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Physician Capacity to Treat Opioid Use Disorder With Buprenorphine-Assisted Treatment

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Buprenorphine, a medication effective in treating individuals with opioid use disorders,[1] can be prescribed in the United States by addiction specialists or by physicians who complete an 8-hour course and obtain a US Drug Enforcement Administration waiver. Waivered prescribers have been restricted to treating up to 30 patients with an opioid use disorder concurrently; after a year, physicians could request that the limit be increased to 100 patients. Policy makers have prioritized increasing capacity to provide buprenorphine to fight the opioid epidemic but lack adequate information about how to do so effectively. Patient censuses of buprenorphine prescribers were examined to provide information on whether patient limits have been a barrier to buprenorphine treatment.

Methods

Symphony Health Solutions' Integrated Dataverse was used.[2] It contains pharmacy retail transactions from more than 80% of pharmacies nationwide, including high-volume national chain pharmacies, resulting in information on approximately 90% of prescriptions filled at retail pharmacies in the United States. Missing pharmacies are generally independent or part of small chains. Symphony obtains pharmacy data directly from prescription drug claim processors and payers, using the same data that get verified against standard reporting information to the US government. Data files with more than 1% to 2% errors in required fields must be resubmitted by the pharmacy.

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Author Contributions: Drs Dick and Stein had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Stein, Dick, Pacula, Gordon.

Acquisition, analysis, or interpretation of data: All authors.

Drafting of the manuscript: Stein, Burns, Gordon.

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Data from 7 states with the most buprenorphine-waivered physicians (California, Florida, Massachusetts, Michigan, New York, Pennsylvania, Texas) were analyzed. Pharmacy claims for buprenorphine formulations without a US Food and Drug Administration indication for treatment of pain were used to create patient treatment episodes. Episodes started with the first observed buprenorphine claim from January 2010 to December 2013 following a 30-day absence of supplied prescribed buprenorphine. Episodes ended with a 14-day gap in days supplied or at June 30, 2014. Each patient episode was assigned to the prescriber. Episodes with multiple prescribers were assigned to the physician writing the first prescription. In each month, the number of patient episodes for each prescriber was summed to calculate monthly patient census. To focus on physicians who prescribed over a substantial period, analysis was restricted to those prescribing in both January 2010 and December 2013.

A standard count data model was used to characterize prescribers'monthly patient counts, controlling for state and year. Incident rate ratios, reflecting the estimated patient count for each group relative to the reference group, were calculated with 2-tailed significance tests using an $\alpha = .05$. Analyses were performed in SAS (SAS Institute), version 9.3. The RAND Institutional Review Board determined the research exempt.

Results

We identified 3234 buprenorphine prescribers with 245 016 patients receiving a new prescription of buprenorphine (Table). Prescribers' median monthly patient census was 13 patients (interquartile range [IQR], 5–36), and median episode duration was 53 days (IQR, 20–120). Twenty-two percent of prescribers had monthly censuses of 1 to 3 patients, 49% had 4 to 30 patients, 20% had 31 to 75 patients, and 9% had more than 75 patients.

Regression analyses showed an increase in patient census in years subsequent to 2010 (Table). Censuses were lowest in California and highest in Massachusetts and Pennsylvania.

Discussion

The monthly patient censuses for buprenorphine-prescribing physicians were substantially below patient limits at the time; more than 20% treated 3 or fewer patients, and fewer than 10% treated more than 75 patients. The median treatment duration (53 days) was lower than expected given clinical recommendations of maintenance treatment for up to 12 months[3] and evidence linking longer treatment to better outcomes.[1,4] The findings are limited in that prescriber waiver status is unknown as is patient clinical status; we cannot exclude the possibility that buprenorphine was prescribed off-label for pain.

Novice prescribers cite insufficient access to more experienced prescribers and insufficient access to substance abuse counseling for patients as barriers to treating more patients.[5] Such barriers might be addressed by web-based or telecounseling for patients and by programs providing mentoring and telephone consultation from more experienced prescribers.[6] Strategies to help current prescribers treat more patients safely and effectively could complement policy initiatives designed to increase access to treatment by increasing patient limits and number of waivered prescribers.

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Table

Buprenorphine-Prescribing Physicians' Monthly Patient Censuses

	Monthly Patient Census, Median (IQR)	Incident Rate Ratio (95% CI)	*P* Value
All prescribers (n = 3234)	13 (5–36)	NA	NA
State			
California	7 (4–17)	0.69 (0.58–0.83)	<.001
Florida	11 (4–30)	1.10 (0.91–1.33)	.32
Massachusetts	22 (8–59)	1.87 (1.55–2.65)	<.001
Michigan	11 (4–26)	1 [Reference]	
New York	11 (4–27)	1.04 (0.87–1.25)	.66
Pennsylvania	18 (6–46)	1.51 (1.25–1.82)	<.001
Texas	10 (4–29)	1.05 (0.85–1.29)	.67
Year Buprenorphine Treatment Episode Began			
2010	9 (4–22)	1 [Reference]	
2011	10 (4–27)	1.23 (1.20–1.26)	<.001
2012	12 (4–33)	1.41 (1.37–1.45)	<.001
2013	14 (5–37)	1.48 (1.43–1.53)	<.001

Abbreviations: IQR, interquartile range; NA, not applicable.