Buprenorphine practice and attitudes among physicians in 27 Canadian emergency departments: A cross-sectional survey

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Abstract:	Background: Buprenorphine/naloxone (BUP) initiation in emergency departments (EDs) improves follow-up and survival in patients with opioid use disorder but many emergency physicians still do not routinely initiate buprenorphine/naloxone. Objectives: To assess self-reported BUP prescribing and related attitudes among emergency physicians. Methods: We conducted a cross-sectional survey of physicians working in 28 Canadian EDs. We adapted a previously validated questionnaire of attitudes on opioid harm reduction. The survey domains included BUP-related prescribing practices, attitudes, and barriers. We excluded EDs with less than 50% response rates to minimize non-response bias. We summarized survey data using descriptive statistics. Results: We excluded one ED for low response. At the remaining 27 EDs, 655/798 (82%) physicians responded. Overall, 64% (95% CI: 60.5-67.9) had prescribed BUP at least once in their career, 39% (95% CI: 34.8-42.5) had prescribed it for home initiation and 25% (95% CI: 21.4-28.1) ordered it at least once a month. Sixty-nine percent of physicians were willing to administer BUP, 63% felt it was a major responsibility, and 37% felt they understood people who use drugs. Physicians most frequently rated lack of time (58%) and training (55%) as significant barriers to BUP initiation. Interpretation: In this national survey of Canadian emergency physicians, two thirds had prescribed BUP, but only one quarter did so regularly and only one third prescribed it for home initiation. Strategies to increase BUP initiation must address physicians' lack of time, training and understanding of people who use drugs.

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Presentations: We presented partial preliminary results from a subsample of 10 hospitals as a poster at the Canadian Society of Addiction Medicine Conference in Halifax in October 2020.

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Abstract

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Objectives: To assess self-reported BUP prescribing and related attitudes among emergency physicians.

Methods: We conducted a cross-sectional survey of physicians working in 28 Canadian EDs. We adapted a previously validated questionnaire of attitudes on opioid harm reduction. The survey domains included BUP-related prescribing practices, attitudes, and barriers. We excluded EDs with less than 50% response rates to minimize non-response bias. We summarized survey data using descriptive statistics.

Results: We excluded one ED for low response. At the remaining 27 EDs, 655/798 (82%) physicians responded. Overall, 64% (95% CI: 60.5-67.9) had prescribed BUP at least once in their career, 39% (95% CI: 34.8-42.5) had prescribed it for home initiation and 25% (95% CI: 21.4-28.1) ordered it at least once a month. Sixty-nine percent of physicians were willing to administer BUP, 63% felt it was a major responsibility, and 37% felt they understood people who use drugs. Physicians most frequently rated lack of time (58%) and training (55%) as significant barriers to BUP initiation.

Interpretation: In this national survey of Canadian emergency physicians, two thirds had prescribed BUP, but only one quarter did so regularly and only one third prescribed it for home initiation. Strategies to increase BUP initiation must address physicians' lack of time, training and understanding of people who use drugs.

Emergency Physician Buprenorphine Survey

Introduction

Over 220,000 people died in Canada & the US between October 2016 and September 2019 due to apparent opioid overdose.[1,2] People with opioid use disorder (OUD) visit emergency departments (EDs) frequently,[3] and over half of patients who die of an opioid overdose presented to an ED in the year before their death.[4] In both Canada and the United States (US), ED visits for opioid overdoses have increased in the last 5 years.[5,6] EDs are thus well positioned to identify people at risk of overdose, initiate treatment, provide harm reduction supplies such as safer drug use equipment and take home naloxone, and refer people for ongoing care and other support services. The COVID pandemic has caused North American overdose deaths to surge [7,8] due to multiple factors including less accessible community supports in the face of a more toxic drug supply, highlighting both opportunity and obligation for EDs to act.

Opioid agonist therapy (OAT), including buprenorphine/naloxone (BUP), has been found to be effective in reducing overdose and all-cause mortality from OUD.[9] ED and emergency medical services patients who survive an overdose have a 5-15% one-year mortality rate. [10-12] Survival increases with longer periods of OAT[13,14] and ED-initiated BUP improves retention in addiction care[15] necessary for OAT continuation. As a result, ED BUP programs have been implemented in various locations.[16-20] Unfortunately, many individuals still do not get the opportunity to start OAT after an overdose.[14,21]

While some studies have investigated ED physician attitudes toward BUP[22-24] and BUP prescribing to a limited extent,[25] the picture of current ED practice patterns in North America remains incomplete due to the limited number of sites or low response rate of prior surveys. We endeavoured to study the self-reported BUP prescribing frequency and related attitudes among ED physicians across Canada.

Methods

Setting

We conducted a cross sectional survey of Canadian ED physicians between December 2018 and November 2019 at 28 sites ranging from small non-academic community hospitals to large urban teaching

referral centers. This investigation forms part of a project to expand OAT access in EDs under the aegis of the Canadian Research Initiative in Substance Misuse (www.crism.ca.)

Participants

We recruited ED physicians using a group-based strategy, targeting physician groups from EDs with 30,000 or more annual visits with a volunteer "site champion." Site champions agreed to a 75% in-group survey response rate and a future willingness and ability to act on survey results. Based on eligibility, we identified twenty-six physician groups serving 31 hospitals. To minimize non-response bias, we decided a priori that we would exclude participant responses from groups with less than 50% final participation. We excluded locum tenens and resident physicians since the nature of these positions might not reflect attitudes and practices of the group.

Design

We adapted a validated survey instrument used to investigate physician attitudes and practices related to opioid harm reduction[26] to specifically address ED BUP (Appendix A) yet maintaining similar survey domains. These domains included: 1) current ED BUP practice and ED BUP-related resources; 2) willingness and confidence to perform ED-based OUD-related interventions, including ED BUP initiation; 3) barriers and facilitators to ED BUP; and 4) physician attitudes related to the care of people who use drugs (PWUD). The latter domain included agreement with components of a standard definition of addiction[27] and with self-efficacy statements. Self-efficacy, as defined and adapted by Samuels from the Drug and Drug Problems Perceptions Questionnaire includes physician job satisfaction, self-esteem, and perception of PWUD. [26,28]

We pilot tested English, French, online and paper versions of the questionnaire with 7 physicians and 1 survey methodologist who were not involved in drafting the questionnaire, and subsequently made modifications for user-friendliness, flow, and comprehensibility. We chose a site-driven strategy to ensure high response rates at individual hospitals, rather than conventional survey approaches that disseminate questionnaires to all physicians within a region or professional association. At each site, ED leaders created their own approach to achieving high response rate within their group, including paper or online

surveys during regularly scheduled group meetings, paper surveys in office mailboxes, and emails with online survey link. Site leaders received an incentive budget of up to CAD $10 per participating physician to use as they saw fit to enhance participation.

Data Collection

Paper and online database (Qualtrics, University of British Columbia) surveys were anonymous and available in English and French. The online survey links in emails were "open," i.e., not password protected but not discoverable by Internet searches by the general public. The online survey could not be completed more than once from the same IP address. The 73 questionnaire items over 7 pages were always presented in the same order, without randomization or branching logic. If multiple partially complete online surveys existed for the same IP address, the most complete version was retained for analysis. Participants were not obligated to answer all questions, and could backtrack to revise answers before submitting. Partial paper and online surveys were included provided demographic questions and at least one other question were answered.

Outcomes

The primary outcome was the frequency ED physicians reported prescribing BUP in clinical practice. Secondary outcomes included willingness to provide BUP, confidence in providing BUP, barriers and facilitators to providing BUP, and attitudes related to treating PWUD.

Statistical analysis

We aimed to survey approximately 10% of the estimated 6600 Canadian emergency physicians[29] in order to capture a range of attitudes and practices across a sample diverse in terms of personal and practice setting characteristics. We requested that site champions target a 75% response rate for their group to minimize non-response bias, maximize external validity and increase the precision of estimates.[30,31] We calculated site participation rate as the number of participants per site divided by the number of physicians at each site. We entered completed paper questionnaires into the same secure platform as the online responses then imported data into STATA 11.0 (Stata Corp, College Station, Texas) for analysis. We provided descriptive analyses using means and proportions with 95% confidence intervals. As

questions adapted from existing instruments used different scales with varying numeric ranges, ordinal data were dichotomized for ease of analysis: values above or below the midpoint were considered positive or negative responses, respectively. For 10-point scales, 5 and 6 were considered mid-point values. That is, values of 7-10 were considered as willing, confident and feeling major responsibility on the willingness, confidence, and responsibility scales. Results are reported according to the CHERRIES Internet survey reporting guidelines,[32] which were modified to apply to a primarily paper-based survey.

Ethics approval

All sites obtained approval from the relevant health ethics board in their respective jurisdictions. Online and paper surveys contained notification that participation was voluntary and answering any question implied consent. Physicians declining to participate could turn in a blank paper questionnaire or not complete the online survey. Because responses contained possible identifying information, all data files were password protected and only transmitted on secure file sharing platforms.

Results

Participation & Demographics

Three EDs withdrew from the study and we excluded one ED for low participation. For the remaining 27 EDs in 6 Canadian provinces, 655 / 798 (82.1%) physicians responded. The majority of respondents worked in EDs serving a population over 100 000 (86%) and completed the survey in English (85%). Over half had practiced 10 or more years (51%) and were male (62%). Table 1 illustrates additional demographics.

ED BUP Practice & BUP-related resources

Overall, 64.2% (95% CI 60.5 to 67.9) of physicians had provided BUP in clinical practice at least once in their career, while 38.7% (95% CI 34.8 to 42.5%) had prescribed or dispensed BUP for home initiation, and 24.7% (95% CI 21.4 to 28.1%) prescribed BUP (in ED or for home initiation) at least once per month. In the context of acute opioid withdrawal, 63.6% would be likely to use ED BUP, and for a patient with OUD not in withdrawal, 34.5% would be likely to prescribe BUP for home initiation. Most (79.9%)

believed they had BUP available in the ED, while 34.7% reported they had BUP to-go packs available for home initiation. (Table 2)

Willingness & Confidence to initiate ED BUP

Over two thirds (68.9%, 95% CI 65.3 to 72.5%) were willing to start BUP in the ED and 54.4% (95% CI 50.5 to 58.3%) were willing to prescribe or dispense it for home initiation; 63.5% felt confident in ED BUP initiation, while 47.7% felt confident prescribing or dispensing BUP for home initiation. Physicians endorsed high levels of willingness (92.7%) and confidence (96.3%) in providing take-home naloxone (THN). (Table 3)

Barriers and facilitators to ED BUP, and perceived efficacy of ED BUP

Respondents more frequently rated lack of training for ED BUP initiation (58.2%) and lack of time during the ED visit (55.2%) as "very significant" barriers to ED BUP initiation, ahead of lack of adequate follow-up options (42.1%) and lack of hospital support (36.5%.). Physicians felt that the presence of clinical pathways (91.8%) and specialized ED staff such as addiction nurses (93.5%) strongly facilitated the likelihood of ED BUP initiation. Eighty percent believed ED BUP programs could reduce the number of overdose deaths. (Table 4)

Physician attitudes related to ED BUP and PWUD

Nearly two-thirds of physicians (64.2%, 95% CI 60.5 to 68.0%) felt that initiating BUP for patients with OUD was a major responsibility of ED physicians, while 81.4% viewed dispensing THN as a major responsibility.. Two-thirds of physicians (66.0%) agreed with the statement "I am able to work with PWUD as well as other client groups;" while 37.1% agreed with the statement "I can understand PWUD." A minority of physicians agreed with "I have less respect for PWUD than for most other patients I work with" (17.3%) and "I feel there is little that I can do to help PWUD." (37.0%). In a PWUD care self-efficacy composite based on these statements, 36.6% scored above the midpoint of the range. Most (73.5%) agreed with all 3 components of the American Society of Addiction Medicine's definition of addiction (Table 5).

Interpretation

Summary of results

Results of a national survey involving over six hundred emergency physicians in 27 EDs across six provinces, with an 82% response rate, demonstrate that nearly two-thirds were willing to use ED-initiated buprenorphine. Despite this willingness, only one quarter of respondents reported using BUP on a monthly basis and slightly more than a third had ever written a prescription or provided to-go dosing for home initiation. Physicians rated lack of time and a lack of training as the most important barriers to ED BUP, while locally developed care pathways and the presence of addictions-trained staff emerged as the most important facilitators. Unfortunately, nearly one fifth of physicians considered themselves inadequate when treating PWUD or had less respect for PWUD than other patients, indicating that the attitudes of some physicians toward PWUD remain influenced by stigma and perceived futility.

Explanation of findings

While many studies have reported on ED specific or region-based BUP programs [15,18,20,33]few studies report the practice patterns of individual ED physicians. Compared to a 2018 survey that found 7% of Canadian ED physicians prescribe BUP often/always,[25] a greater proportion of our respondents prescribed BUP once a month or more. The 2018 study had an 11% response rate and 19% of physicians worked in EDs with <30,000 visits per year. Our study's self-reported BUP prescribing frequency more closely approximates that found among 84 ED physicians in a single US metropolitan area, where one third reported prescribed BUP in practice in the last 3 months.[22] Overall, our respondents' willingness, confidence, and likelihood to prescribe BUP were all higher than the 21% "readiness" to initiate ED BUP in a study of 268 clinicians at 4 US EDs in different geographic areas.[23] It is worth noting that most Canadian physicians face fewer restrictions in prescribing BUP than their US counterparts and that our study had only one site in a province (Saskatchewan) that requires special BUP prescribing authorization. The gap between willingness to use ED BUP and regular practice likely stems from both identified barriers and from underlying stigma toward PWUD. Nevertheless, the apparent increase over previously reported data [26] in ED physician comfort in providing THN – an intervention which has been in place for

relatively longer and may require less resources and training -- provides hope that comfort in providing BUP will likewise improve. Our respondents identified lack of time and lack of training as the key barriers to BUP initiation, consistent with prior findings among ED [22-24,34-36] and primary care physicians.[37,38] Similar issues had previously been identified during implementation of THN programs.[26] The majority of our study respondents did not feel that linkage to follow-up care was a significant problem, although others have identified this as an important barrier in the US.[22-24] Our finding that physicians valued addictions-trained ancillary staff, and locally-developed pathways is consistent with other North American findings.[22-24,35]

While our study physicians self-efficacy score in treating PWUD is higher than previously reported elsewhere, [26] the low proportion of physicians scoring highly is discouraging and may reflect frustration with ED care of patients with PWUD,[39] lower clinical regard for PWUDs than for people with other conditions,[40] and persistent stigma toward people with OUD and OUD-related medications.[20].

Future Directions

ED time constraints may be alleviated by easy-to-use, locally appropriate clinical pathways and ED-based specialized staff to help with ED BUP. Gaps in training for ED BUP, particularly for home initiation, and gaps in self-confidence in treating PWUD may be remedied with persistent knowledge translation and continuing education for practicing physicians and more curricular content on OUD treatment for ED physicians in training, as advocated by resident leaders.[41] Bias in caring for PWUD may be mitigated with training in trauma informed care and the roots of addiction.[42] As various centres apply different approaches to reducing the barriers to ED BUP, rigorous program evaluations will help identify the most effective strategies, though these will likely vary from location to location. Moving forward, it is essential to engage site leaders, physicians, nurses and a wide range of ED support staff. Perhaps even more importantly, PWUD themselves must participate in the design and implementation of ED BUP programs in order to reduce stigma and other barriers, and thus raise the odds of success.

Limitations

We chose sites based a minimum annual volume and presence of a site champion, and our results and implications may not extend to sites not meeting such criteria. Our French translation may have failed to capture subtle language nuances. Provincial training and regulations vary and this may have impacted answers from different provinces. All sites did not conduct the survey at the same time and there may have been changes in education, attitudes, or regulations throughout this period.

Conclusion

Our results revealing ED physician willingness, addressable barriers, and modifiable attitudes should provide optimism for the more widespread use of ED BUP. A variety of measures may help address study identified issues in the provision of ED BUP and assist ED physicians in more frequently initiating a life-saving treatment.

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Table 1: Respondent demographics

Characteristic (sample size N=655 unless otherwise noted)	n (%)
Gender	
Female	248 (37.9)
Male	403 (61.5)
Other	4 (0.6)
Age	
Less than 40	262 (40.0)
40 - 50	219 (33.4)
Greater than 50	179 (27.3)
Province	
British Columbia	291 (44.4)
Alberta	95 (14.5)
Saskatchewan	42 (6.4)
Ontario	102 (15.6)
Quebec	100 (15.3)
New Brunswick	25 (3.8)
Practice setting population	
Greater than 100,000	566 (86.4)
Less than 100,000	89 (13.6)
Years in practice	
Less than 5	173 (26.4)
6 to 10	151 (23.0)
Greater than 10	331 (50.5)
Certification (N=654)	
CCFP - EM	343 (52.4)
FRCPC	245 (37.4)
ABEM & other non-Canadian EM	51 (7.8)
FM and other	15 (2.3)
Survey modality	
Online	254 (38.8)
Paper	401 (61.2)
Language	
English	556 (84.9)
French	99 (15.1)

Abbreviations: CCFP – EM: Canadian College of Family Physicians – Emergency Medicine; FRCPC: Fellow of the Royal College of Physicians of Canada; ABEM = American Board of Emergency Medicine; FM = Family Medicine

Table 2: Respondent practice and resources for buprenorphine

Characteristic (n = number of respondents per question)	n (%, 95% CI)
Buprenorphine practice	
Treat patients who use illicit opioids at least once per shift (651)	385 (59.1, 55.2 to 62.9)
Ordered buprenorphine for ED initiation at least once (651)	410 (63.0, 59.1 to 66.7)
Prescribed buprenorphine for home initiation at least once (602)	235 (39.0, 35.1 to 43.1)
Order ED buprenorphine once per month (651)	161 (24.7, 21.5 to 28.3)
Order ED buprenorphine once per year (651)	360 (55.3, 51.4 to 59.2)
Would use ED buprenorphine for opioid withdrawal (651)	414 (63.6, 59.8 to 67.3)
Would prescribe buprenorphine for home use (650)	224 (34.5, 30.8 to 38.3)
Availability of the following resources	
Timely access to addictions specialist (648)	424 (65.4, 61.6 to 69.1)
Clinical pathway for buprenorphine initiation (648)	390 (60.2, 56.3 to 64.0)
Buprenorphine available to order (642)	513 (79.1, 76.6 to 82.9)
Buprenorphine to-go-packages for home initiation (639)	222 (34.7, 31.1 to 38.6)
Peer support workers for patients with opioid use disorder (641)	245 (38.2, 34.5 to 42.1)
Low-barrier clinics for ongoing care (641)	483 (75.4, 71.8 to 78.6)

Abbreviations: ED: emergency department

Table 3: Respondent willingness and confidence in administration of ED interventions for patients with opioid use disorder

Characteristic (n = number of respondents per question)	n (%, 95% CI)
Willingness to provide the following ED interventions*	
Referral to detoxification program or addictions clinic (644)	617 (95.8, 93.9 to 97.2)
Provide take home naloxone kits (643)	596 (92.7, 90.3 to 94.5)
Brief screening regarding unhealthy substance use (645)	517 (80.6, 76.8 to 83.1)
Referral to needle exchange program (633)	500 (79.0, 75.6 to 82.1)
ED-based buprenorphine initiation (636)	438 (68.9, 65.1 to 72.4)
Prescribing or dispensing buprenorphine for home start (627)	341 (54.4, 50.4 to 58.3)
Confidence in providing the following ED interventions*	
Referral to detoxification program or addictions clinic (643)	586 (91.1, 88.6 to 93.2)
Provide take home naloxone kits (643)	602 (93.6, 91.4 to 95.3)
Brief screening regarding unhealthy substance use (640)	519 (81.1, 77.8 to 84.0)
Referral to needle exchange program (630)	463 (78.5, 69.8 to 76.8)
ED-based buprenorphine initiation (630)	400 (63.4, 59.6 to 67.2)
Prescribing or dispensing buprenorphine for home start (623)	297 (47.7, 43.7 to 51.7)
Confidence in the following aspects of ED buprenorphine initiation*	
Screen patients (626)	327 (52,2, 48.3 to 56.2)
Conduct discussion regarding ED initiation (627)	357 (56.9, 52.3 to 60.5)
Assess withdrawal severity for appropriateness of initiation (625)	362 (57.2, 53.9 to 61.8)
Administer buprenorphine and provide ongoing prescription (621)	332 (53.5, 49.5 to 57.4)
Discharge with prescription (614)	283 (46.1, 42.1 to 50.1)
Arrange appropriate follow-up (616)	348 (56.5, 52.5 to 60.4)

Abbreviations: ED: emergency department
*at least 7 on a 1-10 scale

Table 4: Barriers, facilitators, and perceived impact of ED buprenorphine initiation

Characteristic (n = number of respondents per question)	n (%, 95% CI)
*Barriers rated as "very significant"**	
Lack of adequate training (631)	367 (58.2, 54.3 to 62.0)
Lack of time during clinical encounter (625)	345 (55.2, 51.2 to 59.1)
Lack of physical care space for initiation (601)	298 (49.6, 45.5 to 53.7)
Lack of adequate outpatient follow-up options (598)	252 (42.1, 43.2 to 46.2)
Lack of hospital or ED support (602)	220 (36.5, 32.7 to 40.6)
Limited knowledge of research (607)	207 (34.1, 30.4 to 38.0)
*Facilitators rated as having "strong impact"***	
Availability of specialized staff (635)	589 (92.8, 90.4 to 94.6)
Availability of clinical pathways (624)	573 (91.8, 89.3 to 93.8)
ED buprenorphine is common local practice (628)	541 (86.2, 83.1 to 88.7)
Evidence that buprenorphine decreases overdose mortality (623)	535 (85.9, 82.8 to 88.5)
Timely access to addictions specialist (627)	532 (84.9, 81.8 to 87.5)
Supportive recommendations from professional organization (626)	507 (81.0, 77.7 to 84.0)
Support from ED nursing staff (628)	511 (81.4, 78.1 to 84.3)
Local leaders who recommend ED buprenorphine (616)	456 (74.1, 70.3 to 77.4)
Perceived public health effect of ED buprenorphine initiation^	
Decrease in deaths from opioid overdose (634)	506 (79.8, 76.4 to 82.8)
911 calls for opioid overdose will decrease (632)	387 (61.2, 57.3 to 65.0)
Decrease in ED visits for opioid OD (634)	379 (59.8, 55.8 to 63.6)
Overall opioid use will decrease (632)	324 (51.3, 47.3 to 55.2)

Abbreviations: ED: emergency department
*"very significant" is a score of at least 4 on a 1-5 scale
**"strong impact" is a score of at least 7 on a 1-10 scale
^"decrease" is a score of at least 4 on a 1-5 scale

Table 5: Respondent attitudes towards interventions for patients with opioid use disorder

Characteristic (n = number of respondents per question)	n (%, 95% CI)
"Emergency physicians have major responsibility to perform the following interventions in the ED"*	
Referral to detoxification programs or addictions services (629)	513 (81.6, 78.3 to 84.5)
Provision of take-home naloxone kits (629)	512 (81.4, 78.1 to 84.3)
Screening and counselling for interpersonal violence (626)	431 (68.9, 65.0 to 72.4)
Screening and education regarding substance use (626)	429 (68.5, 64.7 to 72.1)
Buprenorphine initiation for opioid use disorder (626)	402 (64.2, 60.3 to 68.0)
Referral to needle exchange program (618)	359 (58.1, 54.1 to 62.0)
Counselling smoking cessation (622)	262 (42.1, 38.2 to 46.0)
Screening for human immunodeficiency virus (619)	239 (38.6, 34.8 to 42.6)
*Respondent agreement** with the following statements*	
I am able to work with PWUD as with other patients (627)	414 (66.0, 62.2 to 69.7)
One can get satisfaction from working with PWUD (626)	400 (63.9, 60.0 to 67.6)
It is rewarding to work with PWUD (628)	233 (37.1, 33.1 to 40.9)
I feel I can understand PWUD (623)	231 (37.1, 33.3 to 40.9)
I feel there is little I can do to help PWUD (625)	231 (37.0, 33.2 to 40.8)
I feel that I am a failure with PWUD (615)	159 (25.9, 22.5 to 29.5)
I often feel uncomfortable working with PWUD (595)	105 (17.7, 14.6 to 20.7)
I have less respect for PWUD than other groups (602)	104 (17.3, 14.3 to 20.3)
Composite self-efficacy at least 4 on 1-5 scale (576)	211 (36.6, 32.7 to 40.7)
Respondent agreement^ with the following ASAM statements	
Addiction is influenced by psychological environmental factors (632)	615 (97.3, 95.6 to 98.4)
Addiction is a chronic medical illness (diabetes, asthma) (629)	526 (83.6, 80.4 to 86.4)
Addiction is the result of changes in brain neurocircuitry (624)	506 (81.1, 77.8 to 84.0)
Agreement with all 3 statements (621)	457 (73.4, 69.7 to 76.8)

Abbreviations: ED: emergency department; PWUD: patients who use drugs; ASAM: American Society of Addictions Medicine.
*major responsibility is a score of at least 7 on a 1-10 scale
**agreement is a score of at least 5 on a 1-7 scale
^agreement is a score of at least 4 on a 1-5 scale

Site code:_____ Date: _____(yyyy/mm/dd)

Emergency physician attitudes and practices on prescribing buprenorphine / naloxone

The opioid crisis is one of the most significant public health problems of this generation. While there are a great many factors that contribute to this public health emergency, there are a number of steps physicians working in emergency departments can take to assist patients with opioid use disorder.

Buprenorphine/naloxone (Suboxone) can be initiated in the emergency department and improves addiction follow-up care. It decreases overdose and all-cause mortality. This survey seeks to better understand attitudes and prescribing practices related to emergency department initiation.

Because questions below have been adapted from different validated surveys, they contain scales with differing numeric values. In the questionnaire below, BNX refers to buprenorphine/naloxone.

Section 1. Demographic Information

Item 1. Which gender do you identify with?

☐ Male ☐ Female ☐ Other:_____

Item 2. What is your age category?

☐ less than 30 years
☐ 30-39 years
☐ 40-49 years
☐ 50+ years

Item 3. What is your certification? *(Select all that apply)*

☐ FRCP
☐ ABEM
☐ CCFP-EM
☐ CCFP
☐ Other FP: _____
☐ Other: _____

Item 4. How many years have you been practicing emergency medicine? *(Since completing training)*

☐ 0-2 years
☐ 3-5 years
☐ 5-10 years
☐ greater than 10 years

Section 2. Physician Practice Characteristics

Item 1. On average, in your ED practice, how often do you do the following? (Please circle the best choice for each item)

1a. Treat patients who use non-medical opioids	Never	Once or more in your career	Once or more per year	Once or more per month	Once or more per shift
1b. Order BNX (directly or via Addictions consult) for ED initiation	Never	Once or more in your career	Once or more per year	Once or more per month	Once or more per shift
1c. Prescribe or dispense BNX for a home start (community initiation)	Never	Once or more in your career	Once or more per year	Once or more per month	Once or more per shift

Item 2. What BNX-related resources are available for physicians in your ED? (Please circle your choice for each item, yes/no):

2a. Timely access to an addiction's specialist either in person or via telephone	Yes	No
2b. Access to hospital/regional pathway for BNX initiation in the ED	Yes	No
2c. BNX available for order in your ED/hospital	Yes	No
2d. BNX to-go packs for home initiation	Yes	No
2e. Peer support workers who can meet a patient with opioid use in your ED	Yes	No
2f. Access to clinics or family physicians willing to do ED BNX continuation	Yes	No

Item 3: Given your current resources and presented with the following scenario tomorrow in your ED, how likely would you be to: (Please circle your choice for each item, likely/not likely):

3a. Order BNX for a patient in acute opioid withdrawal	Likely	Not likely
3b. Prescribe BNX for a home start for a patient not in acute opioid withdrawal	Likely	Not likely

Section 3. Attitudes on Opioid Harm Reduction

Item 1. How WILLING are you to do the following for your patients? (Please circle your choice, on a scale of 1-10*)*:

	Not Willing									Very willing
1a. Provide naloxone (Narcan) kits to people who use opioids	1	2	3	4	5	6	7	8	9	10
1b. Conduct brief screening & education about unhealthy substance use, including alcohol	1	2	3	4	5	6	7	8	9	10
1c. Refer to a detox program or an addiction clinic	1	2	3	4	5	6	7	8	9	10
1d. Refer to a needle exchange/syringe access program	1	2	3	4	5	6	7	8	9	10
1e. Start BNX in the ED	1	2	3	4	5	6	7	8	9	10
1f. Prescribe/dispense BNX for home starts	1	2	3	4	5	6	7	8	9	10

Item 2. Provided your ED had the necessary resources, how CONFIDENT are you in your ABILITY to do the following for your patients? (Please circle your choice, on a scale of 1-10):

	Not at all Confident									Very confident
2a. Provide naloxone (Narcan) kits to people who use opioids	1	2	3	4	5	6	7	8	9	10
2b. Conduct brief screening & education about unhealthy substance use, including alcohol	1	2	3	4	5	6	7	8	9	10
2c. Refer to a detox program or an addiction clinic	1	2	3	4	5	6	7	8	9	10
2d. Referral to needle exchange/syringe access program	1	2	3	4	5	6	7	8	9	10
2e. Start BNX in the ED	1	2	3	4	5	6	7	8	9	10
2f. Prescribe/dispense BNX for home starts	1	2	3	4	5	6	7	8	9	10

Item 3. Provided your ED has/had BNX, how CONFIDENT are you in your ABILITY to perform specific aspects of BNX initiation? (Please circle your choice, on a scale from 1-10):

	Not at all Confident				Neutral					Very confident
3a. Screen patients to determine whether or not they would benefit from BNX	1	2	3	4	5	6	7	8	9	10
3b. Initiate a discussion with at-risk patients regarding BNX initiation	1	2	3	4	5	6	7	8	9	10
3c. Assess severity of withdrawal to determine if candidate for initiation of BNX in the ED	1	2	3	4	5	6	7	8	9	10
3d. Administer BNX to a patient in opioid withdrawal &provide prescription for continuation	1	2	3	4	5	6	7	8	9	10
3e. Discharge a patient with a prescription or to-go pack for a BNX home start	1	2	3	4	5	6	7	8	9	10
3f. Arrange for a follow-up visit after ED BNX initiation	1	2	3	4	5	6	7	8	9	10

Item 4. How SIGNIFICANT are the following barriers to your initiating BNX in the ED? (Please circle your choice, on a scale of 1-5).

	Not significant		Moderately significant		Extremely significant
4a. Lack of time during the clinical encounter	1	2	3	4	5
4b. Lack of adequate training to initiate BNX	1	2	3	4	5
4c. Limited knowledge of research to support ED initiation of BNX	1	2	3	4	5
4d. Lack of hospital or ED administrative support for BNX	1	2	3	4	5
4e. Lack of ED rooms to initiate BNX	1	2	3	4	5
4f. Lack of adequate outpatient follow-up options	1	2	3	4	5
4g. Other:_____	1	2	3	4	5

Item 5. How would the following IMPACT the likelihood of your starting patients on BNX? (Please circle your choice, on a scale of 1-10):

	No Impact				Moderate Impact				Strong Impact	
5a. Strong evidence that prescribing BNX decreases overdose mortality	1	2	3	4	5	6	7	8	9	10
5b. If professional organizations' guidelines recommended prescribing BNX in the ED	1	2	3	4	5	6	7	8	9	10
5c. If ED leaders where you work recommended prescribing BNX	1	2	3	4	5	6	7	8	9	10
5d. If it were common practice in the ED where you work	1	2	3	4	5	6	7	8	9	10
5e. If ED nurses where you work supported ED BNX and assisted with initiation	1	2	3	4	5	6	7	8	9	10
5f. If the ED had specialized staff to assist with BNX initiation (pharmacists, addiction nurses, social workers, peer educators etc.)	1	2	3	4	5	6	7	8	9	10
5g. Timely in-person or telephone access to an addictions specialist	1	2	3	4	5	6	7	8	9	10
5h. Local clinical pathways covering initial assessment, BNX initiation, & follow-up	1	2	3	4	5	6	7	8	9	10

Item 6: In your opinion, what impact do you think ED initiation of BNX (in ED or via home start) will have on the following: (Please circle your choice, on a scale of 1-5).

	Large increase		No change		Large decrease
6a. Deaths due to overdose	1	2	3	4	5
6b. Opioid use overall	1	2	3	4	5
6c. Frequency of 911 calls for opioid overdose	1	2	3	4	5
6d. ED visits for opioid overdose	1	2	3	4	5

Section 4. General Attitudes on Addictions and Harm Reduction

Item 1. What level of RESPONSIBILITY do EDs and emergency physicians have to perform the following harm reduction or public health interventions? (Please circle your choice, on a scale of 1-10)

	No responsibility								Major responsibility	
1a. HIV Screening	1	2	3	4	5	6	7	8	9	10
1b. Screening & counseling for interpersonal violence	1	2	3	4	5	6	7	8	9	10
1c. Screening & education for seatbelt use	1	2	3	4	5	6	7	8	9	10
1d. Naloxone kits to treat opioid overdoses	1	2	3	4	5	6	7	8	9	10
1e. Brief screening & education about unhealthy substance use, including alcohol	1	2	3	4	5	6	7	8	9	10
1f. Prescriptions for emergency contraception (Plan B)	1	2	3	4	5	6	7	8	9	10
1g. Referral to detox programs & addiction clinics	1	2	3	4	5	6	7	8	9	10
1h. Smoking cessation counseling	1	2	3	4	5	6	7	8	9	10
1i. Referral to needle exchange/syringe access program	1	2	3	4	5	6	7	8	9	10
1j. BNX initiation for opioid use disorder	1	2	3	4	5	6	7	8	9	10

Item 2. Please indicate how much you agree or disagree with the following statements as they relate to addictions (Please circle your choice, on a scale of 1-5).

	Strongly Disagree		Neutral		Strongly Agree
2a. Addiction is a chronic medical illness similar to asthma, diabetes, and hypertension	1	2	3	4	5
2b. Addiction is the result of changes in brain neuro-circuitry	1	2	3	4	5
2c. Addiction is influenced by psychological and environmental factors	1	2	3	4	5

Item 3. There are a range of feelings and thoughts about working with patients with substance use. Please indicate how much you agree or disagree with the following statements (Please circle your choice, on a scale from 1-7).

	Strongly Disagree			Neutral			Strongly Agree
3a. “I feel that there is little I can do to help people who use drugs.”	1	2	3	4	5	6	7
3b. “I feel that I am able to work with people who use drugs as well as other client groups.”	1	2	3	4	5	6	7
3c. “I am inclined to feel that I am a failure with people who use drugs.”	1	2	3	4	5	6	7
3d. “I have less respect for people who use drugs than for most other patients I work with.”	1	2	3	4	5	6	7
3e. “I often feel uncomfortable when working with people who use drugs.”	1	2	3	4	5	6	7
3f. “One can get satisfaction from working with people who use drugs.”	1	2	3	4	5	6	7
3g. “It is rewarding to work with people who use drugs.”	1	2	3	4	5	6	7
3h. “I feel I can understand people who use drugs.”	1	2	3	4	5	6	7

THANK YOU FOR YOUR PARTICIPATION!

Table 1. Checklist for Reporting Results of Internet E-Surveys (CHERRIES)

Checklist for Reporting Results of Internet E-Surveys (CHERRIES)

Item Category	*Checklist Item*	*Explanation*
Design		
line 53-59	Describe survey design	Describe target population, sample frame. Is the sample a convenience sample? (In "open" surveys this is most likely.)
IRB (Institutional Review Board) approval and informed consent process		
line 109-113	IRB approval	Mention whether the study has been approved by an IRB.
line 109-113	Informed consent	Describe the informed consent process. Where were the participants told the length of time of the survey, which data were stored and where and for how long, who the investigator was, and the purpose of the study?
line 109-113	Data protection	If any personal information was collected or stored, describe what mechanisms were used to protect unauthorized access.
Development and pre-testing		
line 70-72	Development and testing	State how the survey was developed, including whether the usability and technical functionality of the electronic questionnaire had been tested before fielding the questionnaire.
Recruitment process and description of the sample having access to the questionnaire		
line 81-82	Open survey versus closed survey	An "open survey" is a survey open for each visitor of a site, while a closed survey is only open to a sample which the investigator knows (password-protected survey).
line 72-77	Contact mode	Indicate whether or not the initial contact with the potential participants was made on the Internet. (Investigators may also send out questionnaires by mail and allow for Web-based data entry.)
line 72-77	Advertising the survey	How/where was the survey announced or advertised? Some examples are offline media (newspapers), or online (mailing lists – If yes, which ones?) or banner ads (Where were these banner ads posted and what did they look like?). It is important to know the wording of the announcement as it will heavily influence who chooses to participate. Ideally the survey announcement should be published as an appendix.
Survey administration		
line 80-82	Web/E-mail	State the type of e-survey (eg, one posted on a Web site, or one sent out through e-mail). If it is an e-mail survey, were the responses entered manually into a database, or was there an automatic method for capturing responses?
line 80-82	Context	Describe the Web site (for mailing list/newsgroup) in which the survey was posted. What is the Web site about, who is visiting it, what are visitors normally looking for? Discuss to what degree the content of the Web site could pre-select the sample or influence the results. For example, a survey about vaccination on a anti-immunization Web site will have different results from a Web survey conducted on a government Web site
line 109-111	Mandatory/voluntary	Was it a mandatory survey to be filled in by every visitor who wanted to enter the Web site, or was it a voluntary survey?

Checklist for Reporting Results of Internet E-Surveys (CHERRIES)

Item Category	*Checklist Item*	*Explanation*
line 77-78	Incentives	Were any incentives offered (eg, monetary, prizes, or non-monetary incentives such as an offer to provide the survey results)?
line 48-49	Time/Date	In what timeframe were the data collected?
line 83-84	Randomization of items or questionnaires	To prevent biases items can be randomized or alternated.
line 83-84	Adaptive questioning	Use adaptive questioning (certain items, or only conditionally displayed based on responses to other items) to reduce number and complexity of the questions.
line 83-84	Number of Items	What was the number of questionnaire items per page? The number of items is an important factor for the completion rate.
line 83-84	Number of screens (pages)	Over how many pages was the questionnaire distributed? The number of items is an important factor for the completion rate.
line 86-7	Completeness check	It is technically possible to do consistency or completeness checks before the questionnaire is submitted. Was this done, and if "yes", how (usually JAVAScript)? An alternative is to check for completeness after the questionnaire has been submitted (and highlight mandatory items). If this has been done, it should be reported. All items should provide a non-response option such as "not applicable" or "rather not say", and selection of one response option should be enforced.
line 86-7	Review step	State whether respondents were able to review and change their answers (eg, through a Back button or a Review step which displays a summary of the responses and asks the respondents if they are correct).
Response rates		
not calculated given <40% participation online	Unique site visitor	If you provide view rates or participation rates, you need to define how you determined a unique visitor. There are different techniques available, based on IP addresses or cookies or both.
not calculated given <40% participation online	View rate (Ratio of unique survey visitors/unique site visitors)	Requires counting unique visitors to the first page of the survey, divided by the number of unique site visitors (not page views!). It is not unusual to have view rates of less than 0.1 % if the survey is voluntary.
line 98-99 not calculated as described given <40% participation online	Participation rate (Ratio of unique visitors who agreed to participate/unique first survey page visitors)	Count the unique number of people who filled in the first survey page (or agreed to participate, for example by checking a checkbox), divided by visitors who visit the first page of the survey (or the informed consents page, if present). This can also be called "recruitment" rate.
not calculated given <40% participation online	Completion rate (Ratio of users who finished the survey/users who agreed to participate)	The number of people submitting the last questionnaire page, divided by the number of people who agreed to participate (or submitted the first survey page). This is only relevant if there is a separate "informed consent" page or if the survey goes over several pages. This is a measure for attrition. Note that "completion" can involve leaving questionnaire items blank. This is not a measure for how completely questionnaires were filled in. (If you need a measure for this, use the word "completeness rate".)
Preventing multiple entries from the same individual		
line 82-88	Cookies used	Indicate whether cookies were used to assign a unique user identifier to each client computer. If so, mention the page on which the cookie was set and read, and how long the cookie was valid. Were duplicate entries avoided by preventing users access to the survey twice; or were duplicate database entries having the same user ID eliminated before analysis? In the latter case, which entries were kept for analysis (eg, the first entry or the most recent)?

Checklist for Reporting Results of Internet E-Surveys (CHERRIES)

Item Category	*Checklist Item*	*Explanation*
line 82-88	IP check	Indicate whether the IP address of the client computer was used to identify potential duplicate entries from the same user. If so, mention the period of time for which no two entries from the same IP address were allowed (eg, 24 hours). Were duplicate entries avoided by preventing users with the same IP address access to the survey twice; or were duplicate database entries having the same IP address within a given period of time eliminated before analysis? If the latter, which entries were kept for analysis (eg, the first entry or the most recent)?
not applicable	Log file analysis	Indicate whether other techniques to analyze the log file for identification of multiple entries were used. If so, please describe.
not applicable	Registration	In "closed" (non-open) surveys, users need to login first and it is easier to prevent duplicate entries from the same user. Describe how this was done. For example, was the survey never displayed a second time once the user had filled it in, or was the username stored together with the survey results and later eliminated? If the latter, which entries were kept for analysis (eg, the first entry or the most recent)?
Analysis		
line 84-88	Handling of incomplete questionnaires	Were only completed questionnaires analyzed? Were questionnaires which terminated early (where, for example, users did not go through all questionnaire pages) also analyzed?
not applicable	Questionnaires submitted with an atypical timestamp	Some investigators may measure the time people needed to fill in a questionnaire and exclude questionnaires that were submitted too soon. Specify the timeframe that was used as a cut-off point, and describe how this point was determined.
not applicable	Statistical correction	Indicate whether any methods such as weighting of items or propensity scores have been used to adjust for the non-representative sample; if so, please describe the methods.

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