Department of Veterans Affairs

Journal of Rehabilitation Research and Development
Vol. 40, No. 5, September/October 2003
Pages 371–380

Veterans' reports of pain and associations with ratings of health, health-risk behaviors, affective distress, and use of the healthcare system

Robert D. Kerns, PhD; John Otis, PhD; Roberta Rosenberg, MS; M. Carrington Reid, MD, PhD
Department of Veterans Affairs (VA) Connecticut Healthcare System, West Haven, CT, and Yale University, New Haven CT; VA Boston Healthcare System, Boston, MA; Pfizer Incorporated, Groton, CT; Cornell Medical College, New York, NY

Abstract—The improved management of pain among veterans seeking care in Veterans Health Administration (VHA) facilities has been established as a priority. This study documents the high prevalence of reports of pain among a convenience sample of 685 veterans seeking care in a VHA primary care setting. Also reported are associations of pain complaints with self-rated health, an index of emotional distress, health-risk behaviors such as tobacco and alcohol use, health-related concerns about diet and weight, and perceptions of the availability of social support. The relationship between the presence of pain and use of outpatient and inpatient medical and mental health services is also examined. Nearly 50% of the sample reported that they experience pain regularly and that they were concerned about this problem at the time of the index visit to their primary care provider. Persons acknowledging the presence of pain, relative to those not reporting pain, were younger, reported worsening health over the past year, had greater emotional distress, used tobacco, had diet and/or weight concerns, and were found to use more outpatient medical, but not inpatient medical or mental health services. Results support the goals of the VHA National Pain Management Strategy designed to reduce unnecessary pain and suffering among veterans receiving care in VHA facilities.

Key words: emotional distress, health-risk behaviors, health services use, pain, primary care.

INTRODUCTION

Pain has been identified as among the most frequent presenting complaints to healthcare providers, including those responsible for providing primary care [1,2]. Low back pain alone affects about 80 percent of the U.S. population at some point in life [3], and most persons with low back pain have their primary care providers manage their pain [4]. Turk and Melzack have cited compelling data about the enormous scope and costs associated with pain and its management [5]. These scholars note that pain accounts for over 80 percent of all office visits to physicians each year! Data from epidemiological studies note that 37 percent of patients enrolled in a health

Abbreviations: FY = fiscal year, HRBSQ = Health Risk Behavior Screening Questionnaire, SD = standard deviation, VA = Department of Veterans Affairs, VHA = Veterans Health Administration.

This material was based on work supported by a merit grant from the Department of Veterans Affairs, Veterans Health Administration Office of Research and Development, Medical Research Service.

Address all correspondence and requests for reprints to Robert D. Kerns, PhD; Psychology Service (116B), VA Connecticut Healthcare System, West Haven, CT 06516; 203-937-3841; fax: 203-937-4951; email: robert.kerns@med.va.gov.

maintenance organization acknowledged recurrent episodes of pain and 8 percent reported severe, unremitting pain [6]. Costs of pain include those associated with medical and other healthcare services (e.g., medications, surgery, procedures, professional time) and costs associated with pain-related disability such as disability compensation, lost wages and productivity, retraining, and so forth. The combined direct and indirect costs associated with pain have been estimated that they may exceed $125 billion a year [7].

Contemporary models of chronic pain emphasize the apparent relationships between pain and disability and emotional distress, suggesting that the management of pain may represent a complex challenge to primary care providers, often requiring multimodal and multidisciplinary interventions [8,9]. Efforts to identify the nature and extent of pain, pain-related disability, and emotional distress, as well as mediators of the development of these problems, continue to be important targets of research in the broad and growing field of pain and pain management.

In partial recognition of the presumed scope of this problem and in an attempt to address it within the Veterans Health Administration (VHA), the former Undersecretary for Health, Dr. Kenneth Kizer, launched the VHA National Pain Management Strategy in late 1998 [10]. This initiative was to develop a system-wide approach to pain management that would reduce pain and suffering for veterans experiencing acute and chronic pain associated with a wide range of illnesses, including terminal illness. Several more specific goals of the strategy included—

1. Assurance that pain assessment is performed consistently and that pain treatment is prompt and appropriate.
2. The inclusion of patients and families as active participants in pain management.
3. The provision for continual monitoring and improvement in outcomes of pain treatment.
4. An interdisciplinary, multimodal approach to pain management.
5. Assurance that clinicians practicing in the Department of Veterans Affairs (VA) healthcare system are adequately prepared to assess and manage pain effectively.

Since the launching of the VHA pain strategy, major progress toward each of these stated goals has been documented [11,12]. Interestingly, to date, few epidemiological data have been published that specifically document the prevalence of pain and pain-related disability among veterans receiving care in the VHA [13]. The goal of this paper is to provide estimates of the prevalence of pain among veterans receiving primary care at one VHA facility. Relationships between pain, self-rated health, and other health-risk behaviors and an index of affective distress are also provided. In addition, data related to the frequency of use of medical and psychiatric services among persons with pain relative to those not reporting pain are presented.

METHOD

Subjects

Participants were 685 veterans recruited from the primary care practice of the VA Connecticut Healthcare System, West Haven campus. The sample was screened to assure that patients did not participate in the study more than once. This group comprised 662 (97%) males. The average age of the sample was 65.6 years (standard deviation [SD] = 12.3; range 21 to 91). The average age and sex of the sample are close to the demographics of veterans enrolled in the primary care clinics at VA Connecticut during fiscal year (FY) 1997. This is the period during which this study was conducted (mean age = 67.30 years; percent male = 96.48%) according to a quarterly facility workload report based on data from an outpatient treatment file maintained at a centrally located VHA data center in Austin, Texas.

VA Connecticut is a tertiary care healthcare system that also provides an array of specialty medical, surgical, geriatric, mental health, and rehabilitation services. Aggressive efforts are made to enroll every veteran receiving care at the VA Connecticut Healthcare System in a primary care clinic at either one of the two main campuses (West Haven or Newington) or at one of several community-based outpatient clinics. In addition to these “general medicine” primary care clinics, the VA Connecticut Healthcare System has three “specialized” primary care clinics for women’s health, geriatrics, and mental health. More broadly, VA Connecticut is a tertiary care healthcare system that also provides an array of specialty medical, surgical, geriatric, mental health, and rehabilitation services. Despite the availability of a full array of specialty clinics, patients enrolled in primary care typically have multiple medical problems, and all

patients are scheduled for appointments with their primary care practitioner at least twice a year.

Measures

Health-Risk Behavior Screening Questionnaire

The Health-Risk Behavior Screening Questionnaire (HRBSQ) is a self-report questionnaire used to identify behavioral risk factors in patients receiving care in a primary care setting [14]. The instrument was specifically designed to screen for problems that might be important for the primary care provider to address during the interaction with the veteran. Questions address diet and weight concerns ("Are you concerned about whether your diet or weight is affecting your health?" yes-no), alcohol use (including both quantity ["How many drinks containing alcohol do you have on a typical day when you drink?" 1–2, 3–4, 5–6, 7–9, or 10 or more] and frequency ["How often do you have a drink containing alcohol (beer, wine, or liquor)?" never, monthly or less, 2–4 times a month, 2–3 times a week, 4 or more times a week] items), and current tobacco use ("Do you currently smoke cigarettes, chew tobacco, or use snuff?" yes-no). Five items address degree of sadness, irritability, nervousness, uncontrollable stress, and difficulty coping with physical illness on six-point (0 = never to 5 = very often) scales. For this study, several items were added to this measure, including 2 items on self-rated health (i.e., "How would you rate your health at the present time?" (bad, poor, fair, good, or excellent) and "Has there been a change in your health over the past year?" (improved or better, worse, or no change), a single item assessing perceived social support (i.e., "Can you count on anyone to provide you with emotional support (talking over problems or helping you make a difficult decision?" yes-no), and two items designed to assess the presence of pain. The first of these items asked, "Do you experience pain on a regular basis?" and required participants to respond using a yes or no format. The second pain-relevant item asked, "Is this a concern to you?" and also required a yes or no response. This second pain item was included to distinguish meaningful or significant pain problems from the experience of minor, transient, or incidental pain.

Healthcare Use

Data regarding healthcare use were obtained from the VA centralized computer tracking system for the 12 months preceding the completion of the HRBSQ. The decision was made to examine healthcare system use over the year preceding the assessment that was just described because it was reasoned that this time frame was likely concurrent with the behaviors and experiences assessed in the survey. Healthcare use data retrieved included the number of outpatient medical and psychiatric/substance abuse visits and the number of inpatient medical and psychiatric/substance abuse hospitalizations and the associated length of stay. Medical visits included visits with any medical provider, including visits with associated health professionals targeting the patient's medical problems.

Procedure

Administration of the HRBSQ was instituted as a routine part of each patient's visit to the primary care clinic. Patients were informed that the survey results would be made available to their primary care provider for use during the visit and that completion of the survey was voluntary. Efforts were made to solicit the survey information from every patient waiting for an appointment with their primary care provider, but during each clinic period, some patients were not surveyed because of the timing of their arrival for the appointment or unavailability of staff to conduct the survey. Only a small number of patients refused to complete the survey, but unfortunately, no specific information about the refusal rate or potential biases in this sampling method are available. As just noted, although some patients were approached to complete the questionnaire more than once during the study period, the data were screened to assure that no patient's data were included more than once. Data for the present study were obtained over a period of 16 months (July 1996 to November 1997).

As previously mentioned, patients completed the HRBSQ as a routine part of their visit to the primary care clinic at the VA Connecticut Healthcare System during the 16 months. Subsequently, we requested for a waiver of informed consent from the Human Studies Subcommittee of the VA Connecticut Healthcare System for the retrieval and use of these archived data and for the review and collection of data related to the use of the healthcare system for this study in the broader context of an investigation of chronic pain in the primary care setting. This Subcommittee reviewed this request and approved a waiver of informed consent.

RESULTS

Descriptive Statistics

Strong intercorrelations among the five distress items (range $r = 0.60$ to 0.72; $p < 0.001$) encouraged their combination into a single "affective distress" scale. A similar procedure has been used in a similar study and has the advantage of reducing measurement error [14]. Criteria for alcohol levels likely to accumulate risk of harm, defined as greater than 20 g to 30 g of alcohol a day, were reached by 3.1 percent of the sample. The results of items on the HRBSQ are presented in **Table 1**.

Nearly half of the sample (48.4%) reported that they experienced pain regularly, and all veterans endorsing the presence of regular pain also responded "yes" to the second pain-relevant question inquiring about the presence of concern. Together, these responses were interpreted as a reasonable estimate of the prevalence of meaningful or clinically significant pain among the veterans sampled.

Forty-three percent of the veterans who responded to the questionnaire rated their current health as good or excellent, whereas only 14 percent rated their health as poor or bad. The largest minority of patients reported that their health was unchanged in the recent past (46%), whereas 20.6 percent rated their health as improved and 33.4 percent rated their health as worse. Just over 80 percent of respondents reported an adequate level of social support. The rates of tobacco use, weight and diet concerns, and overall affective distress were quite similar to those previously reported by a similar sample [15].

Table 2 presents a summary of the data on healthcare use. Patients had an average of over 15 outpatient medical encounters in the year surveyed, and 25 percent had at least one hospitalization on a medical unit. In addition to these summary data presented in the table, the median number of outpatient visits was 11; 26.6 percent of the sample had six outpatient visits or less, 24.6 percent had between 7 and 11 visits, 23.9 percent had between 12 and 20 visits, and the remaining 25.0 percent had over 20 visits, with one veteran in the sample having 137 visits in the year before the index visit during which the survey for this study was completed. Twenty-two percent of these medical primary care patients had at least one outpatient encounter with a mental health provider, and four percent had a psychiatric hospitalization.

Pain and Other Variables of Interest

Differences on each of the variables of interest between veterans reporting the presence of pain and those who did not were calculated via t-tests or chi-square statistics, as appropriate. Those reporting regular pain (X (SD) = 64.21 (13.12)) were significantly younger than those not reporting the presence of pain (X (SD) = 66.93 (11.61), t (319,340) = 1.28, $p < 0.05$). The rates of reported regular pain did not differ between men and women in the sample.

Table 1.
Items of Health-Risk Behavior Screening Questionnaire.

Items	Ratings				
Health Ratings	Excellent	Good	Fair	Poor	Bad
	3.2%	39.8%	43.0%	11.5%	2.5%
Changes in Health	Improved	No Change	Got Worse	—	—
	20.6%	46.0%	33.4%	—	—
Alcohol Use Frequency	Never	Monthly or less	2–4 Times a Mo	2–3 Times a Wk	4 or More Times a Wk
	50.9%	19.2%	14.5%	8.0%	7.5%
Alcohol Quantity/Day	1 to 2	3 to 4	5 to 6	7 to 9	10 or More
	67.0%	20.4%	6.9%	2.5%	3.1%
Affective Distress	Presence of	Emotional	Tobacco Use	Weight Concern	—
Mean = 6.62 (range: 0–20)	Regular Pain	Distress			
SD = 4.78	48.4%	80.9%	26.3%	41.8%	—

Table 2.
Healthcare use.

Type of Use	N	Sample (%)	Mean Visits (SD)	Mean Inpatient Days (SD)
Medical Use				
Outpatient	672	98	15.30 (14.33)	—
Inpatient	172	25	0.38 (0.80)	3.39 (10.02)
Psychiatric Use				
Outpatient	148	22	7.96 (31.99)	—
Inpatient	29	4	0.10 (0.72)	1.53 (13.62)

The presence of pain was not significantly related to self-rated health, but those reporting the presence of pain, relative to those not reporting pain, were significantly more likely to rate their health as worse during the past year ($X^2(2) = 86.12$, $p < 0.0001$). Of those reporting the presence of pain, 52.15 percent reported that their health was worse during the past year, and only 13.53 percent reported that their health had improved during this timeframe. In contrast, among those not endorsing the presence of pain, only 17.33 percent rated their health as worse during the past year and 27.36 percent reported that their health had improved.

Persons reporting the presence of regular pain compared to those not reporting pain were significantly more likely currently to be using tobacco ($X^2(1) = 11.30$, $p < 0.001$). Of those reporting the presence of pain, 31.35 percent acknowledged the current use of tobacco, whereas among those not reporting pain, only 19.94 percent reported the current use of tobacco. Similarly, the presence of pain was significantly associated with endorsement of the item about diet and weight concerns ($X^2(1) = 12.60$, $p < 0.0001$). Among those reporting the presence of pain, 48.90 percent also endorsed a concern that their diet and weight was affecting their health. Among those not reporting regular pain, only 35.21 percent reported concerns about the influence of their diet and weight on their health.

Level of affective distress was significantly higher among those patients reporting a concern about the presence of pain (X (SD) = 8.67 (4.77)) than those not reporting a concern about pain (X (SD) = 4.74 (3.93)), t (319,340) = 1.48, $p < 0.0004$). Those reporting the presence of regular pain reported significantly less frequent use of alcohol than those not reporting the regular experience of pain (t(336,317) = 1.45, $p < 0.001$). Those endorsing the presence of pain reported that, on average, they consumed a drink containing alcohol slightly more frequently than once per month, while those not endorsing the pain item reported an average consumption of alcohol at slightly less than once per month. No significant difference was found in the reported quantity of alcohol consumed between those reporting pain and those not reporting pain. Finally, no significant difference was found in the reports of those acknowledging pain from those not acknowledging pain in terms of the presence of emotional support.

Pain and Use of the Healthcare System

Use of outpatient medical services was significantly higher among those reporting pain (X (SD) = 17.54 (17.27)) than among those reporting the absence of pain (X (SD) = 13.40 (11.59), t (319,340) = 2.22, $p < 0.0001$). The presence of pain was neither related to inpatient episodes or bed days of care on a medical unit nor to the use of either outpatient or inpatient psychiatric services.

We conducted a hierarchical regression analysis using a forward selection procedure to determine the extent to which frequency of outpatient medical encounters could be accounted for by the report of pain and other simple correlates of such use. In this regression model, age, self-rated current health, the presence of pain, current tobacco use, and the level of affective distress were entered as possible predictors of outpatient medical use, since each of these variables had been shown to have statistically significant univariate relationships with frequency of use of outpatient medical services. In the first step in this analysis, age was entered, then self-rated health was entered as a second step, and finally pain, tobacco use, and affective distress were entered simultaneously as a third step. Results of this analysis are presented in **Table 3**. In this model, age and self-rated health together accounted for just over 5 percent of the variance

in frequency of encounters with medical providers. The presence of pain added a small (1.5%), but statistically significant, increment in the proportion of the variance in outpatient medical use that could be accounted for by the composite of these variables. Neither current tobacco use nor level of affective distress contributed uniquely to the prediction of outpatient medical service use when this regression approach was used.

DISCUSSION

The results of the current study extend previous findings from our group with regard to the prevalence and interrelationships between a number of health-risk behaviors and health concerns in a sample of patients from a VA primary care setting [15]. In particular, this study specifically focused on an examination of the prevalence of pain and the relationship between the experience of pain and self-rated health, several health-risk behaviors, perceptions of social support, level of emotional distress, and healthcare use. This particular focus aims to provide preliminary data that may be relevant to ongoing efforts to promote the identification and management of pain in VHA facilities consistent with the VHA's National Pain Management Strategy.

A convenience sample of 685 veterans receiving primary care at the VA Connecticut Healthcare System participated in this study. The average age and sex of the sample are close to the demographics of veterans enrolled in the primary care clinics at VA Connecticut during FY 1997. This is the period during which this study was conducted (mean age = 67.30 years; percent male = 96.48%) according to a quarterly facility workload report based on data from an outpatient treatment file maintained at a centrally located VHA data center in Austin, Texas. Nearly 50 percent endorsed items on a paper-and-pencil survey asking about whether or not they experienced pain regularly and whether or not they had a concern about their pain problem. This high percentage is not surprising given a growing body of research that has identified pain as one of the most common presenting complaints to any healthcare provider, including primary care providers. Although the specific nature of the pain was not elicited as part of this study, prior research published on the subset of patients who endorsed the presence of pain in this study suggests that a significant majority of these patients were experiencing a chronic pain condition, and most of these were experiencing either chronic low back pain, leg pain, and/or a variety of other musculoskeletal or neuropathic pain problems [13].

Acknowledgment of the presence of pain was, not surprisingly, found to be associated significantly with self-ratings of health, presence of other health risk behaviors, and reports of affective distress. Interestingly, in this sample, older persons were significantly less likely to acknowledge the presence of pain. This finding stands in contrast to other evidence that documents that the prevalence of pain complaints increases with age. On the other hand, level of pain intensity and age are consistently reported to be inversely related among samples of persons reporting persistent pain [13]. Perhaps the older mean age of the sample may partially account for this apparent inconsistency with the published literature, or perhaps the paring of the question about the presence of pain with a second question about concern about pain may have influenced this relationship. Future research is suggested to consider this intriguing possible difference.

The presence of pain was found to be strongly associated with ratings of worsening health. Given the cross-sectional and correlational nature of these data, it is impossible to infer direction of this association. For example, there is an intuitive appeal to the assumption

Table 3.
Hierarchical regression analysis using a forward selection procedure to examine contributions of health-risk behaviors and psychosocial factors in predicting of medical healthcare system use.

Medical Outpatient Appointments	ΔR^2	Total R^2	df	F for ΔR^2	β
Age	—	0.037*	1,648	24.794	0.184
Age, Health	0.014†	0.051*	1,647	9.759	–0.082
Age, Health, Pain	0.015†	0.066*	1,646	10.437	0.134

*$p < 0.001$ Health = change in health df = degrees of freedom
†$p < 0.01$ Pain = presence of paid

that the experience of pain actually reflects poorer or worsening health because of the presence of one or more painful medical conditions. Alternatively, a pervasive experience of pain may influence persons' global perceptions of their health regardless of their actual health status from a medical perspective. On the other hand, negative perceptions of one's health may reflect a more global phenomenon of pessimism and negative affectivity that may enhance perceptions of somatic concern, including concerns about pain. The strong association between concern about pain and the measure of affective distress is important to acknowledge in this regard.

The strong association between pain and level of emotional distress is particularly noteworthy. Considerable research has documented a high prevalence of anxiety and mood disorders among persons with persistent pain, as well as a strong positive correlation between level of pain intensity and degree of depressive symptom severity and other indexes of emotional distress [16]. As with the issue of the relationship with self-rated health just described and despite some intuitive appeal and empirical support that suggest that the presence of pain is likely a contributor to subsequent emotional distress, the presence of distress may possibly magnify "concern" about pain and other somatic complaints.

The finding that persons with pain were more likely to report current tobacco use is also not surprising and should remind providers to ask about tobacco use in the context of a pain complaint and to provide counseling regarding tobacco use cessation. The coprevalence of pain and diet and weight concerns is also provocative and should encourage providers to counsel patients with certain pain complaints, such as back and lower-limb pain about the potential advantages of weight loss through healthy eating and exercise. Consultation with other healthcare professionals designed to promote tobacco cessation, adoption of a healthy diet, and regular exercise, in the context of adoption of a generally healthy lifestyle, should be routinely considered for persons with persistent pain as part of a comprehensive plan to promote optimal pain management.

It is interesting to note that persons reporting pain were no more likely than those not reporting this concern to report the presence of adequate social support. This finding stands in contrast to some research that suggests that the presence of pain may adversely affect social relationships [17,18]. Given the complexity of the recommendations for many persons with pain and the emphasis of self-management of pain with persons using adaptive cognitive and behavioral coping skills, efforts on the part of primary care providers to encourage the engagement of significant others in a comprehensive pain treatment plan may prove useful.

Finally, results of the present study do not support an hypothesis that persons with pain are more likely than others without pain to use alcohol excessively. In this sample, as with our prior report [14], use of alcohol at a level suggestive of health risk was relatively low. Nevertheless, providers are encouraged to elicit information about alcohol use to identify the small proportion of veterans receiving care in primary care settings who may be using alcohol excessively and to use motivational interviewing and other strategies designed to promote reduction in alcohol use and/or engagement in an alcohol treatment program.

Consistent with a growing body of epidemiological research, the presence of pain was associated with use of medical services even after controlling for age and self-rated health. Nevertheless, the relatively small magnitude of this relationship is provocative given other published data on the prevalence of visits to healthcare providers that are accounted for by pain complaints. On the other hand, although the magnitude of the relationship was found to be small, the documentation of a significant relationship provides support for increased efforts to identify and provide relief from pain among veterans receiving care in the primary care setting. Such efforts will not only reduce unnecessary pain and suffering but may also contribute to reductions in unnecessary use of outpatient medical services. For example, in studies of the efficacy of largely behavioral rehabilitation programs for persons with chronic pain, evidence of significant reductions in healthcare use has been demonstrated [19–21].

Important to note is that the wording of the two pain items in this study likely does not provide an accurate appraisal of the "true" prevalence of pain in this population. In fact, one might expect that the emphasis on the presence of "regular" pain in the first item and on "concern" in the wording of the second item may have actually led to underestimations of the true prevalence of pain. The VHA has a growing database that is built upon a broad initiative for the routine screening for the presence and intensity of pain in all clinical settings. Analyses of data from this national initiative, referred to as the "Pain as the 5th Vital Sign" initiative [22], promise to provide additional information about the prevalence and

severity of pain reports among veterans receiving care in VHA facilities.

CONCLUSIONS

In summary, results of the present study document a high prevalence of experienced pain that represents a concern among veterans presenting for care in a VHA primary care practice. The demonstrated relationships between reports of pain and self-rated health, emotional distress, and other lifestyle variables associated with increased health risk, as well as with overall use of outpatient medical services, have important implications for clinical practice. In particular, the results of this study encourage explicit attention to the identification of pain among veterans receiving care in VHA facilities, comprehensive psychosocial assessments of persons with complaints of pain, and the development of integrative and multidimensional plans for intervention. These conclusions are consistent with the goals of a recently published directive from the VHA that encourages greater attention to this problem and the development and refinement of healthcare systems and policies designed to promote improvements in the management of pain for veterans [23]. Provider education that emphasizes the associations between pain and other health-risk behaviors and psychosocial factors, such as those investigated in this study, is encouraged. Future health services and rehabilitation research that examines relationships between healthcare system use and costs associated with pain and that promotes the development of systems and policies designed to reduce pain and suffering and associated costs is strongly indicated by these findings.

REFERENCES

1. Gureje O, Von Korff M, Simon GE, Gater R. Persistent pain and well-being: A World Health Organization Study in primary care. JAMA 1998;280:147–51.
2. Smith BH, Hopton JL, Chambers WA. Chronic pain in primary care. Fam Pract 1999;16:475–82.
3. Skovron M. Epidemiology of low back pain. Ballieres Clin Rheumatol 1992;6:559–73.
4. Deyo R, Phillips W. Low back pain: A primary care challenge. Spine 1996;21:2826–32.
5. Turk DC, Melzack R. The measurement of pain and the assessment of people experiencing pain. In: Turk DC, Melzack R, editors. Handbook of pain assessment. 2nd ed. New York: Guilford; 2001. p. 3–11.
6. Von Korff M, Dworkin SF, LeResche L, Kruger A. An epidemiologic comparison of pain complaints. Pain 1988; 32:33–40.
7. Turk DC, Okifuji A, Kalauokalani D. Clinical outcome and economic evaluation of multidisciplinary pain centers. In: Block AR, Kremer EF, Fernandez E, editors. Handbook of pain syndromes: Biopsychosocial perspectives. Mahwah (NJ): Erlbaum; 1999. p. 77–98.
8. Kerns RD. Psychosocial factors: Primary or secondary outcomes? In: Campbell JN, Mitchell MJ, editors. Pain treatment centers at a crossroads: A practical conceptual reappraisal. Seattle (WA): IASP Press; 1996. p. 183–92.
9. Otis J, Reid MC, Kerns RD. The management of chronic pain in the primary care setting. In: James LC, Folen RA, editors. Primary care clinical health psychology: A model for the next frontier. Washington (DC): American Psychological Association Press. In press 2003.
10. Veterans Health Administration. VHA national pain management strategy. Washington (DC): Department of Veterans Affairs; 1998.
11. Cleeland CS, Reyes-Gibby CC, Schall M, Nolan K, Paice J, Rosenberg JM, Tollett JH, Kerns RD. Rapid improvement in pain management: The Veterans Health Administration and the Institute for Healthcare Improvement Collaborative. Clin J Pain. In press 2003.
12. Kerns RD. Improving pain management in the VA. Fed Pract 2001;Supplement (August):18–22.
13. Reid MC, Crone KT, Otis J, Kerns RD. Differences in pain-related characteristics among young and older veterans receiving primary care. Pain Med 2002;3:102–7.
14. Reid MC, Guo Z, Towle VR, Kerns RD, Concato J. Factors associated with pain-related disability among older male veterans receiving primary care. J Gerontol: A Biol Sci Med Sci 2002; 57:M727–732.
15. Benedetto MC, Kerns RD, Rosenberg R, Burg MM, Westgate K. Health risk behaviors and their relationship to health care utilization among veterans in a primary care setting. J Clin Psychol Med Settings 1998;5:441–47.
16. Banks SM, Kerns RD. Explaining high rates of depression in chronic pain: A diathesis-stress framework. Psychol Bull 1996;119:95–110.
17. Kerns RD, Otis J. Family therapy for persons experiencing pain: Evidence for its effectiveness. Semin Pain Med. In press 2003.
18. Kerns RD, Otis JD, Wise E. Treating families of chronic pain patients: Application of a cognitive-behavioral transactional model. In: Gatchel RJ, Turk DC, editors. Psychological approaches to pain management. 2nd ed. New York: Guilford Press; 2002.

19. Caudill M, Schnable R, Zuttermeister P, Benson H, Friedman R. Decreased clinic use by chronic pain patients. Response to behavioral medicine interventions. Clin J Pain 1991;7:305–10.
20. Simmons JW, Avant WS, Demski J, Parisher D. Determining successful pain clinic treatment through validation of cost effectiveness. Spine 1988;13:34.
21. Turk DC, Stacey BR. Multidisciplinary pain centers in the treatment of chronic back pain. In: Frymoyer JW, Ducker TB, Hadler NM, Kostuik JP, Weinstein JN, Whitecloud TS, editors. The adult spine: Principles and practice. New York: Raven Press; 1997. p. 253–74.
22. Veterans Health Administration. Pain as the 5th vital sign toolkit, Version 2. Washington (DC): Department of Veterans Affairs; 2000.
23. Veterans Health Administration. VHA Directive 2003-021: Pain Management. Washington (DC): Department of Veterans Affairs; 2003.

Submitted for publication May 11, 2003. Accepted in revised form July 14, 2003.