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Case Study:
Improving Resident Safety at Alive Medicare with AI-Powered Fall Detection and Bed-Exit Prevention

Alive

Voxela

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CATEGORIES

- Fall prevention
- Improve staff productivity
- Reduced response time
- Reduced incidences
- Increased resident/staff safety and satisfaction
- Increased peace of mind

Organization Name:
Alive Medicare Co., Ltd.

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Organization Type:
Assisted living facilities, memory care facilities

Organization Description:
Established in June 1980 and headquartered in Shibuya, Tokyo, Alive Medicare is a key member of the Secom Group, which Secom Co., Ltd., leads. The company is dedicated to providing high-quality elder care through its extensive network of assisted living facilities, which offer a wide range of services such as home medical care, professional nursing support, and welfare equipment. With decades of experience in the field, Alive Medicare has developed specialized expertise in dementia care and conducted independent research to improve caregiving approaches. The company continues to drive innovation in Japan's elder care industry by working closely with medical professionals, research institutions, and other experts to enhance the quality of life for aging individuals.

Project Description

This case study highlights the innovative steps taken by Alive Medicare in Shibuya to address the common risks of falls, bed exits, and slips in their nursing care facilities, especially amid ongoing staffing challenges.

By collaborating with Voxela, the facility has successfully integrated an advanced Artificial Intelligence (AI) video alert system with its existing nurse call and electronic health records (EHR) infrastructure, significantly reducing incidents and enhancing resident safety.

The adoption of this technology has encouraged trust among caregivers and residents alike. Through this initiative, Alive sets a new benchmark in geriatric care, and demonstrates how AI-driven preventive measures can improve both safety and quality of life for the elderly.

Safety Technology

Fall detection, notification, and prevention

Describe System Embodiment

Sensors embedded in the environment: Vision sensors coupled with highly sophisticated fall detection algorithms using artificial intelligence (AI).

VCare is an AI-powered fall detection and prevention solution by Voxela that can be installed in residents' own homes, private rooms, and/or common areas in congregate living settings (such as assisted living or nursing home communities), as well as hallways of the latter settings. The VCare solution uses a Complementary Metal Oxide Semiconductor vision sensor that detects particular motions, such as bed or chair exits, and sends the notification to a designated caregiver's mobile device. This allows staff to arrive and assist before a fall can occur. VCare also detects actual falls, and acts as an added security layer, especially during the night when the rooms are often closed and communities have lower staffing levels. The AI sensor is 99% accurate in detecting true fall events, while reducing the potential for annoying false alarms by 99.8%.

Business Model

Standard of care and other payment sources

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Background and Challenges

At Alive Medicare facilities, resident safety and fall prevention have always been fundamental priorities. However, one of the ongoing challenges has been enhancing the comprehensiveness of monitoring, particularly in tracking resident movements within private rooms and ensuring timely staff responses.

Traditional monitoring methods often had limitations in providing real-time insights while maintaining the delicate balance between effective supervision and respecting residents' privacy.

As the demand for higher-quality care grew, Alive Medicare recognized the need for a more advanced solution that could seamlessly integrate with existing caregiving routines, provide timely alerts, and support staff in delivering proactive assistance. This increasing necessity set the stage for exploring innovative monitoring technologies that could enhance both safety and quality of care without compromising residents' dignity or independence.

Decision-Making Process and Implementation

Not Just Fall Detection, but Fall Prevention.
Voxela offers a state-of-the-art, AI-powered 24-hour monitoring system designed to enhance safety in care facilities by alerting caregivers to incidents that may occur outside their direct line of sight.

This proactive approach ensures that potential risks, such as falls or bed exits, are detected in real time, allowing staff to respond swiftly and effectively. Alive Medicare and Voxela share the same deep commitment to "caring for people," a core value that highlights their mutual dedication to not only resident well-being, but also alleviating the challenges faced by caregivers.

Recognizing this alignment, both organizations discussed how Voxela's innovative technology could be seamlessly integrated into Alive Medicare's caregiving framework. A crucial factor in Alive Medicare's decision to implement Voxela's system was the company's dedication to continuous product enhancement and its pioneering role in advancing AI-driven solutions within the geriatric care industry. This partnership reflects a shared vision of leveraging cutting-edge technology to create safer, more efficient care environments.

Implementation Process

Voxela's AI-powered fall detection system was carefully tailored to suit the specific needs of the facility environment and deployed in a structured, phased approach. Before implementation, staff participated in comprehensive training sessions to familiarize themselves with the system's operation and learn the appropriate response protocols for handling fall incidents effectively.

Alive Medicare had previously experimented with monitoring solutions from other providers, but these systems required nearly a year to become fully operational. Despite the lengthy onboarding period, they failed to deliver meaningful improvements in detection accuracy or ease of use, leading to slow adoption among staff.

In contrast, Voxela's VCare system was seamlessly integrated into a facility with approximately 50 beds, allowing caregivers to quickly adapt to its use. Within just one to two months, the system became an essential part of daily operations, demonstrating its efficiency, reliability, and ease of adoption. The smooth transition underscored the effectiveness of Voxela's technology in enhancing safety while minimizing disruption to caregiving routines.

Additionally, at Alive Shimoma, the introduction of the bed exit feature marks a significant step in enhancing resident safety and fall prevention. This advanced functionality alerts caregivers when a resident is about to exit the bed, allowing for timely intervention before a potential fall occurs. For residents requiring high-priority care, such as those with amyotrophic lateral sclerosis (ALS), this feature has been particularly valuable in enabling staff to monitor disease progression while ensuring prompt assistance when needed.

Outcomes

Prevention of Falls and Improved Response Time
With the implementation of Voxela's AI-powered monitoring system, staff have been able to respond to incidents more swiftly and efficiently, significantly improving resident safety. Prompt assistance after falls or in emergencies has not only reduced the risk of complications but also helped slow the progression of severe health conditions in vulnerable individuals.

While caregiving staff continue to manage fall incidents on-site, the system has introduced an additional layer of oversight. Central management teams can now remotely monitor events in real time, allowing them to identify trends proactively and implement preventive measures.

This remote accessibility fosters a more collaborative and data-driven approach to enhancing care quality, optimizing response times, and strengthening accident prevention strategies.

A particularly important feature is the bed exit detection, which is especially beneficial for residents with conditions like ALS, who may struggle with mobility and require immediate assistance when attempting to leave their beds. By providing early warnings, the system helps caregivers intervene before a fall occurs, reducing injury risks and ensuring timely support.

Improved Operational Efficiency and Reduced Staff Burden
With the implementation of a 24-hour AI-powered monitoring system, staff were able to decrease the need for frequent physical rounds while maintaining a high standard of resident safety. By reducing the time spent on routine checks, caregivers could redirect their attention to more critical and personalized aspects of resident care, such as providing medical assistance and addressing individual needs more effectively.

This shift not only improved overall operational efficiency but also contributed to a noticeable reduction in staff workload, alleviating the strain caused by continuous monitoring responsibilities. With fewer interruptions for routine checks, caregivers experienced a more balanced workflow, allowing them to perform their duties with greater focus and vigour. The integration of the monitoring system ultimately enhanced both the quality of care provided to residents and the well-being of the caregiving staff, creating a more supportive working environment.

Impact on Staff Retention
The introduction of the AI-powered monitoring system has not only enhanced efficiency and resident safety but has also significantly alleviated the workload of caregiving staff. By reducing the physical and mental strain associated with continuous rounds and manual monitoring, the system has created a more manageable and supportive work environment.

Caregivers can now allocate more time to meaningful interactions with residents such as personalized care and other essential responsibilities, rather than being solely focused on routine surveillance.

As a result, staff have reported a noticeable improvement in job satisfaction, as their roles have shifted towards more fulfilling and impactful caregiving tasks. While the long-term effect on employee retention and turnover rates is still under evaluation, initial feedback suggests a positive trend.

The first facility to implement Voxela's system is now approaching its one-year milestone, providing an opportunity to assess the broader impact on workforce stability. If these improvements continue, the system could serve as a model for enhancing not only resident care but also workplace conditions across multiple facilities.

Operational Insights

Key Features That Provided Value
The integration of Voxela's AI-powered monitoring system has introduced several key functionalities that have greatly enhanced facility operations and improved resident safety. Among its most impactful features is bed exit detection, which alerts caregivers when residents attempt to leave their beds, allowing for timely intervention before a potential fall occurs. This approach is especially crucial for high-risk individuals, significantly reducing nighttime falls and injuries while providing peace of mind to both staff and families.

In addition to bed exit detection, the fall notification feature ensures that caregivers are immediately alerted to potential incidents, enabling swift and effective responses. The system's simple video playback function further supports staff by providing a clear and accurate record of events, eliminating uncertainty in post-incident analysis.

A critical aspect of the system's design is its privacy-conscious video processing, which ensures that resident dignity is maintained while still providing staff with the necessary insights to deliver high-quality care. By recording only blurred videos, the system strikes a careful balance between effective monitoring and ethical caregiving, ensuring resident privacy remains fully protected.

Furthermore, the system's intuitive app interface makes it easy for staff to adopt and integrate into their daily routines without requiring extensive technical expertise. Continuous software updates and the regular addition of new features, including enhancements to bed exit detection, have further eased staff workload and improved caregiving efficiency.

As caregivers see their feedback reflected in system improvements, they become more engaged and invested in its success, allowing for a culture of innovation and continuous improvement in elderly care.

Changes in Operations and Increased Efficiency
The implementation of Voxela's AI-powered monitoring system has significantly enhanced internal communication within the facility by enabling staff to quickly and efficiently

share incident information. The automated alert system ensures that relevant caregivers and support personnel are notified in real time when an incident occurs, allowing them to coordinate their response more effectively. This has not only streamlined the communication process but has also substantially reduced the time required for incident reporting, enabling caregivers to focus more on providing immediate assistance rather than spending excessive time documenting events.

Beyond improving on-the-ground communication, the system also facilitates real-time information sharing with management teams, ensuring that supervisors and administrators are kept informed of incidents as they happen. This level of transparency has proven invaluable in allowing management to intervene swiftly when necessary, whether by reallocating resources, adjusting staffing schedules, or implementing additional safety measures.

Additionally, the ability to analyze trends and recurring challenges based on real-time incident data has led to proactive improvements in staff training and education. By identifying common patterns, management can provide targeted training sessions to reinforce best practices, enhance staff preparedness, and ultimately elevate the overall quality of care provided to residents. The system has played a pivotal role in fostering a more responsive, well-coordinated, and data-driven approach to elder care, ensuring that both staff and residents benefit from a safer and more efficient caregiving environment.

Cost Reduction and Operational Efficiency

The implementation of Voxela's VCare AI-powered monitoring system has led to a remarkable 75% reduction in the time required to create incident reports, streamlining administrative tasks and significantly improving workflow efficiency. Traditionally, caregivers had to spend a substantial amount of time manually documenting incidents, recalling details from memory, and compiling comprehensive reports. This process not only placed an additional burden on staff but also introduced the potential for inaccuracies or incomplete records.

With VCare's automated reporting features, incident data is captured and logged efficiently, reducing the need for manual entry and ensuring that reports are generated quickly and with greater accuracy. This has had a direct impact on lowering operational costs, as staff can now allocate more time to hands-on caregiving rather than administrative duties. The reduction in documentation workload has also contributed to an improved work environment, alleviating stress and allowing caregivers to focus more on resident safety and well-being.

Looking ahead, Alive Medicare plans to further integrate VCare's advanced reporting capabilities into its operational strategy. By leveraging data analytics and automated insights, the facility aims to optimize staff allocation based on real-time incident trends and resident needs. This data-driven approach will enable management to make informed staffing decisions, ensuring that personnel are deployed where they are needed most. Additionally, the ability to track and analyze incident patterns over time will support continuous improvements in care quality, safety protocols, and overall facility efficiency.

Feedback and Future Prospects

Opinions from Staff and Residents
The introduction of Voxela's VCare has had a profound impact on both staff and residents at Alive Medicare, fostering a greater sense of security, confidence, and trust within the facility.

For caregivers, the system has provided an additional layer of support, allowing them to carry out their responsibilities with increased confidence. Staff members have expressed that knowing they have real-time alerts and an AI-driven safety net in place has significantly reduced the stress and uncertainty associated with monitoring residents, especially during overnight shifts or in situations where immediate supervision may not be possible.

The ability to quickly review incidents through video playback and receive real-time notifications has made them feel more empowered and reassured in their ability to respond promptly and effectively to emergencies. This enhanced sense of security has also contributed to greater job satisfaction, as staff can now focus more on providing compassionate care rather than constantly worrying about missing a potential fall incident.

Residents and their families have also responded positively, highlighting that the presence of an AI-driven safety system gives them greater peace of mind. Many families have shared that they feel more comfortable leaving their loved ones in the facility, knowing that an advanced, non-invasive monitoring system is in place to detect and alert caregivers in case of a fall or other emergency. The ability to review past incidents objectively through recorded data has also strengthened transparency and trust between the facility, residents, and their families, as they can be assured that any accidents or concerns are documented and handled with the highest level of care and diligence.

Overall, the implementation of Voxela's VCare system has not only improved operational efficiency and safety but has also cultivated confidence, reassurance, and trust among caregivers, residents, and their loved ones.

Challenges and Pitfalls to Avoid

When using VCare for incident management, several challenges must be considered, including privacy concerns, managing large volumes of video data, staff adoption, technical reliability, and legal implications. Ensuring compliance with data protection regulations and obtaining consent from residents and staff is critical to maintaining trust. Additionally, teams must avoid over-reliance on videoanalysis by using it as a tool to complement, rather than replace, direct patient observation and other assessments.

A common pitfall is focusing solely on post-incident reviews without implementing proactive safety measures to prevent future falls. Ethical considerations, such as responsible footage usage and clear policies on access and data security, should always be a priority.

Staff training is also essential to ensure proper interpretation of video evidence and effective integration into workflows. Adding on, transparent communication with residents, families, and other stakeholders can help ease concerns and encourage acceptance of the technology, ultimately improving incident response and fall prevention strategies.