Can naloxone prescription and overdose training for opioid users work in family practice?

Perspectives of family physicians

Pamela Leece MD MSc CCFP **Aaron Orkin** MD MSc MPH CCFP **Rita Shahin** MD MHSc FRCPC **Leah S. Steele** MD PhD CCFP

Abstract

Objective To explore family physicians' attitudes toward prescribing naloxone to at-risk opioid users, as well as to determine the opportunities and challenges for expanding naloxone access to patients in family practice settings.

Design One-hour focus group session and SWOT (strengths, weaknesses, opportunities, and threats) analysis.

Setting Workshop held at the 2012 Family Medicine Forum in Toronto, Ont.

Participants Seventeen conference attendees from 3 Canadian cities who practised in various family practice settings and who agreed to participate in the workshop.

Methods The workshop included an overview of information about naloxone distribution and overdose education programs, followed by group discussion in smaller focus groups. Participants were instructed to focus their discussion on the question, "Could this [overdose education and naloxone prescription] work in your practice?" and to record notes using a standardized discussion guide based on a SWOT analysis. Two investigators reviewed the forms, extracting themes using an open coding process.

Main findings Some participants believed that naloxone could be used safely among family practice patients, that the intervention fit well with their clinical practice settings, and that its use in family practice could enhance engagement with at-risk individuals and create an opportunity to educate patients, providers, and the public about overdose. Participants also indicated that the current guidelines and support systems for prescribing or administering naloxone were inadequate, that medicolegal uncertainties existed for those who prescribed or administered naloxone, and that high-quality evidence about the intervention's effectiveness in family practice was lacking.

Conclusion Family physicians believe that overdose education and naloxone prescription might provide patients at risk of opioid overdose in their practices with broad access to a potentially lifesaving intervention. However, they explain that there are key barriers currently limiting widespread implementation of naloxone use in family practice settings.

EDITOR'S KEY POINTS

- Overdose education and naloxone prescription are increasingly being used, mainly in harm-reduction settings, to reduce the risk of fatal opioid overdose. The goal of this research initiative was to assess family physicians' attitudes toward the use of naloxone in family practice settings.

- Participants believed naloxone prescriptions for patients at risk of opioid overdose could potentially be an effective intervention in family practice. They explained this approach could be used among patients as a safety measure when prescribing opioids, for prevention of overdose deaths, and for emergency rescue in overdose situations outside of the clinic; naloxone prescriptions in family practice settings could also provide broad access to opioid users and the ability to follow up with patients.

- Participants believed that improved naloxone delivery technologies, such as autoinjectors, might enhance accessibility and ease of use. They emphasized the need for proper educational programs for both patients and providers, and a funding structure to support physicians providing this service.

This article has been peer reviewed.
Can Fam Physician 2015;61:538-43

Est-il souhaitable de prescrire de la naloxone aux consommateurs d'opiacés et de les prévenir des dangers de la surdose dans une clinique de médecine familiale?

Le point de vue de médecins de famille

Pamela Leece MD MSc CCFP **Aaron Orkin** MD MSc MPH CCFP **Rita Shahin** MD MHSc FRCPC **Leah S. Steele** MD PhD CCFP

Résumé

Objectif Vérifier ce que pensent les médecins de famille du fait de prescrire de la naloxone à des consommateurs d'opiacés à risque, et examiner les possibilités et les problèmes éventuels advenant un meilleur accès à la naloxone dans les cliniques de médecine familiale.

Type d'étude Une séance d'une heure en groupe de discussion et une analyse SWOT (strenghts, weakness, opportunities et threats).

Contexte Ateliers tenus durant le Medicine Forum à Toronto, Ontario.

Participants Dix-sept participants aux conférences exerçant dans des cliniques de médecine familiale de 3 villes canadiennes et qui avaient accepté de participer aux ateliers.

Méthodes Les ateliers comprenaient des informations générales au sujet de la distribution de la naloxone et des programmes d'information sur la surdose, suivis de discussions en plus petits groupes. Les participants devaient faire porter la discussion sur la question suivante: « Serait-il opportun de donner de l'information sur la surdose et de prescrire de la naloxone dans votre clinique? » Ils devaient aussi prendre des notes à l'aide d'un guide de discussion standardisé fondé sur une analyse SWOT. Les formulaires ont été révisés par deux des chercheurs et les thèmes ont été extraits par codage ouvert.

Principales observations Certains participants croyaient qu'il était possible d'utiliser la naloxone de façon sécuritaire dans les cliniques de médecine familiale, qu'une telle intervention cadrait bien avec le contexte de leur pratique, et qu'elle pourrait améliorer la prise en charge des individus à risque et créer une occasion d'informer les patients, les soignants et le public des dangers de la surdose. Les participants indiquaient aussi que les directives actuelles et les systèmes de soutien concernant la prescription et l'administration de naloxone étaient inadéquats, qu'il subsistait des incertitudes sur le plan médicolégal pour ceux qui prescrivaient ou administraient la naloxone et qu'il n'y avait pas de preuve très solide de l'efficacité de ce type d'intervention en médecine familiale.

Conclusion Les médecins de famille estimaient qu'en renseignant leurs clients à risque sur les dangers de la surdose et en leur prescrivant la naloxone, on pourrait leur donner accès à une intervention susceptible de leur sauver la vie. Toutefois, ils soulignaient qu'il existe actuellement des obstacles importants qui limitent l'utilisation généralisée de naloxone dans les cliniques de médecine familiale.

POINTS DE REPÈRE DU RÉDACTEUR

- Il est de plus en plus courant de prescrire de la naloxone à des consommateurs d'opiacés et de les prévenir des dangers de la surdose, afin surtout de réduire le risque d'effets indésirables et d'une surdose fatale. Cette étude avait pour but de vérifier l'opinion des médecins de famille concernant l'utilisation de naloxone dans les cliniques de médecine familiale.

- Les participants estimaient que la prescription de naloxone à des patients à risque de surdose pourrait être une mesure de prévention efficace dans une clinique de médecine familiale. Il s'agirait, selon eux, d'une façon plus sécuritaire de prescrire ces opiacés, de prévenir des décès par surdose et de mieux intervenir dans les cas de surdose qui doivent être traités à l'extérieur de la clinique; la prescription de naloxone dans une clinique de médecine familiale pourrait aussi permettre de rencontrer et de suivre plus de consommateurs d'opiacés.

- Les participants croyaient qu'une meilleure méthode d'administration, comme l'auto-injection, pourrait rendre la naloxone plus accessible et plus facile à administrer. Ils soulignaient aussi la nécessité de programmes d'information spécifiques tant pour les patients que pour les soignants et d'une structure de financement pour les médecins qui offrent ce service.

Cet article a fait l'objet d'une révision par des pairs.
Can Fam Physician 2015;61:538-43

Overdose is the most common cause of death among those who use heroin and opioids worldwide and it is becoming more frequent.[1] Since 1991, Ontario has seen a dramatic increase in prescription opioid use, and opioid-related deaths have doubled in the province.[2-4] Solutions are urgently needed to address this growing public health problem in Canada.

Naloxone is a fast-acting, safe, and effective opioid reversal agent with widespread use in hospital and prehospital settings. As a harm-reduction strategy, the first take-home naloxone distribution programs began in the late 1990s to prevent overdose deaths among opioid users.[5] More than 180 local overdose prevention and response programs involving naloxone dispensing have been reported in the United States, with more than 53 032 participants and 10 171 uses of naloxone reported between 1996 and 2010.[5] These programs are operated largely by harm-reduction and public health agencies.

Naloxone might be an appropriate rescue medication for emergency use among patients with opioid overdose, comparable to administering an epinephrine autoinjector to patients with anaphylaxis. An educational tool, similar to a cardiopulmonary resuscitation or epinephrine autoinjector training video, could assist with patient education on overdose response. This might especially benefit patients in communities with limited access to other programs. There are no completed controlled trials to show that naloxone prescription and associated educational programs reduce opioid-related fatalities.[6] High-quality observational studies have demonstrated that this intervention reduces mortality at the community level.[7]

More than 25% of people who die from accidental opioid-related causes in Ontario have seen a health care provider in the 5 days before their deaths, and more than 65% have seen a physician in the month before their deaths.[2,8] What proportion of these visits occur in family practice settings is unknown; however, family physicians do care for people at elevated risk of opioid overdose, including those who use opioids illicitly, use opioid substitution therapy, are prescribed opioids for chronic pain, or are seen in emergency departments for overdose. Nevertheless, there are barriers to family physicians prescribing naloxone to their patients, including reservations about liability,[9] access to a supply of naloxone, and resources for training patients to administer naloxone.

Only a handful of existing studies assess health care providers' knowledge about and willingness to prescribe naloxone.[10-13] None of them has assessed the willingness of family physicians in Canada to prescribe naloxone or conducted a structured assessment of opportunities and challenges for prescribing naloxone in family practice settings.

The purpose of this study was to explore family physicians' attitudes toward prescribing naloxone, and to determine the opportunities and challenges for expanding naloxone access to patients in family practice settings.

METHODS

We conducted a 2-hour workshop among family physicians attending the annual conference of the College of Family Physicians of Canada (Family Medicine Forum) on November 15, 2012, in Toronto, Ont. The University of Toronto's Office of Research Ethics approved this study.

Study participants consisted of a convenience sample of attendees who chose to participate in our scheduled workshop and who consented to participate in the focus group. There was no predetermined sample size, as the workshop attendees did not preregister. We sent advanced e-mail invitation notices to key individuals involved in leadership in family medicine training and various family practice settings to enhance attendance, enrich the feedback received, and gauge opinions on this intervention among decision makers.

The workshop was divided into 2 parts. First, there was a knowledge translation presentation and discussion involving the synthesis and dissemination of existing practice and evidence about naloxone distribution and overdose education programs. This included an overview of the intervention and delivery methods, as well as a summary of published program evaluations and literature on the effectiveness of these programs. Second, there was a semistructured focus group and SWOT (strengths, weaknesses, opportunities, and threats) analysis to discuss the potential for naloxone distribution and overdose rescue education in family practice.

Two members of our team (P.L. and A.O.) delivered the presentation, which showed figures of the number and location of naloxone programs in the United States,[5] as well as examples of other countries with naloxone programs. We described that the available evidence on the effectiveness of community-based naloxone distribution consisted primarily of small observational studies, and we provided a summary of study results (including deaths, participant knowledge and drug use, and adverse effects). We also included a description of the naloxone program operations in Toronto. Finally, we provided a discussion of legal liability, based on a legal analysis in the United States[9] and a legal consultation process by Toronto Public Health, which indicated a low level of risk.

For the focus group portion, participants were divided into smaller groups of 8 or 9 individuals to discuss the use of overdose prevention and response training and naloxone prescription in primary care settings. Participants were instructed to focus their discussion on the question, "Could this [overdose education and naloxone prescription] work in your practice?" Participants recorded their notes on a standardized SWOT analysis form, consisting of 4 quadrants with headings *strengths, weaknesses, opportunities*, and *threats/challenges*. We chose to use SWOT analysis for several reasons: it is a recognized strategic planning

and situational analysis tool; it is widely used in public health and health care planning, including in Canada; and its simplicity and familiarity permitted completion of the analysis during a brief workshop.[14]

Audiorecording equipment was available for groups who agreed to record their discussions. Each participant provided informed consent before the group discussion.

Procedure

Analysis consisted of reviewing all the SWOT forms completed by groups or individuals, along with the audio files for groups that recorded their discussions. Primary data and analysis were based on the content of the SWOT forms, while audiorecordings were used exclusively as supporting material to confirm or clarify findings. The investigators present at the workshop (P.L. and A.O.) both reviewed and coded the SWOT forms independently by extracting themes for each of the 4 quadrants using an open coding process, then merged their coding results into a single set of themes. The investigators then reviewed the audio files to ensure accuracy and consistency. If participants declined to be recorded, the investigators relied on the written notes only.

FINDINGS

There were 17 participants in the focus group. Participants' clinical practices included both academic and community family medicine clinics, as well as specialized addiction medicine clinics, walk-in clinics, community health centres, and homeless shelters. Members of the group worked in Toronto, Ottawa, Ont, and Vancouver, BC (**Box 1**).

In 2 smaller groups, the participants discussed strengths, weaknesses, opportunities, and threats. As several themes emerged during the strengths and opportunities discussions, these themes were categorized as "facilitators" for the use of naloxone in family practice settings. Similarly, there were common themes among the weaknesses and threats discussions, so these themes were categorized as "barriers."

Facilitators

There were 5 themes identified as facilitators for the use of naloxone in family practice: safety, setting, engagement and education, logistics, and evidence (**Table 1**).

Participants discussed naloxone prescriptions for patients at risk of opioid overdose as a potentially effective, lifesaving intervention in family practice. This approach could be used among patients for safety as a coprescription when prescribing opioids, for prevention of overdose deaths, and for emergency rescue in overdose situations outside of the clinic. Some of the group members thought that naloxone prescription fit well with family practice settings, which could provide broad access to opioid users and the ability to follow up with patients.

Box 1. Types of practice settings and locations of participants: *N* = 17.

Practice setting
- Addiction medicine clinic
- Inner-city community health centre
- Family practice
- Walk-in clinic
- Homeless shelter

Geographic location
- Toronto, Ont, and area
- Ottawa, Ont
- Vancouver, BC

Table 1. Facilitators for the use of naloxone in family practice identified by focus group participants

FACILITATORS	DISCUSSION
Safety	Potentially effective and lifesaving
	Use of intervention for safety, prevention, and rescue
Setting	Intervention is a conceptual fit with family practice settings and family physician–patient relationships
	Broad access to opioid users and ability to follow up in family practice
Engagement and education	Enhance engagement with and empowerment of at-risk population
	Development of official position statements from relevant agencies or organizations
	Opportunity to educate patients, providers, and the public, as well as to destigmatize addiction
Logistics	Opportunity to develop naloxone autoinjector
	Nurse practitioner and pharmacist involvement to deliver service
Evidence	Other countries have many years of experience with naloxone programs
	Scientific study of effectiveness is possible

Participants identified that the intervention could enhance engagement with at-risk individuals and empower them. Furthermore, the intervention presents an opportunity to educate patients, providers, and the public about overdose risks and safety, and could help to destigmatize addiction. Participants suggested working with relevant agencies and organizations to develop official position statements about naloxone prescription.

Other opportunities for naloxone prescribing in primary care included the potential to develop a naloxone autoinjector or intranasal device and to involve allied health professionals in patient education and naloxone prescription. Participants believed that other countries already had many years of experience with naloxone prescribing and that it would be possible to conduct higher-quality trials of naloxone prescribing in family practice.

Barriers

There were 5 themes identified as barriers to naloxone prescribing in family practice: guidelines and

implementation, medicolegal uncertainties, support, equity or stigma, and evidence (**Table 2**).

Table 2. Barriers to the use of naloxone prescribing in family practice identified by focus group participants

BARRIERS	DISCUSSION
Guidelines and implementation	Inadequate guidelines for dispensing, education, and delivery
	Target groups for intervention are not defined (ie, who will be trained?)
	A better naloxone delivery system is required
Medicolegal uncertainty	Medicolegal complexities for family physicians and deliverer not yet elucidated
	Potential for misuse of the intervention
Support	Lack of support from other relevant providers; political resistance
	Lack of specific funding structure to compensate physicians
Equity or stigma	Barriers for access among some groups (eg, those for whom there are language barriers, those who are homeless)
	Stigma for patients carrying naloxone
Evidence	Lack of high-quality evidence of effectiveness in family practice

Participants believed that there were currently inadequate guidelines for implementing naloxone prescription, and that there was a need for a better way to deliver naloxone than the current glass vials available in Canada. The group also discussed the importance of resolving medicolegal issues for those who prescribed or administered naloxone in the community, especially in the case of third-party prescribing or administration. The potential for misuse of naloxone was also an articulated concern.

The group identified a lack of support within the medical community and also a potential for political resistance to broader access to naloxone. They described barriers to prescribing naloxone for some groups, such as those for whom there were language barriers in the delivery of appropriate training, or those with unstable housing who did not have a safe place to store their naloxone. Group members had mixed views about stigma: some thought that naloxone prescription could empower people at risk of overdose and destigmatize addiction, while some thought that patients might be stigmatized for being prescribed or carrying naloxone. Finally, participants identified that there was a lack of high-quality trials or experimental evidence on the intervention's effectiveness in family practice.

DISCUSSION

Our study describes the attitudes of family physicians regarding the potential for implementing naloxone prescription and overdose education among at-risk patients in family practice settings. Overall, group members expressed several key factors facilitating or supporting the implementation of this intervention, and also some essential barriers that might limit its use in contemporary family practice. This is the first report in North America to focus on the opinions about naloxone prescription among this important group of prescribers.

Some of our findings echo the conclusions of other similar published studies.[11,13] One previous study found only 23% of physicians indicated that they had heard of prescribing naloxone to injection drug users as a strategy to prevent overdose.[10] Among 3 published studies from the United States, 30% to 50% of prescribers were willing to prescribe naloxone.[10,12,13] Only one UK study has assessed the opinions of GPs on this intervention, with mixed results: half were willing to prescribe naloxone, and half were uncertain of the role of GP-prescribed naloxone to reduce drug-related deaths.[11,13] Matheson et al[11] and Green et al[13] reported prescriber attitudes that included optimism about the usefulness of naloxone for preventing opioid-related fatalities.

Study participants identified naloxone prescription as an intervention with real potential to prevent accidental overdose and save lives in their practices, but also called for a broader evidence base before general implementation in family practice. Participants articulated that improved naloxone delivery technologies, such as an autoinjector or intranasal device, might enhance accessibility, ease of use, and rigorous patient education processes delivered by a multidisciplinary team. Our participants emphasized the need for proper educational programs for both patients and providers, as well as a funding structure to support physicians providing this service. These sentiments support previous research findings demonstrating that health care providers might be concerned about improper naloxone use.

A unique finding in our study was a concern about medicolegal risk for both physicians who prescribe naloxone and patients who have naloxone prescriptions. These issues have not been described previously in the literature about prescribers' attitudes toward naloxone distribution. An analysis of medicolegal risk related to naloxone acknowledges that liability concerns might discourage physicians from prescribing naloxone; however, this analysis also concluded that the associated legal risks for physicians are low.[9]

Additional suggestions from participants included having materials and education for naloxone use be accessible for patients with language barriers or unstable housing.

In contrast to the UK study of GPs,[11] our group did not raise the issue of physician stigma as a barrier to prescribing naloxone. Furthermore, no one suggested that this intervention might not be appropriate in the family practice setting, nor that it should be shared with addiction services.

A strength of our study is that it provides the first description of the attitudes of family physicians toward prescribing naloxone in North America. Family

physicians represent more than half of practising physicians in Canada[15] and are a critical point of access to the broad spectrum of patients at risk of opioid overdose in the country. Our qualitative approach permitted an in-depth understanding of perceived facilitators and barriers for physician involvement in this intervention and contributes to a small amount of literature in this area.

Limitations

We are limited in describing the exact composition of our focus group because we did not capture whether participants were physicians or other professionals in primary care. Although most of our study participants introduced themselves as family physicians, our focus group also included a small number of family medicine residents and allied health professionals, whose perspectives might differ from those of family physicians. Our convenience sampling of conference attendees who chose our workshop among many other conference options might also introduce a selection bias, favouring participants with a greater interest in addictions or a pre-existing interest in this intervention. Our sample included participants from only 2 provinces, and did not include representatives from rural settings.

While not all individuals with opioid addictions will have contact with primary care, many individuals who misuse prescription opioids do have regular contact with family doctors as they seek opioid prescriptions.[16] Several tools are available to identify those patients who are at increased risk of misusing their medications.[17] For example, the Current Opioid Misuse Measure is a 17-item self-report measure that has been validated in primary care.[18]

This study provides insight into family physicians' opinions about the opportunities for the use of naloxone in family practice, as well as the threats to naloxone prescribing in family practice. As physicians gain experience in prescribing naloxone, future studies should document relevant successes and challenges. The landscape for naloxone prescribing is shifting rapidly, including the introduction of a newly approved naloxone autoinjector in the United States and trials investigating the effectiveness of bystander-administered naloxone. Changes in research, policy, and practice will continue to shape the possibilities for this intervention in family practice.

Conclusion

Our results demonstrate that family physicians might be willing to incorporate overdose education and naloxone prescription into their practices because of naloxone's potential for patient safety. Family physicians in this study identified that overdose education and naloxone prescription could provide broad access to a potentially lifesaving intervention among individuals at risk of opioid overdose in their practices. However, we identify key barriers that currently limit the wider implementation of naloxone use in family practice. There appears to be a need for clear evidence-based guidance for physicians and patients, as well as broader support from the medical and political institutions, before more widespread adoption of this intervention can be achieved in family practice.

Dr Leece is a resident in the Public Health and Preventive Medicine Program at the Dalla Lana School of Public Health at the University of Toronto in Ontario. **Dr Orkin** is Clinical Public Health Fellow at the Dalla Lana School of Public Health at the University of Toronto. **Dr Shahin** is Associate Medical Officer of Health at Toronto Public Health and Adjunct Professor at the Dalla Lana School of Public Health. **Dr Steele** is Assistant Professor in the Department of Family and Community Medicine at the University of Toronto and Associate Scientist in the Li Ka Shing Knowledge Institute of St Michael's Hospital in Toronto.

Contributors

Drs Leece and **Orkin** were coprimary authors on this work. All authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests

None declared

Correspondence

Dr Pamela Leece; e-mail **pamela.leece@mail.utoronto.ca**

References

1. Degenhardt L, Bucello C, Mathers B, Briegleb C, Ali H, Hickman M, et al. Mortality among regular or dependent users of heroin and other opioids: a systematic review and meta-analysis of cohort studies. *Addiction* 2011;106(1):32-51. Epub 2010 Nov 4.
2. Dhalla IA, Mamdani MM, Sivilotti ML, Kopp A, Qureshi O, Juurlink DN. Prescribing of opioid analgesics and related mortality before and after the introduction of long-acting oxycodone. *CMAJ* 2009;181(12):891-6. Epub 2009 Dec 7.
3. Gomes T, Juurlink DN, Dhalla IA, Mailis-Gagnon A, Paterson JM, Mamdani MM. Trends in opioid use and dosing among socio-economically disadvantaged patients. *Open Med* 2011;5(1):e13-22. Epub 2011 Jan 25..
4. Gomes T, Mamdani MM, Dhalla IA, Paterson JM, Juurlink DN. Opioid dose and drug-related mortality in patients with nonmalignant pain. *Arch Intern Med* 2011;171(7):686-91.
5. Centers for Disease Control and Prevention (CDC). Community-based opioid overdose prevention programs providing naloxone—United States, 2010. *MMWR Morb Mortal Wkly Rep* 2012;61(6):101-5.
6. Leece P, Orkin A. Opioid overdose fatality prevention. *JAMA* 2013;309(9):873-4.
7. Walley AY, Xuan Z, Hackman HH, Quinn E, Doe-Simkins M, Sorensen-Alawad A, et al. Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis. *BMJ* 2013;346:f174.
8. Madadi P, Hildebrandt D, Lauwers AE, Koren G. Characteristics of opioid-users whose death was related to opioid-toxicity: a population-based study in Ontario, Canada. *PLoS One* 2013;8(4):e60600. Epub 2013 Apr 5.
9. Burris S, Norland J, Edlin BR. Legal aspects of providing naloxone to heroin users in the United States. *Int J Drug Policy* 2001;12(3):237-48.
10. Beletsky L, Ruthazer R, Macalino GE, Rich JD, Tan L, Burris S. Physicians' knowledge of and willingness to prescribe naloxone to reverse accidental opiate overdose: challenges and opportunities. *J Urban Health* 2007;84(1):126-36.
11. Matheson C, Pflanz-Sinclair C, Aucott L, Wilson P, Watson R, Malloy S, et al. Reducing drug related deaths: a pre-implementation assessment of knowledge, barriers and enablers for naloxone distribution through general practice. *BMC Fam Pract* 2014;15:12.
12. Coffin PO, Fuller C, Vadnai L, Blaney S, Galea S, Vlahov D. Preliminary evidence of health care provider support for naloxone prescription as overdose fatality prevention strategy in New York City. *J Urban Health* 2003;80(2):288-90.
13. Green TC, Bowman SE, Zaller ND, Ray M, Case P, Heimer R. Barriers to medical provider support for prescription naloxone as overdose antidote for lay responders. *Subst Use Misuse* 2013;48(7):558-67.
14. Casebeer A. Application of SWOT analysis. *Br J Hosp Med* 1993;49(6):430-1.
15. Canadian Medical Association. *Number of physicians by specialty and age, Canada, 2014.* Ottawa, ON: Canadian Medical Association; 2014. Available from: **www.cma.ca/Assets/assets-library/document/en/advocacy/02SpecAge-e.pdf#search=number%20of%20%20physicians%20by%20specialty%20age%202014.** Accessed 2015 Apr 15.
16. Bowman S, Eiserman J, Beletsky L, Stancliff S, Bruce RD. Reducing the consequences of opioid addiction in primary care. *Am J Med* 2013;126(7):565-71. Epub 2013 May 8.
17. Peck SB, Gilchrest C, Clemans-Taylor L. Clinical inquiry: is there a primary care tool to detect aberrant drug-related behaviors in patients on opioids? *J Fam Pract* 2014;63(3):162-4.
18. Butler SF, Budman SH, Fernandez KC, Houle B, Benoit C, Katz N, et al. Development and validation of the current opioid misuse measure. *Pain* 2007;130(1-3):144-56. Erratum in: *Pain* 2009;142(1-2):169.