

Prevention of Unnecessary Hospitalization for Patients With Dementia

The Role of Ambulatory Care

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DEMENTIA IS A CHRONIC DISEASE WITH DEVASTATING effects on patients, caregivers, and families. Current projections indicate that 115 million new patients will be affected worldwide by 2050.¹ Because of the sheer size of the epidemic, this problem for patients, families, clinicians, and public health requires balancing efforts toward finding a cure with ensuring the wide implementation of available state-of-the-art care that, while not curative, is effective in reducing symptoms, improving quality of life, and slowing functional decline. With ongoing efforts to develop disease-modifying therapies for Alzheimer disease, the most common form of dementia, treatments that emerge over the next few decades may well increase the prevalence of dementia by slowing its progression, further underscoring the need to effectively care for patients and their caregivers.

The progression of dementia is highly variable, with as many as a third of cases progressing very little even after 5 years.² Several modifiable factors appear to affect its course and delay progression to severe dementia, the most disabling stage. These include, among others, management of neuropsychiatric (behavioral) symptoms,³ participation in mental activities,⁴ and patient-caregiver closeness.⁵ A number of reproducible dementia care⁶ approaches have been designed and evaluated in randomized controlled trials. The evidence suggests that dementia care can delay institutionalization⁷ and reduce neuropsychiatric symptoms⁸ and is cost-effective.⁹ Professional organizations and leading experts recommend the use of dementia care for all patients with the condition.¹⁰ A central component of dementia care is the effective management of common general medical comorbidities. Patients with dementia have just as many and more serious comorbidities and take more medications than comparably aged persons.¹¹

Clinicians have long observed that comorbid illnesses greatly influence dementia progression and illness exacerbations accelerate functional decline. Improvement or worsening in functional state closely follows fluctuations in the

general medical condition. The association between comorbidity and progression is poorly understood but likely reflects the vulnerability of the diseased brain to biologic stresses and to the frequent development of delirium even with mild exacerbations of acute or chronic diseases. For example, urinary tract infections, upper respiratory tract infections, or brief general anesthesia for routine outpatient procedures can lead to unforeseen but significant functional declines in patients with dementia, from which it is often difficult for them to recover. A study conducted more than a decade ago found that patients with dementia were more likely than patients without dementia to be admitted for dehydration, urinary tract infection, pneumonia, and delirium from medication adverse effects and concluded, "Many of the conditions that were more prevalent in patients with dementia . . . could potentially be prevented, recognized earlier, or managed in other settings, reducing the need for acute hospitalization."¹² However, patients with dementia are less able to properly self-manage their medical conditions (eg, take medications on schedule or follow up with physician appointments). Hence, more aggressive involvement of physicians working together with families and caregivers is necessary to effectively manage comorbidities in patients with dementia. Unfortunately, dementia continues to be under-recognized in primary care settings, a finding that compounds the problem of undermanagement of comorbidities in these patients.^{13,14}

A study in this issue of *JAMA*¹⁵ provides more definitive data on the relative prevalence of hospital admissions in patients with dementia and, importantly, potentially preventable hospitalizations. Phelan et al studied a cohort of 3019 participants 65 years and older without dementia in the Adult Changes of Thought study, of whom 494 developed dementia during the course of the study. All study participants were enrollees of the same health care delivery system, Group Health Cooperative, reducing the likelihood that study findings were related to differences in health care access or insurance coverage. The study had a total of almost 25 000

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See also p 165.

person-years of follow-up, including 1703 person-years after the diagnosis of dementia. Of the 5328 hospitalizations, 714 occurred after a dementia diagnosis.

The investigators compared rates of hospitalization among those who developed dementia with those who did not. After the onset of dementia, the average annual admission rate was 419 per 1000 person-years, more than twice the rate of 200 per 1000 person-years in persons without dementia. After adjustment for age, sex, nursing home residence, and other potential confounders, the admission rate, particularly for circulatory, genitourinary, infectious, neurological, and respiratory conditions, was higher in persons with dementia (rate ratio, 1.41; $P < .001$).

More importantly, the investigators specifically compared hospitalization rates for “ambulatory care-sensitive conditions (ACSCs) for which proactive outpatient care might prevent the need for a hospital stay.”¹⁵ Here too, the crude admission rate was much higher among persons with dementia, 78% higher after full adjustment for covariates (rate ratio, 1.78; $P < .001$). Admissions for ACSCs accounted for 28% of all dementia hospitalizations compared with 19% among controls. Bacterial pneumonia, congestive heart failure, urinary tract infection, dehydration, and duodenal ulcer were much more common in patients with dementia; the first 3 diagnoses accounted for more than two-thirds of potentially preventable admissions. One might imagine that these diagnoses (particularly the first 4) could be the final diagnoses of patients dying with dementia. However, excluding admissions in which patients died had essentially no effect on the rate ratios for ACSC admissions.

In the context of earlier literature, the results of this methodologically rigorous study indicate that in the current US health care environment, patients with dementia are much more likely to be hospitalized than age-comparable peers, especially for conditions such as urinary tract infection, congestive heart failure, dehydration, and bacterial pneumonia, for which early detection can often lead to effective management in ambulatory settings, thus preventing hospitalizations. Ambulatory care is the optimal setting to both detect dementia early and manage such conditions. Early detection of dementia means that effective supports can be put in place to help manage comorbidities before they lead to acute hospitalizations. Involvement by physicians of families and caregivers as partners in this process is critically important.

The challenges posed by dementia are not going away anytime soon. Medical professionals have an obligation to detect and manage this devastating chronic disease in ways that are known to be effective, albeit not curative. Physicians should participate in this effort by making detection of dementia in its early stages and implementation of de-

mentia care a priority. Major goals are to manage comorbidities and to prevent hospitalizations. Hospital stays are very difficult for patients with dementia as they are more likely to require restraints, develop delirium, or experience falls, thus prolonging stays and increasing costs. Effective ambulatory care that prevents hospitalizations through proactive dementia detection and management is a major and realistic priority in the public health response to dementia.

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