Published in final edited form as:

Med Care. 2018 December ; 56(12): 1032–1034. doi:10.1097/MLR.0000000000000997.

Safety of Obese Persons in Nursing Homes

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The safety of residents of U.S. nursing homes is a national concern. Landmark reports in the 1980s that documented significant harm to residents due to unsafe nursing home care practices and environments led to major regulatory changes that prompted improvements in nursing home care. However, recent annual inspections indicate that deficiencies in care, which resulted in resident harm, persist through today. The 2014 federal report, *Adverse Events in Skilled Nursing Facilities*, estimated the cost of adverse events in nursing homes to be >\$2.8 billion and that two-thirds of the adverse events that resulted in harm were preventable.¹

Obese persons are an emerging, vulnerable group needing nursing home care. The obesity epidemic has spread across the U.S. and now affects 1 in 3 adults.² As the U.S. population ages, obese persons are growing older.³ Obesity has been shown to increase risk of chronic

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The authors declare that there are no conflicts of interest.

conditions and functional decline, and negatively impacts the ability to perform activities of daily living (ADLs).^{4,5} Specifically, the chances of not being able to perform ADLs increase 50% for moderately obese men and 100% for moderately obese women, and increase 200% for severely obese men and 400% for severely obese women.⁶

Dependencies in three ADLs has been shown to be amongst the strongest predictors of nursing home admission.⁷ Although disability rates among older adults have decreased in recent years, there is now concern that the obesity epidemic will reverse that trend, leading to an increase in nursing home use in the future.^{6,8} Indeed, significant increases in the proportion of nursing home residents who are obese have been observed. Today, one in four nursing home residents is morbidly obese (BMI ≥ 35).⁹

Obese residents are at risk for injury in nursing homes. Emerging, albeit sparse, research is showing that obesity complicates nursing home care^{10–13} and presents legitimate resident safety concerns, including risk of pressure ulcers, infections and falls.

A study that examined the association of obesity and pressure ulcers among nursing home residents found that the likelihood of having a pressure ulcer was 18.9% higher among moderately to severely obese residents compared to normal weight residents, and that low numbers of nursing aides in the nursing homes increased the risk of getting pressure ulcers.¹⁴ Lack of appropriately sized medical equipment in nursing homes may contribute to the risk of pressure ulcers among obese residents. For example, a General Accounting Office report described the care of an obese resident who had no pressure ulcers at admission, but within 7 days had four Stage II ulcers and three Stage I ulcers because of an inappropriately sized bed and mattress that hindered the staff's ability to turn the resident.¹⁵

Treatment of pressure ulcers among obese persons can be particularly problematic as obese persons are at high risk for wound complications including infections, seromas, hematomas, and wound separation.¹⁶ Thus, obese residents require special protocols, trained staff, and appropriately-sized equipment to prevent and treat skin breakdown.¹⁷

Obesity is also significantly associated with the risk of falling and a greater risk of injury after falls.¹⁸ Although this association was documented among community-dwelling adults, the fall risk also applies to the nursing home environment.¹⁹ When obese residents fall in nursing homes, multiple staff will likely to be needed to help residents get up.²⁰ Multiple staff are not always available at the same time to help obese residents. This can result in either an individual staff attempting to help the resident (which presents injury risks to the resident and the staff member) or the obese resident is left without needed care for prolonged periods. In one case, for example, an obese nursing home resident (BMI ~45.3) fell in her room. The responding aide said that she would need a second aide to help get the resident off the floor. Despite persistent calls for help from the resident and her roommate, the aide did not return. After 45 minutes on the floor in pain, the obese resident used her telephone to call "911", to get more immediate help. The obese resident experienced pain and significant emotional distress from this event.

When needing help for ADLs, research has shown that obese residents are significantly more likely to require assistance from two or more nursing home staff ADLs than non-obese

residents.¹⁰ As noted above, multiple staff may not always be available to assist with ADLs, such as toileting. Failure to provide timely assistance with toileting may lead to incontinence episodes, which can increase risk for incontinence-associated dermatitis.²¹

Recognizing challenges with the care of persons who are obese, some nursing homes have indicated they are unwilling to admit them. Two-thirds of responding directors of nursing of federally certified nursing homes in two states reported that large patient size can serve as a barrier to admission, while 6% of responding directors of nursing reported persons who are morbidly obese are always refused admission to their nursing home.²²

Thus potential limited access to nursing homes can leave obese persons concentrated in poor-quality nursing homes,²³ which further exasperates their risk for harm. Consumers are attracted to high-quality nursing homes, allowing high-quality nursing homes to be selective in their admissions. Resident characteristics differ by nursing home quality, where poor, minority, and cognitively-challenged individuals are concentrated in low-quality nursing homes,^{24,25} which indicates selectivity. Research shows that obese persons present challenges for nursing homes,^{10,11,26,27} which, may make them less attractive to nursing homes as residents. High-quality nursing homes may choose not to admit obese persons, prompting these residents to turn to low-quality nursing homes that cannot be as selective in their admission decisions. This scenario has been identified in NY, where obese residents were concentrated in low-quality nursing homes.²⁸

Older adults with disabilities requiring long-term care are not likely to be candidates for intensive weight loss interventions or bariatric surgery. Thus, they may not be able to adapt to the long-term care system that is primarily prepared to care for non-obese persons. Payers and providers of long-term care need to recognize that not only is the demand for long-term care increasing with the aging of the baby boom generation, but the profile of those needing long-term care is changing. Increasingly, older adults needing long-term care are going to be obese. Nursing homes must adapt to provide the specialized care they require. Policymakers and regulators should help nursing homes do that by supporting research to understand processes of care that facilitate and hinder safe care processes for obese residents; monitoring resident outcomes based on obesity status; examining payment mechanisms to ensure they did not create financial disincentives for nursing homes; and supporting access to long-term care, regardless of one's weight status.

Acknowledgements:

We acknowledge the support of the Agency for Healthcare Research and Quality (1 R01 HS025703-01A1) for support to study this topic and support from the University of Arkansas for Medical Sciences Translational Research Institute (KL2TR000063 and UL1TR000039) for preliminary research that led to the development of the manuscript.

REFERENCES

1. Office of the Inspector General. Adverse events in skilled nursing facilities: National incidence among Medicare beneficiaries. Washington, DC: Office of the Inspector General;2014.
2. Ogden C, Carroll M, Kit B, Flegal K. Prevalence of childhood and adult obesity in the United States. *Journal of the American Medical Association*. 2014;311(8):806–814. [PubMed: 24570244]

3. United Health Foundation. America's Health Rankings: Senior Report. Minnetonka, MN: United Health Foundation;2016.
4. Jenkins K Obesity's effects on the onset of functional impairment among older adults. *The Gerontologist*. 2004;44(2):206–216. [PubMed: 15075417]
5. Jensen G Obesity and functional decline: Epidemiology and geriatric consequences. *Clinics in Geriatric Medicine*. 2005;21.
6. Strum R, Ringel J, Andreyeva T. Increasing obesity rates and disability trends. *Health Affairs*. 2004;23(2):199–205. [PubMed: 15046144]
7. Gaugler J, Duval S, Anderson K, Kane R. Predicting nursing home admissions in the US: A meta-analysis. *BMC Geriatrics*. 2007;7:13. [PubMed: 17578574]
8. Badley EM, Canizares M, Perruccio AV, Hogg-Johnson S, Gignac MA. Benefits gained, benefits lost: comparing baby boomers to other generations in a longitudinal cohort study of self-rated health. *Milbank Q*. 2015;93(1):40–72. [PubMed: 25752350]
9. Felix H, Bradway C, Chisholm L, Prahlan R, Weech-Maldonado R. Prevalence of moderate to severe obesity among US nursing home residents, 2000–2010. *Research in Gerontological Nursing*. 2015;8(4):173–178. [PubMed: 25751850]
10. Felix H Personal care assistance needs of obese elders entering nursing homes. *Journal of the American Medical Directors Association*. 2008;9(5):319–326. [PubMed: 18519112]
11. Felix H, Bradway C, Miller E, Heivly A, Fleshner I, Powell L. Staff time and estimated labor cost to bathe obese nursing home residents: A case report. *Social Science Research Network*;2009.
12. Felix H, Bradway C, Miller E, Heivly A, Fleshner I, Powell L. Obese nursing home residents: A call to research action. *Journal of the American Geriatrics Society*. 2010;58(6):1196–1197. [PubMed: 20722854]
13. Powell L, Felix H, Bradway C, Miller M, Heivly A, Fleshner I. Additional research on the cost of caring for obese nursing home residents is critical to maintaining adequate resources in the long-term care industry. *Journal of the American Medical Directors Association*. 2010;11(2):222. [PubMed: 20188320]
14. Cai S, Rahman M, Intrator O. Obesity and pressure ulcers among nursing home residents. *Medical Care*. 2013;51(6):478–486. [PubMed: 23666490]
15. GAO. Nursing home quality: Prevalence of serious problems, while declining, reinforces importance of enhanced oversight. Washington, DC: General Accounting Office;2003.
16. Wilson JA, Clark JJ. Obesity: impediment to wound healing. *Critical care nursing quarterly*. 2003;26(2):119–132. [PubMed: 12744592]
17. Gallegher S, Langlois C, Spacht D, Blackett A, Hennis T. Preplanning with Protocols for Skin and Wound Care in Obese Patients. *Advances in Skin and Wound Care* 2004;7(8):436–443.
18. Himes CL, Reynolds SL. Effect of obesity on falls, injury, and disability. *Journal of the American Geriatrics Society*. 2012;60:124–129. [PubMed: 22150343]
19. Thomas K, Hyer K, Castle N, Branch L, Andel R, Weech-Maldonado R. Patient safety culture and the association with safe resident care in nursing homes. *The Gerontologist*. 2012:e1–10.
20. Obesity Felix H., older adults and long-term care? Is there LTC system prepared? *Aging Today*. 2015;36(5):10.
21. Nix D, Haugen V. Prevention and Management of Incontinence-Associated Dermatitis. *Drugs & Aging*. 2010;27(6):491–496. [PubMed: 20524708]
22. Felix H, Bradway C, Ali M, Li X. Nursing home perspectives on the transition of morbidly obese patients from hospitals to nursing homes *Journal of Applied Gerontology*. 2016;35(3):286–302. [PubMed: 25515758]
23. Zhang N, Li Y, Rodriguez-Monguio R, Barenberg A, Temkin-Greener H, Gurwitz J. Are obese residents more likely to be admitted to nursing homes that have more deficiencies of care? *Journal of the American Geriatrics Society*. 2016;64:1085–1090. [PubMed: 27225360]
24. Mor V, Zinn J, Angelelli J, Teno J, Miller S. Driven to tiers: Socio-economic and racial disparities in the quality of nursing home care. *The Milbank Quarterly*. 2004;82(2):227–256. [PubMed: 15225329]

25. Smith D, Feng Z, Fennel M, Zinn J, Mor V. Separate and unequal: Racial segregation and disparities in quality across US nursing homes. *Health Affairs*. 2007;26(5):1448–1458. [PubMed: 17848457]
26. Felix H, Thostenson J, Bursac Z, Bradway C. Effect of weight on indwelling catheter use among long-term care facility residents. *Urologic Nursing*. 2013;33(4):194–195. [PubMed: 24079118]
27. Felix H, Bradway C, Fleshner I, Heivly A, Powell L. Special considerations for providing care for obese nursing home residents *Palliative and Nursing Home Care: Policies, Challenges and Quality of Life*. Hauppauge, New York: Nova Scientific Publishers, Inc.; 2011.
28. Zhang N, Li Y, Temkin-Greener H. Prevalence of obesity in New York nursing homes: Associations with facility characteristics. *The Gerontologist*. 2013;53(4):567–581. [PubMed: 23480892]