Quality Indicators for Pain Management in Vulnerable Elders
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Pain occurs frequently with disease and is prevalent in older people. Population-based studies suggest that 25% to 40% of community-dwelling elders have pain-related problems (1). Studies have reported as high as a twofold increase in painful conditions in persons older than 60 years of age relative to younger persons (1). The prevalence is even greater among residents of long-term care facilities, where as many as 71% to 83% of residents have at least one pain-associated problem (2, 3). The consequences and costs of pain in elderly persons are substantial. The association of pain with depression (2–7), social isolation (2, 4), sleep disturbance (2, 4), gait impairment (2, 4), and increased use of health services with their attendant costs (4) is well documented.

Chronic pain means different things to different patients and physicians. For the purposes of this review, chronic pain is defined as “persistent or episodic pain of a duration or intensity that adversely affects the function or well-being of the patient” (8). Although pharmacologic treatment with traditional analgesics is the most common form of pain treatment in older patients (2–4, 9), the use of complementary and alternative medications and nonpharmacologic interventions also must be considered, especially when results with the former are felt to be less than satisfactory or the burden of potential adverse effects outweighs the benefits (4, 9). While patients desire relief of symptoms, complete relief for patients with chronic pain is often unobtainable, and treatment decisions require that patients and physicians continually weigh the risks against the benefits (4).

This review describes quality indicators developed to measure the quality of care associated with chronic pain management in vulnerable elders. These indicators do not pertain to management of cancer pain or treatment of pain that is acute in nature.

Although few experts disagree that painful conditions should be treated, less consensus exists on specific treatments for particular conditions. For this reason, indicators have been proposed for the general management of chronic pain in areas in which evidence is strong or a consensus among experts exists. For the following reasons, indicators for specific pharmacologic therapies for specific conditions were not proposed: 1) highly prevalent conditions, such as osteoarthritis, with good evidence for specific therapies are addressed elsewhere; 2) for most painful conditions, definitive evidence favoring one pain therapy over another is lacking; and 3) because the information physicians need to make optimal therapeutic decisions is complex, implementation of indicators to measure the quality of such decisions on the basis of medical records or patient perceptions is problematic. This review focuses on screening, general management, and follow-up of chronic painful conditions and identifies indicators that may be applied to the evaluation of quality of care for vulnerable elders with chronic pain.

METHODS

The methods for developing these quality indicators, including literature review and expert panel consideration, are detailed elsewhere (10). For pain management, the structured literature review identified 7297 titles, from which relevant abstracts and articles were identified. On the basis of the literature and the authors’ expertise, 16 potential quality indicators were proposed. The search terms and results of the literature review can be accessed at www.acponline.org/sci-policy/.

RESULTS

Of the 16 potential quality indicators for management of chronic pain, 6 were judged to be valid by the expert panel process, and one new indicator was created by the panel (see the quality indicators on pp 653–667); 2 were merged into indicators in other sections, and 8 were rejected (www.acponline.org/sci-policy/). We describe the literature summaries that support each of the indicators judged to be valid by the expert panel process.

Quality Indicators 1 and 2

Screening for Chronic Pain at New-Patient Visits

ALL vulnerable elders should be screened for chronic pain during the initial evaluation period BECAUSE
older people commonly have pain that goes unrecognized by health care providers.

**Regular Screening for Chronic Pain**

ALL vulnerable elders should be screened for chronic pain every 2 years BECAUSE older people commonly have pain that goes unrecognized by health care providers.

**Supporting Evidence.** Population-based studies demonstrate that persons with chronic pain are predominantly elderly and that older persons are at risk for undertreatment of pain. A systematic literature review found eight population-based surveys (four U.S. [5, 9, 11, 12] and four international [1, 13–15] surveys) documenting that persons with chronic pain are predominantly older. In these studies, pain was typically undertreated. In a random survey of 500 households in Ontario, Canada, 25% to 40% of community-dwelling persons older than 60 years of age were found to have chronic pain; this was twice the prevalence found among a group of younger persons (1). A 1997 telephone survey (9) found that 18% of older Americans used analgesic medications several times per week, and more than half had taken prescription pain medications for more than 6 months. From a diagnostic perspective, arthritis is known to affect up to 80% of persons older than 65 years of age, and a substantial proportion of this group experiences significant pain (16). The Epidemiologic Follow-up Study (5) to the National Health and Nutrition Examination Survey showed that pain was of musculoskeletal origin in 33% of persons with pain. Among persons with chronic pain (age range, 32 to 86 years), those older than 65 years of age (27%) composed the largest group (5).

The degree to which older persons under-report pain symptoms is difficult to establish, but consensus opinion suggests that under-reporting is common (4). One study that addressed this issue (2), albeit indirectly, found that 55 of 65 residents with pain (85%) in a long-term care facility had not received analgesic medication in the preceding 24 hours. These persons provided several reasons for not requesting medication, such as not wanting to bother the nurses. This finding suggests the presence of significant barriers to the unsolicited reporting of pain.

Although no studies have reported the prevalence of inadequately treated noncancer pain in ambulatory elders, studies of nursing home residents and patients with cancer have reported that a substantial proportion of patients receive inadequate treatment of pain. The prevalence of inadequately treated pain was assessed in a retrospective cohort study of 1492 nursing homes that participated in a demonstration project of the Health Care Financing Administration (17). Bernabei and colleagues reviewed data from 13,625 patients 65 years of age and older with cancer who had been admitted to nursing homes after hospitalization between 1992 and 1995. Of these patients, 4003 reported having daily pain, and 1019 of the patients with daily pain (26%) received no analgesic agent over the 7-day study period (17). Independent risk factors for receiving no analgesic medication included age older than 85 years, cognitive dysfunction, ethnic minority status, and prescription of 11 or more medications.

Inadequate analgesia for ambulatory patients with metastatic cancer was demonstrated in a study of outpatients (18) who received care at treatment centers affiliated with the Eastern Cooperative Oncology Group. Researchers found that 42% of patients with pain (250 of 597 with complete data) received inadequate analgesic medication according to World Health Organization guidelines for analgesic use in cancer pain (19) (which were endorsed by the Agency for Healthcare Quality and Research [20]). Age older than 70 years was a significant predictor (odds ratio, 2.4) of inadequate pain management.

The optimal interval for screening vulnerable elders for painful conditions has not been studied. The ACOVE expert panel reviewing the literature on this subject recommended 2 years as the maximum interval between screenings.

**Quality Indicator 3**

**History and Physical Examination for Pain**

IF a vulnerable elder has a newly reported chronic painful condition, THEN a targeted history and physical examination should be initiated within 1 month BECAUSE appropriate treatment of the condition and pain management require that the nature of the condition be understood.

**Supporting Evidence.** Many causes of pain can be identified only by performing a careful history and physical examination. A specific diagnosis may lead to suc-
cessful treatment of the underlying condition or to determination of prognosis (21). This approach also facilitates use of appropriate therapies for pain of specific origins (such as antidepressants or anticonvulsants for neuropathic pain), which, in turn, increases the probability of pain control.

A small study of the treatment of chronic painful diabetic neuropathy (22) exemplifies this approach. In this nonrandomized trial, pain was classified as superficial, muscular, or deep in 75 patients with diabetes mellitus who had chronic, painful diabetic neuropathy and had experienced symptoms for longer than 12 months. Each level of pain was treated differently: Imipramine, with or without mexiletine, was given for deep pain; stretching exercises and metaxalone, sometimes supplemented with piroxicam, were prescribed for muscular pain; and capsaicin was given for superficial pain. Patients receiving this stepped approach were compared with a control group receiving usual care. Among patients receiving the stepped treatment approach, 21% became free of pain, 66% showed improvement, and 13% were unchanged at the end of 3 months. On a graphic pain rating scale of 0 (no pain) to 19 (worst pain imaginable), patients reported scores that decreased by a mean (±SD) of 5.2 ± 0.7, 6.8 ± 0.7, and 6.4 ± 0.6 points in the superficial pain, deep pain, and muscular pain groups, respectively; in contrast, scores did not change appreciably in the control group. All three intervention groups had significantly less pain at the end of the 3 months compared with the control group (P < 0.001).

Quality Indicator 4
Addressing Risks of Nonsteroidal Anti-Inflammatory Drugs

IF a vulnerable elder has been prescribed a cyclooxygenase nonselective nonsteroidal anti-inflammatory drug (NSAID) for the treatment of chronic pain, THEN the medical record should indicate whether he or she has a history of peptic ulcer disease and, if a history is present, justification of NSAID use should be documented BECAUSE older patients with a history of peptic ulcer disease who receive NSAIDs are at significant risk for recurrent disease and complications.

Supporting Evidence. Use of NSAIDs is associated with upper gastrointestinal ulcers and bleeding, and the risk for these complications increases greatly with increasing age. A case-control study (23) comparing 1415 elderly patients with 7063 controls in the Tennessee Medicaid program estimated a relative risk of 4.1 for peptic ulcer disease among those taking nonaspirin NSAIDs compared with nonusers. In this study, the risk for peptic ulcer disease increased in a dose-dependent manner with NSAID dose, and the relative risk for ulcer disease increased significantly with increasing age.

In the United Kingdom, a population-based case-control study (24) of 1457 persons with upper gastrointestinal bleeding and 10,000 controls documented in general practitioner records found an adjusted relative risk of 4.7 (95% CI, 3.8 to 5.7) for upper gastrointestinal bleeding among current NSAID users; among NSAID users, the risk was greater for patients older than 70 years of age (relative risk, 5.6 [CI, 4.6 to 6.9]). A history of upper gastrointestinal bleeding was the most important predictor of subsequent upper gastrointestinal bleeding (relative risk, 13.5 [CI, 10.3 to 17.7]). In another retrospective study (25), a nested case-control investigation, NSAID use was more frequent among patients who died in the hospital after having gastrointestinal hemorrhage caused by a peptic ulcer compared with in-hospital deaths from other causes. When matched with controls, patients who died of upper gastrointestinal bleeding were more likely than those who died of other causes to have filled a prescription for an NSAID within the preceding 30 days (adjusted odds ratio, 4.7 [CI, 3.1 to 7.2]).

Quality Indicator 5
Prevention of Constipation in Patients Using Opioid Analgesics

IF a vulnerable elder with chronic pain is treated with opioids, THEN he or she should be offered a bowel regimen, or the medical record should document the potential for constipation or explain why bowel treatment is not needed BECAUSE opiate analgesics produce constipation that may cause severe discomfort and may contribute to inadequate pain treatment because patients may then minimize analgesic use.

Supporting Evidence. No randomized clinical trials have addressed treatment of constipation caused by opioid analgesic use, but expert consensus opinion recognizes both the frequency with which constipation occurs.
and the need for a prophylactic bowel regimen (4, 20, 26–28). Immobility and dehydration, which are common in older people with pain, further increase the risk for constipation.

**Quality Indicator 6**  
**Treating Pain**  
 IF a vulnerable elder has a newly reported chronic painful condition, THEN treatment should be offered BECAUSE treatment may provide significant relief and improve quality of life and health status.  
**Supporting Evidence.** Although it may be unrealistic to expect complete pain relief for all patients with chronic pain, some pain relief is possible for nearly all patients, and analgesic drugs are safe and effective in older persons (29). A literature review of randomized, placebo-controlled trials demonstrated significant benefits of treatment of chronic pain in older patients, particularly those with chronic musculoskeletal pain (30–32) and those with neuropathic pain (33–35). Epidemiologic data from the Iowa 65+ Rural Health Study (11) demonstrated a strong association between chronic pain and adverse consequences, including impaired ambulation and increased health care utilization. These findings, combined with evidence for undertreatment of pain (18), suggest that more attention to treatment may ameliorate pain and its consequences (11, 36).

**Quality Indicator 7**  
**Reassessment of Pain Control**  
 IF a vulnerable elder is treated for a chronic painful condition, THEN he or she should be assessed for a response within 6 months BECAUSE initial treatment is often incompletely successful, and reassessment may be needed to achieve the most favorable outcome.  
**Supporting Evidence.** No direct evidence supports routine reassessment of pain management. However, the heterogeneity of response to specific treatments (4); the range of potential toxicity from long-term therapies (4, 23, 24, 26, 28, 37); and the general approach of sound clinical practice, which demands follow-up investigation regardless of whether an intervention has been helpful (38), all indicate the importance of follow-up of pain treatment. In addition, long-term use of most pharmacologic analgesic treatments has substantial adverse effects, and treatment should be continued only if necessary. Without reassessment, changes in pharmacologic treatment and detection of lack of response (which might suggest the wrong diagnosis or the need for a change in treatment) are unlikely.

**DISCUSSION**  
Chronic pain imposes a substantial burden on individuals and on the health care system. Vulnerable elders are at increased risk for chronic pain and associated morbidity and, in turn, reduced quality of life. Older patients with chronic pain are at risk for pain that goes unrecognized and untreated. Improvements in processes of care for this high-risk group may substantially reduce disease burden and improve patient outcomes. Seven indicators of these care processes were judged sufficiently valid for use as measures of the quality of chronic pain management in vulnerable elders. These indicators can potentially serve as a basis to compare the care provided by different health care delivery systems and changes in care over time.

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**Acknowledgments:** The authors thank Paul Shekelle, MD, PhD, for guidance in the development of this paper and Patricia Smith for technical assistance.

**Grant Support:** By a contract from Pfizer Inc. to RAND. Dr. Chodosh was a Robert Wood Johnson Clinical Scholar during the study.

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**References**


