's and other forms of dementia fall and are sent to the ER more frequently, as they often can't say when, how, why, or if they fell. To learn more about the number and frequency of resident falls in their memory care neighborhoods, Village Assisted Living agreed to a 60-day pilot of SafelyYou Respond™, a unique combination of AI video technology and remote clinical support to help organizations detect and prevent falls.

Safety Technology Category

Fall Detection and Prevention

System Embodiment

Sensors Embedded in the Environment

AI-enabled sensors mounted in the corner of the apartment detect falls and only record events in the few minutes surrounding an on-the-ground event. Clinical staff are notified when a fall of any kind is detected, allowing them to provide immediate response while an authorized team member reviews the video recording to determine what led up to the fall, and whether there was any impact to the resident's head. Treatment decisions can thus be based both on personal observation and information garnered from the video.

Business Model

Private Pay and Long-Term Care Insurance

Implementation Approach

Falls are the leading cause of fatal and non-fatal injuries for older Americans.[2] They are one of assisted living operators' most difficult challenges because they are often not witnessed, and operators don't have insight into what has occurred. Care teams devote significant time and resources throughout the day to fall response, costing operators $5,000 per incident, according to a recent SafelyYou study.

1,2 "Get the Facts on Falls Prevention." National Council on Aging. March 13, 2023. https://www.ncoa.org/article/get-the-facts-on-falls-prevention.

To strengthen their understanding of these types of incidents, John Knox Village chose to pilot SafelyYou Respond™ in a sample set of Village Assisted Living's memory care apartments.

The AI-enabled sensors were placed in residents' rooms and activated once consent was received. The implementation process began by meeting with the licensing team to confirm regulatory requirements and approval of the use of sensors, as well as to undergo policy and procedure review. The sensors were mounted in the corner of the bedroom—not the bathroom, to preserve privacy and modesty—and consents were captured. Staff training took place, and the system was set up and tested to ensure the notification logic was confirmed and all necessary users had access.

For the pilot launch, target goals for product adoption and clinical outcomes were determined. Adoption goals included response time, time on the ground, time to watch the incident video, and opt-in rate. Clinical outcomes included visibility into the severity of falls and silent falls, as well as streamlining fall response protocols and reducing neurological checks. A SafelyYou clinical success manager was assigned to support product adoption and policy and procedure adherence, as well as fall huddle reviews for uncovering appropriate interventions.

Outcomes

By leveraging SafelyYou's award-winning AI video technology, Village Assisted Living saw significant results, including reduced response times and costs, increased safety and satisfaction for residents, families, and staff, plus improved outcomes and regulatory compliance.

With SafelyYou, staff are immediately notified when a fall is detected, which helped Village Assisted Living reduce its fall response time to 1.1 minutes. The industry average is 40 minutes, as most falls happen unobserved inside an apartment, and are discovered later. Because of the faster response time, residents' time on the ground also was reduced to just 6.3 minutes. Additionally, because the staff was able to review video to assess the severity of the fall and circumstances leading up to it, residents were getting more appropriate

care, more quickly. This resulted in better outcomes and improved safety for residents, as well as reduced time spent on neurological checks, and led to greater satisfaction for residents and families.

SafelyYou also helped John Knox Village and Village Assisted Living detect silent falls. Silent falls are true fall events in which the resident may be injured, but self-recovers and does not report the incident. These falls put both the resident and community at risk. The resident may have injuries that go unknown and untreated, while the community is open to unfounded abuse and neglect claims from injuries of unknown origin.

According to the 2022 CNA Aging Services Report, these claims can cost up to $296,000 per incident. Additionally, observing these silent falls offers on-site staff critical insights, and helps move teams from a mindset of reacting to falls to proactively helping to prevent them, creating a culture of fall prevention. By revealing these silent falls for John Knox Village's assisted living memory care neighborhoods, SafelyYou helped them dramatically improve care, mitigate risk, and be more accurate in reporting.

The SafelyYou-detected silent falls were, by their nature, unwitnessed, yet the technology allowed Village Assisted Living's care teams to see how and why the falls occurred. Assessing the severity of each incident, making better-informed clinical decisions, and helping to reduce repeat falls improved quality of care and quality of life.

Following the pilot, John Knox Village has adopted the SafelyYou Respond™ technology for all of its assisted living memory care apartments. The resulting reductions in falls, ER visits and needed observation protocols have also become useful as sales differentiators in a crowded assisted living market.

Challenges and Pitfalls to Avoid

Be sure all parties are clear on the purpose and goals of the pilot to ensure buy-in by staff, residents, and family members. And before launching, ensure you've set aside the necessary time to test the system and train the staff.

Lessons Learned

An unexpected benefit for Village Assisted Living was having the ability to see how staff responds after a fall event. The on-site team used the videos as learning opportunities—coupled with key clinical support from SafelyYou—to improve care planning, transfer techniques, mobility aid placement, and post-fall physical assessments.

Advice to Share with Others

Take advantage of the fall huddles and make time to collaborate with the clinical success manager on growth opportunities. Be sure to communicate often with residents and families, beginning well in advance of implementation. This provides ample time to answer questions, address concerns, and communicate the value.

Using a pilot program in a limited number of apartments not only helps assess the viability of the technology in your environment, it is also effective in helping work out the kinks before a full-scale roll-out, while normalizing the technology's presence in the building.

Share results periodically with staff, residents, family, and leadership. More than the numbers, stories will make it real. Illustrate the reality of not having to experience the inconveniences a non-injury unwitnessed fall would previously have brought to a family, the facility, and—most importantly—the resident: "By being able to view the video after a 3 a.m. alert and see that the resident had deliberately lowered herself to the floor to find her slippers under the bed, the family is thus not disturbed by a middle-of-the-night call notifying them of a fall. Nursing staff understands the root cause of the silent fall, is able to bypass a lot of after-the-fact activity, and, of course, the resident avoids hours of disruptive neurological checks or a scary and costly trip to the ED."

Seeing that real and positive change has taken place as a result of their willingness to participate can enhance confidence, satisfaction, and buy-in for those who have not yet subscribed to the service.