

Shining a Light to Reduce Hospital Falls

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All prevention strategies for hospitalized older adults include environmental factors such as adequate room lighting and patient-specific factors such as medications. In 2008, the Centers for Medicare & Medicaid Services (CMS) implemented a regulatory “shining of the light” on hospital-acquired falls by eliminating hospital payment for fall-related injuries. Shorr et al. found that implementation of the CMS Hospital-Acquired Conditions Initiative was associated with only a modest decline in falls and injurious falls over the first seven years, with the greatest reduction occurring in urban, teaching hospitals.¹ These disappointing findings were mitigated only by the finding that the prevalence of physical restraints decreased over the seven years of observation from 1.6% to 0.6%, suggesting that the modest reductions in falls did not occur at the expense of further restricting the mobility of hospitalized older adults. Shorr et al. concluded that falls may be largely attributable to individual patient risk and may not be prevented through health system quality and safety programs such as those that have achieved successes in never-events, including wrong-side surgery and catheter-associated blood stream infections.² The authors expressed concern that hospital leaders remain in the dark regarding proven fall prevention strategies. They question whether hospital-acquired falls are preventable without restricting the mobility of older adults most at risk for falls.

Hoff et al. found in their 2011 literature review of the first three years following implementation of the 2008 CMS hospital payment policies limited evidence-based approaches to address falls as a spotlighted avoidable hospital-acquired condition.³ Swartzell et al. reported that at some level, every patient admitted to an acute care hospital is at risk for falls. “Patients sick enough to be in the hospital have underlying disease, are receiving physiologically altering medications and treatments, and are likely experiencing pain, fatigue, anxiety, sleep disturbance, and other symptoms that interfere with cognitive and physical functioning. The key to preventing falls among hospitalized patients may lie in addressing how the hospital environment creates risk.”⁴

In 2017, Avanecean et al. published a systematic review of randomized control trials on fall prevention in hospitals.⁵ Three of five studies demonstrated 20%-30% reductions in fall

rates, whereas two studies showed no difference in fall rates among control and intervention groups. In the three studies that demonstrated reduced fall rates, standardized fall risk assessments were used to identify patient-specific risks for falls. Individualized care plans addressed gait and balance disorders, delirium and cognitive deficits, vision and hearing impairments, and toileting needs. For example, physical therapists provided instruction on the safe use of walkers for those with gait and balance disorders. Patients with delirium and cognitive deficits received some form of staff alert of unsupervised transfers out of bed, ranging from bed alarms to customized rubber socks that contained pressure alarms. All three successful intervention studies included patient-centered care plans for toileting.

None of the three studies that measured the secondary outcome of fall-related injuries demonstrated impact of interventions, although the rates of injurious falls were low in both the control and intervention groups (2%-5%).^{3,5}

Since the 2008 CMS policies eliminated hospital payments for complications of falls, patient-centered models of fall risk reduction were widely implemented. The Systems Addressing Frail Elder (SAFE) Care, designed by Ansryan et al. includes nursing, social work, pharmacist, and medical provider assessments.⁶ Team huddles occur daily to establish individualized care plans, although as Shorr et al. highlight, without report of outcomes.² Nurses Improving Care for Healthsystem Elders (NICHE) is a New York University-based nursing education and consultation program that has extended to 566 healthcare organizations.⁷ Factors that promote the adoption of organizational interventions such as NICHE have been identified.⁸ The findings that NICHE is adopted more in larger, urban healthcare systems are consistent with the findings reported by Shorr et al. that fall rate reductions were greater in such hospital settings. Patient-centered care, although time-consuming, may promote staff satisfaction and is associated with reductions in other hospital-acquired conditions such as delirium.⁹

Patient-engaged video surveillance systems are recent technological solutions to reduce falls. One staff monitors multiple patients for behaviors that risk falls such as unsupervised transfers out of bed. Staff can speak to a patient through the monitoring system to request the patient to wait for assistance, while the unit staff are alerted to the fall risk. Bedside caregivers can activate virtual privacy screens during personal patient care.

Shorr et al. appropriately call for studies to further illuminate strategies to reduce hospital-acquired falls. A multihospital report of fall rates before and after the implementation of SAFE Care and NICHE would have sufficient scale to address the impact of these patient-centered interventions on injurious falls.

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Received: October 3, 2019; **Revised:** October 18, 2019;

Accepted: October 18, 2019

© 2020 Society of Hospital Medicine DOI 10.12788/jhm.3345

Similarly, patient-engaged video surveillance systems need validation from clinical trials.

Disclosures: Dr. Bellantoni has nothing to disclose.

References

1. Shorr RI, Staggs VS, Waters TM, et al. Impact of the hospital-acquired conditions initiative on falls and physical restraints: a longitudinal study. *J Hosp Med.* 2019;14:E31-E36. <https://doi.org/10.12788/jhm.3295>.
2. Austin JM, Demski R, Callender T, et al. From board to bedside: how the application of financial structures to safety and quality can drive accountability in a large health care system. *Jt Comm J Qual Patient Saf.* 2017;43(4):166-175. <https://doi.org/10.1016/j.jcjq.2017.01.001>.
3. Hoff TJ, Soerensen C. No payment for preventable complications: reviewing the early literature for content, guidance, and impressions. *Qual Manag Health Care.* 2011;20(1):62-75. <https://doi.org/10.1097/QMH.0b013e31820311d2>.
4. Swartzell KL, Fulton JS, Friesth BM. Relationship between occurrence of falls and fall-risk scores in an acute care setting using the Hendrich II fall risk model. *Medsurg Nurs.* 2013;22(3):180-187.
5. Avanecean D, Calliste D, Contreras T, Lim Y, Fitzpatrick A. Effectiveness of patient-centered interventions on falls in the acute care setting compared to usual care: a systematic review. *JBI Database System Rev Implement Rep.* 2017;15(12): 3006-3048. <https://doi.org/10.11124/JBISRIR-2016-003331>.
6. Ansryan LZ1, Aronow HU, Borenstein JE, et al. Systems addressing frail elder care: description of a successful model. *J Nurs Adm.* 2018;48(1):11-17. <https://doi.org/10.1097/NNA.0000000000000564>.
7. Boltz M1, Capezuti E, Bowar-Ferres S, et al. Changes in the geriatric care environment associated with NICHE (Nurses Improving Care for HealthSystem Elders). *Geriatr Nurs.* 2008;29(3):176-185. <https://doi.org/10.1016/j.gerinurse.2008.02.002>.
8. Stimpfel AW1, Gilmartin MJ. Factors predicting adoption of the nurses improving care of healthsystem elders program. *Nurs Res.* 2019;68(1):13-21. <https://doi.org/10.1097/NNR.0000000000000327>.
9. Khan A, Boukrina O, Oh-Park M, Flanagan NA, Singh M, Oldham M. Preventing delirium takes a village: systematic review and meta-analysis of delirium preventive models of care [Published online first ahead of print May 12, 2019]. *J Hosp Med.* 2019;14:E1-E7. <https://doi.org/10.12788/jhm.3212>.