



Published in final edited form as:

JAMA Intern Med. 2013 May 27; 173(10): 853–854. doi:10.1001/jamainternmed.2013.330.

Keeping the “Home” in Nursing Home:

Implications for Infection Prevention

Dr Lona Mody, MD, MSc, Dr Suzanne F. Bradley, MD, and Dr Susan S. Huang, MD, MPH

Divisions of Geriatric and Palliative Care Medicine (Drs Mody and Bradley) and Infectious Diseases (Dr Bradley), University of Michigan, Ann Arbor; Geriatric Research Education and Clinical Center (Drs Mody and Bradley) and Infectious Diseases Section (Dr Bradley), Veteran Affairs Ann Arbor Healthcare System, Ann Arbor; and Division of Infectious Diseases and Health Policy Research Institute, University of California Irvine School of Medicine, Irvine (Dr Huang)

As they enter their retirement years, 76 million baby boomers with chronic illnesses will have an unprecedented impact on the health care system in the United States.¹ Emerging provider-level accountable care organizations are charged with care management across the entire health care spectrum.² For many older adults, residence in a nursing home (NH) is inevitable, and the “institution” truly becomes their “home.” Nursing homes also service a “short-stay” post-acute care population that is young, sick, prone to rehospitalization, and at a high risk of health care-associated complications like infections and adverse drug events. The Centers for Medicare and Medicaid Services, ie, the US taxpayers, pays over 60% of NH expenditure.^{3,4} As NHs become a partner in the health care delivery reform, they will undoubtedly be tasked to enhance the quality of care and resident safety to reduce inter-facility transfers. Most NHs are unprepared to address the myriad challenges posed by providing care for 2 disparate long-stay and short-stay populations within this emerging framework.

In an effort to maintain a homelike environment and enhance the quality of life for older long-stay adults in NHs, physical environments are being designed as a “home” rather than a medical institution. Nursing home residents have greater autonomy in determining their daily care and other activities to synchronize with their “at-home” preferences.⁵ Close relationships between residents, families, staff, and community is encouraged. While laudable, timely, and right fully embraced, these preferential characteristics create a dichotomy between the need for a nurturing “home” environment for long-stay residents and the need to reduce health care-associated complications in higher-acuity short-stay residents.

Caring for both short-stay and long-stay residents under the same roof raises the need to re-evaluate major areas of quality improvement. Nursing home care within the new health care framework will require a balance between the encouragement of highly individualized care and attention to quality-improvement programs to ensure vulnerable populations are safe. Let us consider infection prevention as an example. Health care workers, who are seen more as friends and helpers than nursing personnel, still need to enforce evidence-based procedures such as having residents perform hand hygiene before meals. Health care workers will need to practice hand hygiene and wear gloves as recommended, even when

© 2013 American Medical Association. All rights reserved.

Correspondence: Dr Mody, Division of Geriatric and Palliative Care, Medicine, University of Michigan, 2215 Fuller Dr, 11-G GRECC, VA Ann Arbor Healthcare System, Ann Arbor, MI 48105 (lonamody@unich.edu).

Conflict of Interest Disclosures:

None reported.

taking care of someone they have known for many years.⁶ Wearing masks for short periods to contain an influenza outbreak is still required even if it means using creative and alternative means of communication for the hearing impaired. Using door caddies for protective gowns and gloves may give the appearance of an “institutional environment” but are necessary equipment in rooms of high-risk people, such as those with *Clostridium difficile* infection.

Nursing home residents are at high risk of acquiring multidrug resistant organisms from prior health care exposures and from other residents during their NH stay.^{7,8} Nursing homes offer many opportunities of unintentional and unrecognized transmission such as shared dining rooms, rehabilitation equipment, and other recreation areas. In hospitals, isolation in a private room with use of gloves, gowns, and barrier precautions is the primary approach to preventing transmission of multi-drug resistant organisms. In contrast with hospitalized patients who typically do not socialize with one another and for whom isolation is short lived, adoption of this strategy in NHs results in social stigma and isolation and constrains a homelike environment. For these reasons, the use of isolation precautions may be minimized to those patients who are unable to perform adequate personal hygiene or have wounds or uncontrolled secretions. Although it may be possible to minimize certain practices such as isolation precautions in NHs, other measures cannot be displaced in any institutionalized or homelike setting. A reluctance to install wall-mounted alcohol-based hand rub because of the fear that this evokes a “hospital-like environment” ignores the fact that these products significantly reduce pathogen transmission. Similarly, personal protective equipment (gowns, gloves, and masks) must be readily available at the point of care even if residents can see them. Finally, policies for outbreak response must be implemented rapidly even if that response temporarily interferes with care.

How does infection prevention in NHs differ from home care? In home care, a caregiver is dealing with a single individual. In institutions, where people live together (eg, schools, military), infectious outbreaks are well known and the institutions have infection prevention processes in place. Nursing homes are no exception. In joint-living situations, infections are spread from person to person, from contaminated surfaces, or by droplets (eg, methicillin-resistant *Staphylococcus aureus*, group A streptococcus, norovirus, influenza). Additional pathogens, such as *C difficile*, vancomycin-resistant enterococci, and resistant gram-negative bacteria affect the debilitated and are resistant to antibiotics. These infectious agents are spread to other vulnerable residents by the hands of health care workers who become transiently colonized while going from resident to resident. These agents also spread to hospitals as patients move from NHs to acute care, making it a global health care issue.

Rethinking infection prevention is but one dimension of an overall quality-improvement program and patient safety. Frequent readmissions to acute care in short-stay residents, antipsychotic use in long-stay residents, pressure ulcers, staffing ratios, leadership turnover, and survey-related violations need to be urgently addressed. A heightened awareness and deliberate response is required to prevent unintentional erosion of evidence-based quality improvement measures as older adults make frequent transitions from home to the hospital to a NH, each with their unique culture, philosophy, and goals of care. Efforts to define the best practices must focus on strategies that are effective in NHs and that limit disruption of social and rehabilitative activities. Quality-improvement personnel should be empowered to conduct innovative projects that reduce hospital transfers while enhancing resident outcomes. Even though short-stay Medicare residents account of approximately 10% of all NH residents, programs enhancing their quality of care will benefit the entire NH population and reduce readmissions. The accountable care organizations and academic medical centers should consider this care setting as an area prime for research and innovation. Only a strong strategic dialogue and partnership between NH leaders, quality-improvement programs,

direct-care providers, consumers, and referring hospitals will assure that older adults receive high-quality care in integrated health care systems.

Acknowledgments

Funding/Support: Dr Mody is supported by grants R01 AG032298 from the National Institute of Aging and R18 HS019979 from the Agency for Healthcare Research & Quality.

References

1. Jones AL, Dwyer LL, Bercovitz AR, Strahan GW. The National Nursing Home Survey: 2004 overview. *Vital Health Stat.* 2009; 13(167):1–155.
2. Berwick DM. Making good on ACOs' promise—the final rule for the Medicare Shared Savings Program. *N Engl J Med.* 2011; 365:1753–1756. [PubMed: 22013899]
3. National Center for Health Statistics. *Health, United States, 2009.* Hyattsville, MD: National Center for Health Statistics; 2010.
4. Grabowski, DC.; Norton, EC. Nursing home quality of care. In: Jones, AM., editor. *The Elgar Companion to Health Economics.* 2. Northampton, MA: Edward Elgar Publishing; 2012. p. 307-317.
5. Rahman AN, Schnelle JF. The nursing home culture-change movement: recent past, present, and future directions for research. *Gerontologist.* 2008; 48(2):142–148. [PubMed: 18483426]
6. Smith PW, Bennett G, Bradley S, et al. SHEA/APIC guideline: infection prevention and control in the long-term care facility, July 2008. *Infect Control Hosp Epidemiol.* 2008; 29(9):785–814. [PubMed: 18767983]
7. Fisch J, Lansing B, Wang L, et al. New acquisition of antibiotic-resistant organisms in skilled nursing facilities. *J Clin Microbiol.* 2012; 50(5):1698–1703. [PubMed: 22378900]
8. O'Fallon E, Gautam S, D'Agata EMC. Colonization with multidrug-resistant gram-negative bacteria: prolonged duration and frequent cocolonization. *Clin Infect Dis.* 2009; 48(10):1375–1381. [PubMed: 19348593]