The NEW ENGLAND JOURNAL of MEDICINE

Perspective

SEPTEMBER 29, 2011

Reducing Unnecessary Hospitalizations of Nursing Home Residents

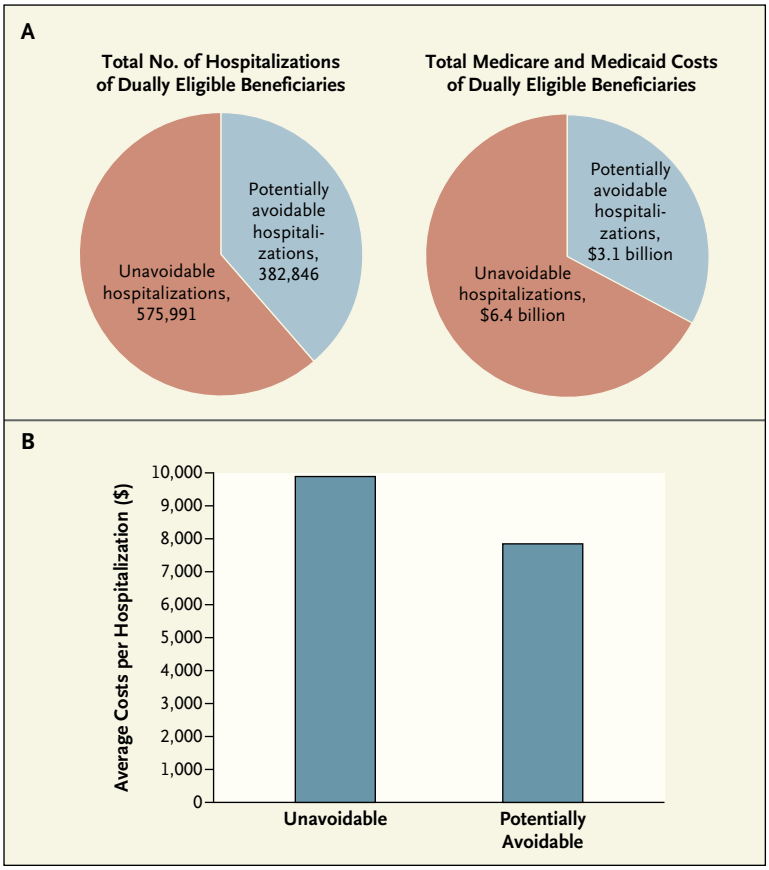
Joseph G. Ouslander, M.D., and Robert A. Berenson, M.D.

It's a common scenario: a 90-year-old resident of a U.S. nursing home — call her Ms. B. — has moderately advanced Alzheimer's disease, congestive heart failure with severe left-ventricular dysfunction, and chronic pain from degenerative joint disease. She develops a nonproductive cough and a fever of 100.4°F. The night nurse calls an on-call physician who is unfamiliar with Ms. B. Told that she has a cough and fever, the physician says to send her to the emergency room, where she's found to have normal vital signs except for the low-grade fever, a normal basic-chemistry panel and white-cell count, but a possible infiltrate on chest x-ray. She is admitted to the hospital and treated with intravenous fluids and antibiotics. During her second night in the hospital, Ms. B. becomes confused and agitated, climbs out of bed, and falls, fracturing her hip. One week after admission, she is discharged back to the nursing home with coverage under the Medicare Part A benefit. The episode results in about $10,000 in Medicare expenditures, as well as discomfort and disability for Ms. B.

There is an alternative scenario, however, in which, when the same symptoms develop, the night nurse evaluates Ms. B. using a standardized protocol and calls an on-call nurse practitioner (NP) who visits the nursing home daily. "Late this afternoon, the resident developed a nonproductive cough and a temperature of 100.4°F," the nurse reports. "Her other vital signs are normal, and her lungs sound clear. She isn't complaining of shortness of breath or chest pain, and there is no leg edema. I think we can watch her and call back if something changes." The NP agrees and says she'll see Ms. B. in the morning, at which point she finds a persistent low-grade fever and crackles in the right posterior lung field. After consulting with Ms. B.'s daughter, who serves as her health care proxy, the NP orders an oral antibiotic and increased oral fluid intake. Ms. B. recovers over the next several days. The episode costs Medicare about $200 and results in no complications for Ms. B.

More than 1.6 million Americans live in nursing homes. Hospitalizations are common in this population; in 2006, 23.5% of the people admitted to a post-acute-care skilled-nursing facility were rehospitalized within 30 days.[1] Several studies suggest that many of these hospitalizations are inappropriate, avoidable, or related to conditions that could be treated outside the hospital setting —

The New England Journal of Medicine
Downloaded from nejm.org on November 20, 2011. For personal use only. No other uses without permission.
Copyright © 2011 Massachusetts Medical Society. All rights reserved.



Unavoidable and Potentially Avoidable Hospitalizations of Nursing Home Residents Eligible for Both Medicare and Medicaid, 2005.

Data are based on all hospitalizations of 1,571,920 dually eligible Medicare and Medicaid beneficiaries in the year 2005. Of the total hospitalizations included, 72% were from nursing homes, accounting for 85% of the total costs of avoidable hospitalizations. Data are from the Centers for Medicare and Medicaid Services.

and they cost more than $4 billion per year.[1-3] Avoidable hospitalizations are also common among long-stay residents of nursing homes (see graphs).[2-4]

In many clinical situations, more nursing home residents with acute changes in their clinical condition could be cared for safely and effectively without having to be transferred to a hospital. But the causes of preventable hospitalizations in this population are complex. One fundamental problem is not clinical but financial, stemming from a misalignment of Medicare and Medicaid: state Medicaid programs do not benefit from savings that Medicare accrues from prevented hospitalizations of nursing home residents, even though the nursing home incurs expenses when managing changes in condition without hospital transfer. In addition, nursing homes have a financial incentive to hospitalize residents who have Medicaid coverage, because after a 3-day inpatient stay, the resident may qualify for Medicare Part A payment for post-acute care in the nursing home at three to four times the daily rate paid by Medicaid.[4]

Multifaceted strategies will be needed to address the current incentives for hospitalization if we are to improve nursing home care and prevent unnecessary hospitalizations, with their related complications and costs. Two caveats are critical. First, not all hospitalizations for conditions that can theoretically be managed outside an acute care hospital are preventable. Second, given fiscal constraints and the dearth of health care professionals trained in geriatrics and long-term care, not all nursing homes have the capacity to safely evaluate and manage changes in the condition of the clinically complex nursing home population. Setting unrealistic expectations and providing incentives to poorly prepared nursing homes to manage such care rather than transferring residents to a hospital could have unintended negative effects on the quality of care and health outcomes.

Interventions designed to reduce preventable hospitalizations should therefore be directed at facilities that have the infrastructure, leadership commitment, and culture of quality and safety necessary to undertake more acute care. Quality-assurance and performance-improvement programs required by the Affordable Care Act (ACA) will help focus nursing homes on efforts to reduce preventable transfers. Interventions to Reduce Acute Care Transfers, or INTERACT (http://interact2.net), is one such program that has shown promise[5]; it provides clinical practice tools, communication strategies, and documentation standards that enhance the nursing home's ability to identify, evaluate, and manage conditions before they become serious enough to necessitate hospital transfer. In addition, it addresses advance care planning that might result in a comfort care plan as an alternative to hospitalization for residents at the end of life, when the risks associated with hospital care

The New England Journal of Medicine
Downloaded from nejm.org on November 20, 2011. For personal use only. No other uses without permission.
Copyright © 2011 Massachusetts Medical Society. All rights reserved.

may outweigh the benefits. Enhancing the role of palliative care in nursing homes will also help align decisions about hospitalization with the individual's overall goals of care.

Nursing homes, like other health care providers, will respond to financial and regulatory carrots and sticks. There are financing models that provide incentives to reduce hospitalizations of frail elderly people, including the Program of All-Inclusive Care for the Elderly, which blends Medicare and Medicaid funding to provide capitated payments; Evercare, a managed-care program for long-stay nursing home residents that utilizes NPs to enhance primary care; and Medicare Special Needs Plans. Strategies that will be tested as a result of the ACA include shared accountability for the costs of preventable hospitalizations, implemented through bundled payments and financial disincentives for readmissions within 30 days after discharge. Performance-based payments for lower overall hospitalization rates for specific conditions (the approach taken in the Centers for Medicare and Medicaid Services Nursing Home Value-Based Purchasing Demonstration) and additional payments for nursing homes to use flexibly to manage changes in condition defined by specific clinical criteria both have the potential to reduce preventable hospital admissions and readmissions. Savings to Medicare from prevented hospitalizations should be used to support nursing home infrastructure — in particular, to pay for more trained registered nurses (RNs) and NPs, since higher RN staffing levels and NP–physician teams are associated with lower hospitalization rates.

In many areas of the United States, realistic concerns about legal liability, as well as satisfaction on the part of nursing home residents and their families, affect hospitalization patterns. Thus, tort reform that limits liability for poor outcomes unrelated to the quality of care, and education of residents and families about realistic goals for care and advance care planning that considers the risks as well as benefits of hospitalization, can be key to reducing preventable hospitalizations. Because nursing homes generally focus heavily on compliance with standards used by federal and state surveys, regulatory efforts could reinforce quality-improvement initiatives through development of valid, achievable, relevant quality measures and enhancement of surveyor guidance and training on those measures and related standards.

We can improve care and reduce unnecessary complications and expenditures on preventable hospitalizations of nursing home residents. But it will require a multifaceted approach; commitment of energy and resources; teamwork among health care funders, regulators, health care professionals, nursing homes, and hospitals; and a true focus on resident-centered care.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From the Charles E. Schmidt College of Medicine, Florida Atlantic University, Boca Raton (J.G.O.); and the Urban Institute, Washington, DC (R.A.B.).

1. Mor V, Intrator O, Feng Z, Grabowski DC. The revolving door of rehospitalization from skilled nursing facilities. Health Aff (Millwood) 2010;29:57-64.
2. Saliba D, Kington R, Buchanan J, et al. Appropriateness of the decision to transfer nursing facility residents to hospital. J Am Geriatr Soc 2000;48:154-63.
3. Ouslander JG, Lamb G, Perloe M, et al. Potentially avoidable hospitalizations of nursing home residents: frequency, causes, and costs. J Am Geriatr Soc 2010;58:627-35.
4. Grabowski DC. Medicare and Medicaid: conflicting incentives for long-term care. Milbank Q 2007;85:579-610.
5. Ouslander JG, Lamb G, Tappen R, et al. Interventions to reduce hospitalizations from nursing homes: evaluation of the INTERACT II collaborative quality improvement project. J Am Geriatr Soc 2011;59:745-53.

Copyright © 2011 Massachusetts Medical Society.

Who Owns Federally Funded Research? The Supreme Court and the Bayh–Dole Act

Aaron S. Kesselheim, M.D., J.D., M.P.H., and Rahul Rajkumar, M.D., J.D.

Collaboration between academic researchers and private companies has long been essential to medical innovation and development because it brings together parties with different expertise, data, or technologies. Such cooperative efforts usually begin with a contract that outlines the parties' expectations and ownership of any output. A recent Supreme Court decision shines a bright light on these contracts and addresses the question of whether the public has any formal interest in agreements made involving federally funded research.

The case related to a long-simmering dispute between Stanford University and Roche Molecular Systems regarding ownership

The New England Journal of Medicine
Downloaded from nejm.org on November 20, 2011. For personal use only. No other uses without permission.
Copyright © 2011 Massachusetts Medical Society. All rights reserved.