Care of Hospitalized Older Patients

Opportunities for Hospital-Based Physicians

C. Seth Landefeld, MD[1,2]

[1] Division of Geriatrics and the Center on Aging, University of California, San Francisco, San Francisco, California

[2] Quality Scholars Program and the Geriatrics and Extended Care Service, San Francisco VA Medical Center, San Francisco, California

Supported by Grants AG 00912 and AG 10418 from the National Institute on Aging, Grant 2003-0455 from the John A. Hartford Foundation, and Grant D01 HP 00015 from the Bureau of Health Professions.

BACKGROUND: Half of patients admitted to hospital for reasons unrelated to childbirth are age 65 years or older. Nonetheless, few hospital-based physicians have received training in geriatric medicine, and few geriatricians practice in the hospital. This paper describes the state of the science of hospital care for older patients, and identifies opportunities and barriers to improving their care.

METHODS: General medical journals from 1980 to the present were selectively reviewed to identify original articles on the treatment of specific diseases and syndromes on hospitalized persons age 65 years or older. Information was synthesized to describe the course of these patients during and after hospitalization, and to identify effective management strategies and gaps in knowledge.

RESULTS: Older persons in hospitals pose substantial clinical challenges: they have high rates of cognitive impairment, delirium, disability, and difficulty walking, and they often require increased attention, longer lengths of stay, and higher hospital costs than younger patients with the same diagnoses. Disease-specific interventions have not been studied extensively in those older than 75 years. Multicomponent interventions can reduce short-term rates of disability and delirium without increasing costs, but they have not been widely disseminated. Interventions to treat or prevent other common conditions in hospitalized older patients have not been proven effective.

CONCLUSIONS: Fundamental discoveries in the science of hospital medicine are needed to prevent or treat geriatric syndromes, to treat common diseases in the very old, and to put into practice what is known. Hospital-based physicians can address these gaps in knowledge and practice with geriatricians, building from their shared perspectives on the care of the aged in complex health systems. ***Journal of Hospital Medicine* 2006;1:42–47.**

KEYWORDS: geriatric syndromes, geriatrics, healthcare improvement, hospital care, hospitalized older persons, patient safety, quality of care.

.

An emergency room resident once was instructing a medical student in how to place a nasogastric tube in order to evaluate a patient with melena and postural hypotension. When the tube came to a stop, the student connected a syringe to the tube and aspirated. Then, to the consternation of the resident, the student yanked out the tube as soon as he saw blood flowing into the syringe. "Why'd you do that?" the surprised resident asked. "There's blood down there!" came the quick reply.

Like that medical student, hospital-based physicians—hospitalists, geriatricians, and others—may miss the boat when caring for hospitalized older patients. Hospitals are full, and they're filled largely with older patients. These patients, like those who are younger, generally want to be treated and sent home. Older pa-

DOI 10.1002/jhm.11
Published online in Wiley InterScience (www.interscience.wiley.com).

tients, however, frequently pose specific challenges. They may talk and move more slowly, stay longer, and be more likely to die. They more often need help in caring for themselves, and many have lost the support necessary to remain at home, making it difficult for them to return there. In short, older patients often need more care and more time.

It may be tempting to ignore the challenges that arise in caring for older patients. An avoidance strategy is expedient, at least in the short term. Ultimately, however, ignoring the challenges of caring for older patients will prove no wiser than yanking the nasogastric tube. Instead, we can recognize the challenges and use this opportunity to learn to improve their care.

This article describes the state of the science in hospital care for older patients, opportunities awaiting those who care for these patients, and barriers to seizing those opportunities. I conclude with five recommendations for physicians who care for hospitalized older patients.

STATE OF THE SCIENCE

Older patients shape hospital medicine and will determine its future. In 2002 the 12% of the population age 65 years or older accounted for roughly 50% of all hospitalizations unrelated to childbirth.[1,2] Hospital admissions of older persons will balloon as the number of persons older than age 65 rises by a million a year, increasing from 13% of the population today to 21% by 2030.[2]

Older persons in hospitals pose substantial clinical challenges. Many have multiple comorbid diseases and virtually all have complex medical regimens.[1,3–5] Many have cognitive impairment or dementia, often accompanied by delirium, which hinder communication and can lead to behaviors that require extra attention and impede diagnostic tests and treatment.[6–11] Some have difficulty walking and caring for themselves, and a third leave the hospital without having recovered to their baseline level of function, with those age 85 years or older at highest risk for this decline independent of the reason for admission.[12–15] These characteristics increase the care, resources, and staff time older patients need, prolong their stays, and increase their hospital costs beyond those expected for their diagnosis.[16] They also are at higher risk for iatrogenic complications, death, and rehospitalization,[17–20] and the risk of errors may be increased by frequent transitions in providers and sites of care.[21–25] Older persons require greater assistance at home, and yet they have often lost much of the support needed to live at home.[10,13,20]

Despite the magnitude of these challenges, we know surprisingly little about how best to care for hospitalized older persons, especially those older than age 75. The evidence base for treatment of specific common diseases is inadequate. The very old are underrepresented in clinical trials,[26,27] and the majority of older patients with common conditions such as heart failure may not meet the enrollment criteria for clinical trials.[28] Thus, what is known about treating diseases in younger patients may be extrapolated to determine treatments in older persons based only on a leap of faith, which may be misguided.[29,30] In fact, the efficacy of conventional treatments for common conditions (e.g., acute myocardial infarction and hypertension) may diminish with age,[31,32] indicating that clinical trials targeted specifically to older patients may be necessary.

Despite the dearth of evidence about the management of common diseases in hospitalized older patients, hospital-based geriatricians have developed substantial high-grade evidence about the prevention of two geriatric syndromes, functional disability and delirium. The incidence of both syndromes can be reduced (without increasing hospital or health care costs) by multicomponent interventions that include comprehensive assessment, targeted treatment, and environmental modification to promote independence and safety.[3,33–35] Moreover, the randomized trials that evaluated these interventions have provided models for how other innovations by hospital-based physicians can be evaluated. Despite the evidence that these approaches are effective and either cost saving or cost neutral, these models have not been widely adopted.[36]

Many challenges in the prevention and management of geriatric syndromes in the hospital remain. For example, sophisticated approaches to the management of delirium are disappointing—once delirium has developed, intensive state-of-the-art approaches to its management are no more effective than standard care in shortening its duration or ameliorating its sequelae.[37,38] The indiscriminate use of indwelling urinary catheters is decried, but there is no evidence that their use is declining, even in patients without an indication for catheterization.[39–42] Malnutrition and falls can be prevented and depression treated in patients outside the hospital,[43–45] but it is unclear whether these maladies

can be prevented or treated effectively in hospitalized elders. Finally, intriguing evidence suggests that geriatric syndromes and their sequelae may be prevented and outcomes improved by caring for patients at home whenever possible, bringing intensive nursing and physician care into the home without some of the adverse effects of hospitalization.[46]

The physician workforce is not prepared to provide optimal care to hospitalized older persons. Few hospitalists or other hospital-based physicians have received more than minimal training in geriatric medicine, and few geriatricians practice extensively in the hospital. At the same time that the ranks of physicians who consider themselves hospitalists have been expanding by 1000 or more a year in the United States, the number of certified geriatricians has been decreasing as hundreds decide each year not to renew their certificates.[47,48] Fewer than 300 geriatricians complete training each year and enter the workforce, and most new geriatricians practice in ambulatory or long-term-care settings. Wald's study in this issue indicates the paucity of geriatricians in hospital medicine (with the apparently single exception of the Mayo Clinic's Hospital Internal Medicine Group) and a relative lack of interest among hospitalists in developing knowledge about the effective and efficient treatment of older persons, in particular.[49]

OPPORTUNITIES

Opportunities to improve the care of hospitalized older patients arise from the state of the science in their care and from the common ground that hospitalists and geriatricians share. The older patients of both hospitalists and geriatricians are seriously ill, with annual mortality rates of 20%–30% for patients with common conditions such as myocardial infarction or colon cancer and mortality rates of 50% or higher for patients with dementia or severe disability.[5,50–53] We should view the care of our patients in the context of their prognoses,[5,54] recognizing that patients' preferences for the goals, style, and site of care vary widely.[55,56] The substantial association of mortality with geriatric syndromes such as disability, dementia, delirium, and depression—an association that is independent of pathophysiologic indicators of disease severity—suggests that substantial benefits may accrue by targeting interventions to the prevention or amelioration of these syndromes.[5,9,10,53,57,58]

Hospitalists and geriatricians also share the perspective of working in complex systems in which the effectiveness, efficiency, and safety of care depend on system functions as well as on their technical expertise as individuals.[59–61] Together, and with colleagues in other disciplines, they may redesign how hospitals and the systems around them work to reduce errors, increase attention to aspects of care that are easily overlooked, and improve patient outcomes.

BARRIERS

Hospitalists and geriatricians face barriers to improving care for hospitalized older patients. First, gaps in knowledge limit the capacity to provide the care and achieve the outcomes desired. Fundamental discoveries in clinical science are needed to prevent or treat geriatric syndromes, to treat common diseases in the very old, and to put into practice what is known. Addressing these gaps in knowledge will require a sustained effort that spans methods and disciplines.

Second, the dominant reductionist paradigm values discovery of the mechanism of disease over discovery of ways to manage illness effectively and efficiently.[62–67] Similarly, diagnostic tests and therapies based on beliefs about the mechanism of disease—for example, PET scans in persons with memory disorders and chemotherapy in persons with refractory cancers—are pursued aggressively and paid handsomely, whereas efforts to reduce errors or improve continuity of care receive little attention or reward. The challenges of caring for hospitalized older patients will require advances on both fronts: in our knowledge of the pathogenesis of disorders that have proven resistant to current therapies (such as delirium) and in our knowledge of how to structure clinical care that engages patients and families and achieves desired outcomes effectively, consistently, and efficiently.

The structure and styles of our practices provide the third challenge. Hospitalists pride themselves on their efficient management of patients while maintaining or improving patient outcomes. A focus on efficient management can, however, lead to an assembly-line approach, turning each patient into a series of do-order-call-check tasks to get the patient out of the hospital as quickly as possible. This approach has advantages but may also blind physicians to the scope and complexity of issues that arise in caring for the very old through the course of an illness that often extends beyond hospitalization.[25] Geriatricians pride themselves on

their comprehensive management of patients, gathering clinical information from many sources (especially in the many patients with cognitive impairment), exploring and articulating goals of care, and assessing self-care and neurologic, psychological, and social domains in addition to conventional pathophysiology. Yet too often, geriatricians are not available in hospitals, and as Wald found, they have rarely been integrated into hospitalist groups.

FIVE RECOMMENDATIONS FOR HOSPITALISTS AND GERIATRICIANS

I conclude with five recommendations for hospital-based physicians who care for older patients and for geriatricians. First, step back, look at your patients, and note their predicament in its full complexity. Once hospitalists start looking for cognitive impairment, weakness, and difficulty walking and the difficulty of finding a good situation after leaving the hospital, it will be easy to see these problems. And once geriatricians start looking at why their patients are going into the hospital and what happens to them, it will be easy to see the need to become engaged. Seeing the full range of patients' problems won't address them, but we certainly won't address them if we don't look.

Second, learn what is known about how best to care for the aged and integrate this learning into your hospital practice. For hospitalists, learning how to identify each patient's goals of care, what works to prevent delirium and promote mobility, which drugs to avoid and which doses to modify, and how to access resources to help patients and families achieve their goals after they leave the hospital will benefit older patients. Pocket and PDA resources to extend learning are readily available.[68] For geriatricians, learning how to avoid hospitalization (especially when resources can be mobilized to provide a "hospital at home"), how to work within the timeframe of hospitalization, and what current disease-specific management strategies have been shown to be effective in the aged will benefit their patients. Maintaining the distinction between what is believed and what is known on the basis of high-quality evidence will enhance learning and decrease the risk of stubbornly pursuing harmful or wasteful practices. This is especially important in situations where the evidence is weak and opinions are strong.

Third, to provide the best care for our older patients, we must embrace aging, not deny it. Most hospitalized older patients, and most patients of geriatricians, will decline and die in a few years. The inevitability of these outcomes may tempt us either to abandon our incurable patients or to focus single-mindedly on "treatable" problems one at a time, rather than on the interplay of multiple problems in an individual person. Either choice is mistaken. Although we are powerless to prevent decline and death in the long run, we have a tremendous capacity to delay and ameliorate decline, to enhance comfort and joy, to protect from harm, and, often, to delay death.

Fourth, ask questions about what you do not know or understand. The risk, of course, is that your curiosity will be sparked, possibly slowing you in completing the myriad tasks to be done—a risk worth taking. Will ACE inhibitors and beta-blockers benefit patients with heart failure without systolic dysfunction? Why do so many older patients become delirious, and are features of hospitalization catalyzing the effects of disease in causing delirium? Why do we continue to send cognitively impaired patients home without scheduled follow-up and with instruction sheets they cannot read, and how can we change the system to prevent this? If you cannot find answers to your questions grounded in strong evidence, maintain your skepticism about answers given easily.

Finally, consider discovering the answers to some of your questions. Part of the excitement of caring for the very old is that we have so much to learn and that what we do learn can be so powerful.

Address for correspondence and reprint requests: Dr. C. S. Landefeld, UCSF Box 1265, Suite 380, 3333 California Street, San Francisco, CA 94118; Fax: (415) 750-6641.

Received 28 November 2005; accepted 28 November 2005.

REFERENCES

1. Merrill CT, Elixhauser, A. Hospitalization in the United States, 2002. Publication 05-056. Washington (DC): AHRQ, 2005.
2. Landefeld CS. Improving health care for older persons. *Ann Intern Med.* 2003;139:421–424.
3. Cohen HJ, Feussner JR, Weinberger M, et al. A controlled trial of inpatient and outpatient geriatric evaluation and management. *N Engl J Med.* 2002;346:905–912.
4. Ferrucci L, Guralnik JM, Pahor M, et al. Hospital diagnoses, Medicare charges, and nursing home admissions in the year when older persons become severely disabled. *JAMA.* 1997; 277:728–734.
5. Walter LC, Brand RJ, Counsell SR, et al. Development and validation of a prognostic index for 1-year mortality in older adults after hospitalization. *JAMA.* 2001;285:2987–2994.

6. Marcantonio ER, Flacker JM, Michaels M, Resnick NM. Delirium is independently associated with poor functional recovery after hip fracture. *J Am Geriatr Soc*. 2000;48:618–624.
7. McCusker J, Cole M, Dendukuri N, et al. The course of delirium in older medical inpatients: a prospective study. *J Gen Intern Med*. 2003;18:696–704.
8. McCusker J, Cole MG, Dendukuri N, Belzile E. Does delirium increase hospital stay? *J Am Geriatr Soc*. 2003;51:1539–1546.
9. Inouye SK, Rushing JT, Foreman MD, et al. Does delirium contribute to poor hospital outcomes? A three-site epidemiologic study. *J Gen Intern Med*. 1998;13:234–242.
10. Inouye SK, Wagner DR, Acampora D, et al. A predictive index for functional decline in hospitalized elderly medical patients. *J Gen Intern Med*. 1993;8:645–652.
11. Francis J, Martin D, Kapoor WN. A prospective study of delirium in hospitalized elderly. *JAMA*. 1990;263:1097–1101.
12. Lindenberger EC, Landefeld CS, Sands LP, et al. Unsteadiness reported by older hospitalized patients predicts functional decline. *J Am Geriatr Soc*. 2003;51:621–626.
13. Covinsky KE, Palmer RM, Fortinsky RH, et al. Loss of independence in activities of daily living in older adults hospitalized with medical illnesses: increased vulnerability with age. *J Am Geriatr Soc*. 2003;51:451–458.
14. Sager MA, Franke T, Inouye SK, et al. Functional outcomes of acute medical illness and hospitalization in older persons. *Arch Intern Med*. 1996;156:645–652.
15. Warshaw GA, Moore JT, Friedman SW, et al. Functional disability in the hospitalized elderly. *JAMA*. 1982;248:847–850.
16. Chuang KH, Covinsky KE, Sands LP, et al. Diagnosis-related group-adjusted hospital costs are higher in older medical patients with lower functional status. *J Am Geriatr Soc*. 2003;51:1729–1734.
17. Brennan TA, Leape LL. Adverse events, negligence in hospitalized patients: results from the Harvard Medical Practice Study. *Perspect Healthc Risk Manage*. 1991;11(2):2–8.
18. Brennan TA, Leape LL, Laird NM, et al. Incidence of adverse events and negligence in hospitalized patients. Results of the Harvard Medical Practice Study I. *N Engl J Med*. 1991;324:370–376.
19. Leape LL, Brennan TA, Laird N, et al. The nature of adverse events in hospitalized patients. Results of the Harvard Medical Practice Study II. *N Engl J Med*. 1991;324:377–384.
20. Fortinsky RH, Covinsky KE, Palmer RM, Landefeld CS. Effects of functional status changes before and during hospitalization on nursing home admission of older adults. *J Gerontol A Biol Sci Med Sci*. 1999;54:M521–M526.
21. Bero LA, Lipton HL, Bird JA. Characterization of geriatric drug-related hospital readmissions. *Med Care*. 1991;29:989–1003.
22. Lipton HL, Bero LA, Bird JA, McPhee SJ. The impact of clinical pharmacists' consultations on physicians' geriatric drug prescribing. A randomized controlled trial. *Med Care*. 1992;30:646–658.
23. Coleman EA, Smith JD, Raha D, Min SJ. Posthospital medication discrepancies: prevalence and contributing factors. *Arch Intern Med*. 2005;165:1842–1847.
24. Smith JD, Coleman EA, Min SJ. A new tool for identifying discrepancies in postacute medications for community-dwelling older adults. *Am J Geriatr Pharmacother*. 2004;2(2):141–147.
25. Coleman EA, Berenson RA. Lost in transition: challenges and opportunities for improving the quality of transitional care. *Ann Intern Med*. 2004;141:533–536.
26. Gross CP, Wong N, Dubin JA, et al. Enrollment of older persons in cancer trials after the medicare reimbursement policy change. *Arch Intern Med*. 2005;165:1514–1520.
27. Hutchins LF, Unger JM, Crowley JJ, et al. Underrepresentation of patients 65 years of age or older in cancer-treatment trials. *N Engl J Med*. 1999;341:2061–2067.
28. Masoudi FA, Havranek EP, Wolfe P, et al. Most hospitalized older persons do not meet the enrollment criteria for clinical trials in heart failure. *Am Heart J*. 2003;146(2):250–257.
29. Feinstein AR, Horwitz RI. Problems in the "evidence" of "evidence-based medicine." *Am J Med*. 1997;103:529–535.
30. Evans JG. National initiatives in ageing research in the United Kingdom. *Age Ageing*. 2002;31(2):93–95.
31. Goodwin JS. Embracing complexity: A consideration of hypertension in the very old. *J Gerontol A Biol Sci Med Sci*. 2003;58:653–658.
32. Thiemann DR, Coresh J, Schulman SP, et al. Lack of benefit for intravenous thrombolysis in patients with myocardial infarction who are older than 75 years. *Circulation*. 2000;101:2239–2246.
33. Landefeld CS, Palmer RM, Kresevic DM, et al. A randomized trial of care in a hospital medical unit especially designed to improve the functional outcomes of acutely ill older patients. *N Engl J Med*. 1995;332:1338–1344.
34. Inouye SK, Bogardus ST, Jr., Charpentier PA, et al. A multicomponent intervention to prevent delirium in hospitalized older patients. *N Engl J Med*. 1999;340:669–676.
35. Marcantonio ER, Flacker JM, Wright RJ, Resnick NM. Reducing delirium after hip fracture: a randomized trial. *J Am Geriatr Soc*. 2001;49:516–522.
36. Jayadevappa R, Bloom BS, Raziano DB, Lavizzo-Mourey R. Dissemination and characteristics of acute care for elders (ACE) units in the United States. *Int J Technol Assess Health Care*. 2003;19(1):220–227.
37. Cole MG, McCusker J. Treatment of delirium in older medical inpatients: a challenge for geriatric specialists. *J Am Geriatr Soc*. 2002;50:2101–2103.
38. Cole MG, McCusker J, Bellavance F, et al. Systematic detection and multidisciplinary care of delirium in older medical inpatients: a randomized trial. *CMAJ*. 2002;167:753–759.
39. Saint S. Clinical and economic consequences of nosocomial catheter-related bacteriuria. *Am J Infect Control*. 2000;28(1):68–75.
40. Saint S, Lipsky BA. Preventing catheter-related bacteriuria: should we? Can we? How? *Arch Intern Med*. 1999;159:800–808.
41. Saint S, Lipsky BA, Goold SD. Indwelling urinary catheters: a one-point restraint? *Ann Intern Med*. 2002;137(2):125–127.
42. Holroyd-Leduc JM, Sands, LP, et al. Risk factors for indwelling urinary catheterization among older hospitalized patients without a specific medical indication for catheterization. *J Patient Saf*. 2005. In press.
43. Milne AC, Potter J, Avenell A. Protein and energy supplementation in elderly people at risk from malnutrition. *Cochrane Database Syst Rev*. 2005(2):CD003288.
44. Tinetti ME. Clinical practice. Preventing falls in elderly persons. *N Engl J Med*. 2003;348(1):42–49.

45. Unutzer J, Katon W, Callahan CM, et al. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. *JAMA*. 2002;288:2836–2845.
46. Caplan GA, Ward JA, Brennan NJ, Coconis J, Board N, Brown A. Hospital in the home: a randomised controlled trial. *Med J Aust*. 1999;170(4):156–160.
47. Wachter RM. Hospitalists in the United States—mission accomplished or work in progress? *N Engl J Med*. 2004;350:1935–1936.
48. Warshaw GA, Bragg EJ, Shaull RW, Lindsell CJ. Academic geriatric programs in US allopathic and osteopathic medical schools. *JAMA*. 2002;288:2313–2319.
49. Wald H, Huddleston J, Kramer A. Is there a geriatrician in the house? Geriatric care approaches in hospitalist programs. *J Hosp Med*. 2006;1:29–35.
50. Fisher ES, Wennberg DE, Stukel TA, et al. The implications of regional variations in Medicare spending. Part 1: the content, quality, and accessibility of care. *Ann Intern Med*. 2003;138:273–287.
51. Fisher ES, Wennberg DE, Stukel TA, et al. The implications of regional variations in Medicare spending. Part 2: health outcomes and satisfaction with care. *Ann Intern Med*. 2003;138:288–298.
52. Morrison RS, Siu AL. Mortality from pneumonia and hip fractures in patients with advanced dementia. *JAMA*. 2000;284:2447–2448.
53. Morrison RS, Siu AL. Survival in end-stage dementia following acute illness. *JAMA*. 2000;284(1):47–52.
54. Walter LC, Covinsky KE. Cancer screening in elderly patients: a framework for individualized decision making. *JAMA*. 2001;285:2750–2756.
55. Fried TR, Bradley EH, Towle VR, Allore H. Understanding the treatment preferences of seriously ill patients. *N Engl J Med*. 2002;346:1061–1066.
56. Tsevat J, Dawson NV, Wu AW, et al. Health values of hospitalized patients 80 years or older. HELP Investigators. Hospitalized Elderly Longitudinal Project. *JAMA*. 1998;279:371–375.
57. Covinsky KE, Kahana E, Chin MH, et al. Depressive symptoms and 3-year mortality in older hospitalized medical patients. *Ann Intern Med*. 1999;130:563–569.
58. Covinsky KE, Fortinsky RH, Palmer RM, et al. Relation between symptoms of depression and health status outcomes in acutely ill hospitalized older persons. *Ann Intern Med*. 1997;126:417–425.
59. Amalberti R, Auroy Y, Berwick D, Barach P. Five system barriers to achieving ultrasafe health care. *Ann Intern Med*. 2005;142:756–764.
60. Campion EW. Specialized care for elderly patients. *N Engl J Med*. 2002;346:874.
61. Wachter RM. The end of the beginning: patient safety five years after 'To Err Is Human.' *Health Aff (Millwood)*. 2004; Suppl Web Exclusives:W4–534–545.
62. Feinstein AR. An additional basic science for clinical medicine: II. The limitations of randomized trials. *Ann Intern Med*. 1983;99:544–550.
63. Feinstein AR. An additional basic science for clinical medicine: III. The challenges of comparison and measurement. *Ann Intern Med*. 1983;99:705–712.
64. Feinstein AR. An additional basic science for clinical medicine: IV. The development of clinimetrics. *Ann Intern Med*. 1983;99:843–848.
65. Feinstein AR. An additional basic science for clinical medicine: I. The constraining fundamental paradigms. *Ann Intern Med*. 1983;99:393–397.
66. Tinetti ME, Fried T. The end of the disease era. *Am J Med*. 2004;116(3):179–185.
67. Tinetti ME, Bogardus ST Jr., Agostini JV. Potential pitfalls of disease-specific guidelines for patients with multiple conditions. *N Engl J Med*. 2004;351:2870–2874.
68. Reuben DB, Herr KA, Pacala JT, et al. Geriatrics at your fingertips: 2005. 7th ed. Malden (MA): Blackwell Publishing, for the American Geriatrics Society, 2005.