

**Original Article**

# Cancer Pain Management in Prisons: A Survey of Primary Care Practitioners and Inmates

James T. Lin, MD and Paul Mathew, MD

*Department of Internal Medicine (J.T.L.), The University of Texas Medical Branch, Galveston; and*

*Department of Genitourinary Medical Oncology (P.M.), The University of Texas M. D. Anderson*

*Cancer Center, Houston, Texas, USA*

---

**Abstract**

*Cancer pain management among prison inmates is an emerging problem. To examine the obstacles to cancer pain management in inmates, surveys of inmates with cancer pain (IPs) (n = 102) and primary care practitioners (PCPs) (n = 74) in Texas state prisons were conducted. IPs were assessed using the Brief Pain Inventory and Pain Management Index (PMI). PCPs were assessed with a modified Clinic Staff Survey of Cancer Pain Management. Eighty-three IPs (81%) reported severe worst pain; 51 (49%) reported severe average pain. Thirty-three IPs (32%) reported no pain relief with prescribed analgesics. PMI was negative in 65 IPs (64%), indicating undertreatment. Of the PCPs, 20/65 (31%) felt that IPs were undertreated. Most frequently cited barriers to pain management were drug misuse/diversion and lack of inmate credibility. Practitioner problems and systemic barriers also were cited frequently. These results indicate the existence of unique barriers to undertreatment of cancer pain in IPs. A multidisciplinary approach involving prison authorities and practitioners is required to improve pain management in prison populations. J Pain Symptom Manage 2005;29:466–473. © 2005 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.*

**Key Words**

*Pain management, prisons, cancer, survey*

---

Presented in part at the 39th Annual Meeting of the American Society of Clinical Oncology, Chicago, Illinois, May 31–June 3, 2003

*Address reprint requests to:* Paul Mathew, MD, Department of Genitourinary Medical Oncology, Unit 427, The University of Texas M. D. Anderson Cancer Center, 1515 Holcombe Blvd., Houston, TX 77030, USA.

Dr. J.T. Lin's current affiliation is the Hematology Oncology Associates PC, Albuquerque, New Mexico.

*Accepted for publication: August 24, 2004.*

**Introduction**

The prison population in the United States rose rapidly in the last two decades of the 20<sup>th</sup> century to over 2 million.<sup>1</sup> With this rise came a proportionate rise in the number of cancers diagnosed among inmates.<sup>2</sup> As with the general population,<sup>3</sup> the majority of these inmates will likely have pain related to cancer or its treatment. Studies have shown that cancer pain in the general population is frequently undertreated.<sup>4–6</sup> The obstacles to effective cancer pain management identified in the general population are related to institutional barriers,

and physician and patient variables. These include restricted availability of opioids; patient and physician fears of addiction; side effects and tolerance to opioids; reluctance of physicians to prescribe opioids; inadequate patient and physician education; and the known undertreatment of pain in women, minorities, and the elderly.<sup>4-7</sup> To our knowledge, no studies have addressed the problem of pain management in prisons.

Given the unique security environment of prisons, and the well-documented high prevalence of drug users among the inmate population,<sup>8,9</sup> we hypothesized that primary care practitioners (PCPs) face unique obstacles to effective pain management. To address this hypothesis, we surveyed Texas state prison inmates with cancer who were being seen in a tertiary referral hospital's medical oncology clinic to determine the effectiveness of their pain management. We also surveyed PCPs in the Texas state prison system to determine the nature of institutional and practitioner barriers to effective pain management.

## Methods

### Setting

The Texas Department of Criminal Justice (TDCJ) has the second largest state prison system in the United States, with almost 150,000 inmates.<sup>10</sup> Analgesic dispensing practices in individual prison units are generally as follows: For opioids, individual doses are dispensed from a central pharmacy (in common parlance, the "pill window"), which is open for restricted hours. An attendant supervises drug ingestion. A strict no-keep-on-person medication policy is enforced to prevent the barter, sale, or theft of opioid analgesics. In some units, physician's assistants (PAs) or nurse practitioners (NPs) are the designated PCPs on site. NPs and PAs must have the approval of a supervising physician to prescribe schedule II opioids. Formulary opioids are acetaminophen with codeine, morphine elixir, and sustained-release morphine, with the latter two being restricted by TDCJ regulations to regional medical facilities and hospices.<sup>11</sup> All other schedule II or III opioids must be special-ordered.

The University of Texas Medical Branch (UTMB) in Galveston serves as the tertiary referral center for PCPs in the TDCJ prison

system. Although patients with cancer are referred to the UTMB medical oncology clinic for treatment of their cancer, prescription of analgesics is the responsibility of the primary care providers at the individual prison units. The medical oncology clinic can recommend analgesic therapy but cannot directly prescribe pain medications. This study was approved by the UTMB Institutional Review Board in accordance with guidelines for research on prison inmates.

### Pain Questionnaire

We surveyed consecutive inmates with cancer pain (IPs) who either had reported pain or were receiving some form of prescribed pain medication. All IPs were interviewed at UTMB's TDCJ medical oncology clinics using the Brief Pain Inventory (BPI) short form<sup>12</sup> after giving verbal consent. The BPI uses a 0-10 scale in assessing pain where 0 means no pain and 10 means worst pain imaginable. No IP refused to be interviewed. The IPs were also asked to provide demographic data, including age, sex, race/ethnicity, cancer diagnosis and stage, and self-reported history of smoking, alcohol, and drug use. The Pain Management Index (PMI)<sup>6</sup> for each IP was calculated by using the sum of two factors: worst pain score and strongest analgesic medication used for therapy. Worst pain was scored for the PMI as follows: A BPI worst pain score of 0 = 0; 1-3 = -1; 4-6 = -2; 7-10 = -3. Strongest analgesic medication was scored as follows: None = 0; non-opioid (nonsteroidal anti-inflammatory drug [NSAID] or acetaminophen) = +1; "weak" or moderately "strong" opioid (codeine or equivalent) = +2; and "strong" opioid (morphine or equivalent) = +3. Thus, the PMI had a range of -3 to +3, with a negative score indicating undertreatment of pain. Pain scores were compared between various groups of patients using the Mann-Whitney U-test (Statistica software package, Statsoft, Tulsa, OK). The Bonferroni correction for multiple comparisons was used with the overall *P*-value set at 0.05. Eight comparisons were made.

### Survey Questionnaire

Pilot interviews of five PCPs within the TDCJ medical system were conducted by telephone

to gather information about problems encountered in the delivery of cancer pain management. The information was incorporated into the validated Clinic Staff Survey of Cancer Pain Management (used by permission, Charles Cleeland, PhD) developed by the Pain Research Group at the University of Texas M. D. Anderson Cancer Center.<sup>6</sup> The revised survey included one additional question asking PCPs to rank 18 potential factors that could be barriers to optimal cancer pain management in the TDCJ, and solicited any additional perceived barriers beyond those listed. One hundred sixty questionnaires with a self-addressed stamped envelope were sent to physicians, PAs, and NPs in the TDCJ prison system whose names and addresses were obtained from the TDCJ Health Department.

## Results

### Survey of Patients

We interviewed 102 consecutive IPs between April 19, 2001, and November 21, 2002. The patient characteristics are shown in Table 1.

### Pain Management

Eighty-three IPs (81%) reported a worst pain score of 7 or above (severe pain) in the past 24 hours, and 50 IPs (49%) reported an average pain score of 7 or above in the past 24 hours (Figure 1). Forty-eight IPs (47%) reported a best pain score of 4 or below (mild pain), but only 15 (15%) reported an average pain score of 4 or below (Figure 1). Approximately one-third of all IPs were receiving "strong" opioids. One-sixth were receiving no medication at all (Figure 2). Poor (worst pain score 7–10) or very poor (least pain score 7–10) pain control among IPs was seen across all analgesic categories, suggesting that IPs were receiving inadequate opioid therapy (Figure 2). Of the entire cohort of 102 patients, 33 (32%) reported no pain relief at all, and fewer than half (47%) reported receiving 50% or better pain relief. The PMI was negative in 65 patients (64%) (Figure 3), indicating inadequate pain treatment.

Examination of the results by race/ethnic categories showed no significant differences between blacks and whites (Hispanic and non-Hispanic) in worst pain scores (mean 8.1 vs.

Table 1  
Demographics of Inmates and Primary Care Providers

| Patients                          |       |
|-----------------------------------|-------|
| Total (n)                         | 102   |
| Men:women                         | 90:12 |
| Age (y)                           |       |
| Range                             | 20–75 |
| Median                            | 49    |
| Race/Ethnicity (n)                |       |
| Black (non-Hispanic)              | 45    |
| White (non-Hispanic)              | 45    |
| Hispanic                          | 12    |
| Cancer types (%)                  |       |
| Lung                              | 21    |
| Head and neck                     | 14    |
| Colorectal                        | 13    |
| Breast                            | 10    |
| Non-Hodgkin's lymphoma            | 7     |
| Other                             | 37    |
| Substance use (self reported) (n) |       |
| Tobacco                           | 89    |
| Alcohol                           | 67    |
| Drugs                             | 50    |
| Marijuana only                    | 12    |
| Primary Care Providers            |       |
| Total (n)                         | 74    |
| Men:women                         | 54:19 |
| Age (y)                           |       |
| Range                             | 30–70 |
| Median                            | 50 yr |
| Race/Ethnicity (n)                |       |
| Black (non-Hispanic)              | 6     |
| White (non-Hispanic)              | 47    |
| Hispanic                          | 5     |
| Asian                             | 7     |
| Native American                   | 1     |

7.6,  $P = 0.54$ ), in best pain scores (mean 4.0 vs. 3.5,  $P = 0.28$ ), or in average pain scores (mean 6.5 vs. 5.6,  $P = 0.04$ ). The percentages of

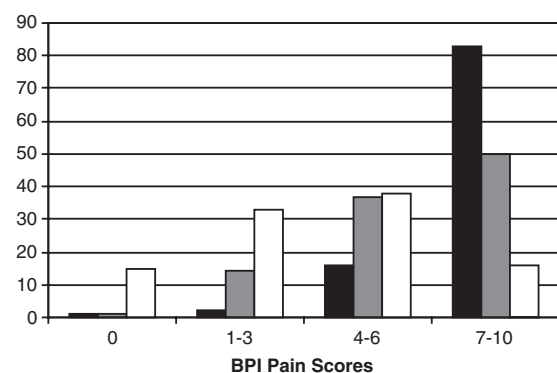


Fig. 1. Percentage of patients reporting pain scores in the Brief Pain Inventory. 0 = no pain, 10 = worst pain imaginable. Worst pain in past 24 hours = black bars; average pain over past 24 hours = gray bars; least pain in past 24 hours = white bars.

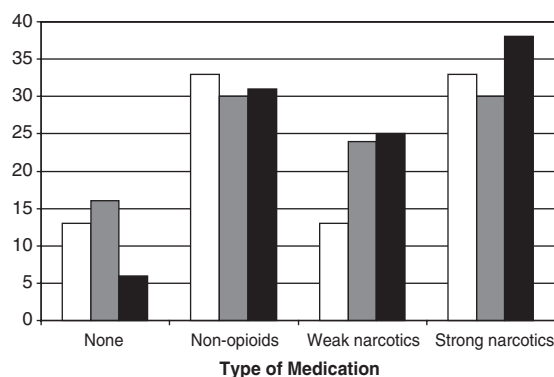


Fig. 2. Percentage of patients receiving no pain medications, non-opioid analgesics, weak opioids, or strong opioids. BPI average pain score 0-3,  $n = 15$  (good pain control) = white bars; BPI worst pain score 7-10,  $n = 83$  (poor pain control) = gray bars; BPI least pain score 7-10,  $n = 16$  (very poor pain control) = black bars.

blacks compared with whites receiving “strong” opioids (33% vs. 30%), “weak” opioids (22% vs. 24%), non-opioid analgesics (29% vs. 28%), and no medications (16% vs. 18%) were nearly identical.

We also compared the IPs who had a self-admitted history of drug use or abuse with those who had no such history. The two groups had similar worst pain scores (mean 8.1 versus 7.7,  $P = 0.38$ ), best pain scores (non-abusers mean 3.8 versus 3.6,  $P = 0.63$ ) and average pain scores (mean non-abusers 6.5 versus 5.6,  $P = 0.06$ ). IPs with a history of drug use were slightly more likely to receive either a “strong” (34% vs. 29%, respectively) or “weak” opioid (32% vs. 15%), whereas IPs with no history of drug use were

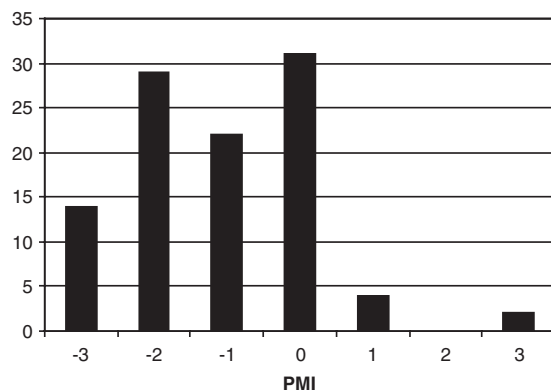


Fig. 3. Percentage of patients by Pain Management Index (PMI).

more likely to receive a non-opioid analgesic (35% vs. 22%) or no medication at all (21% vs. 12%). However, the overall distribution of medications between the two groups was not significantly different ( $P = 0.1$ ).

Because of the small number of Hispanics and women in this survey, no statistical comparisons were performed between these groups and the larger group.

#### Survey of Primary Care Practitioners

Of 160 questionnaires, 79 (49%) were returned; 5 of these were not filled out because the PCPs had not treated any cancer patients.

The demographics of the PCPs are shown in Table 1. We do not have specific information on the demographics of the non-responders. Some respondents did not answer all of the questions.

The PCPs were asked to estimate the percentage of patients with cancer that would experience pain and for what duration. Respondents estimated that the majority of patients with cancer (mean estimate  $87 \pm 24\%$ , range 0-100%) would experience pain during the course of their disease, and that most patients (mean estimate  $79 \pm 25\%$ , range 0-100%) would experience pain for more than one month. Sixty-four of 70 (91%) respondents had treated fewer than 20 IPs in the previous 6 months. They estimated that more than half of these IPs had pain lasting more than one month (mean  $57 \pm 38\%$ , range 0-100%), and that slightly more than half of the IPs were members of an ethnic or racial minority group (mean  $53 \pm 31\%$ , range 0-100%). Only 3/67 PCPs (4%) rated themselves as much more conservative in using analgesics than their colleagues, whereas 8/67 PCPs (12%) rated themselves as much more liberal; the remainder (84%) rated themselves somewhere between: 13 as somewhat more conservative (19%), 19 as average (28%), and 24 as somewhat more liberal (36%). Only 26% of the 70 respondents rated their training in cancer pain management as good or excellent, whereas 33% rated it as poor, and 41% as fair.

Thirty-eight of 67 PCPs (57%) responded that their staff was doing a good or very good job in relieving cancer pain, 26 (39%) a fair job, and only 3 (5%) a poor job. No respondent thought that his or her staff was doing a very poor job in treating cancer pain. Forty-three of 65 (66%)

respondents thought that the majority of IPs at their facility were receiving adequate treatment for their pain, although 20 PCPs (31%) said that the majority of IPs were under-medicated, and 2 (3%) said that the majority of IPs were overmedicated.

#### *Evaluation of Provider Pain Management Practices*

To evaluate individual provider pain management practice, we presented the following hypothetical case scenario to the PCPs:<sup>4</sup>

A 40-year old male TDCJ cancer patient is hospitalized with severe untreated back pain of more than one month's duration, attributable to bone metastases without vertebral collapse. He weighs 70 kg, has no cardiovascular or respiratory problems, and has a disease prognosis of more than 24 months. He has no history of medication allergies and is opioid naive. What would be your recommendation for the initial pain management regimen for this patient?

Sixty of 64 PCPs (94%) stated that they would prescribe an opioid analgesic, with 34 (53%) choosing a "strong" opioid (morphine or equivalent), and 26 (41%) choosing a "weak" opioid (codeine or equivalent). Only 4 (6%) chose a non-opioid analgesic alone.

The scenario continues:

It is noted that this cancer patient continues to report back pain after a course of radiation therapy. The patient's disease status remains stable. There are no signs of complication, and he is having no side effects from the medication. What is the most aggressive analgesic drug regimen that you would recommend?

Radiotherapy failure generally triggered more aggressive pain management. At this stage, 51/64 (80%) of PCPs included a "strong opioid" (morphine or equivalent) in the pain treatment recommendations, 9 (14%) recommended use of a "weak" opioid, and only 4 (6%) continued to recommend a non-opioid analgesic.

Respondents were asked the primary reason for their not prescribing more medication. Of the 64 respondents to this question, 25 (39%) listed concerns about side effects as their primary concern, and 13 (20%) were concerned

*Table 2*  
**Response to the Question "At What Stage in the Disease of the Patient Previously Described Would You Recommend Maximum Tolerated Opioid Analgesic Therapy for Treatment of Severe Pain?"**

| Life Expectancy     | Respondents (n = 63)<br>n (%) |
|---------------------|-------------------------------|
| Less than 24 months | 19 (30)                       |
| Less than 18 months | 3 (5)                         |
| Less than 12 months | 2 (3)                         |
| Less than 6 months  | 24 (38)                       |
| Less than 3 months  | 13 (21)                       |
| Less than 1 month   | 1 (2)                         |
| Less than 1 week    | 1 (2)                         |

about building a patient's tolerance too quickly. Eight (12%) were concerned about addiction, and three (4%) were concerned about drug diversion; one (2%) believed that larger doses would be no more effective.

Respondents were asked when they would start maximum analgesic therapy. The results are shown in Table 2. The majority (39/63, 62%) would reserve maximum analgesic therapy for a prognosis of 6 months or less.

Respondents were asked to rank a list of analgesic medications for the treatment of prolonged moderate to severe cancer pain (Table 3). Of the 69 respondents, 59 (86%) chose a "strong" opioid as their first choice. All but one

*Table 3*  
**Response to the Question "Please Rank the Following List of Analgesic Medications in Terms of Your Preference for the Treatment of Prolonged Moderate-to-Severe Cancer Pain Based on Your Knowledge and Experience"**

| Drug                   | Preference<br>(Number of Respondents) <sup>a</sup> |     |     |     |     |
|------------------------|--|-----|-----|-----|-----|
|                        | 1st  | 2nd | 3rd | 4th | 5th |
| Non-opioids            |  |     |     |     |     |
| Aspirin/acetaminophen  | 1  | 0   | 0   | 2   | 5   |
| NSAID                  | 3  | 2   | 4   | 3   | 13  |
| "Weak" opioid          |  |     |     |     |     |
| Acetaminophen/codeine  | 12   | 6   | 11  | 14  | 7   |
| "Strong" opioids       |  |     |     |     |     |
| Fentanyl patch         | 8  | 11  | 5   | 5   | 3   |
| Hydromorphone          | 0  | 4   | 2   | 7   | 8   |
| Meperidine             | 1  | 3   | 9   | 5   | 4   |
| Methadone              | 0  | 0   | 0   | 2   | 2   |
| Morphine IR            | 0  | 13  | 7   | 5   | 5   |
| Morphine SR            | 13   | 18  | 6   | 2   | 3   |
| Morphine suppositories | 36   | 0   | 3   | 4   | 6   |
| Oxycodone              | 1  | 7   | 12  | 11  | 1   |

NSAID = nonsteroidal anti-inflammatory drug; IR = immediate-release; SR = sustained-release.

<sup>a</sup>Total n = 69.



*Table 4*  
**Respondents Who Selected Item as One of the  
 Top Six Barriers in the Survey Questionnaire**

| Barrier   | <i>n (%)<sup>a</sup></i> |
|---|--------------------------|
| Concerns about drug misuse/diversion                                | 58 (85)                  |
| Concerns about patient credibility                                  | 56 (82)                  |
| Inadequate assessment of pain and pain relief                       | 46 (68)                  |
| Excessive regulation of prescribing analgesics                      | 41 (60)                  |
| Patient history of drug abuse                                       | 40 (59)                  |
| Lack of access to a wide range of analgesics in the prison pharmacy | 39 (57)                  |
| Medical staff reluctance to prescribe opioids                       | 39 (57)                  |
| Inadequate staff knowledge of pain management                       | 37 (54)                  |
| Limited window times for dispensing analgesics                      | 34 (50)                  |
| Security issues limiting access to window                           | 31 (46)                  |
| Lack of access to professionals who practice specialized methods    | 27 (40)                  |
| Nursing staff reluctance to administer opioids                      | 22 (32)                  |
| Lack of staff time to attend to patient's pain needs                | 20 (29)                  |
| Lack of equipment or skills   | 18 (26)                  |
| Patient is a prisoner (vs. free patient)                            | 16 (24)                  |
| Too much paper work   | 12 (18)                  |
| Patient reluctance to report pain                                   | 10 (15)                  |
| Patient reluctance to take opioids                                  | 6 (9)                    |

<sup>a</sup>Total *n* = 68.

respondent included a "strong" opioid among their top three choices.

### *Barriers to Pain Management*

Table 4 shows the list of potential barriers to optimum cancer pain management and the percentage of PCP respondents ranking each in the top third of all listed barriers. The two barriers most often ranked in the top third were concerns about drug misuse or diversion and concerns about patient credibility.

In addition to these responses, a number of miscellaneous barriers to pain management were mentioned, including "diversion/sale/barter" (4 respondents), "long delays in [cancer] diagnosis" (2 respondents), and 1 respondent each for "have personally had patient with advanced cancer caught trading their opioid meds," "hoarding," "cheeking" [pretending to swallow], "abuse suspicion," "unreliable patient," "waiting in pill line," "very restricted, bureaucratic," "no keep-on-person medication in prison or in transit to clinic, which can be an all day affair," and "verifying diagnosis" [evidently a prisoner had claimed to have cancer to get opioids].

### *Discussion*

The undertreatment of cancer pain in the United States remains a substantial concern

many years after its recognition as a public health problem among cancer care providers and the subsequent development of official guidelines addressing this problem.<sup>13</sup> We have found evidence that cancer pain among IPs is undertreated, as demonstrated by the negative PMIs in two-thirds of the patients surveyed. These observations are very similar to those among minorities in the community.<sup>6</sup> The high percentage of IPs with severe pain (81%) underlines our observations on inadequate opioid therapy.

Additionally, we have shown that the obstacles facing PCPs in the TDCJ prison system are different from those faced by cancer care providers in the community. It is likely that these obstacles contribute to the undertreatment of pain among inmates with cancer.

The response rate to our PCP survey compared favorably to the response rates reported in previous Eastern Cooperative Oncology Group (ECOG)<sup>5</sup> and Radiation Therapy Oncology Group (RTOG)<sup>14</sup> cancer pain management surveys of oncologists. However, the barriers to pain management perceived by PCPs in our study included patient, physician, and institutional variables that were different from those cited by the previous surveys, which focused on oncologists in the community, not in the prisons. The community surveys cited inadequate pain assessment, patient reluctance to report pain and patient reluctance to take opioids as the top three obstacles to effective cancer pain management. By contrast, the PCPs in our study ranked patient-related problems of credibility and concern about misuse or diversion as the two most significant barriers to effective pain management, with inadequate pain assessment ranked third. Inmate reluctance to report pain and patient reluctance to take opioids were cited least often.

Practitioner obstacles, such as PCP reluctance to prescribe opioids and inadequate staff knowledge of pain management, were also frequently cited as obstacles. Nearly three-quarters of the PCPs stated that their pain management training was only poor or fair. Very few respondents had treated more than 40 cancer patients in the previous year. None of the PCPs were oncologists by training. Restricted pharmacy access times and a no-keep-on-person drug policy are examples of institutional barriers

unique to the security environment of the prisons.

A comparison of physician attitudes and practices in our study with those in the ECOG Study<sup>5</sup> conducted a decade ago indicated that, given a similar patient scenario, a higher percentage of PCPs in our study would prescribe "strong" opioids (53%) than in the ECOG group (41%). In addition, a higher percentage in our study chose a "strong" opioid as their first choice for prolonged, moderately severe to severe cancer pain in the current study (86%) than in the ECOG group (62%), and a higher percentage in our study included a "strong" opioid among their top three choices (97% vs. 79%). On the other hand, a lower percentage of PCPs (30%) than in the ECOG group (59%) would initiate maximum-tolerated analgesic therapy early in the patient's disease course. These comparisons are broadly similar to those generated from the more recent RTOG survey.<sup>14</sup>

Despite the fact that 86% of the PCPs we surveyed indicated that a "strong" opioid was their drug of choice in patients with prolonged moderate to severe pain, only one-third of the 81% of IPs who reported severe pain were receiving "strong" opioids. The reason for the apparent discrepancy between the appropriate PCP responses to a hypothetical pain management scenario and the lack of efficacy of analgesic therapy in IPs is likely related to the difficulty of overcoming multiple obstacles in the prison setting. Another factor that may have contributed to this discrepancy is that IPs with limited life-expectancies (less than 6 months) may be referred to prison hospices and are no longer followed in the oncology clinic; hence, they were not the subjects of this survey. Therefore, our survey excluded the very patient group for which two-thirds of PCPs stated they would be most likely reserve treatment with maximal opioid therapy.

The minority status of IPs or a history of drug abuse apparently did not affect analgesic prescribing practices by PCPs or pain outcomes. This is noteworthy given that a history of drug abuse was cited by PCPs as one of the top five obstacles to pain management.

Our data suggest that unique obstacles related to prison populations, PCPs, and TDCJ security protocols adversely impact pain management for IPs. Reducing these obstacles will

require a multidisciplinary approach. For example, increasing the number of opioids available on formulary would likely require discussion between the prison pharmacy, practitioners, and prison authorities. The TDCJ system sponsors periodic medical seminars for providers in the system. Educational sessions on pain evaluation and treatment at these seminars can address the lack of training cited by many practitioners.

Another possible approach is designating a limited number of prison units for care of cancer patients so that the providers and prison authorities at those units are more familiar with the special care needs of cancer patients, a method which the TDCJ currently employs for patients with HIV infection. In these units, it may be possible to have more liberal medication dispensing hours, another obstacle listed by practitioners as restricting optimum pain treatment. Currently, medical oncologists in the UTMB clinic can recommend pain medication, but the actual prescribing is left to the discretion of the unit physician. With a limited number of unit practitioners involved, it may be possible for them to have training visits to the oncology clinic for pain management, which would also improve physician-to-physician communication between the specialty clinic and the prison units on pain treatment recommendations. Given that trust-related issues are cited as the major obstacles and apparently influence the prescribing behavior of PCPs, the use of written contracts between inmates, practitioners and prison authorities, similar to those suggested for use between patients with drug abuse histories and practitioners, may be appropriate in some circumstances. The institution of a panel involving pain experts, drug abuse experts, prison authorities, and inmate advocates to examine disputed cases of drug diversion/misuse could be useful to prevent unilateral discontinuation of pain medication. We have not examined the status of pain management and pain diagnoses in general in prisons, but we would not be surprised if similar obstacles exist for diagnosis, evaluation, and management of nonmalignant pain.

As the prison population has risen in the United States, cancer and other life-threatening illnesses such as AIDS and liver disease have posed growing challenges to prison health

care systems. Effective cancer pain management in prisons serves as a paradigm of the challenge of palliative care in a unique environment in which dying has become more commonplace.<sup>15,16</sup>

### Acknowledgments

The authors wish to thank Dr. Owen Murray, Associate Medical Director for Texas Department of Criminal Justice Correctional Managed Care, for his support and encouragement, John Pulvino, PA, for his assistance in setting up the initial physician interviews, Dr. Charles Cleeland for helpful discussions and review of this manuscript, and Colleen Hubona and Gayle Nesom for manuscript review. This study was supported in part by a grant from the U.S. Cancer Pain Relief Committee.

### References

1. U.S. Department of Justice. Bureau of Justice Statistics. Prison and jail inmates at midyear 2002 [Press release]. Available at <http://www.ojp.usdoj.gov/bjs/press.htm>. Accessed 2003.
2. Mathew P, Elting L, Owen S, Lin J. Cancer in a prison population [abstract]. *Proc Amer Soc Clin Oncol* 2002;21:195b.
3. Bonica JJ, Ventafridda V, Twycross RG. Cancer pain. In: Bonica JJ, ed. *The management of pain*, 2nd ed. Philadelphia: Lea & Febiger, 1990:400–460.
4. Cleeland CS, Gonin R, Hatfield AK, et al. Pain and its treatment in outpatients with metastatic cancer. *N Engl J Med* 1994;330:592–596.
5. Von Roenn JH, Cleeland CS, Gonin R, et al. Physician attitudes and practice in cancer pain management: a survey from the Eastern Cooperative Oncology Group. *Ann Intern Med* 1993; 119:121–126.
6. Cleeland CS, Gonin R, Baez L, et al. Pain and treatment of pain in minority patients with cancer: the Eastern Cooperative Oncology Group Minority Outpatient Pain Study. *Ann Intern Med* 1997;127: 813–816.
7. Anderson KO, Mendoza TR, Valero V, et al. Minority cancer patients and their providers: pain management attitudes and practice. *Cancer* 2000; 88:1929–1938.
8. Bureau of Justice Statistics. Drug use, testing, and treatment in jails. Available at <http://www.ojp.usdoj.gov/bjs/abstract/duttj.htm>. Accessed 3/30/01.
9. Bureau of Justice Statistics. Substance abuse and treatment, state and federal prisoners 1997. Available at <http://www.ojp.usdoj.gov/bjs/abstract/satsfp97.htm>. Accessed 3/30/01.
10. Texas Department of Criminal Justice. Statistical Summary, Fiscal Year 2001. Available at <http://www.tdcj.state.tx.us/stat/publications/fy2001statsum.pdf>. Accessed 2002.
11. Texas Department of Criminal Justice. TDCJ Formulary, 2002. Available from the Texas Department of Criminal Justice, Health Services Division, 3009-A Hwy 30W, Huntsville, TX 77340-0769(936) 437–4271.
12. Cleeland CS, Syrjala KL. How to assess cancer pain. In: Turk DC, Melzack R, eds. *Pain assessment*. New York: Guilford Press, 1992:360–387.
13. Jacox A, Carr DB, Payne R, et al. Clinical practice guideline number 9: Management of cancer pain. Rockville, MD: U.S. Dept. of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, March 1994.
14. Cleeland CS, Janjan NA, Scott CB, et al. Cancer pain management by radiotherapists: a survey of Radiation Therapy Oncology Group physicians. *Int J Radiat Oncol Biol Phys* 2000;47:203–208.
15. Maull F. Dying in prison: sociocultural and psychosocial dynamics. *Hosp J* 1991;7:127–142.
16. Maull FW. Issues in prison hospice: Toward a model for the delivery of hospice care in a correctional setting. *Hosp J* 1998;13:57–82.