PSNet
PATIENT SAFETY NETWORK

The Safety and Quality of Long Term Care

September 1, 2011
Vogelsmeier AA. The Safety and Quality of Long Term Care. PSNet [internet]. 2011.
https://psnet.ahrq.gov/web-mm/safety-and-quality-long-term-care

Case Objectives

- Identify commonly reported adverse events in long-term care.
- Identify two to three challenges of nursing home care that may contribute to adverse events.
- Describe patient safety monitoring systems used in nursing homes.
- Describe what is being done or can be done to make nursing homes safer.

The Case

A 64-year-old woman with a past medical history of morbid obesity, type II diabetes mellitus, recurrent urinary tract infections, and depression was a resident of a long-term care facility (a skilled nursing facility) due to multiple chronic illnesses. At baseline, she used a wheelchair for mobility and required some assistance with activities of daily living (ADLs).

During an unassisted transfer from her wheelchair to her bed she slipped and fell. She immediately complained of hip pain and was transferred to an acute care hospital. She was found to have a left hip fracture as a result of the fall and underwent an uncomplicated surgical repair. She was ultimately readmitted to the original skilled nursing facility with severely limited mobility secondary to the surgery. At the time of readmission, she was essentially bedbound, unable to transfer to a chair or her wheelchair.

A few weeks later, she continued to remain bedbound with little progress in her functional status. One morning when the nurse was delivering her morning medications, the patient was found to be confused and combative where previously she had been alert, oriented, and always very pleasant. She was febrile to 102°F and had a blood pressure of 110/70 mm Hg, which was lower than her usual. Because of concerns for an acute infection, she was transferred to an acute care hospital.

At the hospital, a full examination revealed a very deep pressure ulcer in her sacrum (stage IV full thickness ulcer), which had developed at the long-term care facility after her hip fracture. Unfortunately, likely secondary to an infection of the pressure ulcer, she developed septic shock and died 3 days later despite maximal efforts.

The Commentary

This case highlights the reality that serious adverse events happen frequently in nursing homes, as they do in other health care settings.(1,2) Although not all adverse events are the result of poor care (3), it is fair to assert that adverse events can be directly influenced by the health care systems in which patients receive care. Therefore, this commentary will focus on patient safety in nursing homes and aspects of that system that influence quality and safety.

Adverse Events in Nursing Homes

Our current understanding of adverse events in nursing homes is primarily based on research exploring pressure ulcers, adverse drug events, infections, and falls.(4) Much of the available evidence is confusing, probably reflecting heterogeneous data regarding the true incidence of adverse events in nursing homes. For example, the rate of pressure ulcers in nursing homes has been shown to range between 2.2% to 23.9% (5), suggesting variability in either how the data are reported and/or the settings where data are collected. When appropriate to compare nursing homes to other settings such as acute hospitals, higher adverse event rates may be seen in the nursing home setting. For example, in the Institute of Medicine report on Preventing Medication Errors, approximately 800,000 preventable adverse drug events are estimated to occur in nursing homes, nearly double the estimate in hospitals.(6) However, comparing adverse events across health care settings is difficult at best because the settings, populations served, and services provided vary so greatly.

Despite this evidence, what we know is likely a serious underestimate of the real extent of the problem. As such, understanding the challenges of nursing home care that contribute to adverse events can help us redesign systems to improve the quality and safety of patient care.

Challenges of Nursing Home Care Contributing to Adverse Events

While it is difficult to know whether the patient's initial fall in this case may have been avoidable, the cascade of poor outcomes that followed lead us to consider the many challenges of nursing home care that may contribute to adverse events. First, nursing home residents are often frail. Similar to the resident in this case, the more than 1.5 million residents in US nursing homes are predominantly elderly, have multiple chronic conditions, take multiple medications, and are dependent on others for many of their care needs. Moreover, the majority of nursing home residents experience dementia or other cognitive impairments (7) impeding their ability to participate in the planning and execution of their care. This frailty increases their risk for adverse events.(8,9)

Second, the care needs of frail nursing home residents are complex. As such, they require comprehensive assessment and management by nursing staff and other disciplines to minimize risk of harm. Upon return to the nursing home after initial hospitalization, the resident in the current case had experienced a significant change of condition. Based on federal regulation, a significant change of condition requires a detailed assessment that should result in modification to the plan of care.(10) Among other concerns, because the resident's functional status had declined, she was now at far greater risk for pressure ulcer development and other serious complications related to immobility. As described by Barbour (11), accurate assessment of skin conditions is challenging and warrants close assessment and aggressive management

by nursing staff to prevent serious breakdown from occurring. Perhaps this close assessment and aggressive management in the nursing home did not occur.

Third, many nursing homes do not have the clinical resources necessary to effectively assess and manage complex resident needs. Among these lacking resources is the presence of registered nurses (RNs). As noted by Scott-Cawiezell (12), modern nursing home residents require complex care, which is optimally managed by fully trained RNs. Despite evidence that RNs positively impact nursing home outcomes in clinically meaningful ways (13), utilization of RN staff in nursing homes is on the decline.(14) Although it is unclear why RN staffing is on the decline, the availability of fewer RNs is particularly concerning since the number of nursing home residents will continue to increase and their clinical conditions will continue to become more complex.

Finally, nursing home residents frequently transition between settings. Transfers from nursing homes constitute nearly 10% of Medicare admissions to acute care, with nearly 40% of these hospitalizations occurring within the first 3 months of nursing home admission.(15) Transitions in care can be particularly problematic because communication between caregivers and across settings is often fragmented, lacking critical information to assure continuity of care. Prior studies have shown that transitions in care are associated with an increased risk of adverse events and errors.(16,17)

As this case study depicts, the resident was transferred twice between acute and long-term care. With each transfer her condition worsened until her death in the hospital. Perhaps better communication across settings during points of transition could have reduced the resident's risk for harm and thus prevented the devastating adverse outcome of sepsis and subsequent death.

Systems to Improve Resident Safety

These challenges illustrate the realities of nursing home care that influence resident safety. As such, assuring systems are in place for safe resident care is of critical importance. Standards such as the Joint Commission National Patient Safety Goals provide a valuable framework for designing such safety systems.(18) The Joint Commission Patient Safety Goals for Long Term Care include accurate resident identification, safe medication use, reduced health care-associated infections, reconciled medications, reduced harm from falls, and reduced health care-associated pressure ulcers. These goals reflect priority areas that nursing homes must consider to assure resident safety.

To achieve the National Patient Safety Goals, monitoring systems must be in place to identify both resident-specific and organization-specific risk so that adverse events can be minimized. For example, to identify and manage resident-specific risk, nursing homes can convene weekly multidisciplinary team meetings to identify and aggressively manage individuals at risk for falls, pressure ulcers, health care-associated infections, and other high risk conditions such as unplanned weight loss. As potential problems are identified, each resident's plan of care can be modified and immediately communicated to frontline caregivers such as licensed nurses and nursing assistants to minimize risk of harm. In one particular nursing home, residents taking high risk medications such as anticoagulants are monitored daily to assure no adverse events are occurring as a result of their medication therapy. In another nursing home, all residents returning from the hospital are monitoring daily for two weeks to assure their revised plans of care are appropriately implemented. In the current case, a daily assessment of the resident's condition upon

return from her initial hospitalization might have prevented the cascade of problems that subsequently occurred.

Many nursing homes can also monitor organization-wide risk through internal surveillance programs. For example, nursing homes can monitor their organization's fall rates, pressure ulcer rates, and infection rates on a monthly basis to identify problematic trends. As potential problems are identified, processes can be reviewed to establish where change needs to occur. In one nursing home, a team comprised of the medical director, administrator, licensed nurses, and frontline staff including certified nursing assistants and housekeeping staff convene monthly to review infection rates. As problems often relate to resident management issues as well as environmental issues, diverse team members can focus on specific areas to make the greatest impact. In another nursing home, the medical director and nursing leadership team monitor the rate of unplanned hospitalizations and emergency room visits monthly to identify and resolve issues related to resident care.

Technology can also play an important role in monitoring resident-specific and organization-specific risk. For example, technology systems can be designed to identify high-risk residents (e.g., pressure ulcer risk, fall risk, unplanned weight loss) or high-risk processes (e.g., anticoagulant use) to assure appropriate resident-specific assessment and management strategies are in place to minimize risk of harm. In the current case, such a report might have alerted staff about the resident's increased pressure ulcer risk so that aggressive prevention strategies could have been put in place. In addition, technology systems have the capability to generate alerts when safety systems may have failed (e.g., increasing rates of pressure ulcer occurrence, resident falls, medication errors, adverse drug events). This information provides an opportunity for organizational systems to be examined and/or care processes to be improved.

Nursing home providers—including administrators, physicians, registered nurses, and frontline caregivers such as licensed practical nurses and certified nursing assistants—perhaps play the greatest role in assuring resident safety through ongoing communication and feedback about resident-specific and organization-specific risks. For example, nursing homes can conduct daily safety briefings where frontline caregivers are provided a forum to share concerns about resident safety. Leaders can also conduct daily supervisory rounds to be accessible to staff, residents, and families so that quality and safety concerns can be shared. In the current case, perhaps frontline caregivers would have spoken up about fall risk or pressure ulcer risk given the opportunity to do so. Or perhaps a multidisciplinary team would have identified the safety risks and made recommendations for care.

Regardless of systems for monitoring resident quality and safety, the path to improved safety requires two key steps. First, nursing home leaders and staff must be willing to access and respond to information that alerts them to safety risks. Second, staff must be willing to report and leaders must act when safety concerns arise. These steps require a culture where leaders and staff share the values and beliefs that resident safety is a priority. Fortunately, evidence suggests the culture of safety in nursing homes may be shifting in a positive way (19) but, as this case illustrates, nursing homes still have a long way to go.

Take-Home Points

- Many challenges exist in nursing homes that may contribute to the occurrence of adverse events.

- Monitoring systems designed to identify both resident level and organizational level risk for adverse events are critical to improve the quality and safety of nursing home care.
- In order to assure resident quality and safety in nursing homes, it is essential that a culture exists where administrators, physicians, nurses, and frontline caregivers access and respond to information that alerts them to safety risks.

Amy A. Vogelsmeier, PhD, RN Assistant Professor

John A. Hartford Foundation Claire M. Fagin Fellow

University of Missouri-Columbia, Sinclair School of Nursing

Faculty Disclosure: *Dr. Vogelsmeier has declared that neither she, nor any immediate member of her family, have a financial arrangement or other relationship with the manufacturers of any commercial products discussed in this continuing medical education activity. In addition, the commentary does not include information regarding investigational or off-label use of pharmaceutical products or medical devices.*

References

1. Office of Inspector General, US Department of Health and Human Services. Adverse Events in Hospitals: Overview of Key Issues. Report no. OEI-06-07-00470. December 2008. [Available at]

2. Kapp MB. Resident safety and medical errors in nursing homes: reporting and disclosure in a culture of mutual distrust. J Leg Med. 2003;24:51-76. [go to PubMed]

3. Wachter RM. Understanding Patient Safety. New York, NY: McGraw-Hill Professional; 2007. ISBN: 9780071482776.

4. Scott-Cawiezell J, Vogelsmeier A. Nursing home safety: a review of the literature. In: Fitzpatrick JJ, Stone PW, Walker PH, eds. Annual Review of Nursing Research. New York, NY: Springer Publishing Co.; 2006;24. ISBN: 9780826141361.

5. Cuddigan J, Ayello EA, Sussman C, eds. Pressure Ulcers in America: Prevalence, Incidence, and Implications for the Future. Reston, VA: National Pressure Ulcer Advisory Panel; 2001.

6. Aspden P, Wolcott J, Bootman JL, et al., eds for the Committee on Identifying and Preventing Medication Errors, Institute of Medicine. Preventing Medication Errors: Quality Chasm Series. Washington, DC: The National Academies Press; 2007. ISBN: 9780309101479.

7. The Characteristics of Long-term Care Users: AHRQ Research Report. AHRQ Publication No. 00-0049. Rockville, MD: Agency for Healthcare Research and Quality; January 2001. [Available at]

8. Sari AB, Cracknell A, Sheldon TA. Incidence, preventability, and consequences of adverse events in older people: results of a retrospective case-note review. Age Ageing. 2008;37:265-269. [go to PubMed]

9. Thomas EJ, Brennan TA. Incidence and types of preventable adverse events in elderly patients: population based review of medical records. BMJ. 2000;320:741-744. [go to PubMed]

10. Nursing Home Quality Initiatives. MDS 3.0 Training Materials. Baltimore, MD: Centers for Medicare and Medicaid Services, US Department of Health and Human Services; 2011. [Available at]

11. Barbour S. The forgotten turn. AHRQ WebM&M [serial online]. December 2010. [Available at]

12. Scott-Cawiezell JR. Wrong route for nutrients. AHRQ WebM&M [serial online]. July 2008. [Available at]

13. Horn SD, Buerhaus P, Bergstrom N, et al. RN staffing time and outcomes of long-stay nursing home residents: pressure ulcers and other adverse outcomes are less likely as RNs spend more time on direct patient care. Am J Nurs. 2005;105:58-70. [go to PubMed]

14. Seblega BK, Zhang NJ, Unruh LY, et al. Changes in nursing home staff staffing levels, 1997 to 2007. Med Care Res Rev. 2010;67:232-246. [go to PubMed]

15. Hutt E, Ecord M, Eilertsen TB, et al. Precipitants of emergency room visits and acute hospitalization in short stay Medicare nursing home residents. J Am Geriatr Soc. 2002;50:223-229. [go to PubMed]

16. Forster AJ, Clark HD, Menard A, et al. Adverse events among medical patients after discharge from hospital. CMAJ. 2004;170:345-349. [go to PubMed]

17. Forster AJ, Murff HJ, Peterson JF, et al. The incidence and severity of adverse events affecting patients after discharge from the hospital. Ann Intern Med. 2003;138:161-167. [go to PubMed]

18. Long Term Care: 2011 National Patient Safety Goals. The Joint Commission; January 2011. [Available at]

19. Castle N, Wagner LM, Perera S, et al. Comparing the safety culture of nursing homes and hospitals. J Appl Gerontol. 2011;30:22-43. [Available at]

This project was funded under contract number 75Q80119C00004 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. The authors are solely responsible for this report's contents, findings, and conclusions, which do not necessarily represent the views of AHRQ. Readers should not interpret any statement in this report as an official position of AHRQ or of the U.S. Department of Health and Human Services. None of the authors has any affiliation or financial involvement that conflicts with the material presented in this report. View AHRQ Disclaimers