Received: 8 March 2022 | Revised: 20 May 2022 | Accepted: 24 May 2022

DOI: 10.1002/aet2.10779

ORIGINAL CONTRIBUTION

Resident attitudes, experiences, and preferences on initiating buprenorphine in the emergency department: A national survey

Megan J. Yu MD | **Kathryn Hawk MD**

Department of Emergency Medicine, Yale School of Medicine, New Haven, Connecticut, USA

Correspondence
Megan J. Yu, MD, Department of Emergency Medicine, Yale School of Medicine, New Haven, CT 06510, USA.
Email: megan.yu@yale.edu

Abstract

Objectives: The objective was to describe emergency medicine (EM) resident attitudes, preferences, and experiences around the knowledge and skills around the evidence-based treatment of opioid use disorder (OUD) in the emergency department (ED).

Methods: We created an online survey that was distributed by the Emergency Medicine Residents' Association research committee listserv to approximately 6600 resident physicians at all levels of EM residency training. Data were collected between June 2020 and October 2020. This 12-question voluntary, anonymous survey included questions exploring EM resident preferences and experiences around the education and exposure to the evidence-based management of patients with OUD in the ED setting. Descriptive statistics were used.

Results: A total of 288 of 6600 invited EM residents (response rate 4.4%) from 127 different EM residency programs across 38 states in the United States, District of Columbia, and Puerto Rico completed the survey. Most respondents (165/288; 57.3%) reported that it was "very important" for emergency physicians to have training to initiate buprenorphine treatment for patients with OUD. Just under half (140/288; 48.6%) reported they have or will receive X-waiver training during residency and 46.9% (135/288) reported experience prescribing buprenorphine in the ED. The estimated proportions of EM faculty at responding residents' primary teaching hospital with an X-waiver was "most or all" (48/285; 16.8%), "about half" (23/285; 8.1%), "a handful" (79/285; 27.7%), "one or two" (33/285; 11.6%), "none" (19/285; 6.7%), or "not sure" (83/285; 29.1%).

Conclusion: Survey results suggest that resident emergency physicians perceive the evidence-based management of OUD to be relevant to EM residency training and are interested in receiving training on initiating medications for OUD treatment in the ED. Opportunities to improve resident education and clinical use of buprenorphine during ED residency training were identified.

Presented at the Society for Academic Emergency Medicine Virtual Meeting (SAEM21), May 2021.

Supervising Editor: Dr. John Burkhardt.

KEYWORDS
addiction, opioid use disorder, OUD, public health, residency education

INTRODUCTION

Opioid use disorder (OUD) is a national crisis with devastating ramifications to public health. With the dual crisis of the COVID-19 pandemic and the opioid epidemic, opioid-involved overdose deaths reached a record high of 69,710 in 2020 amid social isolation, economic stress, and disrupted access to treatment.[1] While the estimate is not final, this is approximately 20,000 above the previously recorded high in 2019, and trends reveal the percentage of all U.S. deaths related to overdoses has grown, even as total COVID-19 increased total deaths.[1,2]

Medications for OUD (MOUD), such as buprenorphine, are shown to reduce all-cause mortality, improve physical and mental health, and improve abstinence from illicit drug use.[3–6] A data linkage study of ED patients with nonfatal opioid overdose reported a nearly 5% 1-year mortality for patients, with more than a 50% reduction in 1-year mortality for those receiving opioid agonist treatment in the following year.[7] As one of the initial sites of health care access, the emergency department (ED) has become an important setting for initiation of public health interventions including the screening and initiation of medical treatment for OUD. EDs are increasingly initiating buprenorphine and helping establish referral to outpatient treatment for OUD.[8–13] However, despite strong endorsement for initiating buprenorphine in the ED for OUD by the American College of Emergency Physicians (ACEP),[14] the American Academy of Emergency Medicine (AAEM),[15] the American College of Medical Toxicology,[16] and the National Institute on Drug Abuse,[17] only 1% of emergency physicians are estimated to have received DATA 2000 training certification, which allows for a physician to apply to the Drug Enforcement Agency to allow them to write outpatient prescriptions for buprenorphine.[18] In addition, current trends show that among physicians who have obtained an X-waiver, only 50% make use of it and most treat below their patient limits although there remains a tremendous demand for OUD treatment.[19] Understanding emergency medicine (EM) resident attitudes and perspectives around buprenorphine can help bridge the gap between evidence and clinical practice.

There has been some research that explores the knowledge and attitudes of emergency physicians on ED-initiated buprenorphine (EDBUP). Some of this research investigates emergency physician perceived legal barriers, logistics around prescribing, interactions with patients who lack interest, and institutional and individual attitudes around EDBUP.[20–25] However, there have been few studies focusing on EM residents' attitudes and perspectives regarding training on initiating buprenorphine for OUD in residency. To assess the educational needs and preferences of EM residents, we administered a national survey to examine the attitudes, experiences, and barriers around training to manage OUD in the ED.

METHODS

In this cross-sectional, observational study, we designed an electronic survey via Google Forms. This survey was reviewed and approved by the Yale Human Research Protection Program Institutional Review Boards. The Emergency Medicine Residents' Association (EMRA) Research Committee distributed a link to the survey in June 2020 via an EMRA electronic mailing list including approximately 6600 unique emails. An additional follow-up solicitation email was sent through the EMRA mailing list August 2020.

The survey was designed to be completed in <5 min. Survey completion was voluntary, and no compensation was provided for participation. Partially completed surveys were included in the response rate. Of these partially completed surveys, a majority did not include the residency program of the respondent ($n = 36$; 52%).

The survey consisted of 12 questions querying demographics, attitudes around initiating buprenorphine in the ED, availability and interest in receiving X-waiver training during residency, faculty practices around buprenorphine and naloxone prescription and dispense, resident readiness for initiating buprenorphine and referral to treatment, and interest in educational resources (Appendix S1).

Data management and analysis

Data was automatically imported to Google Sheets from the electronic survey. Data was manually exported to Microsoft Excel for statistical analysis. Descriptive statistics were used.

RESULTS

After obtaining informed consent, 288 EM resident physicians from 127 EM residency programs across 38 states in the United States, the District of Columbia, and Puerto Rico completed the survey. All responses remained anonymous throughout the study. All programs were accredited by the Accreditation Council for Graduate Medical Education. Demographic data are presented in Table 1.

The majority of participants identified as male (170/286; 59.4%). Of those surveyed, 22.4% identified themselves as PGY-1s (64/286), 26.2% as PGY-2s (75/286), 35% as PGY-3s (100/286), and 45 as PGY-4/PGY-5s (45/286). The majority of residency programs represented by respondents were located in the northeast (52/127; 40.9%), while 18 programs were in the west (14.2%), 32 programs in the south (25.2%), and 24 programs in the Midwest (18.9%).

Most respondents (165/288; 57.3%) reported that it was "very important" for emergency physicians to have training to initiate buprenorphine treatment for patients with OUD. Nearly half of

TABLE 1 Demographic data of survey respondents

Gender	$n = 288$
Female	116 (40.3%)
Male	170 (59%)
Nonbinary/declined	2 (0.7%)
Level of training	$n = 288$
PGY-1	64 (22.2%)
PGY-2	75 (26%)
PGY-3	100 (34.7%)
PGY-4/PGY-5	45 (15.6%)
Other/declined	4 (1.4%)
Region	$n = 247$
Northeast	127 (51.4%)
West	48 (19.4%)
South	42 (17%)
Midwest	29 (11.7%)
Other	1 (0.004%)

respondents (140/288; 48.6%) reported they have or will receive X-waiver training during residency. Of those who had not yet had X-waiver training, when asked if they would be interested in receiving it during residency, 70% responded "yes" (182/260), 5.8% responded "no" (15/260), 5% responded "I'm not sure" (13/260), and 19.2% responded "not applicable" (50/260). Just under half of respondents (135/288; 46.9%), reported experience prescribing buprenorphine in the ED. When asked about readiness to provide buprenorphine with referral to treatment, on a scale from 0 to 10, respondents reported a mean (±SD) readiness score of 5.7 (±3.2) and half of respondents had a score of 7 or higher (143/286; 50%). For those respondents who have had experience prescribing buprenorphine in the ED, the mean (±SD) readiness score was 7.5 (±2.3). In comparison, those respondents who have not prescribed or were unsure whether they have prescribed buprenorphine reported a mean (±SD) readiness score of 4.1 (±3.1). This difference in mean readiness score between respondents who had experience prescribing buprenorphine and those who did not was statistically significant ($p < 0.001$). In response to interest in receiving the following educational resources, 36.4% reported interest in "in-person X-waiver training" (102/280), 65.7% in "online X-waiver training" (184/280), 34.3% in "brochures/pamphlets/laminated quick card/printed resources" (96/280), 48.9% in "phone/iPad applications" (137/280), 35.7% in "EMR applications" (100/280), 43.9% in "website/online resources" (123/280), 1.1% reported "other" (3/280), and 10.7% reported "none" (30/280).

DISCUSSION

To our knowledge, this is the most diverse study examining EM resident attitudes and preferences around the evidence-based treatment of OUD in the ED. Study data reveal several key findings: (1) the majority of respondents were interested in receiving training to initiate buprenorphine treatment for patients with OUD in the ED and (2) respondents who have had experience prescribing buprenorphine had higher mean readiness scores for initiating EDBUP than their unexperienced counterparts. While most respondents were interested in receiving X-waiver training, less than half expected to receive this training during residency. Additionally, just under half of respondents have had experience prescribing buprenorphine in the ED. It is unsurprising that those who have previously prescribed EDBUP might have greater confidence scores in initiating EDBUP than those who have not. Future research questions can explore whether this self-reported data can be validated with observation of behavioral patterns and to assess whether providing resident physicians the experience of prescribing EDBUP is an effective educational tool. Increasing opportunities for residents to prescribe buprenorphine in a clinical setting would be ideal, but as these encounters can be variable, simulated scenarios could potentially bridge the gap. The survey suggests that respondents perceive that a small proportion of ED faculty have received formal training around EDBUP and regularly prescribe or dispense buprenorphine. While interest in receiving formal training and education around EDBUP is high, limitations such as receiving formal training during residency and resident exposure to prescribing EDBUP are potential barriers to initiation of buprenorphine in the ED (Table 2).

Establishing consensus around the treatment of OUD in the emergency setting acts to standardize and normalize care. The disconnect between strong endorsement of EDBUP by professional medical societies[14–17] and U.S. federal agencies, including SAMHSA[26] and the National Institute on Drug Abuse,[17,27] and the integration into routine ED clinical practice is notable. Recommendations from both ACEP and AAEM support the treatment of OUD in the ED with buprenorphine.[14,15] In April 2021, the American Heart Association released a scientific statement for the management of suspected opioid associated out-of-hospital cardiac arrest with specific considerations for prehospital management, hospital care, and postdischarge support.[28] These guidelines are a positive step for promoting evidence-based practices around the treatment of OUD in the ED.

Improving EM residency education around medications for opioid for OUD is an effective strategy to promote practice change. Authors of a multicenter study of four urban, academic EDs that assessed organizational readiness for EDBUP among ED providers through surveys and focus group discussions reported that enthusiasm for EDBUP was highest among residents and advanced care practitioners and identified "teaching up" as a key factor to promote practice change.[24] Teaching up is the process of practice change from trainees and recent graduates who share their new knowledge to more established attendings interested in evolving medical practices. As a resident-driven implementation campaign, the work of Martin et al.,[29] which utilized behavioral economics to improve ED attending X-waiver certification illustrates the effectiveness of this teaching up process in advancing the practice of evidence-based medicine. However, additional research should evaluate strategies for enhancing ED resident physician training and how they correlate with buprenorphine delivery in the ED. Our results reinforce the existence of a training gap among residents on treating OUD in

TABLE 2 Summary of survey questions accompanied with aggregate responses

How important do you think that it is that emergency physicians have training to initiate treatment for ED patients with OUD using buprenorphine?						
n = 288	No opinion	Not at all important	Slightly important	Important	Fairly important	Very important
	3 (1.0%)	12 (4.2%)	21 (7.3%)	25 (8.7%)	62 (21.5%)	165 (57.3%)
Did you or will you receive X-waiver training during residency?						
n = 288	Yes	No	I'm not sure	N/A		
	140 (48.6%)	80 (27.8%)	54 (18.8%)	14 (4.9%)		
If you have not had X-waiver training, would you be interested in receiving this training during residency?						
n = 260	Yes	No	I'm not sure	N/A		
	182 (70%)	15 (5.8%)	13 (5%)	50 (19.2%)		
What proportion of faculty at your primary teaching hospital regularly prescribe or dispense buprenorphine to treat OUDs?						
n = 288	None	One or two	A handful	About half	Most or all	I'm not sure
	49 (17%)	51 (17.7%)	87 (30.2%)	30 (10.4%)	22 (7.6%)	49 (17%)
What proportion of faculty at your primary teaching hospital have their X-waivers?						
n = 285	None	One or two	A handful	About half	Most or all	I'm not sure
	19 (6.7%)	33 (11.6%)	79 (27.7%)	23 (8.1%)	48 (16.8%)	83 (29.1%)
What proportion of faculty at your primary teaching hospital regularly prescribe or dispense naloxone to patients at risk for opioid overdose?						
n = 287	None	One or two	A handful	About half	Most or all	I'm not sure
	14 (4.9%)	21 (7.3%)	47 (16.4%)	41 (14.3%)	106 (36.9%)	58 (20.2%)
Have you ever prescribed buprenorphine in the ED to treat opioid withdrawal or OUD?						
n = 288	Yes	No	I'm not sure			
	135 (46.9%)	149 (51.7%)	4 (1.4%)			
On a scale from 0 to 10, how ready are you to provide ED-initiated buprenorphine with referral for ongoing treatment of OUD?						
0	1	2	3	4	5	
31 (10.8%)	12 (4.2%)	20 (7%)	16 (5.6%)	17 (5.9%)	19 (6.6%)	
6	7	8	9	10		
28 (9.8%)	42 (14.7%)	36 (12.6%)	33 (11.5%)	32 (11.2%)		
What, if any, OUD educational resources are you interested in receiving?						
	n = 280		Online X-waiver training		Brochures/ pamphlets/ laminated quick cards	
			184 (65.7%)		96 (34.3%)	
	In-person X-waiver training		Phone/iPad applications		EMR applications	
	102 (36.4)		137 (48.9%)		100 (35.7%)	
	Website/online Resources		Other		None	
	123 (43.9%)		3 (1.1%)		30 (10.7%)	

Abbreviations: EMR, electronic medical record; OUD, opioid use disorder.

the ED and provide further granularity about its current state and limitations.

Our study also identifies questions regarding whether EM residents are aware of educational resources on the treatment of OUD. Survey respondents addressed interest in receiving additional education resources, many that already exist free of charge. Online X-waiver training, such as through a collaboration with ACEP and Providers Clinical Support System, is not only free of cost but also contains content specific for EM providers.[30] ACEP provides a Web-based and phone application, "BUPE," with step-by-step instructions for dispensing and prescribing buprenorphine and MDCalc has an ED-initiated buprenorphine for OUD decision support calculator.[31,32] ACEP has also recently developed, and pilot tested, an eight-module flipped-classroom model resident training curriculum focused on improving care of ED patients with substance use disorders that includes condensed training on prescribing medications

for the treatment of OUD that can be completed in <1 h. Further interventions should also focus on improving educational dissemination around available OUD treatment training resources, including through social media and other resident-targeted venues.

Although approaches among ED residencies to providing education on the treatment of OUD vary, recent U.S. Department of Health and Human Services policy changes on the training requirements to obtain a DATA 2000 waiver to prescribe buprenorphine are highly relevant for EM clinicians. On April 27, 2021, the Department of Health and Human Services released new federal practice guidelines that allow physicians, physician assistants, and advanced practice nurse practitioners with a valid individual DEA license who will treat no more than 30 patients at a time with buprenorphine to apply for a DATA 2000 waiver without completing the 8-h mandatory training.[33,34] While this new practice guideline provides flexibility for ED clinicians to initiate buprenorphine for ED patients with OUD and provide a "bridge" prescription to outpatient follow-up without the 8-h training, DATA 2000 training is still available for those who want to further develop their knowledge and expertise on using buprenorphine and OUD. Whether through DATA 2000 training or through other resources that are increasingly available to provide educational support for clinicians to treat OUD, it is imperative that EM residencies incorporate adequate training on the treatment of OUD for its residents and faculty to adequately to prepare graduates to effectively deliver evidence-based care for the treatment of OUD. ED physicians will continue to be on the frontline of treating patients with OUD, and it is essential that they receive training on the evidence-based treatment of this, as they would for any other life-threatening medical condition.

LIMITATIONS

Our results should be interpreted within the context of several limitations. The etiology of the low response rate is likely multifactorial, including being a "cold" email to a listserv, the use of a single reminder request to avoid unwanted additional email burden, the absence of financial incentive for completion, or a disinterest in the overall survey topic. Notably, our survey response rate is consistent with published response rates for other surveys distributed through the EMRA listserv.[35,36] Although generalizability and selection bias should be considered when interpreting study results, we suspect that respondents who participated in our survey may overrepresent residents who are interested in this topic among their peers, so our findings that less than half of respondents have ever used buprenorphine to treat OUD in the ED and have a mean readiness score of 5.7 on a scale of 1 to 10, likely overrepresents resident confidence and experience using buprenorphine to treat OUD in the ED. Additionally, we are limited by lack of knowledge around the number of patients with OUD and prescribing information for medications for OUD in each respondent's health care system. While the study was able to capture a large geographic distribution, the northeast was overrepresented (51.4%), and the Midwest was underrepresented (11.7%), which may also affect generalizability. Respondents may have been subject to recall and social desirability bias. Nonetheless, within the context of these limitations our results have identified findings that are important to understanding resident perspectives and receptiveness to diverse OUD education modalities targeting EM residents.

CONCLUSION

This study's findings suggest that emergency medicine resident physicians perceive the evidence-based management of opioid use disorder to be relevant to the scope of emergency medicine training. Future strategies to promote readiness for ED-initiated buprenorphine should focus on improving residency education to include the evidence-based management of opioid use disorder.

CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

ORCID

Megan J. Yu https://orcid.org/0000-0002-2700-981X
Kathryn Hawk https://orcid.org/0000-0001-7435-5945

REFERENCES

1. The drug overdose toll in 2020 and near-term actions for addressing it. The Commonwealth Fund. August 16, 2021. Accessed September 12, 2021. https://www.commonwealthfund.org/blog/2021/drug-overdose-toll-2020-and-near-term-actions-addressing-it
2. Provisional drug overdose death counts. Centers for Disease Control and Prevention. Accessed September 16, 2021. https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm
3. Mattick RP, Breen C, Kimber J, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *Cochrane Database Syst Rev*. 2014;6(2):CD002207. https://pubmed.ncbi.nlm.nih.gov/24500948/
4. Moore KE, Roberts W, Reid HH, Smith KMZ, Oberleitner LMS, McKee SA. Effectiveness of medication assisted treatment for opioid use in prison and jail settings: a meta-analysis and systematic review. *J Subst Abuse Treat*. 2019;99:32-43.
5. Sordo L, Barrio G, Bravo MJ, et al. Mortality risk during and after opioid substitution treatment: systematic review and meta-analysis of cohort studies. *BMJ*. 2017;357:j1550.
6. Gowing L, Farrell M, Bornemann R, Sullivan L, Ali R. Substitution treatment of injecting opioid users for prevention of HIV infection. *Cochrane Database Syst Rev*. 2008;(2):CD004145.
7. Larochelle MR, Bernson D, Land T, et al. Medication for opioid use disorder after nonfatal opioid overdose and association with mortality: a cohort study. *Ann Intern Med*. 2018;169(3):137-145.
8. D'Onofrio G, O'Connor PG, Pantalon MV, et al. Emergency department-initiated buprenorphine/naloxone treatment for opioid dependence: a randomized clinical trial. *JAMA*. 2015;313(16):1636-1644.
9. Dunkley CA, Carpenter JE, Murray BP, et al. Retrospective review of a novel approach to buprenorphine induction in the emergency department. *J Emerg Med*. 2019;57(2):181-186.
10. Kaucher KA, Caruso EH, Sungar G, et al. Evaluation of an emergency department buprenorphine induction and medication-assisted treatment referral program. *Am J Emerg Med*. 2020;38(2):300-304.

11. Kelly T, Hoppe JA, Zuckerman M, Khoshnoud A, Sholl B, Heard K. A novel social work approach to emergency department buprenorphine induction and warm hand-off to community providers. *Am J Emerg Med*. 2020;38(6):1286-1290.
12. Martin A, Baugh J, Chavez T, et al. Clinician experience of nudges to increase ED OUD treatment. *Am J Emerg Med*. 2020;38(10):2241-2242.
13. Herring AA, Vosooghi AA, Luftig J, et al. High-dose buprenorphine induction in the emergency department for treatment of opioid use disorder. *JAMA Netw Open*. 2021;4(7):e2117128.
14. Hawk K, Hoppe J, Ketcham E, et al. Consensus recommendations on the treatment of opioid use disorder in the emergency department. *Ann Emerg Med*. 2021;78(3):434-442.
15. Strayer RJ, Hawk K, Hayes BD, et al. Management of opioid use disorder in the emergency department: a white paper prepared for the American Academy of Emergency Medicine. *J Emerg Med*. 2020;58(3):522-546.
16. Wax PM, Stolbach AI, Schwarz ES, Warrick BJ, Wiegand TJ, Nelson LS. ACMT position statement: buprenorphine Administration in the Emergency Department. *J Med Toxicol*. 2019;15(3):215-216.
17. Huntley K, Einstein E, Postma T, Thomas A, Ling S, Compton W. Advancing emergency department–initiated buprenorphine. *J Am Coll Emerg Physicians Open*. 2021;2(3):e12451.
18. Rosenblatt RA, Andrilla CHA, Catlin M, Larson EH. Geographic and specialty distribution of US physicians trained to treat opioid use disorder. *Ann Fam Med*. 2015;13(1):23-26.
19. Duncan A, Anderman J, Deseran T, Reynolds I, Stein BD. Monthly patient volumes of buprenorphine-waivered clinicians in the US. *JAMA Netw Open*. 2020;3(3):e2014045.
20. Im DD, Chary A, Condella AL, et al. Emergency department Clinicians' attitudes toward opioid use disorder and emergency department-initiated buprenorphine treatment: a mixed-methods study. *West J Emerg Med*. 2020;21(2):261-271.
21. Lowenstein M, Kilaru A, Perrone J, et al. Barriers and facilitators for emergency department initiation of buprenorphine: a physician survey. *Am J Emerg Med*. 2019;37(9):1787-1790.
22. Guerrero E, Ober AJ, Howard DL, et al. Organizational factors associated with practitioners' support for treatment of opioid use disorder in the emergency department. *Addict Behav*. 2020;102:106197.
23. Martin A, Mitchell A, Wakeman S, White B, Raja A. Emergency department treatment of opioid addiction: an opportunity to Lead. *Acad Emerg Med*. 2018;25(5):601-604.
24. Hawk KF, D'Onofrio G, Chawarski MC, et al. Barriers and facilitators to clinician readiness to provide emergency department-initiated buprenorphine. *JAMA Netw Open*. 2020;3(5):e204561.
25. Zuckerman M, Kelly T, Heard K, Zosel A, Marlin M, Hoppe J. Physician attitudes on buprenorphine induction in the emergency department: results from a multistate survey. *Clin Toxicol*. 2020;59:279-285.
26. Substance Abuse and Mental Health Services Administration. Substance Abuse and Mental Health Services Administration: Use of Medication-Assisted Treatment in Emergency Departments. HHS Publication No. PEP21-PL-Guide-5 Rockville, MD: National Mental Health and Substance Use Policy Laborator; 2021.
27. Emergency department-administered, high-dose buprenorphine may enhance opioid use disorder treatment outcomes. National Institute of Health. July 15, 2021. https://www.nih.gov/news-events/news-releases/emergency-department-administered-high-dose-buprenorphine-may-enhance-opioid-use-disorder-treatment-outcomes
28. Dezfulian C, Chair V, Orkin AM, et al. Opioid-associated out-of-hospital cardiac arrest: distinctive clinical features and implications for health care and public responses. *Circulation*. 2021;143:836-870.
29. Martin A, Kunzler N, Nakagawa J, et al. Get waivered: a resident-driven campaign to address the opioid overdose crisis. *Ann Emerg Med*. 2019;74(5):691-696.
30. Emergency Medicine X Waiver Training. c2021. https://www.saem.org/detail-pages/event/2021/06/08/default-calendar/emergency-medicine-x-waiver-training
31. Buprenorphine use in the emergency department tool. American College of Emergency Physicians. c2022. https://www.acep.org/patient-care/bupe/
32. D'Onofrio G, Hawk K, Fiellin DA, et al. Emergency Department-Initiated Buprenorphine for Opioid Use Disorder (EMBED). c2005–2022. https://www.mdcalc.com/emergency-department-initiated-buprenorphine-opioid-use-disorder-embed
33. Practice Guidelines for the Administration of Buprenorphine for Treating Opioid Use Disorder. Federal Register. April 28, 2021. https://www.federalregister.gov/documents/2021/04/28/2021-08961/practice-guidelines-for-the-administration-of-buprenorphine-for-treating-opioid-use-disorder
34. D'Onofrio G, Melnick ER, Hawk KF. Improve access to care for opioid use disorder: a call to eliminate the X-waiver requirement now. *Ann Emerg Med*. 2021;78(2):220-222.
35. Wall JJ, MacNeill E, Fox SM, Kou M, Ishimine P. Incentives and barriers to pursuing pediatric emergency medicine fellowship: a cross-sectional survey of emergency residents. *J Am Coll Emerg Physicians Open*. 2020;1(6):1505-1511.
36. Falvo T, McKniff S, Smolin G, Vega D, Amsterdam JT. The business of emergency medicine: a nonclinical curriculum proposal for emergency medicine residency programs. *Acad Emerg Med*. 2009;16(9):900-907.

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

How to cite this article: Yu MJ, Hawk K. Resident attitudes, experiences, and preferences on initiating buprenorphine in the emergency department: A national survey. *AEM Educ Train*. 2022;6:e10779. doi: 10.1002/aet2.10779