

**Clinical Research and Methods**

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## Attending Physicians' and Residents' Attitudes and Beliefs About Prescribing Buprenorphine at an Urban Teaching Hospital

Chinazo O. Cunningham, MD; Nancy L. Sohler, PhD, MPH;  
Kate McCoy, PhD; Hillary V. Kunins, MD, MPH, MS

**Background and Objectives:** *Opioid abuse and dependence are increasing. Pharmacotherapy with an opioid agonist reduces adverse consequences of opioid dependency. Physicians can now prescribe buprenorphine for opioid dependency in the primary care setting. This study assessed primary care providers' attitudes and beliefs about opioid addiction treatment with buprenorphine.* **Methods:** *Ninety-nine resident and attending physicians from six ambulatory clinics associated with a university hospital were interviewed with an adapted questionnaire eliciting attitudes and beliefs about opioid addiction treatment options, including buprenorphine.* **Results:** *While only 37.8% of respondents believed primary care providers should prescribe buprenorphine, and 35.7% reported interest in prescribing buprenorphine, 72.1% were willing to prescribe it with training and support. Common training/support needs were buprenorphine education/training (83.8%), available consultation (19.2%), and on-site counselors (18.2%). The most frequent reasons for not prescribing buprenorphine were lack of knowledge or training (47.5%) and lack of time (25.3%). Physicians involved in primary care-oriented programs (versus non-primary care programs) were more likely to have positive attitudes regarding buprenorphine.* **Conclusions:** *Most physicians would be willing to prescribe buprenorphine with proper training and support. Barriers and training/support needs must be addressed to develop effective opioid addiction treatment programs in the primary care setting.*

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The rate of opioid abuse and dependence in the United States has increased over the last several years.<sup>1-3</sup> From 1995 to 2002, emergency department visits related to heroin use increased by 22%, while visits related to prescription opioid pain medications increased even more, by up to 560% for oxycodone.<sup>3</sup> While a proportion of these latter visits may have been appropriate visits related to pain control, it is likely that some proportion of those visits were due to opioid addiction and abuse. Because of this recent trend, access to substance abuse treatment programs that provide pharmacologic opiate replacement therapy is important.

Maintenance pharmacotherapy with an opioid agonist medication such as methadone can significantly

reduce the adverse consequences of chronic opioid dependency,<sup>4-10</sup> yet fewer than 20% of opioid-dependent individuals are enrolled in programs that provide such treatment.<sup>11,12</sup> Many issues contribute to the low use of opioid addiction treatment programs, including insufficient capacity of programs to enroll patients, absence of programs in some geographic locations, and patient reluctance to enter stigmatized and regulated programs.

To improve access to pharmacotherapy for opioid dependence, the federal Drug Addiction Treatment Act of 2000 (DATA 2000) and the US Food and Drug Administration (FDA) approved buprenorphine for opioid addiction treatment. This act enables physicians to prescribe buprenorphine, a sublingual long-acting partial opioid agonist, for treatment of opioid dependency outside of traditional substance abuse treatment program settings.

Currently, patients can receive opioid addiction treatment with buprenorphine from primary care doc-

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From Montefiore Medical Center/Albert Einstein College of Medicine (all); and the Sophie Davis Medical School, City University of New York (Dr Sohler).

tors, a practice that has been shown to be safe and feasible.<sup>11,13-17</sup> However, the availability of buprenorphine remains limited. To our knowledge, no studies have been published that examine primary care physicians' attitudes and beliefs regarding substance abuse treatment with buprenorphine in outpatient primary care practice. Thus, little is known about whether such attitudes might explain the limited acceptance of buprenorphine treatment in outpatient settings. This study's objective was to assess attitudes and beliefs of primary care providers in the Bronx, NY, about opioid addiction treatment with buprenorphine.

## Methods

### *Design and Participants*

We conducted a cross-sectional study with face-to-face interviews involving resident and attending physicians from six different ambulatory clinics associated with a university teaching hospital in the Bronx, NY. The resident physicians were from family medicine, internal medicine preliminary, categorical, primary care, and social medicine programs. Attending physicians were family physicians and general internists. Physicians were categorized as having affiliations with primary care or non-primary care programs. Primary care-oriented programs included the family medicine, internal medicine primary care, and social medicine programs. The non-primary care-oriented programs included the internal medicine preliminary and categorical programs.

The six clinics were chosen because of their diverse settings, in which primary care was practiced. Five clinics were community health centers (three with only family physicians, one with only general internists, and one with general internists, pediatricians, and obstetrician-gynecologists), and one clinic was a hospital-based clinic with only general internists. The resident physicians working within these clinics were affiliated with both primary care and non-primary care programs. Additionally, the patient populations served by these clinics varied, with each clinic caring for different groups of individuals, including working people with private insurance, the working poor without insurance, urban poor insured by Medicaid, and homeless individuals.

### *Questionnaire*

A research assistant administered questionnaires from June 2003 to March 2005 using an adapted survey instrument.<sup>18</sup> The original questionnaire was used to assess attitudes and beliefs about opioid addiction treatment with methadone in primary care providers. Modifications to the questionnaire were made to accommodate the use of buprenorphine rather than methadone. In an attempt to interview the physicians practicing in each clinic, the interviewer was present on different

days of the week at different times of day. Specific days and times were targeted to reach the largest number of physicians present at one time. Gender, race, ethnicity, training level, attitudes, and beliefs about opioid addiction treatment options including buprenorphine were elicited during the structured interview. Informed consent was obtained from all participants, and the study was approved by the Montefiore Medical Center Institutional Review Board.

### *Analysis*

We conducted descriptive analyses of providers' attitudes and beliefs and factors related to them. We report on the main factors examined—whether level of training (resident versus attending), current opioid-dependent patient panel size (currently treating zero–four opioid-dependent patients versus five or more), and training orientation (primary care versus non-primary care) were associated with positive attitudes toward treating substance users and prescribing buprenorphine. Relationships between physicians' attitudes and beliefs about buprenorphine and the variables of interest (listed above), as well as other demographic characteristics, are also reported. The statistical significance of differences in attitudes by these variables was assessed using chi-square tests.

## Results

Our sample was a convenience sample of 99 physicians that included the physicians who were seeing patients on interview days. All physicians who were present in clinics on interview days agreed to participate in the study. The majority were female, white, non-Hispanic, and residents (Table 1). Most respondents were from internal medicine primary care/social medicine programs (53.5%).

Overall, 82.8% of respondents reported caring for patients who use heroin or misuse prescription opioids. However, only 73.7% were comfortable discussing illicit drug use with their patients, and just 51.5% were comfortable discussing drug treatment. Many respondents reported caring for substance users by referring the patient to social workers, counselors, or substance abuse treatment programs (62.6%).

Most respondents (84.7%) were aware of buprenorphine as a treatment option for opioid dependence. However, only 37.8% believed that primary care providers should prescribe buprenorphine, and 56.1% were unsure. While only 35.7% reported interest in prescribing buprenorphine, 72.1% were willing to prescribe it to opioid-dependent patients if they had proper training and support. The most common training/support needs that were identified were education and training specific to buprenorphine (83.8%), available consultation or case conferences (19.2%), and on-site counselors or social workers (18.2%). The most-frequently stated

reasons for not prescribing buprenorphine were lack of knowledge or training (47.5%), lack of time (25.3%), the belief that treating opioid dependence is not a primary care issue (14.1%), and the lack of available supportive structures or services (13.1%)

In response to questions exploring factors associated with positive attitudes and beliefs around buprenorphine, physicians involved in primary care-oriented programs were more likely than those involved in non-primary care programs to believe that primary care providers should prescribe buprenorphine (47.3% versus 8.3%,  $P<.05$ ), report interest in prescribing buprenorphine (43.2% versus 12.5%,  $P<.05$ ), and report willingness to prescribe buprenorphine given the proper training and support (81.3% versus 45.5%,  $P<.05$ ) (Table 2). Physicians who reported "lack of time" as a reason for not prescribing buprenorphine were less likely to report that primary care providers should prescribe buprenorphine (16.0% versus 45.2%,  $P<.05$ ) and less likely to report willingness to prescribe buprenorphine (50.0% versus 80.7%,  $P<.05$ ) than those who did not report lack of time as a reason to not prescribe buprenorphine. Finally, women were more likely than men to report interest in prescribing buprenorphine (44.3% versus 19.4%,  $P<.05$ ).

## Discussion

In this study of urban primary care providers, most physicians reported treating patients who use heroin or misuse opioids and were aware of buprenorphine as a treatment option. Just over one third of physicians reported that primary care providers "should" prescribe buprenorphine and reported "interest" in prescribing buprenorphine themselves. A total of 72% of physicians reported "willingness" to prescribe buprenorphine if they received proper training and support, underscoring the need for proper training and support. The data suggest that physicians associated with primary care-oriented programs were more likely to report interest and willingness to prescribe buprenorphine than those associated with non-primary care-oriented programs.

Few studies have examined health care providers' attitudes regarding pharmacotherapy for opioid dependence outside of the traditional substance abuse treatment setting. Similar to our findings, McNeely and colleagues found that 66% of New York City physicians would prescribe methadone if given proper training and support.<sup>18</sup> A recent study by Turner and colleagues revealed that 60% of directors of primary care and HIV clinics were willing to provide treatment with buprenorphine.<sup>19</sup> One study focusing on pharmacists and pharmacy technicians found that they had positive attitudes regarding treating patients with buprenorphine, with 70% reporting willingness to participate in opioid addiction treatment with buprenorphine.<sup>20</sup> However, another study reported that 81% of psychiatrists

Table 1

### Physicians' Characteristics and Attitudes, Beliefs, and Experiences With Substance Abuse Treatment in the Primary Care Setting

| Demographic Characteristic                         | Total n (%) |
|--|-------------|
| Age (mean years, range: 24 to 54)                  | 31.6        |
| Male   | 37 (37.8)   |
| Race/ethnicity                                     |             |
| White  | 53 (53.5)   |
| Black  | 9 (9.1)     |
| Hispanic   | 21 (21.2)   |
| Other  | 16 (16.2)   |
| Level of training*                                 |             |
| Resident   | 78 (80.4)   |
| Attending  | 19 (19.6)   |
| Specialty/training program                         |             |
| Family medicine                                    | 22 (22.2)   |
| Internal medicine, primary care or social medicine | 53 (53.5)   |
| Internal medicine, categorical or preliminary      | 24 (24.2)   |
| *Two data points were missing for this variable.   |             |

were not comfortable with office-based opiate agonist treatment and that factors associated with discomfort included female gender, lack of addiction certification, and little experience in treating addiction.<sup>21</sup> While this is inconsistent with our findings, the distribution of these characteristics in our sample did not allow us to explore this fully. Future studies with larger samples of primary care physicians are needed to better understand these factors.

## Limitations

Limitations of this study include the possibility that the results cannot be generalized given that the physicians were all recruited from one medical center in an urban teaching hospital in New York City. There may be differences in findings depending on structures of other health care systems, geographic regions, non-urban settings, or non-inner city patient populations.

Although the questionnaire for this study was a modified version of a questionnaire used in a previously published study, it has not undergone reliability and validation testing. Additionally, the relatively modest sample size limited our ability to identify factors that

Table 2  
 Factors Associated With Physicians' Attitudes and Beliefs About Buprenorphine\*

|   | <i>Primary Care Providers<br/>Should Prescribe<br/>Buprenorphine</i> | <i>Interested in<br/>Prescribing<br/>Buprenorphine</i> | <i>Willing to Prescribe<br/>Buprenorphine With<br/>Training and Support</i> |
|---|--|--|---|
|   | <i>n (%)</i>   | <i>n (%)</i>   | <i>n (%)</i>  |
| <b>Gender</b>   |  |  |   |
| Female  | 21 (34.4)  | 27 (44.3) **   | 41 (71.9)   |
| Male  | 15 (41.7)  | 7 (19.4)   | 20 (71.4)   |
| <b>Race/ethnicity</b>   |  |  |   |
| Black/Hispanic/other  | 15 (33.3)  | 16 (35.6)  | 27 (64.3)   |
| White   | 22 (41.5)  | 19 (35.9)  | 35 (79.6)   |
| <b>Level of training</b>  |  |  |   |
| Attending   | 8 (42.1)   | 5 (26.3)   | 12 (70.6)   |
| Resident  | 28 (36.4)  | 29 (37.7)  | 49 (73.1)   |
| <b>Training orientation</b>   |  |  |   |
| Primary care  | 35 (47.3)**  | 32 (43.2)**  | 52 (81.3)**   |
| Non-primary care  | 2 (8.3)  | 3 (12.5)   | 10 (45.5)   |
| <b>Current panel of patients misusing opioids</b>   |  |  |   |
| >5 patients   | 14 (51.9)  | 11(40.7)   | 21 (87.5)   |
| 0-4 patients  | 16 (33.3)  | 14 (29.2)  | 30 (71.4)   |
| <b>Reason for not prescribing buprenorphine</b>   |  |  |   |
| <b>Lack of time</b>   |  |  |   |
| Yes   | 4 (16.0)**   | 5 (20.0)   | 12 (50.0)**   |
| No  | 33 (45.2)  | 30 (41.1)  | 50 (80.7)   |
| <b>Lack of knowledge</b>  |  |  |   |
| Yes   | 21 (45.7)  | 16 (34.8)  | 32 (78.1)   |
| No  | 16 (30.8)  | 19 (36.5)  | 30 (66.7)   |
| <b>Lack of support</b>  |  |  |   |
| Yes   | 5 (38.5)   | 5 (38.5)   | 11 (91.7)   |
| No  | 32 (37.7)  | 30 (35.3)  | 51 (68.9)   |
| * The percentages reflect the number of people who responded to each item, which varied slightly due to a few missing data points |  |  |   |
| ** <i>P</i> <.05  |  |  |   |

may be independently associated with interest or willingness to prescribe buprenorphine.

**Conclusions**

Opioid addiction treatment with buprenorphine is not yet widely implemented in primary care settings across the United States, and understanding what supports are necessary to encourage its integration with other primary care services is important. This study indicates that for our sample of Bronx physicians, education and training specific to buprenorphine, available

consultation or case conferences, and on-site counselors or social workers are necessary elements to providing opioid addiction treatment in the primary care setting. Common reasons that were reported for not prescribing buprenorphine included lack of knowledge and training, lack of time, lack of supportive services or structure, and the belief that prescribing buprenorphine is not a primary care issue. Addressing these training and support needs and barriers to prescribing buprenorphine are necessary in the development of programs to treat opioid dependence in the primary care setting.



Generalist physicians may be particularly suited to treat opioid dependence, given their framework of treating the whole patient.

With increasing opioid abuse and addiction in the United States and limited access to pharmacologic treatment for opioid dependence, developing new mechanisms for delivering opioid addiction treatment is crucial. The ability to offer treatment with buprenorphine in the primary care setting has the potential to significantly improve both addiction treatment and overall health care for substance users. The majority of Bronx physicians in this study were aware of buprenorphine and would be willing to prescribe it with proper training and support. To develop effective programs to treat opioid addiction in the primary care setting, barriers and training and support needs identified by primary care physicians must be addressed for physicians to accept and incorporate opioid addiction treatment with buprenorphine into the primary care setting.

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*Corresponding Author:* Address correspondence to Dr Cunningham, Montefiore Medical Center/Albert Einstein College of Medicine, Medicine, Family, and Social Medicine, 111 E. 210th Street, Bronx, NY 10467. 718-944-3860. Fax: 718-944-3841. ccunning@montefiore.org.

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