

# Impact of Policy Change on Access to Medication for Opioid Use Disorder in Primary Care

Joanna Krupp, BA<sup>1</sup>; Frances Hung, MS<sup>2</sup>; Tina LaChapelle, MA<sup>3</sup>; Michael E. Yarrington, MD<sup>4</sup>; Katherine Link, BSN<sup>4</sup>; Yujung Choi, MS<sup>5</sup>; Hillary Chen, MPH<sup>5</sup>; Andrea Des Marais, MPH<sup>5</sup>; Nidhi Sachdeva, MPH<sup>5</sup>; Hrishikesh Chakraborty, PhD<sup>2</sup>; and Mehri S. McKellar, MD<sup>4</sup>

**Objectives:** The opioid overdose epidemic is escalating. Increasing access to medications for opioid use disorder in primary care is crucial. The impact of the US Department of Health and Human Services' policy change removing the buprenorphine waiver training requirement on primary care buprenorphine prescribing remains unclear. We aimed to investigate the impact of the policy change on primary care providers' likelihood of applying for a waiver and the current attitudes, practices, and barriers to buprenorphine prescribing in primary care.

**Methods:** We used a cross-sectional survey with embedded educational resources disseminated to primary care providers in a southern US academic health system. We used descriptive statistics to aggregate survey data, logistic regression models to evaluate whether buprenorphine interest and familiarity correlate with clinical characteristics, and a  $\chi^2$  test to evaluate the effect of the educational intervention on screening.

**Results:** Of the 54 respondents, 70.4% reported seeing patients with opioid use disorder, but only 11.1% had a waiver to prescribe buprenorphine. Few nonwaivered providers were interested in prescribing, but perceiving buprenorphine to be beneficial to the patient population was associated with interest (adjusted odds ratio 34.7,  $P < 0.001$ ). Two-thirds of nonwaivered respondents reported the policy change having no impact on their decision to obtain a waiver; however, among interested providers, it increased their likelihood of obtaining a waiver. Barriers to buprenorphine prescribing included lack of clinical experience, clinical capacity, and referral resources. Screening for opioid use disorder did not increase significantly after the survey.

**Conclusions:** Although most primary care providers reported seeing patients with opioid use disorder, interest in prescribing buprenorphine was low and structural barriers remained the dominant obstacles. Providers with a preexisting interest in buprenorphine prescribing reported that removing the training requirement was helpful.

**Key Words:** barriers to care, buprenorphine, opioid use disorder, practice guidelines, primary care

From the<sup>1</sup>Duke University School of Medicine, <sup>2</sup>Department of Biostatistics and Bioinformatics, Duke University School of Medicine, <sup>3</sup>Initiative on Survey Methodology, Duke University, <sup>4</sup>Department of Medicine, Division of Infectious Diseases, Duke University School of Medicine, and <sup>5</sup>Department of Population Health Sciences, Duke University School of Medicine, Durham, North Carolina.

Correspondence to Dr Mehri S. McKellar, Duke University Medical Center, PO Box 102359, Durham, NC 27710. E-mail: mehri.mckellar@duke.edu. To purchase a single copy of this article, visit [sma.org/smj](http://sma.org/smj). To purchase larger reprint quantities, please contact [reprintsolutions@wolterskluwer.com](mailto:reprintsolutions@wolterskluwer.com).

Supplemental digital content is available for this article. Direct URL citations appear in the printed text, and links to the digital files are provided in the HTML text of this article on the journal's Web site (<http://sma.org/smj>).

This publication was made possible with help from the Duke University Center for AIDS Research (5P30 AI064518), a program funded by the National Institutes of Health.

M.S.M receives research funding from Gilead which is not related to the research described in this paper. The remaining authors did not report any financial relationships or conflicts of interest.

Accepted November 17, 2022.

0038-4348/0-2000/116-333

Copyright © 2023 The Author(s). Published by Wolters Kluwer Health, Inc. on behalf of the Southern Medical Association. This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

DOI: 10.14423/SMJ.0000000000001544

The opioid overdose epidemic continues to escalate, with more than 100,000 overdose deaths in the United States in 2021.<sup>1</sup> Increasing the accessibility of medications for opioid use disorder (MOUD) is critical. Buprenorphine has been shown to prevent overdose deaths<sup>2</sup> and can be prescribed by any licensed medical

## Key Points

- Most primary care providers (PCPs) reported seeing patients with opioid use disorder in their practice, despite low rates of screening.
- Only 11% of survey respondents had a Drug Abuse Treatment Act of 2000 waiver to prescribe buprenorphine, but most waived providers were prescribing.
- Among nonwaivered PCPs, only 15% reported an interest in prescribing buprenorphine.
- Removing the Drug Abuse Treatment Act of 2000 waiver training requirement may increase the number of PCPs obtaining waivers.
- PCPs identified structural factors as the largest barriers to buprenorphine prescribing in their practice.

provider with a Drug Abuse Treatment Act of 2000 (DATA) waiver. There is a concerning shortage of buprenorphine prescribers in the United States,<sup>3,4</sup> however, making this lifesaving therapy inaccessible to many, especially in rural regions of the South.<sup>5</sup>

Primary care providers (PCPs) provide most of the health care in the rural United States<sup>6</sup> and more behavioral health treatment than specialists,<sup>7</sup> uniquely positioning them to address the critical need for MOUD.<sup>8</sup> When prescribed by PCPs, buprenorphine treatment is more easily accessible and produces equivalent treatment outcomes as compared with prescription by psychiatrists, pain medicine, and addiction medicine specialists.<sup>9,10</sup> Despite the increasing rates of buprenorphine prescribing among PCPs,<sup>11,12</sup> only a small fraction of PCPs has obtained a DATA waiver.<sup>13,14</sup> Identifying and alleviating barriers to MOUD prescribing among PCPs is crucial to expanding the access to treatment.

In April 2021, the US Department of Health and Human Services (HHS) released the updated *Practice Guidelines for the Administration of Buprenorphine for Treating Opioid Use Disorder*, which reduced the requirements for obtaining a DATA waiver. Whereas at least 8 hours of training was previously mandated, the new guidelines allow providers to treat up to 30 patients without completing waiver training.<sup>15</sup> Although this change was celebrated as lowering a substantial barrier to buprenorphine treatment for OUD,<sup>16</sup> many additional barriers have been documented, including lack of institutional resources, lack of clinical experience, the continuing need to register for a DATA waiver, discrimination against people who use drugs, and inadequate reimbursement.<sup>4,17,18</sup> Because these barriers remain largely unchanged, it is unclear whether the new practice guidelines will meaningfully increase the number of PCPs who obtain a DATA waiver and prescribe buprenorphine.

To investigate the impact of the HHS policy change on the likelihood of PCPs to apply for a DATA waiver, we disseminated a survey with an embedded educational intervention to PCPs in a large, academic primary care network. We hypothesized that nonwaivered providers would report an increased likelihood of applying for a DATA waiver under the reduced training requirement and that screening for OUD would increase following the educational intervention. In addition, we evaluated whether familiarity with and interest in buprenorphine prescribing correlate with clinical exposure to MOUD and the perceived benefit of buprenorphine for the patient populations of the providers.

## Methods

### Survey Design

We surveyed providers within Duke Primary Care (DPC), a subsidiary of Duke University Health System, encompassing 37 clinics and nine urgent care facilities providing pediatric, adult, and family medicine services in central North Carolina. This network was well situated for the investigation because it serves as the primary site for OUD treatment for patients within the

health system and does not have an office-based opioid treatment program or well-developed referral network.

We developed a 70-question online survey about attitudes, practices, and barriers related to buprenorphine prescribing in primary care based on prior research,<sup>17–19</sup> and incorporated questions about how the policy change affects providers' likelihood of applying for a waiver. We used 'buprenorphine' to describe buprenorphine-naloxone (Suboxone) and buprenorphine alone, both used as MOUD. We developed an educational intervention embedded in the survey that included resources related to the updated practice guidelines and buprenorphine prescribing. We also included a link to the DATA waiver application and an optional 2-week reminder e-mail to apply for a DATA waiver. Survey content, clarity, and comprehensiveness were iteratively tested in qualitative interviews with four PCPs followed by pretesting with six PCPs.

### Data Collection

Coded in Qualtrics (Provo, UT), the online survey was open for 1 month (March 15–April 15, 2022) and was distributed to DPC physicians and advanced practice providers in Family Medicine, Internal Medicine, and Pediatrics. Throughout the survey period, the survey link was included in a weekly online organizational newsletter (five newsletters). Two weeks after opening the survey, a dedicated e-mail was sent to PCPs with the survey link. Participation was voluntary, informed consent was obtained, and entrance into a raffle for one of five \$50 gift cards was offered to all of the survey respondents upon completion. Because of the matriculation of PCPs, the number of providers receiving the survey varied slightly during the data collection period. The dedicated e-mail invitation, which generated the largest proportion of responses, was sent to 283 PCPs.

### Statistical Methods

We used descriptive statistics to aggregate survey responses. To assess the impact of the educational intervention on OUD screening, we compared the proportion of DPC office visits for opioid-use related diagnoses (*International Classification of Diseases, Tenth Revision, Clinical Modification* category F11), a proxy for provider screening of patients for OUD, before and after the intervention. We used Epic's native analytics tool, SlicerDicer to query data across a 13-week period from February 15, 2022 to May 16, 2022. We used a  $\chi^2$  test to compare the proportion of OUD office visits in the 4 weeks prior to survey rollout with the proportion in the 4 weeks after survey closure.

To determine whether familiarity with and interest in prescribing buprenorphine correlate with clinical exposure to or perceived benefit of MOUD, we aggregated survey responses from 4-point Likert scale questions to form binary categories of familiar/unfamiliar, any interest/no interest, and beneficial/not beneficial. We fit logistic regression models to the familiarity and interest outcomes. For familiarity with buprenorphine, we accounted for two measures of clinical exposure to MOUD: whether

**Table 1. Respondent demographics**

	Total, N = 54	Nonwaivered, n = 48	Waivered, n = 6
Age, y			
Mean (SD)	42.6 (±11.2)	42.4 (±11.7)	43.3 (±7.8)
Missing (%)	11 (20.4)	11 (22.9)	0 (0)
Age category, y (%)			
<30	3 (5.6)	3 (6.2)	0 (0.0)
30–40	18 (33.3)	16 (33.3)	2 (33.3)
40–50	12 (22.2)	9 (18.8)	3 (50.0)
50–60	5 (9.3)	4 (8.3)	1 (16.7)
>60	5 (9.3)	5 (10.4)	0 (0.0)
Missing	11 (20.4)	11 (22.9)	0 (0.0)
Sex (%)			
Female	29 (53.7)	25 (52.1)	4 (66.7)
Male	14 (25.9)	13 (27.1)	1 (16.7)
Prefer not to say	6 (11.1)	5 (10.4)	1 (16.7)
Missing	5 (9.3)	5 (10.4)	0 (0.0)
Race (%)			
American Indian or Alaska Native	1 (1.9)	1 (2.1)	0 (0.0)
Asian	6 (11.1)	5 (10.4)	1 (16.7)
Black or African American	5 (9.3)	5 (10.4)	0 (0.0)
Hispanic, Latinx, or Spanish origin	1 (1.9)	1 (2.1)	0 (0.0)
White	30 (55.6)	26 (54.2)	4 (66.7)
Multiple	2 (3.7)	2 (4.2)	0 (0.0)
Other	3 (5.6)	2 (4.2)	1 (16.7)
Missing	6 (11.1)	6 (12.5)	0 (0.0)
Degree (%)			
DO	4 (7.4)	3 (6.2)	1 (16.7)
MD	37 (68.5)	32 (66.7)	5 (83.3)
NP	5 (9.3)	5 (10.4)	0 (0.0)
PA	4 (7.4)	4 (8.3)	0 (0.0)
Missing	4 (7.4)	4 (8.3)	0 (0.0)
Specialty (%)			
Family Medicine	34 (63.0)	28 (58.3)	6 (100.0)
Internal Medicine	6 (11.1)	6 (12.5)	0 (0.0)
Internal Medicine-Pediatrics	5 (9.3)	5 (10.4)	0 (0.0)
Pediatrics	5 (9.3)	5 (10.4)	0 (0.0)
Missing	4 (7.4)	4 (8.3)	0 (0.0)
Length of time in practice, y (%)			
<1	6 (11.1)	5 (10.4)	1 (16.7)
1–5	17 (31.5)	16 (33.3)	1 (16.7)
6–10	4 (7.4)	3 (6.2)	1 (16.7)
11–20	13 (24.1)	11 (22.9)	2 (33.3)
>20	10 (18.5)	9 (18.8)	1 (16.7)
Missing	4 (7.4)	4 (8.3)	0 (0.0)
Practice setting (%)			
Rural	8 (14.8)	6 (12.5)	2 (33.3)

Continued next page

**Table 1. (Continued)**

Suburban	31 (57.4)	29 (60.4)	2 (33.3)
Urban	11 (20.4)	9 (18.8)	2 (33.3)
Missing	4 (7.4)	4 (8.3)	0 (0.0)
Involved in teaching trainees (%)			
No	8 (14.8)	8 (16.7)	0 (0.0)
Yes	40 (74.1)	35 (72.9)	5 (83.3)
Missing	6 (11.1)	5 (10.4)	1 (16.7)

DO, doctor of osteopathic medicine; MD, medical doctor/doctor of medicine; NP, nurse practitioner; PA, physician assistant; SD, standard deviation.

respondents had seen at least one patient with OUD in the last year and whether there were buprenorphine prescribers in their clinic. For interest in prescribing buprenorphine among nonwaivered respondents, we accounted for whether respondents had seen at least one patient with OUD in the last year and whether respondents perceived buprenorphine to be beneficial for their patient population. The survey and research protocol were granted exemption status by the Duke University Health System institutional review board.

## Results

### Participant Characteristics

The survey was disseminated to approximately 283 PCPs, with 58 completing the consent form, generating a crude response rate of 20% (58/283). Four responses were excluded because respondents did not report their DATA waiver status and completed <10% of the survey questions. The corrected response rate was 19% (54/283).

The mean age of respondents was 43 years; the majority were female, White race, physicians, and specialized in Family Medicine (Table 1). More than three-fourths practiced in either suburban or urban settings, and the majority were involved in medical education. Only 11.1% (6/54) of respondents had a DATA waiver. Respondents resembled the sampled population of PCPs in terms of age, degree, and specialty, but fewer survey respondents identified as female and White (see the Supplemental Digital Content Table at <http://links.lww.com/SMJ/A323>).

Overall, 70.4% of respondents reported seeing at least one patient with OUD in the last year (Table 2). Almost half of the respondents reported that their clinic used a standardized screening tool for OUD, but the same proportion reported that less than half or none/almost none of their patient panel was screened for OUD in the last year. One-third of respondents reported being moderately or very familiar with buprenorphine (Table 2). Familiarity with buprenorphine was not significantly associated with seeing at least one patient with OUD in the last year (adjusted odds ratio [aOR] 8.4, 95% confidence interval [CI] 1.32–165.32;  $P = 0.06$ ) or having a buprenorphine prescriber in the clinic (aOR 0.24, 95% CI 0.01–1.67,  $P = 0.21$ ).

**Table 2. OUD screening and treatment**

	Total, N = 54	Nonwaivered, n = 48	Waivered, n = 6
Use of standardized screening tool for OUD (%)			
No	18 (33.3)	15 (31.2)	3 (50.0)
Not sure	11 (20.4)	10 (20.8)	1 (16.7)
Yes	24 (44.4)	22 (45.8)	2 (33.3)
Missing	1 (1.9)	1 (2.1)	0 (0.0)
Proportion of patients screened for OUD in last 12 mo (%)			
Almost all patients	4 (7.4)	3 (6.2)	1 (16.7)
More than half of patients	10 (18.5)	9 (18.8)	1 (16.7)
Approximately half of patients	5 (9.3)	5 (10.4)	0 (0.0)
Less than half of patients	15 (27.8)	13 (27.1)	2 (33.3)
None or almost none	11 (20.4)	11 (22.9)	0 (0.0)
Not sure	8 (14.8)	6 (12.5)	2 (33.3)
Missing	1 (1.9)	1 (2.1)	0 (0.0)
Unique patients with OUD seen in last 12 mo (%)			
0	15 (27.8)	15 (31.2)	0 (0.0)
1–10	32 (59.3)	27 (56.2)	5 (83.3)
11–50	6 (11.1)	5 (10.4)	1 (16.7)
Missing	1 (1.9)	1 (2.1)	0 (0.0)
Familiarity with buprenorphine (%)			
Not at all familiar	0 (0.0)	0 (0.0)	0 (0.0)
Slightly familiar	26 (48.1)	26 (54.2)	0 (0.0)
Moderately familiar	11 (20.4)	9 (18.8)	2 (33.3)
Very familiar	6 (11.1)	2 (4.2)	4 (66.7)
Missing	11 (20.4)	11 (22.9)	0 (0.0)

OUD, opioid use disorder.

### Attitudes about OUD and Its Treatment

Most respondents agreed that asking patients about substance use was part of their job (83.3%) and that they could appropriately advise patients about drugs and their effects (66.6%). Less than half of respondents agreed or somewhat agreed that they were satisfied with the clinical care they could offer to patients with OUD (40.7%). Waivered providers were satisfied with the care they could provide at a higher rate (50%; 3/6) than nonwaivered providers (39.6%; 19/48) (see the Supplemental Digital Content Figure <http://links.lww.com/SMJ/A324>).

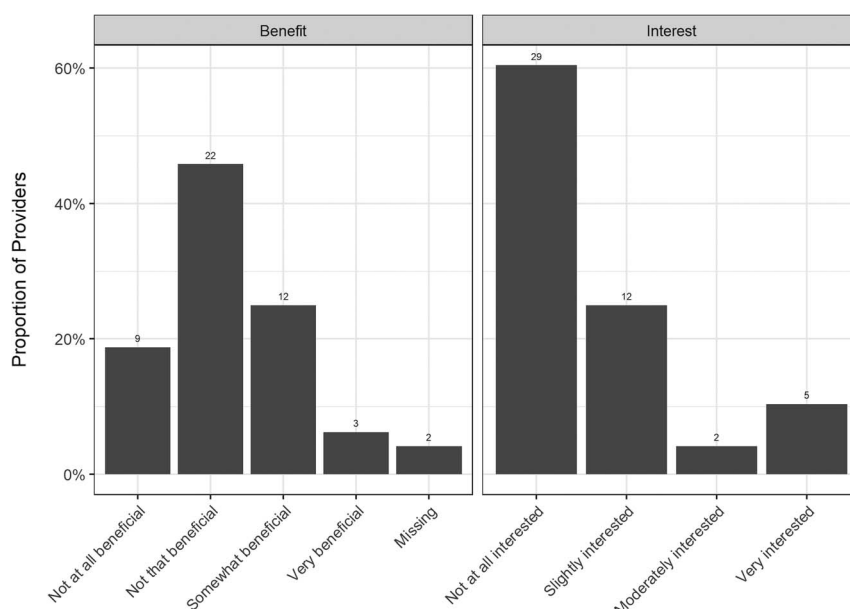
Three-fourths of respondents agreed or somewhat agreed that buprenorphine is a sustainable treatment for patients with OUD (74.1%), 40.1% agreed or somewhat agreed that buprenorphine dosing should be increased to treat all withdrawal and craving symptoms, and only 11.1% agreed or somewhat agreed that patients on buprenorphine should be encouraged to discontinue treatment as soon as possible (see the Supplemental Digital Content Figure <http://links.lww.com/SMJ/A324>).

### DATA Waiver Status and Current Practices

Of the 88.9% (48/54) of respondents without a DATA waiver, 14.6% reported that they were moderately or very interested in

prescribing buprenorphine, and 60.4% reported having no interest in buprenorphine prescribing (Fig. 1). Interest in buprenorphine prescribing was significantly associated with respondents perceiving buprenorphine to be beneficial to their patient populations (aOR 34.7, 95% CI 6.58–305.3,  $P < 0.001$ ), but it was not significantly associated with having seen at least one patient with OUD in the last year (aOR 0.4, 95% CI 0.07–2.12,  $P = 0.29$ ). Among nonwaivered respondents, 16.7% reported there being a buprenorphine prescriber in their clinic.

Of the 11% (6 of 54) of respondents who reported having a DATA waiver, five were currently prescribing. All of the waived respondents had obtained their waiver in the last 5 years, and five of six reported there being other buprenorphine prescribers in their clinic. Of the five respondents prescribing buprenorphine, four were prescribing to <10 patients and 1 was prescribing to between 11 and 30 patients. All of the prescribers reported having the capacity to prescribe to additional patients. Most (4 of 5) reported offering only home buprenorphine inductions, and three of five reported sometimes or often offering a same-day buprenorphine prescription. Four prescribers reported requiring a urine drug screen for buprenorphine and all five prescribers reported requiring a urine drug screen for other substances.



**Fig. 1.** Perceived benefit of buprenorphine and interest in prescribing among nonwaivered primary care providers. Shown here is the proportion of nonwaivered respondents who perceived buprenorphine to be not at all beneficial, not that beneficial, somewhat beneficial, or very beneficial for their patient populations, and the proportion of providers who expressed no interest, slight interest, moderate interest, and high interest in buprenorphine prescribing.

### Barriers to Buprenorphine Prescribing

The top barriers for nonwaivered respondents were lack of training or clinical experience (12.5%), inability to take on additional clinical responsibilities (12.5%), and inability to connect patients to additional resources for OUD (10.4%). Half of nonwaivered respondents (47.9%) listed the DATA waiver training requirement as a barrier to buprenorphine prescribing and 4.2% marked it as their top barrier (Fig. 2). Among the six waived providers, one-third listed inconsistent or limited patient interest and one-third listed inability to connect patients to additional resources as their top barriers.

### Buprenorphine Policy Change and Impact on Prescribing

Among nonwaivered respondents, 27.1% reported that the HHS policy change made them more likely to apply for a waiver in the future, and two-thirds (62.5%) reported that the policy change had no impact on their decision to obtain a waiver. Among the respondents who expressed moderate or high interest in buprenorphine prescribing (14.6%), 71% reported that the policy change made them more likely to apply for a waiver. One respondent clicked on the DATA waiver link embedded in the survey and 10.4% (5/48) opted-in to receive a 2-week reminder e-mail to apply for a DATA waiver.

### Impact of the Intervention on Screening for OUD

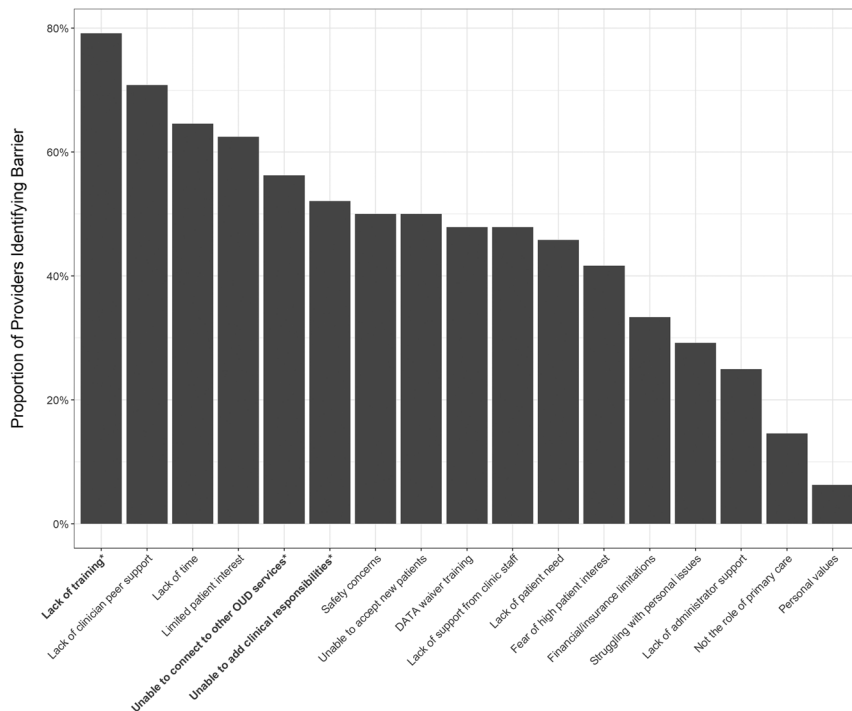
In the 4 weeks before the survey distribution, there were 45,053 total office visits and 473 visits for opioid use-related diagnoses. During the 4 weeks after the survey closed, there

were 43,489 total office visits and 492 visits for opioid use-related diagnoses. The proportion of OUD-related visits after the survey was 1.13%, which was not significantly higher than the presurvey rate of 1.05% ( $\chi^2_1 = 1.36$ ,  $P = 0.24$ ).

### Discussion

This cross-sectional survey of PCPs within an academic health system showed that more than two-thirds of PCPs report seeing patients with OUD, but only 11% had a DATA waiver, consistent with previously reported rates of buprenorphine prescribing in primary care.<sup>19-21</sup> Interest in buprenorphine prescribing among nonwaivered PCPs was low, but those with interest reported that the updated HHS guidelines increased their likelihood of applying for a DATA waiver. The change in practice guidelines was less influential for the much larger proportion of PCPs who reported low interest in buprenorphine prescribing. To increase access to MOUD in primary care, removing the training requirement is necessary but not sufficient. The structural and institutional barriers that continue to discourage PCPs from prescribing also must be addressed.

Among nonwaivered providers, although one-third perceived buprenorphine to be beneficial to their patient populations, only 15% reported interest in prescribing buprenorphine, indicating a discrepancy between patient need and PCP capacity or willingness to prescribe. Despite this treatment gap, there was a statistically significant correlation between providers' perceived benefit of buprenorphine for their patient population and their likelihood of being interested in prescribing. Educational interventions have been effective at increasing buprenorphine prescribing among



**Fig. 2. Barriers to buprenorphine prescribing among nonwaivered PCPs.** Shown here is the proportion of nonwaivered providers who indicated that they experience each barrier to buprenorphine prescribing. Respondents could select multiple barriers, so that proportions sum to >100%. The asterisk indicates the barriers most often listed as the respondents’ top barrier. DATA waiver, Drug Abuse Treatment Act of 2000 waiver; OUD; opioid use disorder; PCP, primary care provider.

PCPs in the past,<sup>22,23</sup> but they have not traditionally focused on the benefits of buprenorphine therapy for providers’ specific patient populations. Interventions that highlight the impact of buprenorphine treatment on providers’ patient panels may increase the efficacy of preexisting educational programs and decrease the discrepancy between patients’ needs for buprenorphine and providers’ ability to prescribe.

The practice guidelines, updated in April 2021 and projected to increase access to buprenorphine,<sup>24,25</sup> appear to have a limited impact on the likelihood of PCPs of obtaining a waiver. Although close to half of nonwaivered respondents listed the training requirement as a barrier, only 4% indicated that it was their top barrier, and two-thirds said the policy change had no impact on their decision to obtain a waiver. This finding is consistent with observed trends in waiver status showing decreasing numbers of newly obtained DATA waivers since 2020, despite the policy change in 2021.<sup>26</sup> Among those with preexisting interest in buprenorphine prescribing, however, the guidelines may have a more significant effect. More than two-thirds of respondents reporting interest in buprenorphine prescribing indicated that the new practice guidelines make them more likely to apply for a waiver. Interventions shown to increase interest in prescribing may be more effective following the policy change; however, it remains unlikely that waiving the training requirement alone will result in significantly increased buprenorphine prescribing in primary care.

We note that there have been calls to eliminate the DATA waiver completely because it contributes to stigma and remains

an unnecessary barrier to MOUD access.<sup>27,28</sup> In this study, even among those who expressed interest in applying for the waiver, few clicked on the waiver application link or opted for a 2-week reminder e-mail, reaffirming that the waiver itself, rather than its training requirement, may be a barrier. In January 2023, the DATA waiver was eliminated allowing any provider with a DEA license to prescribe buprenorphine for OUD.<sup>29</sup> Further research is required to understand the impact this most recent policy change will have on access to MOUD in primary care.

The DATA waiver is one of many barriers that stands in the way of MOUD prescribing. Among nonwaivered providers surveyed, the most influential barriers were lack of training and clinical experience, inability to take on additional clinical responsibilities, and inability to connect patients to additional resources for OUD. These barriers speak to the structural and educational supports that must be in place for PCPs to feel comfortable offering MOUD. In the absence of the previously required DATA waiver training, attention must be paid to the educational support that PCPs need to increase their clinical comfort with MOUD. Incorporating training on buprenorphine during undergraduate and graduate medical education and requiring clinical experiences in addiction medicine, as was recently implemented by the Accreditation Council for Graduate Medical Education for Internal Medicine residency programs,<sup>30</sup> could increase upcoming providers’ comfort with MOUD. In addition, in primary care, where providers rely on referral networks and specialists for co-management of complex conditions, access to addiction

medicine specialists and behavioral health providers is crucial. Interventions that connect PCPs with specialists, provide continuing education, and increase access to behavioral health providers have been shown to increase the number of waived PCPs and MOUD access in primary care.<sup>31–35</sup> To address the lack of clinical capacity endorsed by some PCPs, interventions that expand telemedicine prescribing and establish MOUD comanagement with nurse care managers and pharmacists also have been successful.<sup>36–38</sup> Stigma, although a well-documented barrier to buprenorphine treatment in primary care in the past,<sup>17</sup> did not emerge as a prominent barrier in our study.

Our study has limitations. Social desirability bias could affect responses to questions about attitudes and stigma. We mitigated this effect by assuring respondents that identifying information (eg, e-mail addresses) would be disconnected from their responses and would remain confidential. Because of nonresponse bias, waived providers or providers interested in MOUD may be overrepresented in our sample, although we minimized this impact by incentivizing participation. Our respondents resemble the sampled population in terms of age, degree, and specialty, indicating a likely representative sample, even though our respondents are more equally distributed than the sampled population across gender and racial groups. Most respondents were involved in medical education, which may affect their willingness to provide MOUD. Our small sample size, especially of waived providers, poses challenges for statistical testing. Finally, the educational intervention embedded in the survey required engagement with the resources at the time of survey completion, and more flexible interventions may be more effective for PCPs with limited time.

This work has several future directions. We plan to follow our study cohort to evaluate the impact of the educational intervention on the number of waived providers and patients engaged in MOUD. We are interested in expanding this survey to include providers in urgent care, emergency medicine, and obstetrics and gynecology. Understanding the unique barriers to MOUD provision in other specialties is crucial to increasing access to MOUD across the care continuum. In addition, because of the limited sample size, we were unable to evaluate the unique barriers and attitudes of providers who have a DATA waiver but are not prescribing buprenorphine. Studies have projected that more than 50% of providers who obtain a waiver do not prescribe,<sup>39</sup> and additional research is warranted to better understand this demographic. Finally, implementation of interventions to address the barriers identified in this study is necessary to increase access to MOUD in primary care.

## Conclusions

Our study suggests that eliminating the DATA waiver training requirement may increase the likelihood that some PCPs obtain a waiver but is not sufficient to significantly increase MOUD access in primary care. PCPs are seeing patients with OUD in their practice and recognize the value of buprenorphine treatment,

but they identify a variety of structural barriers to buprenorphine prescribing. Interventions that increase MOUD education for trainees and practicing providers, strengthen referral and peer support networks, and implement interdisciplinary care teams could address these barriers and improve equitable access to MOUD.

## Acknowledgment

We thank Dr John Anderson, the chief medical officer of Duke Primary Care, for assistance and support.

## References

- Centers for Disease Control and Prevention. U.S. overdose deaths in 2021 increased half as much as in 2020—but are still up 15%. [https://www.cdc.gov/nchs/pressroom/nchs\\_press\\_releases/2022/202205.htm](https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2022/202205.htm). Updated May 11, 2022. Accessed June 26, 2022.
- 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;169:137–145.
- Morgan JR, Schackman BR, Leff JA, et al. Injectable naltrexone, oral naltrexone, and buprenorphine utilization and discontinuation among individuals treated for opioid use disorder in a United States commercially insured population. *J Subst Abuse Treat* 2018;85:90–96.
- Haffajee RL, Bohnert ASB, Lagisetty PA. Policy pathways to address provider workforce barriers to buprenorphine treatment. *Am J Prev Med* 2018; 54(6 suppl 3):S230–S242.
- Grimm CA. Geographic disparities affect access to buprenorphine services for opioid use disorder. <https://oig.hhs.gov/oei/reports/oei-12-17-00240.asp>. Published January 29, 2020. Accessed January 20, 2023.
- Willis J, Antono B, Bazemore A, et al. The state of primary care in the United States: a chartbook of facts and statistics. <https://www.graham-center.org/content/dam/rgc/documents/publications-reports/reports/PrimaryCareChartbook2021.pdf>. Published February 2021. Accessed January 20, 2023.
- Wang PS, Lane M, Olfson M, et al. Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 2005;62:629–640.
- Korthuis PT, McCarty D, Weimer M, et al. Primary care-based models for the treatment of opioid use disorder: a scoping review. *Ann Intern Med* 2017; 166:268–278.
- Korownyk C, Perry D, Ton J, et al. Opioid use disorder in primary care: PEER umbrella systematic review of systematic reviews. *Can Fam Physician* 2019; 65:e194–e206.
- Gertner AK, Robertson AG, Powell BJ, et al. Primary care providers and specialists deliver comparable buprenorphine treatment quality. *Health Aff (Millwood)* 2020;39:1395–1404.
- Wen H, Borders TF, Cummings JR. Trends in buprenorphine prescribing by physician specialty. *Health Aff (Millwood)* 2019;38:24–28.
- Olfson M, Zhang V, Schoenbaum M, et al. Buprenorphine treatment by primary care providers, psychiatrists, addiction specialists, and others. *Health Aff (Millwood)* 2020;39:984–992.
- Rosenblatt RA, Andrilla CH, Catlin M, et al. Geographic and specialty distribution of US physicians trained to treat opioid use disorder. *Ann Fam Med* 2015;13:23–26. doi:10.1370/afm.1735
- Saloner B, Lin L, Simon K. Geographic location of buprenorphine-waivered physicians and integration with health systems. *J Subst Abuse Treat*. Aug 2020;115:108034. doi:10.1016/j.jsat.2020.108034
- US Department of Health and Human Services. Practice guidelines for the administration of buprenorphine for treating opioid use disorder. <https://www.federalregister.gov/documents/2021/04/28/2021-08961/practice-guidelines-for-the-administration-of-buprenorphine-for-treating-opioid-use-disorder>. Published April 28, 2021. Accessed June 26, 2022.
- Drug Policy Alliance. Statement on HHS' new guidelines removing barriers from medical practitioners to prescribe life-saving medication for opioid use

- disorder. <https://drugpolicy.org/press-release/2021/04/statement-hhs-new-guidelines-removing-barriers-medical-practitioners>. Published April 27, 2021. Accessed June 26, 2022.
17. Louie DL, Assefa MT, McGovern MP. Attitudes of primary care physicians toward prescribing buprenorphine: a narrative review. *BMC Fam Pract* 2019; 20:157.
  18. Cole ES, DiDomenico E, Green S, et al. The who, the what, and the how: a description of strategies and lessons learned to expand access to medications for opioid use disorder in rural America. *Subst Abus* 2021;42:123–129.
  19. Foti K, Heyward J, Tajanlangit M, et al. Primary care physicians' preparedness to treat opioid use disorder in the United States: a cross-sectional survey. *Drug Alcohol Depend* 2021;225:108811.
  20. McGinty EE, Stone EM, Kennedy-Hendricks A, et al. Medication for opioid use disorder: a national survey of primary care physicians. *Ann Intern Med* 2020;173:160–162.
  21. DeFlavio JR, Rolin SA, Nordstrom BR, et al. Analysis of barriers to adoption of buprenorphine maintenance therapy by family physicians. *Rural Remote Health* 2015;15:3019.
  22. Clark B, Kai M, Dix R, et al. Association of a multimodal educational intervention for primary Care physicians with prescriptions of buprenorphine for opioid use disorders. *JAMA Netw Open* 2019;2:e1913818.
  23. Boggiano V, Gilmore Wilson C, Fagan EB, et al. The impact on future prescribing patterns of opioid use disorder (OUD) education and waiver provision during residency. *J Am Board Fam Med* 2020;33:998–1003.
  24. Gregory HM, Hill VM, Parker RW. Implications of increased access to buprenorphine for medical providers in rural areas: a review of the literature and future directions. *Cureus* 2021;13:e19870.
  25. US Department of Health and Human Services. HHS releases new buprenorphine practice guidelines, expanding access to treatment for opioid use disorder. <https://www.samhsa.gov/newsroom/press-announcements/202104270930>. Updated January 14, 2021. Accessed June 26, 2022.
  26. Spetz J, Hailer L, Gay C, et al. Changes in US clinician waivers to prescribe buprenorphine management for opioid use disorder during the COVID-19 pandemic and after relaxation of training requirements. *JAMA Network Open* 2022;5:e225996.
  27. Fiscella K, Wakeman SE, Beletsky L. Buprenorphine deregulation and mainstreaming treatment for opioid use disorder: X the X waiver. *JAMA Psychiatry* 2019;76:229–230.
  28. 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;78:220–222.
  29. Removal of DATA Waiver (X-Waiver) Requirement. Substance Abuse and Mental Health Services Administration. 2023. Available at: <https://www.samhsa.gov/medications-substance-use-disorders/removal-data-waiver-requirement>. Accessed January 29, 2023.
  30. Accreditation Council for Graduate Medical Education. ACGME program requirements for graduate medical education in internal medicine. [https://www.acgme.org/globalassets/pfassets/programrequirements/140\\_internalmedicine\\_2022v3.pdf](https://www.acgme.org/globalassets/pfassets/programrequirements/140_internalmedicine_2022v3.pdf). Published February 7, 2022. Accessed June 26, 2022.
  31. Anderson JB, Martin SA, Gadowski A, et al. Project ECHO and primary care buprenorphine treatment for opioid use disorder: implementation and clinical outcomes. *Subst Abus* 2022;43:222–230.
  32. Brackett CD, Duncan M, Wagner JF, et al. Multidisciplinary treatment of opioid use disorder in primary care using the collaborative care model. *Subst Abus* 2022;43:240–244.
  33. Reif S, Brolin MF, Stewart MT, et al. The Washington state hub and spoke model to increase access to medication treatment for opioid use disorders. *J Subst Abuse Treat* 2020;108:33–39.
  34. Komaromy M, Duhigg D, Metcalf A, et al. Project ECHO (Extension for Community Healthcare Outcomes): a new model for educating primary care providers about treatment of substance use disorders. *Subst Abus* 2016;37:20–24.
  35. Spelman JF, Edens EL, Maya S, et al. A facility-wide plan to increase access to medication for opioid use disorder in primary care and general mental health settings. *Fed Pract* 2021;38:460–464.
  36. Weintraub E, Seneviratne C, Anane J, et al. Mobile telemedicine for buprenorphine treatment in rural populations with opioid use disorder. *JAMA Netw Open* 2021;4:e2118487.
  37. Wu LT, John WS, Ghitza UE, et al. Buprenorphine physician-pharmacist collaboration in the management of patients with opioid use disorder: results from a multisite study of the National Drug Abuse Treatment Clinical Trials Network. *Addiction* 2021;116:1805–1816.
  38. Alford DP, LaBelle CT, Kretsch N, et al. Collaborative care of opioid-addicted patients in primary care using buprenorphine: five-year experience. *Arch Intern Med* 2011;171:425–431.
  39. Lanham HJ, Papac J, Olmos DI, et al. Survey of barriers and facilitators to prescribing buprenorphine and clinician perceptions on the Drug Addiction Treatment Act of 2000 waiver. *JAMA Network Open* 2022;5:e2212419.