

Pharmacists' Knowledge of and Attitudes Toward Opioid Pain Medications in Relation to Federal and State Policies

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Objective: To assess Wisconsin pharmacists' knowledge of and attitudes toward the use of opioid analgesics in the management of chronic cancer and noncancer pain, and to explore the potential for these beliefs to interfere with pharmacist dispensing, the last link of the distribution chain of controlled substances to patients. **Design:** Mail survey. **Setting:** Urban and rural pharmacies, long-term care facilities, hospitals, and outpatient clinics in Wisconsin in 1998. **Patients or Other Participants:** Representative sample of Wisconsin pharmacists. **Interventions:** None. **Main Outcome Measures:** Responses to self-administered questionnaires. **Results:** Although most respondents were knowledgeable about the issues addressed in this study, there were important exceptions. Not all pharmacists knew what constitutes legitimate dispensing practices for controlled substances under federal or state policy in emergencies or for patients with terminal illnesses, and many were unaware of the important distinctions among addiction, physical dependence, and tolerance. Many respondents did not view the chronic prescribing/dispensing of opioids for more than several months to patients with chronic pain of malignant or nonmalignant origin as a lawful and acceptable medical practice; this was especially true when the patient had a history of opioid abuse. **Conclusion:** Pharmacists play a pivotal role in ensuring patient access to medications. Viewed in the context of federal and state controlled substances policies, our findings suggest that the incorrect knowledge and inappropriate attitudes of some pharmacists could contribute to a failure to dispense valid prescriptions for opioid analgesics to patients in pain.

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The pharmacist is a critical link in the chain of drug distribution to the patient, dispensing drugs that are available by prescription only. To dispense opioid analgesics, pharmacists must comply with the requirements of federal and state drug, pharmacy, and controlled substances laws. Pharmacists are "personal health care advisers"¹ to their patients, but they are also "gatekeepers" who must determine whether dispensing a prescription order will serve a legitimate medical purpose and be in the usual course of professional practice.^{2,3} Pharmacists who lack knowledge about pain management and controlled substances policies could be a weak link if they make decisions that break the chain of distribution of valid prescriptions for opioid analgesics. In this article we examine the potential for pharmacists to act as barriers to patients seeking legitimate access to opioids for pain management.

A few researchers have evaluated pharmacists' beliefs and

practices relating to pain management and the regulation of opioids. Early surveys examining attitudes about specific dispensing practices used pharmacies as the sample groups. In 1986 Kanner and Portenoy⁴ reported that 29% of pharmacies randomly sampled in New York City did not stock Schedule II opioid analgesics because of a fear of being robbed; only 3% stocked oral morphine. In 1989 Kanner and Cooper⁵ found that 38% of a national sample of pharmacies stocked oral morphine. Those that did not stock the drug indicated that the reasons were a lack of prescription demand and fear of robbery. The results from these two studies generally mirror those from surveys of pharmacies in other states, such as New Mexico (1992)⁶ and South Carolina (1993),⁷ and from a 2000 survey of New York City pharmacies.⁸

Several surveys have evaluated stocking issues and factors that influence dispensing practices, as well as pharmacist knowledge and attitudes about opioid analgesics and the legality of chronic opioid prescribing.^{1,9-12} A 1994 survey of North Carolina pharmacists conducted by Krick, Lindley, and Bennett¹⁰ showed that availability of opioid analgesics varied as a function of practice site. Pharmacists in chain and independent pharmacies generally reported stocking significantly lower quantities of opioids than did those in hospital pharmacies. While respondents viewed "conservative" physician prescribing (51%) and nurse administration (44%) as

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substantial impediments to cancer pain management, 28% cited both the risk of addiction and concern about being investigated as important barriers.

A survey of pharmacists in Utah¹ revealed deficiencies in knowledge about cancer pain management that could adversely influence their perception of the legitimacy of a prescription order and therefore the dispensing of opioids for the treatment of pain. For example, 51% of the respondents believed that the risk of addiction to opioids is high.

One study conducted in New Hampshire remains unique in that it allowed comparisons of the responses of pharmacists, physicians, and nurses regarding knowledge and attitudes about cancer pain management.¹¹ Most (88%) of the respondents viewed the underuse of opioid analgesics as the primary reason for unrelieved pain. Pharmacists reported that they managed cancer pain more frequently than did physicians and nurses. However, pharmacists felt their training in cancer pain management was inadequate, and they were less comfortable with this role than were physicians and nurses. There was no statistically significant difference among members of the three professions regarding perception of addiction risk for cancer patients being treated with opioids. Although the vast majority of physicians (91%), nurses (85%), and pharmacists (86%) believed that addiction was not a clinically relevant phenomenon with cancer patients, some of these health care professionals did view addiction as a legitimate concern.

More recently, Greenwald and Narcessian¹² published the results of a first-of-its-kind survey assessing pharmacists' attitudes toward the legality of prescribing opioids in differing clinical situations. Of a small sample of 36 pharmacists practicing in New Jersey, only 75% considered prolonged prescribing for cancer pain to be a lawful and acceptable medical practice. When the patient had a history of opioid abuse, only 36% of respondents viewed the prescribing as lawful and acceptable. Pharmacists' confidence in the legal and medical acceptability of prescribing decreased further when the patient had chronic nonmalignant pain (17%) and chronic nonmalignant pain with a history of opioid abuse (3%). A majority of responding pharmacists (56% for the nonmalignant pain scenario and 83% when the patient had nonmalignant pain and a history of opioid abuse) believed that prescribing for the latter two scenarios should be discouraged or investigated, even though neither of these practices is illegal or necessarily inappropriate.

Objectives

The objectives of this survey were (1) to assess the knowledge and attitudes of Wisconsin pharmacists about the use of opioids in the management of chronic cancer and noncancer pain and (2) to explore the potential for these beliefs to interfere with pharmacist dispensing, which is the last link in the chain of distribution of controlled substances to patients.

Methods

A 51-item questionnaire was developed by the Pain & Policy Studies Group (PPSG) at the University of Wisconsin, Madison, using several questions from previous surveys.¹³ The instrument contained questions about demographics; views on dispensing Schedule II opioids; the nature and extent of addiction, abuse, and diversion; judging the validity of prescriptions; perceived effects of legal requirements; knowledge of controlled substances dispensing requirements; and the legality of certain prescribing scenarios. Although the survey instrument was not psychometrically evaluated for validity and reliability, it was pilot-tested for content and design with 10 pharmacists (8 practitioners and 2 professors from the University of Wisconsin) in the city of Madison.

The survey was mailed in April 1998 to a random sample of 1,000 licensed pharmacists obtained from a list provided by the Wisconsin Department of Licensing and Regulation. No attempt was made to oversample for specific respondent characteristics, such as size of the community in which the pharmacist practices or principal practice setting. A cover letter stated the subject of the survey but did not mention the specific issues to be examined. The letter also assured respondents of confidentiality. Reminder postcards were mailed twice to nonrespondents. Responses were tabulated, and frequencies and descriptive statistics were calculated for each item.

Results

Sample

The overall sample size was reduced to 899 after 101 surveys were returned as undeliverable or because the pharmacist was no longer practicing. A total of 557 questionnaires (62%) were returned, of which 547 (98%) were usable, for an overall response rate of 61%.

Table 1 shows respondents' demographic characteristics. The characteristics of this sample, such as age, sex, and education, are similar to those of the general population of pharmacists in the state. Table 2 shows respondents' ratings of the adequacy of their undergraduate professional education about controlled substances requirements and the use of opioids for pain management.

Views on Addiction, Abuse, and Diversion

Respondents were asked the meaning of "addiction" and given several characteristics from which to select: physical dependence, psychological dependence, tolerance, other, and don't know. Respondents could choose more than one answer. More than three-quarters (79%) viewed addiction as some combination of physical dependence, psychological dependence, and tolerance; 88% of respondents said that addiction means physical dependence; 84% indicated psychological dependence; and 36% chose tolerance. Of this sample, 12% considered physical

dependence alone to be sufficient to indicate addiction, and 10% chose psychological dependence only. Less than 1% reported that they did not know what characterized addiction.

One item asked respondents to estimate the approximate incidence of psychological dependence (defined in the questionnaire as “compulsive use for psychic effects”) that results from the treatment of pain using opioids. Only 9% viewed psychological dependence as an extremely rare event and chose less than 1 in 1,000; 13% thought the incidence was 1 in 1,000; 25% chose 1 in 100; 16% chose 1 in 10; and nearly 40% did not know.

Almost one-half of the respondents (46%) viewed diversion and abuse of prescription opioid analgesics as a problem in their community, whereas 33% did not. Of the former, 10% (4% of the total sample) said it was a serious problem, 55% (24% of the total sample) a moderate problem, and 35% (15% of the total sample) a minor problem.

Most pharmacists (87%) were confident they could recognize when a person was attempting to obtain a controlled substance from a pharmacy for other than legitimate medical purposes. This situation was considered rare by 39%, and 55% indicated that it happened occasionally. Two-thirds (68%) were aware of situations where pharmacists suspected that patients with inadequately treated pain were “drug seekers” because they had requested additional pain medications.

Views on Stocking Schedule II Opioids

One-half of the respondents (51%) indicated that during the last 2 years they rarely had been unable to dispense a Schedule II opioid analgesic because the medication was not in stock; 35% stated that this happened occasionally and only 1% reported it happened often. This situation had never been encountered by 14% of the respondents. Choosing from a list the factors they believed limit the stocking of Schedule II opioid analgesics at their primary practice site, respondents indicated lack of prescription orders (78%), medication cost (38%), fear of theft or robbery (12%), inadequate reimbursement (8%), fear of pilfering (5%), concern about investigation by a regulatory agency (5%), and potential for drug addiction (2%). In addition, 48% reported that they would not be willing to provide a Schedule II opioid to another pharmacy that temporarily ran out of stock.

Views on Dispensing Schedule II Opioids

Eighty-two percent of pharmacists indicated that they would be willing to dispense a limited quantity of Schedule II opioid medication for a bona fide patient emergency without a written prescription order if they received the prescription order from a practitioner by telephone. However, 18% would not dispense in this situation. Respondents reported that they would never (4%), occasionally (33%), often (23%), and always (40%) decline to

Table 1. Demographic Characteristics of Respondents (n = 547)

Characteristic	Descriptive Results ^a
Age in years (mean ± standard deviation)	45 ± 12
Age in years (range)	24–76
Sex (%)	
Men	64
Women	36
Year of degree (median)	1978
Year of degree (range)	1943–1997
Highest degree attained (%)	
Bachelor of science	92
Graduate	8
Practice setting (%)	
Community chain pharmacy	30
Community independent pharmacy	24
Hospital	22
Other	25
Location of practice (%)	
Rural	18
Suburban	19
Urban	64
Population of community of practice (%)	
< 25,000	29
25,000–100,000	29
100,001–500,000	19
500,001–1,000,000	16
> 1,000,000	8
Involved in hospice (%)	
Not at all	35
Rarely	27
Occasionally	24
Often	14
Aware of Wisconsin Cancer Pain Initiative (%)	
Yes	33
No	67

^aColumns may not total 100% due to rounding.

dispense a Schedule II opioid if the original prescription order lacked complete information. When considering the appropriate dosage of an opioid analgesic, 38% of pharmacists somewhat agreed and 9% strongly agreed that a dosage greater than that recommended in the *Physicians' Desk Reference (PDR)* or product package insert is probably excessive and cause for concern about the appropriateness of a prescription order.

Table 2. Perceived Adequacy of Education

Self-Rating	About Controlled Substances Requirements ^a No. (%)	About Opioids and Pain Management No. (%)
Poor	24 (5)	64 (12)
Fair	151 (28)	197 (38)
Good	266 (49)	229 (44)
Excellent	97 (18)	34 (7)

^aColumns may not total 100% due to rounding.

Experience with Controlled Substances Investigations

Regulatory agencies had investigated or audited 14% of respondents in regard to controlled substances. When all respondents were asked to estimate the likelihood that they would be audited or investigated by a drug regulatory agency sometime during their career, the mean response \pm standard deviation was 35% \pm 28% (range, 0% to 100%). Seventeen percent agreed that their records for controlled substances would not pass scrutiny by a regulatory agency.

Knowledge of Controlled Substances Requirements

Pharmacists were asked whether they believed their knowledge of relevant controlled substance regulations to be adequate: 53% somewhat agreed, 29% strongly agreed, 16% somewhat disagreed, and 2% strongly disagreed. Sixty-four percent of respondents knew that federal regulations allow pharmacists to partially dispense a Schedule II opioid analgesic for a terminally ill patient living at home. An equal percentage was aware that this is allowed by state regulations, while 4% somewhat disagreed, 15% strongly disagreed, and 16% did not know. In addition, just over one-third of respondents (35%) believed that the requirements for prescribing, dispensing, and managing controlled substances had a negative effect on their appropriate medical use.

Perceived Legality and Medical Acceptability of Prescribing and Dispensing Opioids for Chronic Pain

Pharmacists were asked to give their opinion about the legality and medical acceptability of prescribing and dispensing opioids for more than several months in four patient scenarios involving chronic malignant and nonmalignant pain with and without a history of opioid abuse. There were three possible levels of legality for each scenario: (1) lawful and generally acceptable medical practice, (2) lawful but generally not accepted medical practice that should be discouraged, and (3) a probable violation of federal

or state controlled substances or medical practice laws that should be investigated. Respondents also were given a “don’t know” option. Only one response could be chosen for each scenario. Table 3 contains the frequencies of responses for each chronic pain scenario.

Cancer Pain Scenarios

The vast majority (93%) of respondents were confident in the legality and medical acceptability of prescribing and dispensing opioids for more than several months for pain patients with a malignancy. If the cancer patient with chronic pain had a history of opioid abuse, the proportion of respondents expressing confidence decreased to less than two-thirds (64%). The practice would be discouraged by 17%, and 6% would consider it to be a probable violation of law. Respondents chose “don’t know” most often (12%) for this scenario.

Nonmalignant Pain Scenarios

If chronic pain is of nonmalignant origin, 57% of respondents were confident that prescribing and dispensing opioids for an extended period is legal and accepted medical practice. Thirty percent perceived the practice to be legal, but would discourage it. Six percent believed that the practice probably was illegal and should be investigated.

Only 8% of the pharmacists viewed the prescribing and dispensing of opioids for more than several months to a patient with chronic nonmalignant pain and a history of opioid abuse as legal and acceptable medical practice. Almost half (47%) thought the practice was legal but would discourage it; 35% believed the practice to be in probable violation of controlled substances or medical practice laws that should be investigated.

Other Issues

Respondents were asked whether they believed marijuana was effective for treating pain. The responses were: strongly agree (4%), somewhat agree (15%), somewhat disagree (18%), strongly disagree (22%), and don’t know (42%).

Table 3. Perceptions of Legality and Medical Acceptability of Extended Prescribing/Dispensing of Opioids

Response	Chronic Cancer Pain ^a No. (%)	Chronic Cancer Pain with History of Opioid Abuse No. (%)	Chronic Noncancer Pain No. (%)	Chronic Noncancer Pain with History of Opioid Abuse No. (%)
Lawful and generally acceptable medical practice	488 (93)	336 (61)	299 (57)	43 (8)
Lawful but generally not acceptable medical practice that should be discouraged	7 (1)	92 (17)	159 (30)	249 (47)
Violation of federal or state controlled substances or medical practice laws or regulations that should be investigated	13 (2)	34 (6)	33 (6)	184 (35)
Don't know	17 (7)	65 (12)	34 (7)	50 (10)

^aColumns may not total 100% due to rounding.

Discussion

The results of this study should be viewed in the context of federal and state laws, which establish that the only lawful way for a patient to obtain a prescription drug is through a pharmacist. Controlled substances policies further establish that pharmacists have a legal duty to not dispense a controlled substance in a manner inconsistent with regulatory requirements, including for other than legitimate medical purposes and other than according to the regulations for emergency and partial dispensing. However, if a pharmacist fails to dispense a valid prescription because of incorrect knowledge or inappropriate attitudes, the last link in the legitimate medication distribution chain is broken.

Responses to our survey suggest that, while most pharmacists would dispense appropriately, a significant minority might not dispense a valid prescription because they have incorrect knowledge or misconceptions about what is legitimate practice under federal or state policy. For example, some pharmacists would decline to dispense an opioid analgesic during a bona fide patient emergency if the prescription order was received from a practitioner by telephone, even though such dispensing is lawful under federal and state policies.¹⁴

Many respondents would consider a dosage of an opioid that is greater than that recommended in the *PDR* or product package insert to be excessive and cause for concern about its appropriateness. However, once a drug has been approved for use under the Federal Food, Drug, and Cosmetic (FD&C) Act, a physician can prescribe it in doses and for uses not mentioned in the approved labeling.¹⁵ Indeed, a physician's ability to prescribe a drug according to his or her best knowledge and medical judgment is stated in the *PDR*:

The [Food and Drug Administration] has also recognized that the FD&C Act does not, however, limit the manner in which a physician may use an approved drug ... The [FDA] also observes that accepted medical practice includes drug use that is not reflected in approved drug labeling.¹⁶

Some respondents also did not know that federal¹⁷ or state regulations, including those of Wisconsin,¹⁸ authorize partial dispensing of Schedule II opioids for a terminally ill patient living at home.

Compared with the New Jersey pharmacists participating in Greenwald and Narcessian's study,¹² Wisconsin pharmacists reported a higher level of confidence in the legality and medical acceptability of prescribing or dispensing opioids for more than several months for all four patient scenarios mentioned in the survey. Nevertheless, a significant minority of Wisconsin pharmacists felt that opioid use in these scenarios should be discouraged or investigated, even when prescribing opioids could be within the legitimate practice of medicine and, therefore, lawful under federal and state policies so long as the purpose remains the treatment of pain.¹⁹⁻²¹ A pharmacist's belief that certain patient characteristics affect the legality of prescribing and dispensing of some pain management medications has the clear potential to result in decisions to not dispense valid prescriptions.

Diversification of Controlled Substances

Diversification from pharmacies by criminal acts, including robbery, is a significant source of prescription drugs on the illicit market.²² Many pharmacists in this sample reported that diversion of prescription opioid analgesics was a moderate or serious problem in their community, that they knew of attempts by individuals to obtain controlled substances from a pharmacy for illicit purposes, and that there had been a theft or robbery in their pharmacy during the last 5 years.

These results suggest that pharmacy theft may be a significant source of diversion in the state, and that state and federal agencies should review diversion from pharmacies to determine its actual extent. This can be accomplished easily by reviewing information from the Drug Enforcement Administration (DEA) Form 106, which, by law, pharmacists must complete and submit in the event of losses of controlled substances. The results of such a review could inform the development of a strategy to apprehend perpetrators of pharmacy crime and assist pharmacists in preventing this type of diversion.

Pseudoaddiction

Respondents were aware that patients were not being adequately treated for their pain, and knew of frequent occasions when other pharmacists misinterpreted patient requests for additional medications for inadequately treated pain as drug-seeking behavior related to addiction. Such misinterpretations can occur when health care personnel inappropriately perceive pain-relief-seeking behavior as maladaptive drug-seeking behavior. This is an iatrogenic phenomenon termed "pseudoaddiction."²³

At the same time, respondents were confident in their ability to identify attempts to obtain controlled substances for other than legitimate medical purposes. Suspicion that a patient is obtaining prescription orders for abuse could lead to a correct decision to not dispense, according to the legal responsibility of pharmacists to not dispense for other than legitimate medical purposes.²⁴ It is encouraging that many of these pharmacists do not assume that a patient's efforts to obtain more pain medications are invariably a sign of drug dependence and/or addiction.

Definitions of and Risk for Addiction

Most definitions of addiction selected by respondents included both physical and psychological dependence, and, to a lesser extent, tolerance. Some pharmacists defined addiction solely on the basis of the manifestation of withdrawal symptoms (i.e., physical dependence), which by itself is insufficient to define addiction/drug dependence (i.e., characterized by a maladaptive behavioral syndrome)^{25,26} (see Table 4). Physical dependence is common when opioids are used to manage chronic pain. Consequently, confusing physical dependence with addiction or drug dependence can lead to an exaggeration of the degree of risk of addiction among chronic pain patients who are being treated with

Table 4. Definitions of Addiction, Physical Dependence, and Tolerance

Addiction—A neurobehavioral syndrome with genetic and environmental influences that results in psychological dependence on the use of substances for their psychic effects and is characterized by compulsive use despite harm. Also referred to as “drug dependence” and “psychological dependence.” Physical dependence and tolerance are normal physiologic consequences of extended opioid therapy for pain and should not be considered addiction.

Physical dependence—A physiologic state of neuro-adaptation characterized by the emergence of a withdrawal syndrome if drug use is stopped or decreased abruptly, or if an antagonist is administered. Physical dependence is an expected result of opioid use. By itself, physical dependence does not equate with addiction.

Tolerance—A physiologic state resulting from regular use of a drug in which an increased dosage is needed to produce the same effect or a reduced effect is observed with a constant dose.

Adapted from Reference 27.

opioids. Since it is unlawful to dispense opioids for maintenance of narcotic addiction (unless separately registered), confusing physical dependence and addiction could lead a pharmacist to make an incorrect decision to not dispense.

When asked to approximate the incidence of psychological dependence resulting from the treatment of pain with opioids, two out of three pharmacists who chose a response other than “don’t know” believed that psychological dependence was a relatively common occurrence among all pain patients receiving opioids. Overestimation of the incidence of iatrogenic psychological dependence is common among health care providers, as demonstrated in previous studies.^{1,11,13,28,29} For example, 54% of a sample of Arkansas pharmacists believed that the risk of addiction to opioids is high.²⁹ A comparable percentage of members of state medical boards, the agencies that license and discipline physicians, considered the potential for addiction to be high when opioids are used to treat pain.^{13,28} Furthermore, almost half of these respondents did not know the likelihood of psychological dependence as a result of opioid treatment for pain. These findings indicate a lack of knowledge about the relatively low incidence of addiction (or psychological dependence). Greater effort is needed to provide pharmacists (and other health care providers) with an up-to-date understanding of the characteristics and risk of addiction when opioids are used to treat pain.

Stocking and Dispensing Issues and Concerns About Investigation

To dispense a prescribed opioid, a pharmacist must have it on hand. In previous surveys, concerns about theft or regulatory investigation were a primary cause for reluctance to stock and dispense Schedule II controlled substances, but this sample of Wisconsin pharmacists did not identify such concerns as a primary reason for not stocking opioids. When a Schedule II opioid anal-

gesic was not stocked, it was due primarily to a lack of prescription orders or medication cost. However, pharmacies can arrange to obtain a needed medication from another pharmacy. Many of these pharmacists were reluctant to provide Schedule II opioids to another pharmacy that did not have the drug in stock.

Few pharmacists in our study had been investigated or audited by a state regulatory agency; however, these respondents were uncertain that their pharmacy records would stand up to scrutiny if audited. Studies in other states have shown that concerns about regulatory investigation are associated with decisions not to stock Schedule II controlled substances.^{4-6,8} Our findings to the contrary may be due to the replacement of routine pharmacy inspections in Wisconsin with a self-inspection program and targeted investigations as needed.

Other Clinical Issues

About one in five of the pharmacists in our sample indicated some agreement about the effectiveness of marijuana for treating pain. However, the medical use of marijuana remains a research question, not a clinical one, since marijuana is not an approved drug for pain management. Hence the response may have been influenced more by media stories about medical marijuana than by pharmacists’ professional education.

It is interesting to note that although most respondents were not currently involved in hospice care, nearly one-third were aware of the Wisconsin Cancer Pain Initiative. This finding likely reflects the involvement of pharmacists and the state pharmacy association in the initiative as well as publicity about the initiative in the state pharmacy journal.³⁰

Finally, a majority of pharmacists rated their education about controlled substances requirements as either good or excellent, whereas only about half gave the same rating to their education about pain management. This result is similar to that of Furstenberg et al.,¹¹ who found that pharmacists were significantly less likely than physicians or nurses to consider their training in cancer pain management to be adequate or better-than-adequate.

Recommendations

Our results suggest that Wisconsin pharmacists need additional education about the use of controlled substances for pain management. With new discoveries about pain physiology and opioid pharmacology, as well as revised definitions of addiction,^{31,32} these topics are being incorporated into medical and nursing education.³³ It would be desirable to review whether pharmacy texts and curricula have been updated to reflect current knowledge, and a study is currently being conducted as part of the Last Acts campaign to address this issue.³⁴ Our findings indicate that, in addition to basic professional education, pharmacists need continuing education programs focusing on pain, opioid analgesics, the characteristics and risks of addiction, and federal and state controlled substances and pharmacy policies, including recent changes relat-

ing to partial dispensing. Pharmacists, like physicians, should know enough about pain management and addiction to distinguish between acceptable and unacceptable practices by today's standards. The PPSG has prepared an annotated bibliography of journal articles addressing issues related to pain management and end-of-life care, which can be ordered through the publications list on the Last Acts Web site (www.lastacts.org).

It may help to develop criteria that would assist pharmacists as they evaluate and respond to various dispensing situations that pose risks for incorrect decisions. Such an approach would emphasize the pharmacist's professional responsibility to not dispense invalid prescriptions and to dispense those that are valid. We concur with the standard of decision making suggested by Brushwood and Carlson to achieve a balance between these two obligations:

...regulatory policy should not insist that the uncertainty of a suspicious prescription always be resolved in the most conservative way, by a pharmacist refusing to fill the prescription.²⁴

In this respect, it is important to note that DEA has stated that controlled substances "have a legitimate clinical use and a practitioner should not hesitate to prescribe, dispense or administer them when they are medically indicated."²²

To further the objective of improving pain management while preventing diversion, we recommend that state pharmacy boards consider adopting guidelines or policy statements that

- Encourage pharmacists to become more involved in pain management
- Encourage continuing education about pain, opioid analgesics, addiction, and controlled substances policy
- Explain their criteria for judging the validity of various dispensing practices that may be at issue
- Correctly define pain and addiction-related terms, such as tolerance, physical dependence, addiction, and pseudoaddiction.

State medical boards are at the forefront of issuing new policies to encourage effective pain management,³⁵⁻³⁷ with medical boards in 35 states having adopted such policies (see the PPSG Web site at www.medsch.wisc.edu/painpolicy/matrix.htm). To date, only the pharmacy boards of California and Washington have developed such guidance. We encourage pharmacy boards to undertake this effort in cooperation with the boards of medicine and nursing in their state. The results of such a cooperative approach were on view recently in North Carolina, where the boards of medicine, pharmacy, and nursing developed a joint policy statement on pain management and end-of-life care.³⁸ However, new guidelines alone will have little effect unless they are disseminated to pharmacists and publicized.

Finally, we urge pharmacy associations to sponsor educational programs about pain management. State pharmacy boards can play an important role in these educational programs by having representatives present to clarify board policies for dispensing controlled substances and to answer questions. Implementation of these recommendations could benefit the public health by reducing diversion of prescription opioid analgesics and its consequences and

costs, and by strengthening the pharmacist's role as the last critical link in the chain of distribution of pain medications to patients.

Limitations

There are two important limitations to this study. First, results from a survey of Wisconsin pharmacists may not generalize to pharmacists in other states. Second, the validity of the results may be affected by the usual limitations of self-report questionnaires and thus may not fully reflect the respondents' beliefs, attitudes, or actual practices.

Conclusion

Our findings show a need to further improve Wisconsin pharmacists' understanding of pain management and requirements for prescribing, dispensing, and managing controlled substances. Although most respondents were knowledgeable about the issues addressed in this study, there were important exceptions. A number of pharmacists did not know what constitutes legitimate dispensing practices in certain situations according to federal and state policies. Some pharmacists had been unable to dispense Schedule II opioids because they were not in stock; others would not be willing to provide opioids to another pharmacy that was out of stock. Some would decline to dispense a telephone order for a Schedule II opioid needed in an emergency. Many pharmacists believed that doses greater than those recommended in the *PDR* are probably excessive and a cause for concern. Many did not appreciate the important distinction between addiction and physical dependence or tolerance. Many respondents did not view the dispensing of opioids for more than several months for chronic pain as a lawful and acceptable medical practice. If any of these responses were translated into practice, patients with valid prescriptions might not be able to obtain their pain medications.

It is our hope that our results and recommendations for improving pharmacist education and addressing pharmacy diversion will be discussed and critiqued, and that these discussions will lead to additional research as well as action on the part of pharmacy associations and pharmacy boards. The pharmacist can and should play an important role on the health care team by identifying cases of inadequate pain relief and communicating with the patient and caregivers about the need to improve pain management.

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