POPULATIONS AT RISK

Barriers to Obtaining Waivers to Prescribe Buprenorphine for Opioid Addiction Treatment Among HIV Physicians

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BACKGROUND: Illicit drug use is common among HIV-infected individuals. Buprenorphine enables physicians to simultaneously treat HIV and opioid dependence, offering opportunities to improve health outcomes. Despite this, few physicians prescribe buprenorphine.

OBJECTIVE: To examine barriers to obtaining waivers to prescribe buprenorphine.

DESIGN: Cross-sectional survey study.

PARTICIPANTS: 375 physicians attending HIV educational conferences in six cities in 2006.

APPROACH: Anonymous questionnaires were distributed and analyzed to test whether confidence addressing drug problems and perceived barriers to prescribing buprenorphine were associated with having a buprenorphine waiver, using chi-square, *t* tests, and logistic regression.

RESULTS: 25.1% of HIV physicians had waivers to prescribe buprenorphine. In bivariate analyses, physicians with waivers versus those without waivers were less likely to be male (51.1 vs 63.7%, $p<.05$), more likely to be in New York (51.1 vs 29.5%, $p<.01$), less likely to be infectious disease specialists (25.5 vs 41.6%, $p<.05$), and more likely to be general internists (43.6 vs 33.5%, $p<.05$). Adjusting for physician characteristics, confidence addressing drug problems (adjusted odds ratio [AOR]=2.05, 95% confidence interval [95% CI]=1.08–3.88) and concern about lack of access to addiction experts (AOR=0.56, 95% CI=0.32–0.97) were significantly associated with having a buprenorphine waiver.

CONCLUSIONS: Among HIV physicians attending educational conferences, confidence addressing drug problems was positively associated with having a buprenorphine waiver, and concern about lack of access to addiction experts was negatively associated with it. HIV physicians are uniquely positioned to provide opioid addiction treatment in the HIV primary care setting. Understanding and remediating barriers HIV physicians face may lead to new opportunities to improve outcomes for opioid-dependent HIV-infected patients.

KEY WORDS: HIV; buprenorphine; substance abuse; barriers.

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BACKGROUND

Illicit drug use is common among HIV-infected individuals in the United States.[1] In addition, in national samples of individuals receiving HIV care, nearly one quarter of patients abuse drugs.[2,3] Historically, HIV treatment and drug abuse treatment have been offered by distinct health care providers in separate parts of the health care system. Such fragmentation poses barriers to coordination of HIV and drug abuse treatment. It is well documented that HIV-infected individuals who use illicit drugs have worse outcomes, including poor virologic outcomes, and a higher mortality rate than patients who do not use drugs.[1,4–9] Studies that have integrated HIV treatment into the drug abuse treatment setting have demonstrated positive outcomes.[10,11] Now with the recent approval of buprenorphine for opioid addiction treatment, HIV physicians can treat opioid dependence in the HIV primary care setting, which has the potential to improve outcomes for both conditions.

Despite the fact that methadone maintenance treatment slots are available for only 20% of the 1.7 million opioid-dependent Americans,[12,13] physicians have been slow to prescribe buprenorphine for opioid addiction treatment.[14] In one study of addiction specialist physicians (who had buprenorphine waivers), only 58% had ever prescribed buprenorphine, and one quarter of them reported that they reduced or discontinued prescribing it.[14] There are a number of potential reasons for this slow uptake at both the health care system and physician-level. The Drug Addiction Treatment Act of 2000 requires physicians who prescribe buprenorphine to obtain a waiver and obtain a special *X* number from the Drug Enforcement Agency (DEA). To qualify for a waiver, physicians must meet one of the following conditions: board certification in addiction medicine/psychiatry, addiction certification from the American Society of Addiction Medicine, an investigator in clinical trials leading to approval of a medication to treat opioid addiction, completion of an 8-hour training on treatment of opioid-addicted patients, and other special circumstances.

After obtaining a waiver, physicians must then apply to the DEA for a special X number. Such requirements are unique to buprenorphine.

In addition to obtaining a waiver and DEA X number, other system-level issues that have been reported as barriers to treating substance abuse disorders include inadequate financial reimbursement, limited access to mental health physicians and addiction specialists, medicolegal risks, perceived lack of responsibility for management of addiction disorders, and perceived lack of efficacy of addiction treatment.[15–19] Previous studies have identified important provider-level barriers to prescribing buprenorphine, including lack of education, training, experience, time, support, and patient compliance; high level of patient complexity; and concern about buprenorphine abuse.[14,16,20–23]

Of the studies that have examined barriers to prescribing buprenorphine, only one has examined barriers experienced specifically by HIV physicians,[21] who may be particularly well positioned to treat opioid dependence in the course of routine medical care. Sites providing HIV care frequently offer multidisciplinary care, and have supportive services such as social workers, mental health providers, and even substance abuse counselors available. In addition, HIV physicians have become accustomed to counseling patients about HIV risk behaviors, including drug use behaviors. Given HIV physicians' unique position in caring for opioid-dependent patients, we sought to examine physicians' barriers to obtaining waivers to prescribe buprenorphine.

METHODS

Study Population

Questionnaires were distributed to physicians attending six different HIV clinical update conferences between February and May 2006. These all-day conferences, sponsored by the International AIDS Society–USA (IAS-USA), were held in New York City, Atlanta, Chicago, Washington DC, Los Angeles, and San Francisco. IAS-USA staff members distributed questionnaires at the beginning of the conference and collected them anonymously periodically throughout the conference. The study was approved by the institutional review board at Montefiore Medical Center.

Questionnaire

Individual questions were taken from measures that were used in previous studies to examine attitudes about substance abuse treatment in general, and opioid addiction treatment with methadone.[15,16,24] Unlike the questions used in previous studies, we modified our questions to specifically addressed buprenorphine. We included the following key variables:

Waivers to Prescribe Buprenorphine. We categorized physicians as *having a waiver* to prescribe buprenorphine if they answered *yes* to either "Have you completed the 8-hour training that allows you to prescribe buprenorphine" or "Do you have a DEA X number to prescribe buprenorphine?" Physicians who answered *no* to both of these questions were defined as *not having a waiver* to prescribe buprenorphine.

Confidence Addressing Drug Problems. Respondents indicated how confident they felt in screening for drug problems and counseling about drug problems. Five response categories ranged from *very confident* to *not confident*. We categorized respondents as *confident addressing drug problems* if they reported being very confident or moderately confident in screening for or counseling about drug problems. We categorized respondents as *not confident addressing drug problems* if they reported being somewhat confident, a little confident, or not confident in both screening for and counseling about drug problems.

Barriers to Prescribing Buprenorphine. Perceptions about barriers to providing treatment for opioid addiction were assessed by 10 statements in which physicians rated their degree of concern about perceived barriers (see Table 1). The 5-category responses ranged from extremely concerned to not at all concerned. We dichotomized responses into concerned (extremely concerned, concerned) versus not concerned (neutral, less concerned, not at all concerned).

Physicians' Characteristics. Independent variables included respondents' demographic information (age, sex, and race/ethnicity), location of practice (New York, Chicago, Los Angeles, Atlanta, San Francisco, or Washington DC), and type of training (general internal medicine, family medicine, infectious disease, or other).

Analysis

Analyses were conducted to test whether confidence addressing drug problems or perceived barriers to prescribing buprenorphine were associated with having a waiver to prescribe buprenorphine after adjusting for provider characteristics. We first conducted bivariate analyses using chi-square and t tests to examine potential associations between having a buprenorphine waiver and confidence, perceived barriers, and providers' characteristics. We then conducted a series of regression analyses predicting having a buprenorphine waiver. We first entered variables measuring physician characteristics into a model predicting having a buprenorphine waiver. Variables that were selected were significant in bivariate tests at $p<.20$. We then entered confidence into our model to test whether confidence was independently associated with having a waiver. Each barrier was then entered separately into the model with physician characteristics, confidence, and having a waiver. Adjusted odds ratios (AOR) and 95% confidence intervals (95% CI) associated with variables measuring confidence and each barrier are reported. We assessed the goodness-of-fit of the logistic models using standard diagnostic procedures as outlined by Hosmer and Lemeshow.[25]

RESULTS

A total of 954 physicians attended the six IAS-USA conferences. Of these physicians, 420 completed the questionnaire (44.0% response rate). Forty-five were excluded from the analysis: 22 were physicians in training and 23 had missing data on having a buprenorphine waiver. Of the 375 physicians with complete data, the mean age was 46.8 years, and the majority was male (60.4%) and non-Hispanic white (66.0%) (see Table 1). Most physicians were trained in infectious disease (37.6%), general internal medicine (36.0%), or family medicine (19.7%).

Table 1. Factors Associated with Having a Waiver to Prescribe Buprenorphine

Characteristic	Total	Have a waiver	No waiver
Mean age, ±SD	46.8±9.5	46.9±9.7	46.8±9.4
Male, *N* (%)	217 (57.9)	47 (51.1)	170 (63.7)*
Race, *N* (%)			
White	233 (62.1)	51 (59.3)	182 (68.2)
Black	33 (8.8)	12 (14.0)	21 (7.9)
Hispanic	36 (9.6)	11 (12.8)	25 (9.4)
Other	51 (13.6)	12 (14.0)	39 (14.6)
Location, *N* (%)			
New York	131 (34.9)	48 (51.1)	83 (29.5)†
Chicago	43 (11.5)	9 (9.6)	34 (12.1)
Los Angeles	55 (14.7)	10 (10.6)	45 (16.0)
Atlanta	62 (16.5)	14 (14.9)	48 (17.1)
San Francisco	57 (15.2)	7 (7.4)	50 (17.8)
Washington, DC	27 (7.2)	6 (6.4)	21 (7.5)
Training, *N* (%)			
General internal medicine	135 (36.0)	41 (43.6)	94 (33.5)*
Family medicine	74 (19.7)	20 (21.3)	54 (19.2)
Infectious disease	141 (37.6)	24 (25.5)	117 (41.6)
Other	25 (6.7)	9 (9.6)	16 (5.7)
Confident addressing drug problems, *N* (%)	250 (67.6)	73 (79.3)	177 (63.7)†
Barriers, *N* (%)			
Lack of knowledge about opiate treatment	206 (54.9)	40 (44.4)	166 (63.8)†
The 8-hour training necessary for prescribing buprenorphine is to burdensome	74 (19.7)	14 (15.6)	60 (23.1)
No immediate telephone access to consult with an addiction expert	161 (42.9)	32 (35.6)	129 (49.8)*
No ability to send difficult patients to a substance abuse treatment program	155 (41.3)	31 (34.8)	124 (48.1)*
I would experience resistance from colleagues (including staff) in my office/clinic	106 (28.3)	24 (26.7)	82 (31.5)
The financial reimbursement would likely be inadequate	104 (27.7)	22 (24.2)	82 (31.5)
Medicolegal risks would increase	147 (39.2)	26 (28.9)	121 (46.4)†
Patients who have a history of opiate dependence have too many problems	151 (40.3)	33 (36.3)	118 (45.4)
Patients might "divert" or sell buprenorphine on the street	151 (40.3)	36 (40.4)	115 (44.4)
Patients might abuse buprenorphine by taking it too much	113 (30.1)	23 (26.1)	90 (34.7)
Buprenorphine experience, *N* (%)			
No waiver to prescribe buprenorphine	281 (74.9)	–	–
Have a waiver to prescribe buprenorphine	94 (25.1)	–	–
Completed a buprenorphine course‡	52 (13.9)	–	–
Has DEA X number‡	77 (20.5)	–	–
Has ever prescribed buprenorphine	22 (5.9)	–	–

*$p<.05$
†$p<.01$
‡There are individuals who reported both completing an 8-hour buprenorphine training course and having a DEA X number.

One fourth (25.1%) of all physicians had a waiver to prescribe buprenorphine, and 20.5% reported having a DEA X number. However, only 22 (5.9%) reported having ever prescribed buprenorphine. Of these 22 physicians, most were men (59.1%), white (63.2%), 40 years old or less (68.2%), practicing in the New York metropolitan area (50.0%), and general internists (59.1%). In bivariate analyses, compared to those who had never prescribed buprenorphine, those who had prescribed it were significantly more likely to be 40 years old or less (25.9 vs 68.2%, $p<.001$), and general internists (34.6 vs 59.1%, $p<.05$). Compared to physicians who did not have waivers, those who had waivers were less likely to be male (63.7 vs 51.1%, $p<.05$), more likely to be in New York (29.5 vs 51.1%, $p<.01$), less likely to be trained in infectious diseases (41.6 vs 25.5%, $p<.05$), and more likely to be trained in general internal medicine (33.5 vs 43.6%, $p<.05$) than those without waivers.

The majority of physicians reported they were confident addressing drug problems (67.6%). In bivariate analyses, physicians who had waivers were more likely to report confidence addressing drug problems than physicians who did not have waivers (79.3 vs 63.7%, $p<.01$).

Physicians indicated they experienced many different types of barriers to prescribing buprenorphine. The most common barriers included lack of knowledge about opioid addiction treatment (54.9%), lack of immediate access to consult with an addiction expert (42.9%), inability to send difficult patients to a substance abuse treatment program (41.3%), concern about diversion of buprenorphine (40.3%), and concern about opioid-addicted patients having too many problems (40.3%). Physicians who had waivers were less likely to be concerned about many of these barriers than those without waivers. In bivariate analyses, physicians with waivers were significantly less concerned than physicians without waivers about lack of knowledge about opioid addiction treatment (44.4 vs 63.8%, $p<.01$), lack of immediate access to consult with an addiction expert (35.6 vs 49.8%, $p<.05$), inability to send difficult patients to a substance abuse treatment program (34.8 vs 48.1%, $p<.05$), and medicolegal risks (28.9 vs 46.4%, $p<.01$).

Table 2 shows the results of the multivariate analyses. After adjusting for physician characteristics, confidence addressing drug problems was significantly associated with having a waiver to prescribe buprenorphine (AOR=2.05, 95% CI=1.08–3.88). In addition, when adjusted for physician characteristics and confidence, the only perceived barrier significantly associated with having a waiver to prescribe buprenorphine was concern about no immediate access to consult with an addiction expert (AOR=0.56, 95% CI=0.32–0.97).

Table 2. Multivariate Analyses Examining Confidence and Barriers Associated with Having a Waiver to Prescribe Buprenorphine Among Physicians Attending HIV Educational Conferences

	AOR of having a waiver to prescribe buprenorphine
Confidence*	
Confident addressing drug problems	2.05 (1.08–3.88)
Barriers†	
Lack of knowledge about opiate treatment	0.59 (0.34–1.02)
The 8-hour training necessary for prescribing buprenorphine is to burdensome	0.86 (0.41–1.79)
No immediate telephone access to consult with an addiction expert	0.56 (0.32–0.97)
No ability to send difficult patients to a substance abuse treatment program	0.67 (0.38–1.17)
I would experience resistance from colleagues (including staff) in my office/clinic	0.87 (0.49–1.56)
The financial reimbursement would likely be inadequate	0.89 (0.47–1.63)
Medicolegal risks would increase	0.57 (0.33–1.00)
Patients who have a history of opiate dependence have too many problems	0.79 (0.45–1.37)
Patients might "divert" or sell buprenorphine on the street	0.89 (0.52–1.55)
Patients might abuse buprenorphine by taking it too much	0.71 (0.39–1.30)

*Confidence is adjusted for sex, location, and type of training, with comparison of confident versus not confident
†Barriers are adjusted for sex, location, type of training, and confidence, with comparison of concerned about barrier versus not concerned about barrier

DISCUSSION

In this study of 375 physicians who provide HIV care in six different metropolitan areas across the United States, one quarter reported that they had a waiver to prescribe buprenorphine, but less than 6% reported that they had ever prescribed buprenorphine. Physicians reported a variety of barriers to prescribing buprenorphine, with more barriers reported by those who did not have a waiver to prescribe buprenorphine compared to those who did have a waiver. Physicians with waivers were significantly more likely to be confident in their ability to address drug problems, and less likely to be concerned about the lack of immediate access to consult with an addiction specialist.

Similar to other investigations, our study revealed that confidence in one's ability to address drug problems is associated with substance abuse treatment.[18,26,27] Previous studies have shown that knowledge deficits have posed significant barriers to physicians offering opioid addiction treatment.[16,20,28] Inadequate substance abuse education has been documented both at the undergraduate and graduate medical education levels.[29–32] For example, in 1991–92 only eight U.S. medical schools had required courses in substance abuse treatment.[33] Furthermore, education and training interventions focusing on management of opioid addiction have been associated with improved ratings of confidence in opioid addiction treatment, and increased likelihood of treating opioid addiction with pharmacologic therapy.[28] Strengthening physician training in substance abuse may therefore ultimately serve to improve access for patients with opioid dependence.

Systems-level barriers to substance abuse treatment such as inadequate access to substance abuse expert consultation have similarly been reported in other studies.[16,20] To address this need for physician consultation about buprenorphine, the Substance Abuse and Mental Health Services Administration (SAMHSA) established a web site for clinical questions (the SAMHSA Buprenorphine Clinical Discussion WebBoard at http://bup-webboard.samhsa.gov/login.asp). In addition, the SAMHSA-sponsored Physician Clinical Support System (at http://www.pcssmentor.org/) provides a national network of expert physician mentors who provide consultation to new buprenorphine prescribers. Both of these resources were available before this study, yet our findings reveal access to consultation remains a barrier. Thus, informing potential providers about existing support systems may promote physician willingness to obtain a waiver and to prescribe buprenorphine.

We are aware of only one other study that examined HIV physicians' perceptions of barriers to prescribing buprenorphine.[21] In that study, HIV and non-HIV physicians were surveyed to assess their preparedness for prescribing buprenorphine after attending an 8-hour buprenorphine course. Both groups reported lack of experience as the biggest barrier to prescribing buprenorphine, and most felt they would be more comfortable prescribing buprenorphine if they had access to an expert mentor. In addition, the majority of HIV physicians reported concern about prescribing buprenorphine to HIV-infected patients, with many citing concerns about drug interactions. Unlike our study participants, HIV physicians in that study were attending buprenorphine training courses; thus, they were a select group of providers already interested in opioid addiction treatment with buprenorphine. Despite this difference, both studies demonstrate the important issue of having access to an addiction expert.

In this study we chose to examine barriers to obtaining a waiver to prescribe buprenorphine, rather than barriers to having a DEA X number, or barriers to prescribing buprenorphine. Our rationale is that we believe that having a waiver is the appropriate "starting point" for demonstrating interest in prescribing buprenorphine. Because the vast majority of physicians in the United States do not even have waivers,[34] it is important to evaluate barriers at this first step.

We acknowledge that the low response rate in our study (44%) may have influenced our results in ways that would be difficult to predict. In addition, it is impossible to draw inferences about directionality from this cross-sectional study. It is equally likely that confidence addressing drug problems led physicians to obtain a waiver, or that once providers had a waiver, their confidence in addressing drug problems improved. Finally, the ability to generalize our findings to other HIV and non-HIV physicians is uncertain.

In conclusion, in this study of physicians attending HIV educational conferences, 25% obtained a waiver to prescribe buprenorphine for opioid addiction treatment, but only 6% reported ever prescribing buprenorphine. Confidence in addressing drug problems was positively associated with having a waiver to prescribe buprenorphine, and concern about lack of access to consult with an addiction expert was negatively associated with it. HIV physicians are uniquely positioned to address opioid addiction treatment in the primary care setting. In addition, HIV physicians are likely to

be caring for individuals who use or abuse opioids, and they frequently practice in multidisciplinary environments. Understanding and remediating the barriers HIV physicians face may lead to new opportunities to improve health care and health outcomes for opioid-dependent HIV-infected patients.

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