Understanding current practice of opioid use disorder management in emergency departments across Canada: A cross-sectional study

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CLINICIAN'S CAPSULE

What is known about the topic?
Buprenorphine is the first-line treatment for opioid use disorder, and many patients with this disorder present to the emergency department (ED).

What did this study ask?
How do emergency physicians manage opioid use disorder; are they satisfied with their management; and what resources are needed to improve management?

What did this study find?
Buprenorphine is infrequently prescribed in the ED, and physicians are largely dissatisfied with current management, finding various on-site supports useful.

Why does this study matter to clinicians?
Understanding opioid use disorder management, provider satisfaction, and needed resources can help design appropriate supports for ED physicians to effectively manage this disorder.

ABSTRACT

Objective: Opioid-related deaths are increasing at alarming rates in Canada, with a 34% increase from 2016 to 2017. Patients with opioid use disorder often visit emergency departments (ED), presenting an opportunity to engage patients in treatment. Buprenorphine-naloxone is first-line treatment for opioid use disorder, but current management in the ED is unknown. This study aimed to characterize opioid use disorder management in the ED.

Methods: We conducted a cross-sectional study of emergency physicians across Canada. A survey was circulated electronically to the Canadian Association of Emergency Physicians members. Participants were asked about their current management practices, satisfaction, and helpfulness of resources. SAS (version 9.4) was used for statistical analysis. We dichotomized Likert-scale responses to approximate relative risk ratios via a log binomial analysis.

Results: The survey was completed by 179 participants for a response rate of 11.1%; 143 (79.9%) physicians treated patients with opioid use disorder more than once a week. Only 7% (n = 13) of respondents always/often gave buprenorphine in the ED. Referral to an addiction clinic where patients were seen quickly was deemed the most helpful (90.5%, n = 162). Physicians who reported satisfaction with opioid use disorder management were four times more likely to prescribe buprenorphine in the ED or as an outpatient script (RR = 4.41, CI = 2.33–8.33, $p < 0.01$; RR = 4.51, CI = 2.21–9.22, $p < 0.01$).

Conclusion: This study found that buprenorphine is not frequently prescribed in the ED setting, which is incongruent with the 2018 guidelines. Care coordination and on-site support were helpful to ED physicians. Hospitals should use knowledge translation strategies to improve the care of patients with an opioid use disorder.

RÉSUMÉ

Introduction: La mortalité liée à la prise d'opioïdes augmente à un taux alarmant au Canada; celui-ci a connu une hausse de 34%, de 2016 à 2017. Les patients connaissant des troubles de l'usage des opioïdes se rendent souvent au service des urgences (SU); voilà une belle occasion de les inciter à suivre une cure. Le traitement de première intention de ce type de troubles est l'association de buprénorphine et de naloxone, mais on ne connaît pas les pratiques actuelles à cet égard dans les SU. L'étude visait donc à caractériser la prise en charge des troubles de l'usage des opioïdes au SU.

Méthode: Il s'agit d'une étude transversale menée parmi les urgentologues, partout au Canada. Un questionnaire d'enquête a été envoyé, par voie électronique, aux membres de l'Association canadienne des médecins d'urgence. Les participants devaient répondre à des questions sur leurs pratiques actuelles en matière de prise en charge, leur degré de

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satisfaction et l'utilité de certaines ressources. L'équipe a utilisé le logiciel SAS (version 9.4) pour procéder à une analyse statistique, et dichotomisé les réponses indiquées sur l'échelle de Likert afin d'obtenir une évaluation approximative des risques relatifs (RR) fondée sur une analyse binomiale logarithmique.

Résultats: Au total, 179 participants ont rempli le questionnaire, soit un taux de réponse de 11,1%. Sur ce nombre, 143 médecins (79,9%) traitaient des patients ayant des troubles de l'usage des opioïdes plus d'une fois par semaine. Seuls 7% des répondants (n = 13) administraient toujours ou souvent de la buprénorphine au SU. Les consultations accordées rapidement aux patients dirigés vers les centres de désintoxication étaient jugées la mesure la plus utile (90,5%; n = 162). Les médecins qui se sont déclarés satisfaits de la prise en charge des troubles de l'usage des opioïdes étaient 4 fois plus susceptibles que les autres de prescrire de la buprénorphine au SU ou d'en remettre une ordonnance pour malades externes (RR = 4,41; intervalle de confiance [IC] = 2,33–8,33; $p < 0,01$ et RR = 4,51; IC = 2,21–9,22; $p < 0,01$).

Conclusion: D'après les résultats de l'étude, la buprénorphine est peu prescrite au SU, ce qui n'est pas conforme aux lignes directrices de 2018. La coordination des soins et les diverses formes de soutien sur place se sont révélées des moyens utiles aux médecins, dans les SU. Enfin, il faudrait mettre en œuvre des stratégies d'application des connaissances dans les hôpitaux afin d'améliorer les soins aux patients connaissant des troubles de l'usage des opioïdes.

Keywords: Emergency medicine, opioid use disorder

INTRODUCTION

Opioid use disorder is a problematic pattern of opioid use leading to clinically significant impairment or distress.[1] Over the last decade, North America has seen a rapid increase in opioid-related mortality with 3,987 opioid-related deaths in Canada in 2017, a 34% increase from 2016.[2] On average, there are 13 emergency department (ED) visits daily due to opioid poisoning in Ontario.[3] EDs and healthcare institutions are still integrating new guidelines as this public health crisis continues to evolve.

The newest Canadian guidelines for opioid use disorder management, published in the *Canadian Medical Association Journal* in 2018, recommend opioid agonist treatment with buprenorphine-naloxone (hereinafter referred to as *buprenorphine*), trade name *Suboxone*, as first-line treatment for opioid use disorder.[4] Recent evidence suggests that ED visits are an opportunity to initiate treatment for opioid use disorder. ED-initiated buprenorphine increases engagement in addiction treatment and reduces self-reported illicit opioid use at 2 months.[5] An Ontario study showed that prescribing buprenorphine in the ED resulted in fewer ED visits at 3- and 6-month follow-ups.[6]

Guidelines recommend buprenorphine as first-line treatment in managing opioid use disorder, and ED visits for opioid intoxication and withdrawal present an opportunity to initiate treatment. Our objectives are to understand current practices when treating opioid use disorder, emergency physician satisfaction with current practices, and the resources needed to improve the care of people with opioid use disorder in the ED.

MATERIALS AND METHODS

Study design

We developed a cross-sectional survey and administered it electronically through SurveyMonkey from September to November 2018. We distributed the survey to emergency physicians across Canada using a survey deployment service from the Canadian Association of Emergency Physicians.

We pilot tested the survey with two emergency physicians based in academic hospitals who practise addiction medicine in the Greater Toronto region, and incorporated revisions based on feedback. The 16-question survey consisted of multiple choice and Likert-scale questions (see Appendix A for survey tool).

Data analysis

We summarized the survey results as frequencies and percentages using descriptive statistics. SAS (version 9.4) was used for statistical analysis. Likert scales were dichotomized in order to be able to approximate relative risk ratios via log binomial analysis. A value of $p \leq 0.01$ was considered statistically significant to account for multiple comparisons. We did not analyse the qualitative data due to low participation and brevity of answers.

Ethics and confidentiality

This project has received ethics approval from the University of Toronto (Project number 00036313). No

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financial or non-monetary incentives were offered for participation.

Participants

In 2018, the Canadian Association of Emergency Physicians had a total of 1,975 physicians and resident members. The 1,606 resident and staff physician members who opted into the research mailing list were eligible to participate. Junior residents were defined as PGY1/2 respondents, and senior residents were defined as PGY3/4/5/6 respondents.

RESULTS

Demographics

Of the 1,606 eligible members, 179 completed the survey for a response rate of 11.1%. Participant demographics are presented in Table 1 in Appendix B. Most respondents saw patients with opioid use disorder regularly, and nearly a fifth of respondents did so more than 10 times per week (n = 34, 19%). Most physicians worked in high volume EDs (n = 145, 81%).

Current management of opioid use disorder

Physicians varied in their approach to treating opioid use disorder. Physicians reported doing the following interventions always or often: referring to an addiction clinic where patients could be seen within the next few days (42.4%, n = 76), providing naloxone kits (39%, n = 70), and referring patients to withdrawal management services (38.5%, n = 69). A minority of respondents reported often or always providing buprenorphine in the ED (7.3%, n = 13) or an outpatient script for buprenorphine (5%, n = 9) (see Figure 1).

A log binomial analysis (Table 2 in Appendix F) showed that ED providers who treat patients with opioid use disorder more than 10 times per week were 5 times more likely to prescribe buprenorphine in the ED (RR = 5.6, CI = 1.77–17.67, $p < 0.01$). Physicians who treated opioid use disorder more often in the ED were more likely to refer patients to an addiction clinic. Compared to physicians who treat opioid use disorder less than once a week, physicians who treat opioid use disorder 1–5 times a week or more than 10 times a week were approximately 6 times more likely to refer to an addiction clinic (RR = 5.8, CI = 1.92–17.48, $p < 0.01$; RR = 6.7, CI = 2.17–20.87, $p < 0.01$). No other significant correlations were observed between frequency of treating opioid use disorder and interventions.

Satisfaction with opioid use disorder management

More than half (55.3%, n = 99) of respondents were dissatisfied with the current care of patients with opioid use disorder in their ED, as demonstrated in Figure 2 in Appendix C. There were no statistically significant differences in satisfaction across type of hospital ($p = 0.22$), region of practice ($p = 0.36$), or ED volume ($p = 0.26$)

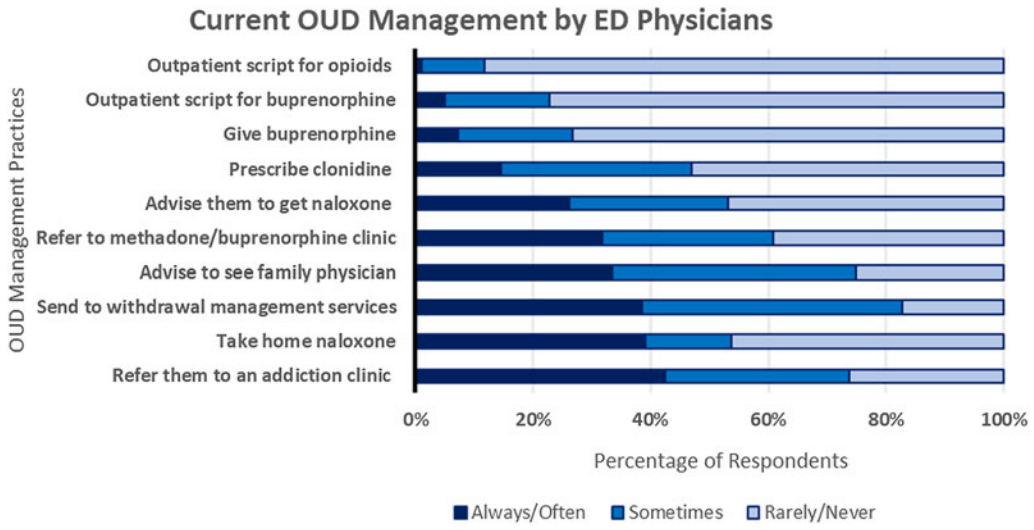

Figure 1. Current opioid use disorder management practices by Canadian ED physicians (n = 179).

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(Table 3). Physicians who were somewhat or very satisfied with management of opioid use disorder were four times more likely to prescribe buprenorphine in the ED compared to those who were dissatisfied (RR = 4.41, CI = 2.33–8.33, $p < 0.01$), and were four times more likely to provide outpatient scripts for buprenorphine (RR = 4.51, CI = 2.21–9.22, $p < 0.01$) (Table 4 in Appendix H).

Improving care for patients with opioid use disorder in the ED

Physicians identified resources that would best support them in the care of patients with opioid use disorder (Figure 3 in Appendix D). Referral to an addiction clinic where patients could be seen in the next few days was deemed the most helpful (90.5%, n = 162). Most respondents also identified naloxone kits in the ED (80.4%, n = 144), on-site case management (80.4%, n = 144), and pre-printed order sets for buprenorphine (77.7%, n = 139) as helpful. In-person presentations on opioid-related conditions (36.3%, n = 65) and brief online modules (34.6%, n = 62) were only rated as useful by a minority of respondents (Figure 4 in Appendix E).

DISCUSSION

The new Canadian guidelines recommend buprenorphine as first-line treatment for opioid use disorder; our findings suggest that emergency physicians prescribe it infrequently both in the ED and as outpatient prescriptions. Literature in various clinical settings suggests that a combination of physician education, on-site expert consultation, availability of care coordinators, and access to follow-up care facilitates evidence-based treatment of opioid use disorder.[7,8] Our results suggest a role for mentorship, which has been shown to facilitate physician prescribing of buprenorphine.[7,9]

Evidence-based harm-reduction approaches to opioid use disorder in the ED will require a comprehensive knowledge translation strategy. The solutions highlighted here include connecting physicians to mentors and educational initiatives, as well as enhancing departmental support through clinical protocols, pre-printed order sets, and expansion of low-barrier addiction clinics linked to the ED. The impact of some of these measures is being formally studied elsewhere.[10] However, the need for action is urgent; EDs should not wait for further research before adopting these strategies and facilitating access to evidence-based treatment of opioid use disorder. Given that prescribing buprenorphine was positively correlated with satisfaction, improving availability of support, training, and coordination of care for patients with opioid use disorder may rapidly help increase the frequency of prescribing buprenorphine amongst emergency physicians, and improve physician satisfaction with their care.

Our study analysis was limited by a small sample size and low participation rate. We were unable to control for potential confounders given the small sample size. These results reflect the experiences of physicians working mainly in urban centres and physicians self-selected to participate, which may introduce selection bias.

CONCLUSION

This study found that physicians are largely unsatisfied with the care for patients with opioid use disorder in the ED, and practices are not aligned with the Canadian guidelines on the management of opioid use disorder. ED physicians value on-site supports, including care coordination and addiction consult services, as well as timely, easily available outpatient care for patients with opioid use disorder. EDs should implement knowledge translation strategies to improve the care of patients with opioid use disorder.

Supplemental material: The supplemental material for this article can be found at https://doi.org/10.1017/cem.2020.362.

Competing interests: None declared.

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