

Position Sensory Alarms – Patient Restraint and Safety Insight

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Nursing homes have an enduring legacy within healthcare of providing essential skilled nursing, restorative, rehabilitation, and assisted care to the most vulnerable populations. These vulnerable populations include individuals living with such conditions as new or long-term disability, chronic and/or terminal illness, cognitive impairment, frailty, and/or debility. Often unable to advocate on their own behalf, they are unable to call for help and are dependent on skilled nursing and restorative or rehabilitation services to anticipate and meet their needs. Residents admitted to nursing homes require 24-hour care to meet their personal, daily, healthcare needs within a culture that promotes safety and maximum function. Variations exist in their social, economic and advocacy support systems and resources.

While the extensive burden of residents' care is widely known, nursing homes are challenged to meet residents' needs due to minimum nurse staffing and insufficient equipment for personalized, safe environments of care. To support these organizations, administrative and clinical staff must integrate technology that: supports and enhances nursing care; meets residents' freedom, rights, and functional needs; and increases safety and reduces harm, such as falls and fall-related injuries.

National and state-level regulations are adopted to set standards of care and protect the public. Such regulations are approved by The Centers for Medicare and Medicaid Services (CMS) and state departments that govern nursing homes. If regulations are not met, nursing homes are cited for deficiencies needing corrections to meet the standards of care. Additionally, CMS publishes guidelines to influence nursing homes' practice and administrative policies. Sometimes, the interpretation and adoption at the institution level has been misunderstood and inaccurately applied. For example, some nursing homes have eliminated position sensory alarms from fall prevention care plans due to fear of regulatory citations, deficiencies, reimbursement penalties, and poor performance ratings. These decisions have left a gap in the safety net for their residents. Curbell Medical Products, Inc., dedicates this paper to fill this gap within nursing homes, offer clarification and options to promote residents' safety, function, well-being, and enhance nursing workforce resources. Curbell Medical Products, Inc., commits to educate customers on how to best use products that support both clinical practice and resident safety and function. Topics include: 1. Facts on falls and fall-related injuries in nursing homes; 2. Current CMS regulations support for movement sensory alarms related to fall prevention; and, 3. Recommendations to restore

integration of movement alarms in fall prevention.

1. Facts on Falls and Fall-related Injuries Among Nursing Home Residents.

In 2018, CDC reported that mortality data for fall-related death rates among adults 65 and older had increased by 31% from 2007-2016. Even more alarming is that the fastest growing death rate, 3.9% per year, was found in the > 85 age group.¹ Also, CDC informed us that this age group is the fastest-growing age group in the US, with projections to reach approximately 8.9 million in 2030. One in four older adults fall annually and falls often result in injuries, which require emergent care (3,000,000 individuals annually), and hospitalization (800,000 individuals annually), followed by short and long term nursing home care.

In 2016, 1,347,600 residents received care in nursing homes. There were 15,600 nursing homes in the US, with 1,700,000 licensed beds.² The most common employees in nursing homes were aides (63.9%), then LPNs or LVNs (22.4%), followed by RNs (11.9%). Aides are the largest workforce in nursing homes providing direct care to residents, implementing fall prevention practices, and responding to and rescuing fallen residents. Imagine being in a nursing home, old, cognitively impaired, alone, falling onto the cold floor, unable to call for help, unable to get up after a fall, injured, and crying. Shifting from imagination to reality, for an older person, a fall is frightening, devastating, and all too frequent across all settings of care – but especially in nursing homes. As required by the CMS MDS 3.0, falls are reported from the period since admission or since the prior assessment, whichever is more recent.³ Vital and Health Statistics for 2015-2016 revealed that 16.1% of the residents had a fall, and 14.4% had overnight hospital stays. Among the nursing home residents, more long-stay residents (19.1%) than short-stay residents (13.5%) experienced falls.³

Falls are the leading cause of hip fractures, with at least 300,000 older people hospitalized annually.⁴ Besides hip fracture, head injury is among the most serious injury observed in the nursing home population. Yet, an even greater at-risk population is those residents with known fall-related injuries.

Hoffman, et al, (2019)⁵ conducted the largest retrospective cohort study of the readmission data from Hospital Cost and Utilization Project's Nationwide Readmission Database to examine trends among hospitalized patients who fell, and their post-hospital fall injuries and

30-day readmissions for the years 2013-2014. The study population was Medicare beneficiaries, Medicare fee-for-service and Medicare Advantage beneficiaries aged 65 and older, those with fall related injuries and those with cognitive impairment. Overall, 8,382,074 patients were admitted due to a fall (referred to as fallers). By age group, 24.4% were 65-74, 36% were 75-84, and 39.6% were 85 and older. Additionally, 65.7% were female and 27% were cognitively impaired. More than half (59.2%) of these fallers were discharged to a skilled nursing home. Readmissions to hospitals due to falls was more common for patients admitted to nursing homes (17.1%), compared to discharge to home with home health (16.4%) or home without home health (11.7%)

These findings are critical to emphasize because these residents are known fallers. They are the highest risk for recurrent falls and subsequent injury and must be protected from another fall. If they fall again, they could have even greater loss of function or life. The nursing staff in nursing homes must be provided with integrated technology to keep these residents safe from falls. Curbell Medical Products has a portfolio of technology to support the nursing home industry to protect this vulnerable high-risk population.

2. Current CMS Regulations Support Movement Sensor Alarms Related to Fall Prevention

In long term care, using a position change alarm to monitor a resident's movement is considered a physical restraint. "Position change alarms are alerting devices intended to monitor a resident's movement. The devices emit an audible signal when the resident moves in certain ways." In 2017, CMS determined that falls are not a self-injurious behavior or a medical symptom that warrants a physical restraint. Residents should not be restrained to prevent a fall. A restraint limits one's mobility⁶ Studies about alarm effectiveness to prevent falls have been hospital-based. While the evidence of effectiveness is not strong, nursing staff still continue to report their effectiveness in alerting them that a patient has fallen⁷. However, technology is needed to help nurses respond before a patient/resident falls. It is important to note that alarms were never designed to prevent falls. Alarms were designed to activate nurse staff response; yet, research is absent about timeliness of staff nurse response to the bed alarms.

While CMS has specifications that determine when position change alarms are restraints⁶, they also recognize that alarms are one intervention within a fall prevention toolkit. CMS does allow use of position change alarms as part of a fall prevention program as long as it is not the primary or secondary intervention. Please note: "Facilities must implement comprehensive, resident-centered fall prevention plans for each resident at risk for falls or with a history of falls. While position change alarms are not prohibited from being included as part

of a plan, they should not be the primary or sole intervention to prevent falls. If facility staff choose to implement alarms, they should document their use aimed at assisting the staff to assess patterns and routines of the resident. Use of these devices, like any care planning intervention, must be based on assessment of the resident and monitored for efficacy on an on-going basis. Position change alarms have been used to monitor a resident's movement in chairs or beds, etc. However, there must be sufficient staff and supervision to meet the resident's needs and staff must be vigilant in order to respond to alarms a timely manner. Alarms do not replace necessary supervision. Facilities must take steps to identify issues that place the resident at risk for falls and implement approaches to address those risks in a manner that enables the resident to achieve or maintain his or her highest practicable physical, mental, and psychosocial well-being." (CMS, State Survey Operator's Manual, p. 313)⁶

Additionally, CMS still has resources on their website that includes use of alarms in nursing homes. For example, two resources are: AHRQ's Safety Program for Nursing Homes: On-Time Falls Prevention. (2017).⁸ This resource has a fall prevention self-assessment worksheet designed to help staff identify current processes and structures the NH uses to prevent falls and identify gaps and places for improvement" (p. 1) Restraint and alarm status (p.7) is included in the worksheet as part of a nursing home's post-fall assessment process. The online resource was originally created Oct. 20, 2017, to help nursing homes with EMR to identify residents at risk for falls. Within this resource are tools for the multidisciplinary nursing home teams to help prevent falls. Available: <https://www.ahrq.gov/patient-safety/settings/long-term-care/resource/ontime/fallspx/index.html>

The Falls Management Program: A Quality Improvement Initiative for Nursing Facilities.⁹ See Alarm Use. This interdisciplinary fall management program was designed to assist nursing facilities to provide individualized, person-centered care, and improve their fall care processes and outcomes through education and quality improvement tools. Alarm use is discussed to prevent falls from wheelchairs as well as beds. To help nursing home staff monitor residents through sensor technology, room sensors are recommended to provide more supervision for recurrent falls, to detect resident movement; position or pressure alarms on the bed, chair or wheelchair, and alarms to prevent wandering. (p. 9 or 15). Available: <https://www.ahrq.gov/sites/default/files/publications/files/fallspxmanual.pdf>

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3. Recommendations to Restore Integration of Movement Alarms in Fall Prevention.

The nursing home population at large is dependent on nursing staff for assisted mobility, and technologies have been endorsed since at least 2005 to provide a fall prevention safety net for residents. These technologies provide a safety net for residents who are or are not redirectable, because of features to activate nursing staff response. However, incorrect interpretation of CMS guidelines resulted in an exodus of needed technology to support staff response and increase residents' safety — alarms with proximity to the nursing station, pocket cards to get nursing staff where they need to be, and locating sensors that get nursing staff to the place of alarm origin faster.

Curbell Medical Products, Inc., is well-positioned to re-educate the long-term care industry about advanced position change and nurse response alarms, the use of these products at the point of care, and to support customers' confident integration as part of comprehensive fall prevention programs. Curbell Medical Products, Inc., asserts that the prevailing interpretation of CMS guidelines compromises and is detrimental to resident safety. These actions have resulted in facilities removing alarms altogether, leaving patients at risk, not even implementing monitoring systems that do not elicit an audible alarm in the room that are able to silently notify staff at the Nurse Station through the Nurse Call System. Advanced position change and nurse response alarms are an important component of individualized interdisciplinary fall prevention care plans.

Clinical guidelines are available that bundle nurse response systems and protective equipment for a resident's assisted mobility from the bed, chair, and toilet. Such nurse response systems are also integral to protect residents with cognitive impairment, acute delirium and chronic dementia, which are independent risk factors for falls.¹⁰ These highest risk residents are able to move in bed, requiring mobility assistance for bed and transfer mobility. These residents require increased surveillance and anticipation of care needs as they are unable to call for help or be partners in their fall prevention program. Residents with cognitive impairment issues who require mobility assistance for bed and transfer mobility may need increased surveillance and anticipation of care needs as they are unable to call for help or be partners in their fall prevention program. While there is a range of severity of cognitive impairment from forgetfulness, to mild confusion, to severe cognitive impairment, there is not one type of technology that works for all patients — but position change alarms would increase staff response. To conclude, Curbell Medical Products, Inc., is ready to assist, and commits to collaborate with organizations to integrate sensor alarm systems as part of an individualized resident's fall prevention plan of care, to sense when a resident needs assistance with mobility, and capture timeliness of nurse response. A position change alarm should not be used universally for all residents, but should be part of a fall prevention plan of care. Our company's resident-engaged nurse call, motion sensor technology honors resident privacy and autonomy, meets needs for assisted mobility and safety, and is modifiable to increase or reduce product combinations with changes in resident condition to maximize safety.

About Pat Quigley

Patricia Quigley, PhD, MPH, APRN, CRRN, FAAN, FAANP, FARN, Nurse Consultant, is both a Rehabilitation Clinical Nurse Specialist and an Adult Health Nurse Practitioner. She is a former Associate Director of the VISN 8 Patient Safety Research Center of Inquiry and former Associate Chief, Nursing Services for Research, James A. Haley VA Hospital. Her contributions to patient safety, nursing, and rehabilitation are evident at a national level, with emphasis on clinical practice innovations designed to promote elders' independence and safety. For over 40 years, Dr. Quigley has practiced in the field of rehabilitation nursing, including 32.5 years with the Veterans Administration. She serves as patient safety expert for fall and injury reduction to the American Hospital Association, Washington State Hospital Association, Alaska State Hospital and Nursing Home Association, and their Hospital Engagement Networks – now Hospital Improvement Innovation Networks. She also served as fall and fall injury prevention subject matter expert for the 2013 AHRQ National Falls Toolkit and the 2008 and 2013 Institute for Healthcare Improvement Reducing Serious Injurious Falls on Medical Surgical Units. Dr. Quigley serves as a committee member of the NQF Patient Safety Standing Committee and past member of the NQF Patient Safety Complications Steering Committee, nominated by ANA.

References

1. CDC. (2018). Morbidity and Mortality Weekly Report: May 11, 2018/67(18); 509-514. Available: <https://www.cdc.gov/mmwr/volumes/67/wr/mm6718a1.htm#T1>.down
2. CDC. (2019). National Center for health Statistics, Vital and health statistics, Series 3 (43). Available https://www.cdc.gov/nchs/data/series/sr_03/sr03_43-508.pdf
3. Harris-Kojetin L, Sengupta M, Lendon JP, Rome V, Valverde R, Caffrey C. Long-term care providers and services users in the United States, 2015–2016. National Center for Health Statistics. Vital Health Stat 3(43). 2019.
4. CDC Home and Recreational Safety: Important Facts about Falls, accessed May 22, 2019. <https://www.cdc.gov/homeandrecreational/safety/falls/adultfalls.html>
5. Hoffman, G.J., Liu, H., Alexander, N.B., Tinetti, M., Braun, T.M., & Min, L.C. (2019). Posthospital fall injuries and 30-day readmissions in adults 65 and older. JAMA, 2(5):e194276.
6. CMS (2017) State Surveyor Operators Manual. Rev 11-21-17 https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_itcf.pdf
7. Resnick, B., & Boltz, M. (2019). Optimizing function and physical activity in hospitalized older adults to prevent functional decline and falls. Clinics in Geriatric Medicine, 35; 237-251.
8. AHRQ (2017). Safety Program for Nursing Homes: On-time Falls Prevention. Available: <https://www.ahrq.gov/patient-safety/settings/long-term-care/resource/ontime/fallsp/index.html>
9. Taylor, J.A., Parmelee, P., Brown, H., & Ouslander, J. (2005). The Falls Management Program: A Quality Improvement Initiative for Nursing Facilities. <https://www.ahrq.gov/patient-safety/settings/long-term-care/resource/ontime/fallsp/index.html>
10. Sillner, A.Y., Holle, C.L., & Rudolph, J.L. (2019). The overlap between falls and delirium in hospitalized older adults. Clinics in Geriatric Medicine. 35(2): 221-236.