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Why aren't physicians prescribing more buprenorphine?

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ABSTRACT

Background & objective: Buprenorphine is an underutilized pharmacotherapy that can play a key role in combating the opioid epidemic. Individuals with opioid use disorder (OUD) often struggle to find physicians that prescribe buprenorphine. Many physicians do not have the waiver to prescribe buprenorphine, and a large proportion of physicians that are waivered do not prescribe to capacity. This study aimed to quantitatively understand why physicians do not utilize buprenorphine for the treatment of OUD more frequently.
Methods: Physicians ($n = 558$) with and without the waiver to prescribe buprenorphine were surveyed about perceived drawbacks associated with prescribing buprenorphine. Furthermore, resources were identified that would encourage those without the waiver to obtain it, and those with the waiver to accept more new patients. The survey was distributed online to physicians in the spring/summer of 2016 via the American Society for Addiction Medicine and American Medical Association listservs.
Results and conclusions: A logistic regression analysis was used to identify reasons that respondents indicated no willingness to increase prescribing ($\chi^2(4) = 73.18, p < 0.001$); main reasons were lack of belief in agonist treatment (OR 3.98, 95% CI, 1.43 to 11.1, $p = 0.008$), lack of time for additional patients (OR 5.54, 95% CI, 3.5 to 8.7, $p < 0.001$), and belief that reimbursement rates are insufficient (OR 2.50, 95% CI, 1.3 to 4.8, $p = 0.006$). Differences between non-waivered and waivered physicians concerning attitudes toward buprenorphine treatment as well as resources that would increase willingness to prescribe are also discussed. Identifying barriers to buprenorphine utilization is crucial in expanding treatment options for individuals with OUD.

1. Introduction

The widespread abuse of both prescription and illicit opioids has had devastating consequences in the United States, and have led to public health crises including increases in opioid overdose deaths and opioid-related disease transmission (Centers for Disease Control and Prevention (CDC), 2011; Cicero, Ellis, Surratt, & Kurtz, 2014; Cicero et al., 2014; Compton, Jones, & Baldwin, 2016; Hedegaard, Chen, & Warner, 2015; National Center for Health Statistics, 2015; Selwyn et al., 1989). Extended maintenance on an opioid agonist is the current standard of care for the treatment of opioid use disorder (OUD) (Volkow, Frieden, Hyde, & Cha, 2014) and is endorsed by the World Health Organization as an International Standard for the Treatment of Drug Use Disorders (Gerra, Koutsenok, Saenz, & Busse, 2015).

Two medications are approved for opioid maintenance treatment (OMT) of OUD in the U.S. The first is methadone, a full agonist on the mu opioid receptor with high abuse liability (Drug Enforcement Agency, 2016; Graham, Merlo, Goldberger, & Gold, 2008; Winstock & Lea, 2010). Provision of methadone for OMT can be restrictive because federal law requires it be dispensed from authorized clinics and in liquid form. The second medication is buprenorphine (generally sold as buprenorphine/naloxone), which has several pharmacokinetic features that favor its use over methadone in primary care settings. Specifically, buprenorphine has a low ceiling on its agonist effects and a slow dissociation from the receptor, which confers reduced abuse liability relative to methadone while still allowing for once daily dosing to adequately suppress symptoms of withdrawal (Jasinski, Pevnick, & Griffith, 1978; Johnson, Strain, & Amass, 2003). Buprenorphine was approved for the treatment of OUD in 2002 with the requirement that physicians apply for a waiver from the Substance Abuse and Mental Health Services Administration (SAMHSA) in order to prescribe buprenorphine for OUD from primary care settings. Waivered physicians are allowed to prescribe buprenorphine to 30 OUD patients in the first year and 100 patients thereafter – although in 2016 this upper limit was increased to 275 patients (Schuckit, 2016; SAMHSA, 2016). Federal opioid treatment guidelines (SAMHSA, 2015a) also stipulate that patients have reasonable access to services such as counseling and that buprenorphine providers work to reduce the risk of medication diversion (Fudala et al., 2003).

Though it was widely believed that ability to prescribe buprenorphine from a primary care setting would increase the number of patients receiving OMT, physician adoption and utilization of

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buprenorphine has not been proportional to the magnitude of the opioid epidemic (Blum, Gold, Clark, Dushaj, & Badgaiyan, 2016; Knudsen, Ducharme, Roman, & Link, 2005). A recent survey reported a major shortage in the number of physicians utilizing buprenorphine as a treatment option in the United States; 96% of states (including the District of Columbia) report higher rates of opioid abuse or dependence than buprenorphine treatment capacity (Jones, Campopiano, Baldwin, & McCance-Katz, 2015). Indeed, a major gap exists between the number of individuals in need of treatment (approximately 2.5 million) (SAMHSA, 2015b) and the number of OMT providers (Murphy, Fishman, McPherson, Dyck, & Roll, 2014; Rosenblatt, Andrilla, Catlin, & Larson, 2015). Further, despite its approval >10 years ago, a 2011 survey reported approximately 43% of counties in the U.S. still have no physicians waivered to prescribe buprenorphine (Stein et al., 2015). Large geographic disparities in buprenorphine availability also exist within counties that have at least one waivered physician, with up to a 30-fold difference in the number of waivered physicians per capita (Stein et al., 2015). These geographical disparities are prevalent in states that have been resistant of the Affordable Care Act (Knudsen, Lofwall, Havens, & Walsh, 2015). Lack of waivered physicians is not the only issue affecting buprenorphine availability. Recent data also suggests the majority of physicians who are waivered are not prescribing to their maximum capacity; for instance, one study reported 48.1% of waivered physicians were prescribing buprenorphine to 5 patients or fewer (Sigmon, 2015). It has been estimated that roughly half of individuals with OUD would be treated if all OMT providers were prescribing to their permitted capacity (Jones et al., 2015; Murphy et al., 2014; Rosenblatt et al., 2015).

Increasing the number of physicians who both receive the buprenorphine waiver and prescribe to capacity is critical to help combat the opioid use epidemic. Previous studies have examined physician attitudes toward buprenorphine as a potential barrier to adoption of OMT, however the few studies that gauged interest in physician resources to increase buprenorphine diffusion were conducted shortly after buprenorphine was approved (Turner, Laine, Lin, & Lynch, 2005). Much of the subsequent research has focused on physicians working with specialty populations such patients with human immunodeficiency virus (HIV) (Cunningham, Kunins, Roose, Elam, & Sohler, 2007; Turner et al., 2005), or physicians in a specific geographic area (Cunningham, Sohler, McCoy, & Kunins, 2006; DeFlavio, Rolin, Nordstrom, & Kazal, 2015; Kermack, Flannery, Tofighi, McNeely, & Lee, 2017; Walley et al., 2008).

The current study sought to update and expand upon previous research by surveying physicians who do and do not have the buprenorphine prescription waiver to evaluate (a) reasons that physicians don't receive the waiver, (b) reasons that waivered physicians don't prescribe to capacity, and (c) what resources might encourage more physicians to seek the buprenorphine waiver and/or increase their patient load. The goal of this study is to provide insight to the medical community and inform public policy regarding approaches that might increase adoption and prescribing of buprenorphine for OMT.

2. Methods

2.1. Participants

This study was classified as exempt from human research by the Johns Hopkins Institutional Review Board. To be eligible, respondents had to report being a physician currently practicing in the United States and fluent in English. The survey (described below) was delivered to participants from 4/2016–5/2016, through listserv postings to the American Medical Association (AMA) and American Society of Addiction Medicine (ASAM). Survey emails were delivered to a total 20,841 email accounts, which resulted in 604 survey clicks. A total 588 participants (97.4% of those opening the survey) completed the survey. Thirty participants were removed based on responding "yes" to one of two quality control questions (e.g., "Have you completed this survey before" and "Is there any reason for which we should not use your responses, for instance you were not paying attention, did not answer honestly, or had major computer issues"). The final participant sample size was 558 (92.4% of those opening the survey).

2.2. Study measures

Participants received an email with the following instructions "This survey aims to learn about your preferences for prescribing buprenorphine/naloxone (Suboxone) for the treatment of opioid use disorder, and what barriers you think may exist for prescribing this medication in the United States. We are seeking physicians who DO and DO NOT currently prescribe Suboxone for opioid use disorder. All answers are confidential and anonymous. The survey should not take more than 2 minutes to complete. Please only complete this survey if you are licensed as a physician in the US."

Participants then completed a 15-item anonymous self-report survey that was hosted through the online manager Qualtrics (Provo, UT). Since the survey was designed to be brief to encourage completion, detailed demographic information was not collected. Respondents indicated the state in which they practiced, whether they were located in primarily urban, suburban, or rural settings, their primary specialty, and the setting of their practice (e.g., primary care, office based, etc.). Next, participants indicated whether they had completed the waiver necessary to prescribe buprenorphine for the treatment of OUD, the number of patients to which they currently prescribe buprenorphine, and the approximate number of requests for buprenorphine treatment and rejections they process each month. The number of requests and rejections were rated on the same ordinal scale, ranging from "0" to ">30".

Waivered respondents were then asked whether they were prescribing to capacity (defined for them as 30 patients in the first year and 100 thereafter), and respondents who selected "No" were provided with a list of potential reasons for not prescribing to capacity. Respondents who were not waivered or were not prescribing to capacity were then presented with a list of potential resources and asked to indicate whether any of the following would increase their willingness to become waivered or prescribe to capacity: (1) being paired with an experienced prescriber who can help answer questions/provide guidance on prescribing, (2) being provided with information about counseling resources for patients in their local area, (3) receiving financial assistance to cover the cost of the waiver, (4) having access to more continuing medical education courses on OUD and OUD treatment. Respondents were also allowed to indicate that nothing would increase their willingness to become waivered/prescribe to capacity, and those who selected >1 option were next asked to indicate the resource that would MOST increase their willingness to increase prescribing. Finally, participants were provided with open-entry boxes to write in any additional information regarding their prescribing practices.

2.3. Data analysis

The goal of this study was to descriptively characterize reasons that physicians may not be waivered to prescribe buprenorphine, as well as reasons for not prescribing to capacity among waivered physicians. Respondents were separated into the following three groups for comparison: non-waivered, waivered not at capacity, and waivered at capacity. Results were characterized using descriptive statistics and compared across non-waivered and waivered respondents using independent groups *t*-tests for continuous and chi-squares for dichotomous variables. Data regarding the number of patient requests and rejections processed each month were collected on an ordinal scale, therefore a Kruskal-Wallis H test was used to evaluate differences as a function of respondent group and Bonferroni-adjusted pairwise comparisons were used to identify significant group differences. Ordinal regression was then used to identify attitudes associated with rejection of new