EFFECTIVENESS OF NOTIFICATION AND GROUP EDUCATION IN MODIFYING PRESCRIBING OF REGULATED ANALGESICS

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Abstract • Résumé

Objective: To compare the effectiveness of group education and notification with that of notification alone in modifying prescribing of regulated analgesics.

Design: Randomized controlled trial conducted from Dec. 1, 1992, to Dec. 31, 1993.

Setting: Nonacademic primary care practices in British Columbia.

Participants: Fifty-four physicians randomly selected from a group of 100 physicians who had written a number of prescriptions for regulated drugs more than than two standard deviations above the mean number of prescriptions written for such drugs in 1992. Any physician who was unable to participate was replaced from the original group of 100 before the study began. Five subjects did not complete the study and were not included in the analysis.

Interventions: Participants were randomly assigned to three groups: those in the first group received a written notification of excessive prescribing and attended a 1-day group-education activity, those in the second group received a written notification of excessive prescribing only and those in the third group were not subject to any intervention and were unaware that their prescribing had received special notice.

Outcome measure: Mean number of prescriptions for regulated analgesics issued per physician in the 6 months before and the 6 months after the interventions.

Results: Physicians in the group that attended the education intervention wrote, on average, 33% fewer prescriptions after the intervention, whereas physicians in the group that received only written notification wrote 25% fewer prescriptions, on average, after the intervention. No change in prescribing was shown in the control group. The differences in rates of prescribing of regulated analgesics between each intervention group and the control group were statistically significant ($p < 0.01$). The difference in the rate of prescribing between the two intervention groups was not significant.

Conclusions: Group education and notification of prescriber status as well as notification alone significantly reduced prescribing of regulated analgesics. Hence, feedback on a physician's prescribing pattern may be a practical and less costly alternative to direct educational intervention in moderating the prescribing of regulated analgesics. The results do not, however, imply that notification is as effective as education in improving overall patient care. A follow-up study comparing the duration of the effect of the educational intervention with that of notification alone is warranted.

Objectif : Comparer l'efficacité des mesures éducatives accompagnées de l'envoi d'un avis à celle de l'avis seulement pour modifier les habitudes de prescription d'analgésiques réglementés.

Concept : Étude contrôlée randomisée effectuée entre le 1er déc. 1992 et le 31 déc. 1993.

Contexte : Pratiques non universitaires de soins primaires en Colombie-Britannique.

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Participants : Cinquante-quatre médecins choisis au hasard dans un groupe de 100 médecins qui avaient prescrit des médicaments réglementés et dont le nombre d'ordonnances dépassait de plus de deux écarts types le nombre moyen d'ordonnances établies en 1992 à l'égard des médicaments en question. Tout médecin qui n'a pu participer a été remplacé par un participant tiré du groupe initial de 100 avant le début de l'étude. Cinq sujets n'ont pas terminé l'étude et n'ont pas été inclus dans l'analyse.

Interventions : Les participants ont été répartis au hasard entre trois groupes : ceux du premier groupe ont été informés par écrit qu'ils prescrivaient trop et ont participé à une activité d'éducation collective d'une journée. Ceux du deuxième groupe ont été informés par écrit seulement qu'ils prescrivaient trop et ceux du troisième groupe n'ont été l'objet d'aucune intervention et ne savaient pas que leurs habitudes de prescription avaient fait l'objet d'un avis spécial.

Mesure des résultats : Nombre moyen d'ordonnances portant sur des analgésiques réglementés établies par médecin au cours des 6 mois qui ont précédé les interventions et des 6 mois qui les ont suivies.

Résultats : Les médecins du groupe qui ont participé à l'activité d'éducation ont établi en moyenne 33 % de moins d'ordonnances après l'intervention, tandis que ceux du groupe des participants qui n'avaient reçu qu'un avis écrit ont établi 25 % de moins d'ordonnances en moyenne après l'intervention. On n'a constaté aucun changement des habitudes de prescription chez les participants du groupe témoin. Les écarts au niveau des taux d'établissement d'ordonnances à l'égard d'analgésiques réglementés entre chaque groupe d'intervention et le groupe témoin étaient significatifs sur le plan statistique ($p < 0,01$). L'écart entre les taux d'établissement d'ordonnances des deux groupes visés par les interventions n'était pas significatif.

Conclusions : Des mesures d'éducation et des avis au sujet des pratiques d'ordonnance, ainsi que des avis seulement, ont réduit considérablement le nombre des ordonnances d'analgésiques réglementés. La rétroaction sur les habitudes de prescription d'ordonnance des médecins peut donc constituer un moyen pratique et moins coûteux que les interventions d'éducation pour réduire le nombre des ordonnances portant sur des analgésiques réglementés. Les résultats ne sous-entendent toutefois pas que l'avis est aussi efficace que l'éducation pour améliorer les soins d'ensemble fournis aux patients. Une étude de suivi qui permettrait de comparer la durée de l'effet des interventions d'éducation à celle de l'effet de l'avis seulement est justifiée.

In 1990, the College of Physicians and Surgeons of British Columbia implemented a program, called the Triplicate Prescription Program (TPP), to monitor physician prescribing of narcotic and other analgesics, narcotic antitussives and certain anabolic steroids. The college had been concerned that a relatively small number of physicians were prescribing these drugs in amounts that exceeded the amounts prescribed by their professional peers. This concern was confirmed once the college began to regulate and monitor prescriptions for these drugs through the TPP. In this program, triplicate prescription pads are used when prescribing certain drugs, with copies of each prescription being sent to the patient's file, the pharmacy and the Triplicate Data Centre, BC Ministry of Health. The mean number of prescriptions written in 1992 for regulated drugs was 51 per practitioner. In contrast, the mean number of prescriptions for these drugs written in 1992 by the top 2.5% of prescribers was 518 per practitioner (C.P. Hickey, executive director, administration, British Columbia College of Physicians and Surgeons: personal communication, 1995). Although registration in the TPP is not mandatory, physicians must be registered if they wish to prescribe drugs regulated through the program. Approximately two thirds of physicians licensed in the province are registered in the TPP, and computerized records of TPP prescribing are maintained by the college. Information recorded includes the number of prescriptions issued by each physician, the drug name, the quantity of the drug prescribed, the dispensing date and the dispensing pharmacy. The data are monitored by the college, but registered physicians are not routinely provided with feedback about their prescribing patterns. However, in the past, some of those prescribing excessive amounts have been identified, contacted and interviewed. On the basis of these encounters, the college concluded that most excessive prescribing is for the treatment of chronic pain, also known as pain disorder,[1] and involves the prescribing of analgesics, which constitute more than 50% of all drugs monitored through the TPP (Appendix 1).

This discovery caused concern on the part of the college, because narcotics are usually inappropriate for treating chronic pain[2] and are often abused by patients addicted to them.[3] As a result, the college now contacts some physicians who have written an excessive number of prescriptions for these drugs. These prescribers are asked to explain and justify their prescribing patterns. The college may then recommend that the physician modify any inappropriate prescribing practices. Failure to comply with the college's recommendations may result in cancellation of the physician's privileges under the TPP. Less than 10 physicians registered in the TPP lose prescribing privileges as the result of violations each year.

Given that the college prefers rehabilitation to punitive action, it established a Chronic Pain Steering Com-

mittee to design and deliver a series of group-education workshops for prescribers of excessive amounts of drugs covered by the TPP, with the expectation of modifying prescribing patterns.

Since patients suffering from pain as the result of certain terminal illnesses may require palliative treatment with high doses of narcotic analgesics, the college does not target high-volume prescribers who provide palliative analgesia. Nor does it focus on prescribing of analgesics postoperatively, since adequate analgesia has been shown to reduce the complications of certain surgical procedures and enhance postoperative recovery.[4]

However, excessive prescribing for chronic pain is a concern. Treating chronic pain solely with narcotic analgesics often complicates the condition and may prolong it; improvement is often observed once the protracted use of narcotic analgesics ends.[5] Function and coping skills can be improved through alternative therapies, including substitution–detoxification techniques, antidepressant drugs combined with cognitive therapy, behavioural methods and physical reactivation.[6] For many patients, efforts to treat chronic pain with narcotic analgesics may reinforce and perpetuate the very problem for which relief is sought.[7–10] Furthermore, some commonly prescribed narcotic-type analgesics (such as propoxyphene[11]) have not been shown to be superior to acetylsalicylic acid or acetaminophen[12] but, like all narcotic analgesics, have the potential to be abused.[13]

Education is one means of influencing physicians to reduce reliance on narcotic analgesia and to use nonopioid drugs or interventions other than drugs or both. Several types of educational approaches that target physician prescribing have been studied.[14] "Academic detailing," which consists of face-to-face, one-to-one educational outreach visits to a practitioner by either a specially trained clinical pharmacist or a physician–counsellor, has consistently been shown to reduce inappropriate prescribing of several drugs[11,15–18] as well as increase appropriate prescribing of others.[19] However, because academic detailing requires such a high teacher-to-learner ratio, the logistical aspects and costs of expanding such a program outside of academic settings are daunting.

Group education, through rounds, conferences, lectures, seminars and tutorials, may also influence prescribers and has the advantage of reaching more practitioners per event at less cost than one-to-one interventions. Although group education appears to influence physician attitudes and knowledge,[20–22] the effect on prescribing behaviour is unclear. In particular, there are few outcome studies measuring the effectiveness of group education in altering patterns of physician prescribing for the treatment of pain.[23]

Providing written information, including feedback on prescribing patterns, is even less costly than conducting group education. Although some studies of academic detailing show that written materials alone, without a face-to-face educational intervention, do not change physician prescribing,[11,24] other studies show that feedback on prescribing patterns alone is effective.[25–28] One review of continuing medical education interventions concluded that academic detailing is superior to written materials alone.[29]

Excessive prescribing of narcotic analgesics in the management of chronic pain can prolong or even cause disability, thus increasing the cost to the health care system. If group education or feedback concerning prescribing patterns can reduce excessive prescribing, then these interventions could be considered lower-cost alternatives to academic detailing in preventing drug-induced conditions and reducing drug costs.

This study was intended to measure and compare the effects of group education and feedback concerning prescribing patterns on physicians' prescribing of drugs to treat chronic pain. Our hypothesis was that the educational techniques used in academic detailing,[30] applied to a group education setting, would be more effective than feedback alone in modifying prescribing of regulated analgesics for the treatment of chronic pain.

Methods

Data source, sample selection and random assignment

Participants were drawn from all physicians registered in the TPP whose total number of prescriptions for regulated drugs exceeded two standard deviations above the mean number of prescriptions written by physicians registered in the TPP during 1992. Inspection of TPP records identified 136 physicians who were eligible for inclusion. With the use of a random-number generator, the top 100 prescribers were put in a random order, and the first 54 selected were randomly assigned to three groups. The first group (the education group) consisted of 18 physicians who received a standard letter from the college informing them of their prescribing status and attended an educational workshop. The second group (the notification group) consisted of 18 physicians who received a standard letter from the college informing them of their prescribing status. The third group was a control group of 18 physicians. The members of this group were unaware that their prescribing had received special notice, although all physicians know that prescriptions written through the TPP are monitored. To avoid sampling bias, all sampling for the original pool was done without replacement; that is, any physician chosen for the workshop who could not attend was excluded, and another was selected from the 46 remaining from the original pool of 100.

Interventions

All members of the education group attended a 1-day educational workshop on pain management, held at the offices of the college on June 12, 1993. Participation in the intervention was voluntary, and physicians were informed that refusal to participate would not affect their registration in the TPP. The motivational component of the workshop was based on the transtheoretic "Stages of Change" model[31] originally developed for the treatment of addictive behaviour. According to this model, motivation to change develops through a series of stages.

The components of the workshop mirrored these stages in sequence, guiding the participant through four phases: consciousness raising, contemplation of current prescribing practices, active pursuit of therapeutic alternatives and maintenance of behavioural change. Two plenary sessions were presented in the morning. The first provided an overview of chronic low-back disability, which included a discussion of causes, prevention, assessment and rehabilitation. The second was devoted to narcotic dependency as a complication of chronic-pain management. An in-person interview with a patient with chronic pain who was recovering from narcotic addiction was followed by a discussion of such issues as how inappropriate prescribing of narcotic analgesics can start or maintain narcotic dependence. Later in the morning a video of a physician–patient interaction was presented. With the guidance of a trained facilitator, the group identified specific dilemmas and incentives that may encourage the inappropriate prescribing of analgesics. In the afternoon, the participants were divided into three small groups and, with the guidance of trained facilitators, each group discussed three case histories, identifying dilemmas specific to the clinical management of chronic pain and solving these dilemmas. The results of the small-group discussions were then shared with all participants. The afternoon concluded with a plenary session in which empiric evidence supporting the benefits of alternatives to drugs for the treatment of chronic pain was presented.

Close to the date of the education intervention, members of the notification group were sent a standard letter from the deputy registrar of the college informing them that they had been identified as among the top prescribers of regulated drugs in the province. Members were encouraged to review their prescribing for any patient who could benefit from a modification of drug therapy.

Statistical analysis

The prescribing data collected through the TPP were provided by the British Columbia College of Physicians and Surgeons; we gave an assurance that prescribing information for individual physicians would be kept confidential. The data set included prescription records identified by prescriber number, the drug name, the quantity of the drug prescribed and the dispensing date. We did not analyse the effect of the notification or notification and education interventions on prescribing of specific classes of drugs because of the very small cells involved. An initial analysis showed a strong correlation ($r = 0.85$) between the number of prescriptions issued per physician and the number of drug-quantity units (i.e., the number of pills or millilitres of liquid per prescription) prescribed per physician, both before and after the intervention. Hence, the mean quantity per prescription was constant throughout the study period, and there was no evidence that physicians were writing fewer prescriptions but increasing the amount of drug per prescription. Therefore, we did not perform a statistical analysis using the amount of drug per prescription as a dependent variable.

Data were incomplete for five participants; these physicians were excluded from the study. One physician in the education group retired from private practice and therefore did not write any prescriptions through the TPP in 1993, although he did attend the educational workshop. One physician in the notification group had his privileges to prescribe drugs through the TPP cancelled during the 6 months before the intervention. Three physicians in the control group retired from active practice during the 6 months before the intervention, and all of these physicians ceased writing prescriptions for regulated drugs. As a result, the final samples were 17 in the education group, 17 in the notification group and 15 in the control group.

Because participants were identified as excessive prescribers on the basis of statistical instead of clinical criteria, it was impossible to eliminate prescriptions for postoperative or palliative care. However, most of the participating physicians were general practitioners working in nonacademic, primary care settings; they did not have specialized surgical or palliative care practices.

The effect of notification and education and of notification alone on physician prescribing was measured by comparing the change in the number of prescriptions for regulated narcotic analgesics issued by each physician in the 6 months (Dec. 1, 1992, to May 31, 1993) before the intervention and in the 6 months (July 1, 1993, to Dec. 31, 1993) afterward. For each physician a score was obtained by subtracting the number of prescriptions issued during the preintervention period from the number issued during the postintervention period. These scores were submitted to a one-way analysis of variance (ANOVA) for independent groups with a 5% level of Type I error. All planned comparisons were carried out with the use of separate Student's t-tests with the Bonferroni correction for familywise error, set at a 5% level.

Results

The age and sex distribution, mean number of years since medical school graduation, practice type and setting and prescribing practices during the initial 6 months of the study were comparable in the three groups (Table 1). The physicians in the three groups wrote a total of 5506 prescriptions for a total drug quantity of 573 857 units during the 6 months before the intervention. The mean number of prescriptions written per physician in the three physician groups are shown in Fig. 1. An overall ANOVA of difference scores showed a difference in the main effect for group (F = 5.77, 2 and 46 degrees of freedom [df], error mean square = 0.732). In terms of changes in the number of prescriptions for regulated analgesics written before and after the intervention, physicians in the education group wrote 33.4 (standard deviation [SD] 37.3) fewer prescriptions on average, those in the notification group 29.2 (SD 32.1) fewer prescriptions and those in the control group 3.8 (SD 30.9) more prescriptions. These changes translate into reductions of 33% in the education group, 25% in the notification group and no reduction — in fact, an increase — in the control group. The change among physicians who participated in the educational intervention was significantly different from that among physicians in the control group (t = 3.13, 30 df, $p < 0.003$). Physicians who received written notification of their prescriber status only also showed a reduction in prescribing significantly different from that in the control group (t = 2.78, 30 df, $p < 0.008$). A comparison of physicians who received written notification only with those who participated in the educational intervention did not show a significant difference in the reductions in prescribing (t = 0.362, 32 df, $p < 0.719$).

Fig. 2 shows the changes in the mean number of prescriptions written monthly per physician in each group during the 6 months before and the 6 months after the educational intervention. Whereas the mean number of prescriptions written monthly by physicians in the control group remained relatively high, the mean number of prescriptions written by physicians in both intervention groups showed similar reductions, which were sustained throughout the 6 months after the intervention.

Table 2 lists the 10 regulated analgesics most commonly prescribed by physicians from each group during the entire study period. Several observations warrant attention. Analgesics containing the barbiturate butalbital were prescribed often by physicians in all three groups. A similar number of prescriptions were written for oxycodone and for propoxyphene. These three analgesics together accounted for half of all analgesic prescriptions written by physicians in the three groups. Morphine, a potent narcotic that can relieve severe pain caused by cancer, ranked fifth overall and was prescribed at a frequency similar to that of prescriptions for codeine,

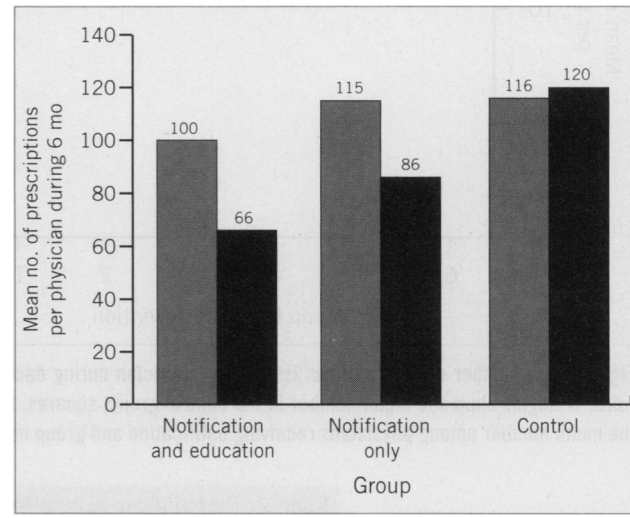

Fig. 1: Mean number of prescriptions issued per physician during the 6 months before the intervention (grey bars) and during the 6 months after the intervention (black bars) in each of the study groups.

Table 1: Characteristics of 49 physicians participating in a trial of notification and education versus notification alone in modifying the prescribing of regulated analgesics

Characteristic	Study group: Notification and education *n* = 17	Notification only *n* = 17	Control *n* = 15
Mean age, yr (and standard deviation [SD])	52 (9.0)	50 (9.2)	52 (7.9)
Sex, no. (and %) male	17 (100)	17 (100)	15 (100)
Mean no. of years since graduation (and SD)	26 (8.4)	24 (9.4)	26 (8.2)
No. (and %) in urban practice	14 (82)	14 (82)	11 (73)
No. (and %) in general practice	17 (100)	17 (100)	15 (100)
Mean no. of prescriptions written for drugs monitored through the Triplicate Prescription Program in the 6 months before the intervention	100	115	116

meperidine (also known as pethidine), anileridine and pentazocine.

Discussion

For the participants in this study, who were among the top prescribers of regulated analgesics in British Columbia, notification that the number of prescriptions they had written was abnormally high was as effective in significantly reducing the number of prescriptions written during the subsequent 6 months as notification combined with a well-designed group-education activity.

In jurisdictions where the medical licensing body monitors prescribing and recommends modification of

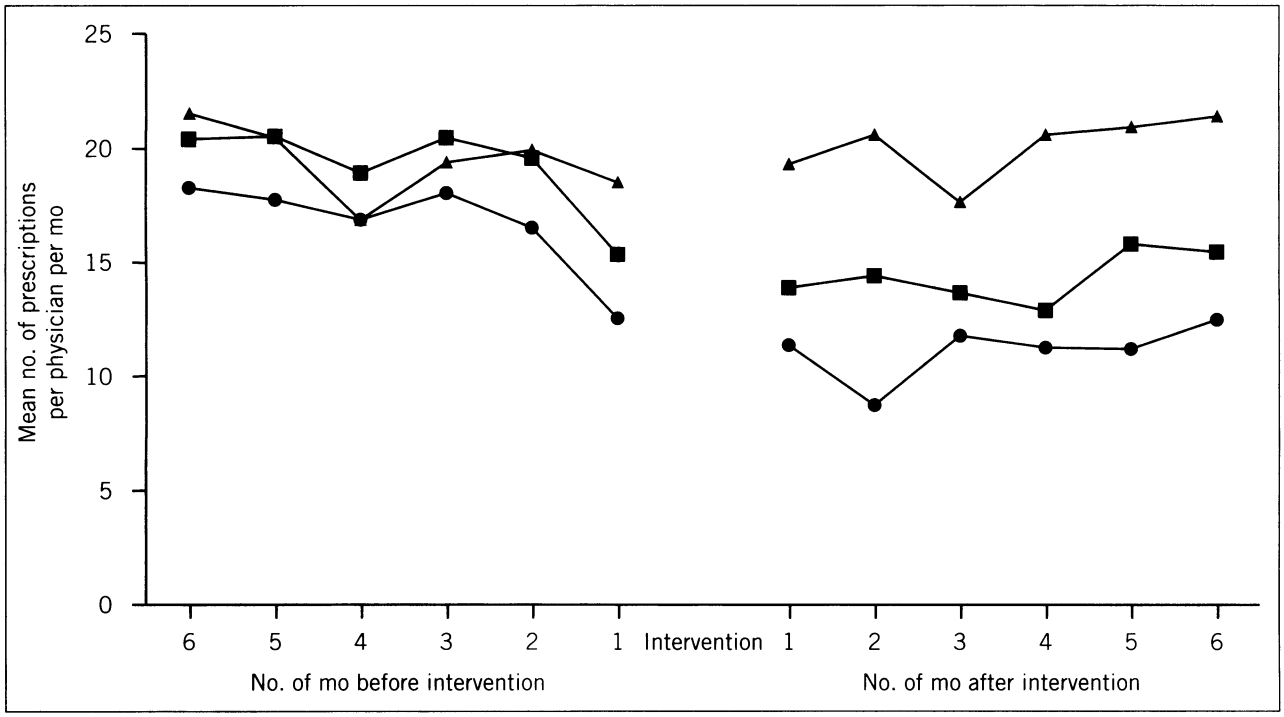

Fig. 2: Mean number of prescriptions issued per physician during each month for the 6 months before the intervention and the 6 months afterward. Triangles show the mean number in the control group, squares, the mean number among physicians receiving notification only and circles, the mean number among physicians receiving notification and group education.

Table 2: Prescriptions written for the 10 most frequently prescribed analgesics in the Triplicate Prescription Program by participants during the entire study period

Drug	Study group; no. (and %) of prescriptions*		
	Notification and education *n* = 17	Notification only *n* = 17	Control *n* = 15
Anileridine	188 (6.7)	400 (11.7)	182 (5.1)
Butalbital	531 (18.8)	726 (21.2)	415 (11.7)
Codeine	279 (9.9)	251 (7.4)	338 (9.6)
Hydromorphone	65 (2.3)	133 (3.9)	39 (1.1)
Meperidine	282 (10.0)	290 (8.5)	230 (6.5)
Methylphenidate	100 (3.5)	93 (2.7)	39 (1.1)
Morphine	167 (5.9)	319 (9.3)	328 (9.3)
Oxycodone	366 (13.0)	546 (16.0)	818 (23.1)
Pentazocine	198 (7.0)	143 (4.2)	378 (10.7)
Propoxyphene	555 (19.7)	307 (9.0)	676 (19.1)

*Percentages do not add up to 100 because only 10 analgesics are included.

inappropriate prescribing, the results of this study suggest that notification of excessive prescribing is an immediate, low-cost alternative to educational interventions in reducing excessive prescribing. These results support the speculation by Soumerai and Avorn[30] that surveillance and feedback from an established and credible medical authority, without any other intervention, may change physician prescribing practices.

Although the difference in the reduction in prescribing as a result of notification and group education and as a result of notification only was not statistically significant, the reduction among physicians who attended the education workshop was larger; the economic and clinical implications of this finding warrant discussion. If a group-education program could achieve a reduction in prescribing of regulated analgesics of 8% beyond that achieved through physician feedback alone, the additional savings could offset the cost. Therefore, the objective of reducing excessive prescribing of regulated analgesics could be met relatively inexpensively through group education. Education may also be a more desirable way of influencing physicians than notification for reasons above and beyond the reduction of prescriptions for narcotic analgesics. Improvements in overall quality of care may result from group education. For example, the educational workshop provided an opportunity to introduce physicians to alternatives to drugs in the management of pain. Knowledge-based changes in practice may be a result, in theory, of a deeper level of understanding[32] and may be generalized to other prescribing dilemmas as well as to other aspects of patient care. An analysis of the factors in improved patient care was beyond the scope of this study.

By reducing the number of prescriptions written by physicians registered in the TPP, these interventions could generate savings for individual patients as well as for drug-benefit plans. However, prescription costs are only a portion of the costs of treating chronic pain. Insurance, income-support payments, hospital and other medical service costs and vocational rehabilitation expenses add up during the period of long-term disability resulting from chronic pain. Patients with chronic pain tend to consume a disproportionate amount of health care services in comparison with patients with more easily defined and diagnosed conditions.[33] By reducing excessive prescribing of analgesics and implementing effective alternative therapies, physicians can encourage reactivation and social reintegration of certain patients with chronic pain, thus shortening the period of disability and limiting the costs of long-term disability.[10]

Study limitations

We followed prescribing patterns among the participating physicians for only 6 months after the intervention. It is unclear whether the gains we observed will be maintained. The changes achieved through notification may diminish more quickly than those achieved through education. Avorn and Soumerai[11] reported that positive effects on prescribing practices are not maintained unless feedback is continual. Gehlbach and associates[26] concluded that continuing feedback can maintain prescribing levels of certain generic drugs for up to 1 year after the intervention.

Although we observed substantial changes in prescribing among a group of high-volume prescribers, the extent to which these results may be generalized to physicians with less exceptional prescribing patterns is unknown. The physicians studied differed from other physicians registered in the TPP in that they wrote an extremely high volume of prescriptions for regulated drugs. Further study is needed to determine whether the prescribing behaviour of these physicians is more or less amenable to change than that of physicians whose volume of prescriptions is, for example, one standard deviation above the mean. Hence, our results should be applied to other physician groups and other drug classes with caution.

It is important to consider that, in some cases, physicians may have substituted less desirable or more expensive drugs for regulated analgesics during the 6 months after the intervention. Although the TPP includes most of the available narcotic analgesics, acetaminophen with codeine (30 mg), benzodiazepines and other sedative and hypnotic drugs are available through regular prescriptions.

Of equal interest is the possibility that physicians substituted more desirable drugs, such as nonsteroidal anti-inflammatory drugs and antidepressants, for regulated analgesics.

Without access to data on clinical outcomes, it is impossible to determine whether some patients' conditions deteriorated after their dosage of analgesics was reduced and whether these patients required hospital care, thus causing an increase in health care costs. Drug-utilization review programs have been criticized for underestimating the negative effects of a reduction in the prescribing of certain drugs.[34] This criticism is directed mainly at programs that use questionable criteria in targeting drug categories and at computer-based systems that automatically deny prescription refills. Fortunately, the notification intervention used in this study does not include either of these practices.

As well, in this study physicians were identified as excessive prescribers according to statistical criteria, which do not take into account the appropriateness of prescribing. Hence, some excessive prescribing may have been appropriate. For example, practice size and patient characteristics were not considered. However, the potential bias resulting from this omission should be mitigated by

the fact that these characteristics were randomly distributed among the three groups.

Future research

Unfortunately, there is no database network dedicated to the comprehensive tracking of drugs, such as acetaminophen with codeine and antidepressants, that are not included in the TPP. However, prescribing information for patients who claim drugs through the provincial drug benefit plan (i.e., people over 65 years of age and people receiving social assistance) is available from a separate database. A future study could determine the percentage of these beneficiaries who received drugs that were alternatives to the regulated analgesics as well as analyse the therapeutic quality of the alternative drugs.

A future study could also track prescribing patterns during a longer period, in order to compare the duration of effect of notification and group education with that of notification alone.

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Appendix 1: Analgesics monitored through the Triplicate Prescription Program

Drug	Brand names
Anileridine	Leritine
Butalbital	Fiorinal Fiorinal-C½ Fiorinal-C¼ Tecnal C ½ Tecnal C ¼
Codeine	Codeine (15, 30 and 60 mg tablets) Empracet–60 Lenoltec with Codeine No. 4 Rounox with Codeine 80 Frosst 293 Phenaphen No. 4 Tylenol No. 4
Hydromorphone	Dilaudid Dilaudid–HP
Levorphanol	Levo-Dromoran
Meperidine (pethidine)	Demerol
Methaqualone	Mandrax
Methylphenidate	Ritalin
Morphine	Epimorph Morphine HP Morphitec M.O.S. M.O.S.–S.R. MS Contin Roxanol Statex
Oxycodone	Endocet Endodan Oxycocet Oxycodan Percocet Percocet-Demi Percodan Percodan-Demi Supeudol Roxicet
Pentazocine	Talwin Talwin Compound 50
Propoxyphene	Darvon-N Darvon-N with ASA Darvon-N Compound Frosst 642 Frosst 692 Novopropoxyn Novopropoxyn Compound