



HHS Public Access

Author manuscript

Am J Obstet Gynecol. Author manuscript; available in PMC 2023 September 01.

Published in final edited form as:

Am J Obstet Gynecol. 2022 September ; 227(3): 544–546.e1. doi:10.1016/j.ajog.2022.05.041.

Buprenorphine uptake during pregnancy following the 2017 guidelines update on prenatal opioid use disorder

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The authors report no conflict of interest.

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OBJECTIVE:

Prenatal opioid use disorder (OUD) has significantly risen, from 3.5 to 8.2 per 1000 deliveries between 2010 and 2017.¹ In August 2017, options for the treatment of prenatal OUD expanded from methadone only: the American College of Obstetricians and Gynecologists (ACOG) and American Society of Addiction Medicine (ASAM) committee opinion on opioid use and OUD in pregnancy recommended buprenorphine as a noninferior alternative first-line treatment for prenatal OUD.² However, evidence shows that pregnant patients receive medications for OUD at low rates³ and face barriers when seeking treatment (especially concerning accessing buprenorphine)⁴ and that few obstetrician-gynecologists are licensed to prescribe buprenorphine.⁵ Therefore, we sought to determine the influence of these guidelines on buprenorphine uptake among pregnant individuals with OUD.

STUDY DESIGN:

We analyzed 2014–2019 MarketScan Commercial Claims and Encounters Data. The longitudinal sample was composed of women aged 15 to 45 years with diagnosed OUD. Using causal inference methods, we estimated difference-in-differences models comparing changes in buprenorphine use before and after the ACOG-ASAM guideline between pregnant and nonpregnant (control group) women with OUD. Our policy variable of interest was the interaction between the postguideline and pregnancy indicators. Recognizing that there are likely individual characteristics correlated to both the exposure and outcome, we included individual-level fixed effects to capture all individual-specific time-invariant determinants of buprenorphine receipt. We regressed our buprenorphine outcomes on the policy interaction, pregnancy indicator, postguideline indicator, and individual fixed effects using ordinary least squares. We evaluated the difference-in-differences assumption of parallel trends in the exposure categories graphically. We chose this specific difference-in-differences approach, with nonpregnant women as a comparison group, to account for confounding factors affecting buprenorphine uptake and correlated with the guideline changes during this period. A *P* value threshold of .05 was used to determine statistical significance. Analyses were performed with Stata (version 16; StataCorp, College Station, TX). The Boston University Medical Campus Institutional Review Board ruled this study as Not Human Subjects Research.

RESULTS:

Among 86,522 unique women included, 2137 (2.5%) were pregnant at least once during the study period. The mean (standard deviation) ages at baseline were 27.6 (6.0) years in the pregnant group and 30.9 (7.9) years in the control group (shown in the online Supplemental Table). Most patients resided in urban settings (70,704 [81.7%]). Our individual-level fixed effects model found a 2.1 percentage point (95% confidence interval [CI], 1.0–3.2) increase in the prevalence of buprenorphine use among pregnant women compared with nonpregnant

women with OUD following the guideline change, corresponding to a 12% increase relative to the preguideline period (see Figure). In a sensitivity analysis, we excluded the year 2017, and the results remained similar (2.3%; 95% CI, 0.8—3.7; $P < .001$). Buprenorphine initiation rates increased after guideline release among those with no previous history of treatment from 12 initiations per 100 person-years (PY) to 13 per 100 PY in nonpregnant women and from 17 initiations per 100 PY to 21 per 100 PY in pregnant women (both $P < .01$).

CONCLUSION:

Our findings suggested that the ACOG-ASAM 2017 OUD guidelines led to increased buprenorphine uptake among pregnant women with OUD compared with nonpregnant women. Professional society guidelines could be an effective tool to address the current US drug overdose epidemic.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

A.M. acknowledges funding from the Gerber Foundation (grant number GF192350) and the National Institute on Drug Abuse (NIDA; grant number K01DA051777). J.R.M. acknowledges funding from the NIDA (grant numbers P30DA040500, R01CE002999, and R01DA046527), and Z.F.M. acknowledges funding from the NIDA (grant number P30DA040500) and the Centers for Disease Control and Prevention (grant numbers R01CE003143 and R49CE003083). R.L.E. acknowledges funding from the Charles A. King Trust Postdoctoral Fellowship Program.

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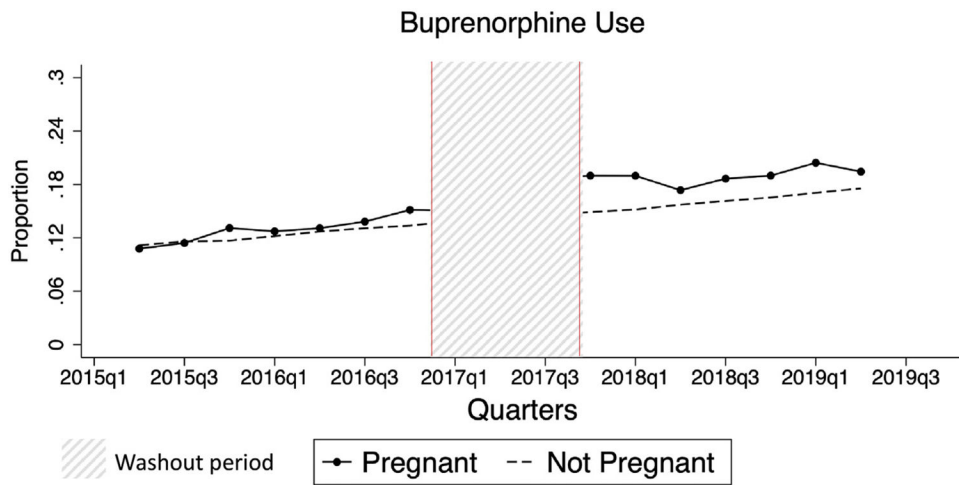


FIGURE. Buprenorphine administration by pregnancy status during the study period
 ACOG, American College of Obstetricians and Gynecologists; ASAM, American Society of Addiction Medicine.
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