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Bridging the Treatment Gap: Buprenorphine Prescription Practices in Mississippi, 2012-2017

Currently, the Food and Drug Administration (FDA) has approved three medications for the pharmacotherapy of opioid use disorder (OUD): methadone, buprenorphine, and naltrexone. Methadone and buprenorphine are widely-used, first-line treatment options for OUD, while naltrexone is rarely used. Medication-assisted treatment (MAT) with methadone and buprenorphine are highly effective for OUD detoxification and maintenance therapy.¹ Yet access to these medications is challenging for patients suffering from opioid addiction due to a shortage of treatment programs and prescribers. Because of its serious side effects and high potential for misuse/diversion, methadone is only disseminated within specialized Opioid Treatment Programs (OTP), known as methadone clinics. Unlike methadone, buprenorphine has a better drug-safety profile,² lower risk for overdose, and could be used in office-based settings.²

Regulations on Prescriptions

During the last two decades two legislative measures addressing the shortage of opioid-substitutional treatments have been introduced. In 2000, Congress passed the Drug Addiction Treatment Act (DATA) of 2000 allowing all physicians to treat opioid dependency with narcotics (except for methadone) in office-based settings.³ In 2002, FDA approved buprenorphine for such use. The Comprehensive Addiction and Recovery Act (CARA) of 2016 extended the privilege of prescribing buprenorphine in office-based settings to nurse practitioners and physician assistants.⁴ Buprenorphine practitioners are required, however, to obtain a waiver from the Drug Enforcement Agency (DEA), complete a course of training (8 hours for physicians and 24 hours for nurse practitioners/physician assistants), and keep records available for DEA inspections. It is important to note that such a buprenorphine waiver is not required in case of an emergency; any clinician may administer (but not prescribe) buprenorphine to patients with acute withdrawal symptoms for up to 72 hours (the ‘three day’ rule).

Barriers to Treatment

Although the goal of these legislative measures is to increase the availability of opioid-substitution treatments, few health care providers have taken advantage of the opportunity to treat patients in office-based settings. As of April 2019, only 65,207 clinicians had a buprenorphine waiver nationwide. In 2017, an estimated 42.3% of all counties across the nation had no practitioners licensed to prescribe buprenorphine.⁵

According to national-level research, the major concerns that keep physicians from pursuing office-based opioid-substitution treatments include insufficient training to diagnose and treat opioid use disorders,

Key Messages

- In Mississippi, the number of buprenorphine prescriptions has increased by 58%, from 50,318 in 2012 to 79,657 in 2017. The total days of supply nearly doubled from 1.5 million to 2.7 million days; however, only one out of every five were long-term buprenorphine prescriptions (30-day supply).
- The uptrend in buprenorphine prescriptions may be due to a parallel increase in both the prevalence of patients with opioid use disorder and the number of buprenorphine prescribers.
- The low number of long-term buprenorphine prescriptions is a barrier to successful addiction treatment in our state; however, the exact reasons for this shortfall are unclear.
- To address this treatment barrier, the Mississippi medical community should invest in training programs and educational outreach designed to standardize the delivery of buprenorphine therapy.

intrusive DEA regulations, the stigma associated with treating drug-dependent patients, the potential for drug diversion or misuse, and lack of psychological and social support for patients.⁶ Another serious constraint is the DEA regulation that caps the number of patients buprenorphine prescribers can see, limiting them to no more than 30 patients during the first year after receiving a waiver and no more than 100 patients after that.⁷ Payment issues such as low reimbursement rates by Medicaid have further hindered efforts to expand office-based opioid-substitution treatments.⁸

Data and Objectives

The Mississippi Prescription Drug Monitoring Program (PDMP) collects data on prescriptions for all controlled substances in the state. This data source contains information on prescription dosage and days of supply, patient demographics and place of residence, and locations of prescribers and dispensing pharmacies. Because methadone clinics are excluded from reporting requirements, methadone prescriptions for opioid use disorders are not reported to the state PDMP. As a result, a comprehensive assessment of opioid-substitution treatments in Mississippi is not possible at this time. The scope of this report is limited, therefore, to the evaluation of buprenorphine prescription practices, an increasingly popular method of opioid-substitution treatment.

Methods

Included in this report are buprenorphine prescriptions dispensed to state residents by Mississippi and non-Mississippi providers between 2012 and 2017. For this study, we evaluated the number of unique prescriptions as well as the number of refills. The number of unique prescriptions was obtained using the unique prescription number generated by the dispensing pharmacy. Prescriptions for buprenorphine formulations used as an opioid analgesic (e.g., buprenorphine patches) were excluded from the analysis.

Buprenorphine Prescribing in Mississippi (Table)

The number of buprenorphine prescriptions issued in Mississippi increased by 58%, from 50,318 in 2012 to 79,657 in 2017. Following a rapid increase from 2012 to 2015, the number of buprenorphine prescriptions plateaued between 2016 and 2017. Moving in direct proportion with the number of prescriptions, the total days of supply nearly doubled, growing from 1,463,903 days in 2012 to 2,682,518 days in 2017. Unlike the number of prescriptions, the total days of buprenorphine supply continued to increase steadily throughout the study period due to an increasing number of buprenorphine prescription refills. The number of long-term prescription fills (30-day supply), however, was low. The proportion of such long-term prescriptions remained stable during the study period, accounting for only about one-fifth of all buprenorphine prescription fills each year.

Demographics

The demographic analysis revealed that men were more likely than women to be treated with buprenorphine. On average, 59% of all buprenorphine prescriptions each year were dispensed to men. Buprenorphine prescriptions increased for all age groups, except for patients younger than 25 years. The rate of increase, however, varied by age group. The proportion of patients between 25 and 34 years decreased; such patients accounted for 42% of all buprenorphine prescriptions in 2012 but only 32% in 2017. By comparison, the proportion of patients 35 years of age and older increased.

Prescribers of Buprenorphine in Mississippi

As of April 2019, the number of buprenorphine practitioners in Mississippi is 207 according to publicly available data from the Substance Abuse and Mental Health Services Administration (SAMHSA)

Table. Buprenorphine Prescriptions in Mississippi, 2012-2017

Characteristics	2012	2013	2014	2015	2016	2017	Change 2012-2017
Rx and Fills	No (%)						
Unique Rx	50,318	58,996	66,350	75,368	79,353	79,657	58%
Total Rx Fills	144,047	167,885	191,451	212,020	210,500	229,181	59%
Rx fills for 30 days*	28,359 (20%)	31,959 (19%)	34,478 (18%)	38,515 (18%)	40,165 (19%)	46,982 (21%)	66%
Total days of supply	1,463,903	1,729,806	1,961,184	2,214,407	2,353,675	2,682,518	83%
Gender							
Female	20,652 (41%)	24,445 (41%)	27,172 (41%)	30,994 (41%)	32,797 (41%)	34,241 (43%)	66%
Male	29,655 (59%)	34,512 (59%)	39,066 (59%)	44,196 (59%)	46,457 (59%)	45,314 (57%)	53%
unknown	11 (0%)	39 (0%)	112 (0%)	178 (0%)	99 (0%)	102 (0%)	
Age Group							
≤ 24 years	3,803 (8%)	4,069 (7%)	3,653 (6%)	3,599 (5%)	3,088 (4%)	2,366 (3%)	-38%
25-34 years	21,187 (42%)	24,395 (42%)	27,318 (41%)	29,238 (39%)	27,646 (35%)	25,658 (32%)	21%
35 - 44 years	14,035 (28%)	17,207 (29%)	19,903 (30%)	23,598 (31%)	26,382 (33%)	27,520 (35%)	96%
45 - 54 years	7,670 (15%)	8,985 (15%)	9,970 (14%)	11,786 (16%)	13,247 (17%)	13,580 (17%)	77%
55 - 64 years	3,025 (6%)	3,614 (6%)	4,502 (7%)	5,901 (8%)	7,347 (9%)	8,383 (10%)	177%
≥ 65 years	598 (1%)	726 (1%)	1,004 (2%)	1,246 (1%)	1,643 (2%)	2,150 (3%)	260%
Rx Issued by MS Providers							
	42,705 (85%)	39,848 (82%)	53,687 (81%)	58,648 (79%)	61,002 (78%)	61,829 (78%)	45%
MS DATA-Waived Newly Certified Practitioners							
With 30 Patients	14	10	8	17	23	48	
With 100 Patients	6	11	13	5	13	7	

*During the study period, the number of prescriptions for more than 30 days was negligible.

** Source: Substance Abuse and Mental Health Services Administration

(<https://www.samhsa.gov/medication-assisted-treatment/practitioner-program-data/treatment-practitioner-locator>). Between 2012 and 2017, the number of newly certified prescribers reached 120. As compared to 2012, there were more than three times more newly certified buprenorphine prescribers in 2017. These numbers could be underestimated, however, because buprenorphine practitioners could opt to be excluded from SAMHSA's publicly available list of buprenorphine providers.

Not all buprenorphine prescriptions during the study period were issued by Mississippi providers. On average during each year of the study, around one-fifth of all buprenorphine prescriptions were written by non-state health care practitioners. In fact, providers in Memphis, TN issued 7% of all buprenorphine prescriptions to Mississippi residents in 2017. During the same year, the highest percentage of prescriptions written by Mississippi providers were in Jackson (10%), followed by Hattiesburg (7%), Biloxi (6%), New Albany (5%), and Vicksburg (4%). These top five prescribers' locations accounted for one-third

(33%) of all buprenorphine prescriptions dispensed in Mississippi during 2017.

Discussion

In six years, prescriptions for buprenorphine nearly doubled in Mississippi. Although the exact causality is difficult to establish, this may be due to an increasing prevalence of opioid use disorders. Findings from health care data support such a claim. Between 2014 and 2017 in Mississippi, the rate of opioid-related hospitalizations rose by 26% and the rate of opioid-related emergency department visits spiked by 45%.⁹ It is also possible that health care providers treat patients with OUD more frequently as a result of the ongoing campaign aimed at opioid-harm reduction. Finally, another contributing factor for the uptrend in buprenorphine prescribing may be the increase in the number of buprenorphine prescribers in the state. Even though small, the increase in buprenorphine practitioners is encouraging because reducing opioid-related morbidity and mortality is not possible without available, accessible, and affordable treatments for patients with substance dependency.

Successful outcomes are also dependent on treatment duration and retention in therapy. Preventing relapse is best achieved with a long-term opioid-substitution treatment.¹⁰ In contrast, short-term buprenorphine prescriptions (less than 30 days) are most likely indicated for emergency treatment of patients with acute opioid withdrawal symptoms. Our analysis revealed, however, that the majority (80%) of buprenorphine prescriptions fills were issued for less than 30 days. The information contained within PDMP data does not allow us to establish the causes for such short duration of treatment.

There could be several factors contributing to this high volume of short-term buprenorphine prescriptions. Currently, there is no consensus regarding the optimal duration of buprenorphine treatment or established guidelines governing the frequency of treatment monitoring.¹¹ Physicians may feel uncomfortable prescribing buprenorphine for an extended period without monitoring patients for treatment compliance or addiction relapse. Therefore, buprenorphine prescribers in Mississippi may prefer issuing prescriptions with short-duration to minimize the risk of buprenorphine diversion or misuse. Additional factors influencing treatment duration are the availability of concomitant behavioral therapies and social support for such patients. Likewise, the treatment duration may be influenced by the financial situation of each individual patient, cost of treatment, and available insurance coverage. The high cost of buprenorphine prescriptions may also be a barrier to sustained long-term treatment options. The National Institute on Drug Abuse, for instance, estimates that the average cost of buprenorphine treatment is about \$115 per week or \$5,980 per year.¹² Lastly, the high volume of short-term buprenorphine prescriptions may be due, in part, to the diversion of this drug for self-medication of withdrawal symptoms or self-weaning from illicit opioid use.^{13,14}

There is no easy solution for providing comprehensive and sustained medical care for patients suffering from opioid addiction. Moreover, therapies, such as methadone replacement therapy, are controversial issues that face political and community suspicion and pushback. Mississippi experiences additional difficulties such as high unemployment rates, economically depressed communities, high levels of uninsured patients, a shortage of health care providers, and limited access to medical care. All these factors have led to an underdeveloped opioid treatment infrastructure in our state. According to SAMHSA, for example, there are only five methadone clinics in the state (<https://dpt2.samhsa.gov/treatment/directory.aspx>). Because of this shortage and stigmatization of methadone clinics, buprenorphine treatment is the only alternative for many opioid-dependent patients. In addition, treatment with buprenorphine is safer than methadone and the office-based treatment is more convenient for working patients. Therefore, augmenting the office-based buprenorphine prescribing practices, especially in rural and underserved areas, is crucial for our state.

To address treatment challenges within remote locations, several states have implemented nonconventional but promising models of care. Examples of such practices include establishing structures for connecting addiction-treatment specialists with distant locations (Vermont's Hub and Spoke model), engaging nurse practitioners and physician assistants to deliver MAT in community health centers, enhancing existing telemedicine services, and initiating buprenorphine treatment during emergency department visits for overdoses. With this report, we hope to stimulate the search for innovative solutions aimed at enhancing the state's addiction treatment capacity and encourage more clinicians to join the efforts of the few dedicated buprenorphine practitioners in Mississippi.

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