

Case Study: Video-based Fall Detection Improves Response Time



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Categories:

- ◆ Reduced Response Time, Incidences, and Costs
- ◆ Increased Safety, Peace of Mind, and Satisfaction
- ◆ Improved Regulatory Compliance and Outcomes

About the Organization

Organization Name:

Cottages of New Lenox – Charter Senior Living Community

Main Contributor:

Keven Bennema, CEO

Organization Type:

Assisted living and memory care

Organization Description:

Cottages of New Lenox is a one-of-a-kind assisted living and memory care community. They offer options to stimulate and engage residents' minds and bodies in a safe and comforting environment. Their open floor plans of living, dining, kitchen, and activity rooms provide an inviting environment that residents love to call home. From premier services that allow residents to live as independently as possible, to their "Personal Touch" philosophy of memory care, the Cottages of New Lenox creates a place where residents feel loved and cherished!

Project Description

LPSM Senior Care was used in resident rooms and common areas to detect actual falls and identify potential ones. By installing cameras in the rooms and using an artificial intelligence system to analyze images and conditions, we were able to alert and empower the caregiving and nursing staff to respond to issues that could have led to a fall. The system also helped staff to not miss a fall that would require immediate response, like an emergency room visit or more. The alerts were accompanied with images and documentation about the resident and the circumstances, which allows the care staff to respond to the alert and make informed decisions, including preventative interventions to reduce falls and fall risks for the resident. These alerts are delivered via a tablet to the caregivers and are escalated to nursing or management as needed.

LPSM Senior Care is an artificial intelligence platform-based product, designed to identify pre-indicators to a fall and falls in real-time, as well as provide real-time two-way communications to caregivers using high-definition cameras. In addition, it has the power to be integrated into EHR systems for comprehensive insights into the relationship of medical conditions, medications, behaviors, and incidents. It is also extendable into transition behavior mapping, such as wandering or behavior changes.

Safety Technology Category

Artificial intelligence fall prevention detection, notification, and response system.
Potential add on for: resident individual behavior monitoring and EHR system integration.

System Embodiment

HD video-based incident prevention and identification system. Notification system delivery via central displays, tablets, and SMS.

Business Model

Opportunities, Private Pay, Standard of Care and Other Payment Sources

The system is implemented in collaboration with each location to create the best practices and policies supporting the organization's core beliefs, corporate goals, and mission. The system is included in their technology cost per resident per month.

The implementation model has an introductory subsidy that grants the organization the opportunity to cover several units for several months of year one. In addition, retention of this plan allows for a smaller, continued renewal subsidy, lessening the cost impact per resident.

Implementation Approach

Implemented HD cameras inside the resident rooms that were linked into the artificial intelligence network and communications system.

Provided training to the caregiving staff to understand the informational alert for situations that identify a potential fall (e.g., someone leaning against the wall, leaning down, or sitting on the floor, and other situations) versus an actual resident fall, and the alerts in which falls occurred were reported. The power to respond that a given alert is not a critical event versus a critical alert allows for the staff to maximize their time allocation and task management.

Outcomes

The system was able to improve the response time based on detection of potential falls and identified sudden falls.

The system was able to document improvements in fall attention to assisted living rooms from rounds to real-time by improving the average awareness by 5000% percent. In memory care there was documented improvements which empowered staff to respond to the alert more efficiently. Coupled with two-way communications in the system, it allowed for non-critical events to be ignored while maintaining observation of the residents in their rooms.

The below chart represents the breakdown of types of falls detected and responded to after training.

Challenges and Pitfalls to Avoid

Initially, staff did not understand the value of the system in locations where the leadership failed to emphasize that the system was supportive to care strategies based on current successes or challenges. Therefore, for successful adoption the team must understand why this system is good and how it benefits them.

Lessons Learned/Advice to Share with Others

Innovation is critical to the senior care industry; our major lesson is that the best technology solution or product is useless if the scope and context of care improvement is not shared at the launch of the project. Ensure that staff, management, and leadership all understand the return on investment in order to holistically address the organization's pain points, improvement goals, strategies, and procedures.

