

Buprenorphine Prescriptions Remain Uncommon After Opioid-Related ED Encounters

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Key Findings:

- Although prescribing rates have increased since 2015, buprenorphine was prescribed in 7.6% of opioid use disorder (OUD) emergency department (ED) encounters and 1.6% of opioid overdose ED encounters that did not result in an admission in the second quarter of 2023.
- Males were 36% more likely than females to be prescribed buprenorphine after an OUD ED encounter in the second quarter of 2023.
- In that same quarter, Hispanic patients were 70% more likely than non-Hispanic White and 77% more likely than non-Hispanic Black patients to be prescribed buprenorphine for OUD.

Buprenorphine is a medication that can be used to treat opioid use disorder (OUD). Unlike other medications for OUD, buprenorphine can be prescribed and dispensed to patients to take with them for ongoing treatment.¹ However, until 2023, an additional waiver was required to prescribe buprenorphine, limiting which providers could prescribe the medication.² That requirement was removed as part of the Mainstreaming Addiction Treatment Act (MAT Act) in December 2022, which expanded the number of clinicians that could prescribe buprenorphine.³

The American College of Emergency Physicians (ACEP) recommends initiation of buprenorphine in the ED to help facilitate increased rates of outpatient treatment and decreased drug use for those diagnosed with OUD.⁴ We sought to understand whether the proportion of patients prescribed buprenorphine in the emergency department (ED) has changed over time.

We studied 542,381 OUD and 271,272 opioid overdose ED encounters from January 2015 through June 2023 to assess whether the proportion of patients prescribed buprenorphine changed over time. We excluded patients who had an active or reported buprenorphine, methadone, or naltrexone prescription prior to their ED visit. We found that the percentage of OUD ED encounters where buprenorphine was prescribed increased over time from 0.1% of encounters in the first quarter of 2015 to 7.6% of encounters in the second quarter of 2023. Comparatively, the percentage of opioid overdose encounters with a buprenorphine prescription also increased over the same time period but reached only 1.6% of opioid overdose encounters in the second quarter of 2023, as shown in Figure 1.

Opioid Use Disorder and Opioid Overdose ED Encounters with Buprenorphine Prescription

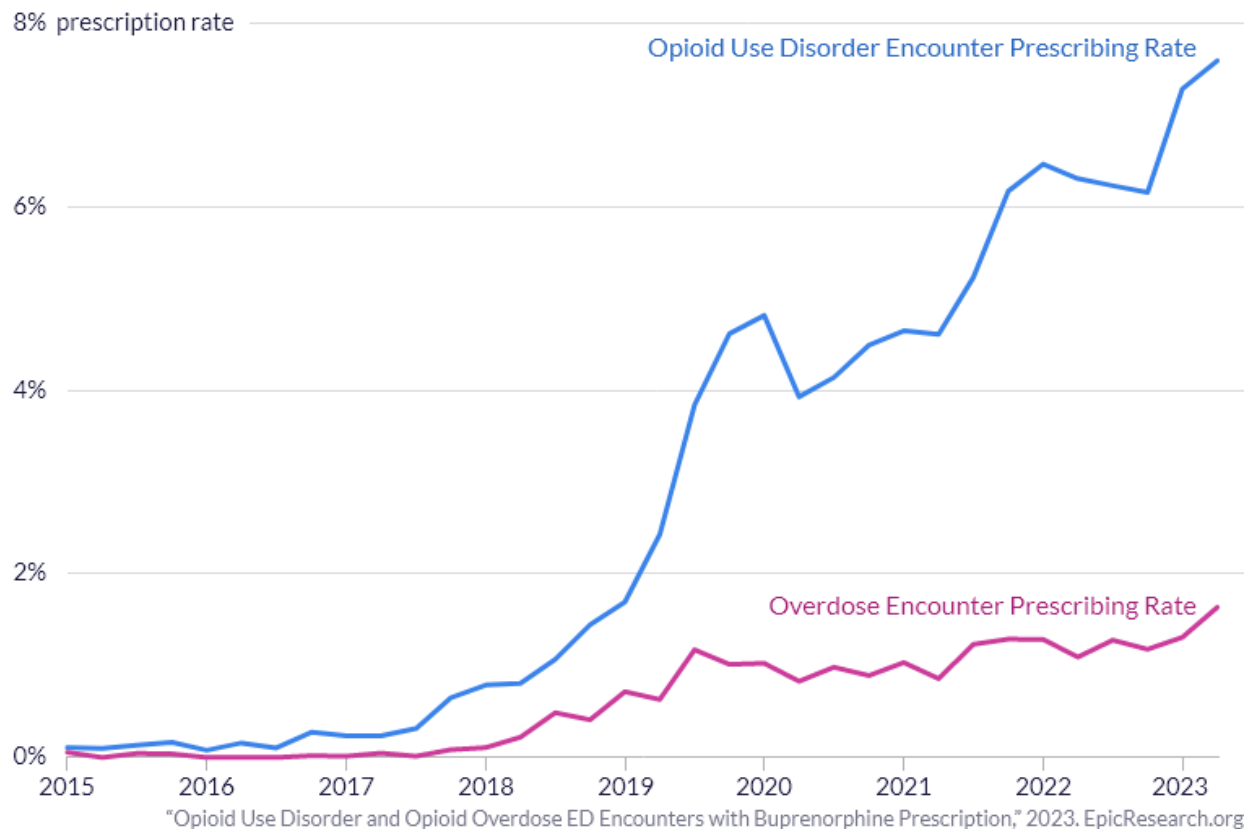
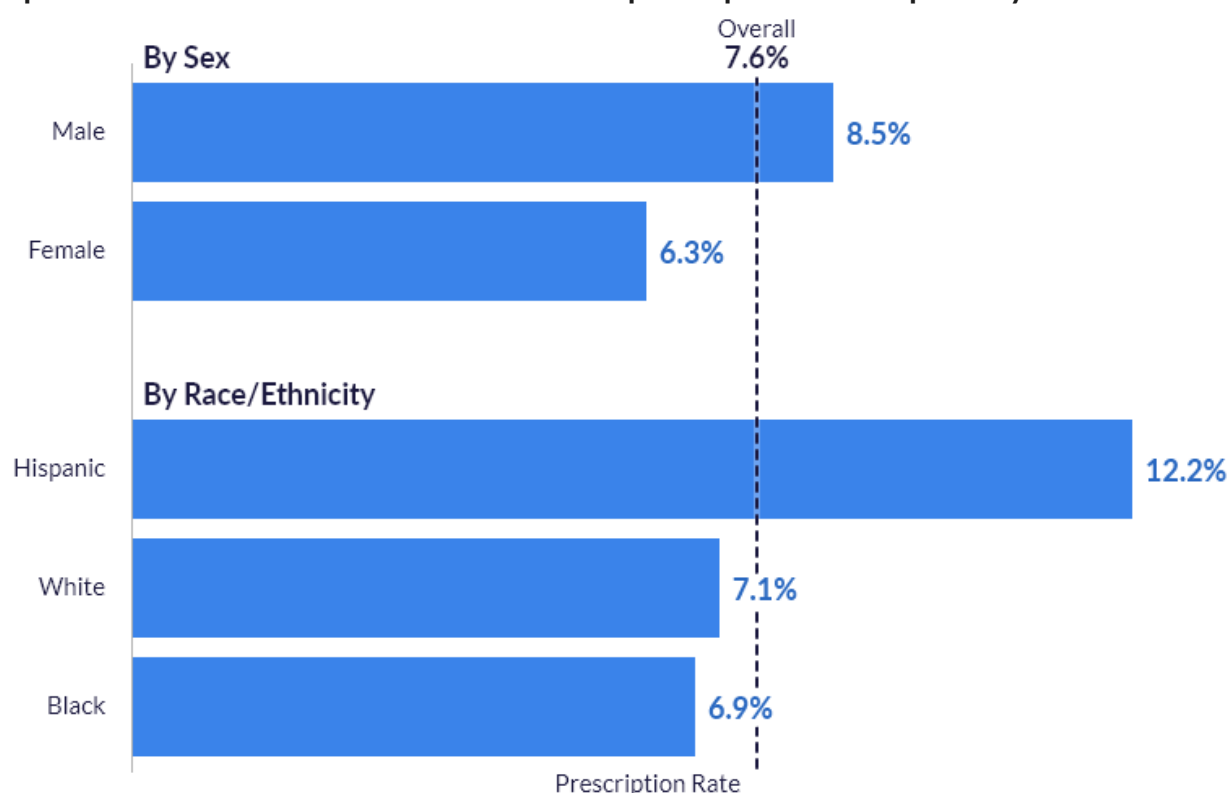


Figure 1. Rate of ED OUD and opioid overdose encounters with a buprenorphine prescription by quarter from Q1 2015 to Q2 2023.

The increase in OUD and overdose encounters prescribed buprenorphine since the removal of the additional waiver requirement does appear to be rising at a greater rate than previous years, but it remains to be seen whether the increase in buprenorphine prescriptions will be maintained over time. We did not observe a difference in prescribing rates between initial and subsequent encounters for OUD or overdose.

Men have been consistently more likely to receive a buprenorphine prescription than women after an OUD encounter, with men about 36% more likely to receive a prescription than women in the second quarter of 2023. In that same quarter, Hispanic patients were 77% more likely than non-Hispanic Black and 70% more likely than non-Hispanic White patients to receive a buprenorphine prescription after an OUD encounter.

Opioid Use Disorder ED Encounters with Buprenorphine Prescription by Sex and Race



"Opioid Use Disorder ED Encounters with Buprenorphine Prescription by Sex and Race," 2023. EpicResearch.org

Figure 2. Rate of OUD ED encounters with a buprenorphine prescription in Q2 2023.

These findings support the need cited by the Substance Abuse and Mental Health Services Administration (SAMHSA) for more providers to initiate treatment for OUD.³

These data come from Cosmos, a HIPAA-defined Limited Data Set of more than 196 million patients from 208 Epic organizations including 1,197 hospitals and more than 25,400 clinics, serving patients in all 50 states and Lebanon. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions.

References

1. Substance Abuse and Mental Health Services Administration. What is Buprenorphine? SAMHSA. [What is Buprenorphine? | SAMHSA](#) Accessed July 18, 2023.
2. Substance Abuse and Mental Health Services Administration. Waiver Elimination (MAT Act). SAMHSA. [Waiver Elimination \(MAT Act\) | SAMHSA](#) Accessed July 18, 2023.
3. US Department of Health and Human Services. 86 FR 22439: Practice Guidelines for the Administration of Buprenorphine for Treating Opioid Use Disorder. [Federal Register :: Practice Guidelines for the Administration of Buprenorphine for Treating Opioid Use Disorder](#). Published April 28, 2021. Accessed on July 18, 2023.
4. Hawk K, Hoppe J, Ketcham E, et al. Consensus Recommendations on the Treatment of Opioid Use Disorder in the Emergency Department. *Ann Emerg Med*. 2021;78(3):434-442. doi:10.1016/j.annemergmed.2021.04.023

Data Definitions

Term	Definition
Study period	1/1/2015 – 6/30/2023
Study population	Emergency department encounters started within the study period , with either an opioid use disorder diagnosis or overdose diagnosis . The patient must be at least 18 years old at the start of the encounter. Patients were required to have a completed care discharge disposition . Patients with active buprenorphine , naltrexone or methadone at the start of the encounter were excluded.
Overdose diagnosis	Encounter or billing diagnosis with ICD-10-CM codes T40.0X1*, T40.0X2*, T40.0X4*, T40.1X1*, T40.1X2*, T40.1X4*, T40.2X1*, T40.2X2*, T40.2X4*, T40.3X1*, T40.3X2*, T40.3X4*, T40.411*, T40.412*, T40.414*, T40.421*, T40.422*, T40.424*, T40.491*, T40.492*, T40.494*, T40.601*, T40.602*, T40.604*, T40.691*, T40.692*, or T40.694*
Opioid use disorder (OUD) diagnosis	Encounter or billing diagnoses with ICD-10-CM code F11*
Buprenorphine	Prescription for buprenorphine, buprenorphine HCl, or buprenorphine HCl/naloxone HCl
Naltrexone	Prescription for or reported use of naltrexone, naltrexone HCl, naltrexone HCl dihydrate, or naltrexone microspheres
Methadone	Prescription for or reported use of methadone HCl or methadone in 0.9 % sodium chloride
Completed care discharge disposition	A discharge disposition of “Discharged to Home or Self Care (Routine Discharge),” “Left Against Medical Advice or Discontinued Care,” “Discharged/transferred to Home Under Care of Organized Home Health Service Org,” “Discharged/transferred to Skilled Nursing Facility (SNF) with Medicare Certification,” “Discharged/transferred to an Inpatient Rehab Facility (IRF),” “Discharged/transferred to a Facility that Provides Custodial or Supportive Care,” “Homeless or Homeless Shelter,” or “Assisted Living”

Table 1: Opioid Use Disorder and Opioid Overdose ED Encounters with Buprenorphine Prescription

Quarter Start Date	OUD Encounters	% OUD Encounters with Buprenorphine Rx	Overdose Encounters	% Overdose Encounters with Buprenorphine Rx
1/1/2015	5,566	0.11%	1,800	0.06%
4/1/2015	6,127	0.10%	2,116	0.00%
7/1/2015	6,609	0.14%	2,256	0.04%
10/1/2015	6,659	0.17%	2,491	0.04%
1/1/2016	7,453	0.08%	2,650	0.00%
4/1/2016	8,748	0.16%	3,495	0.00%
7/1/2016	9,651	0.10%	4,361	0.00%
10/1/2016	9,431	0.28%	4,954	0.02%
1/1/2017	12,585	0.24%	7,037	0.01%
4/1/2017	14,032	0.24%	8,383	0.05%
7/1/2017	14,555	0.32%	7,662	0.01%
10/1/2017	13,824	0.65%	7,011	0.09%

1/1/2018	13,574	0.79%	6,507	0.11%
4/1/2018	15,448	0.81%	7,648	0.22%
7/1/2018	16,710	1.07%	8,205	0.49%
10/1/2018	15,739	1.45%	7,037	0.41%
1/1/2019	15,760	1.69%	6,556	0.72%
4/1/2019	17,408	2.43%	8,219	0.63%
7/1/2019	18,649	3.84%	8,941	1.17%
10/1/2019	17,733	4.62%	8,156	1.02%
1/1/2020	17,867	4.82%	8,083	1.03%
4/1/2020	16,123	3.93%	10,341	0.83%
7/1/2020	20,182	4.14%	10,441	0.99%
10/1/2020	18,490	4.49%	9,512	0.89%
1/1/2021	18,883	4.65%	9,656	1.04%
4/1/2021	21,727	4.61%	11,848	0.86%
7/1/2021	22,426	5.23%	12,643	1.23%
10/1/2021	20,117	6.17%	11,079	1.29%
1/1/2022	20,223	6.47%	10,407	1.29%
4/1/2022	22,850	6.31%	11,952	1.10%
7/1/2022	24,360	6.23%	13,047	1.28%
10/1/2022	22,923	6.16%	12,009	1.18%
1/1/2023	24,227	7.29%	11,888	1.31%
4/1/2023	25,722	7.60%	12,881	1.64%

Table 2: Opioid Use Disorder ED Encounters with Buprenorphine Prescription – Legal Sex Comparison

Quarter Start Date	OOD Encounters - Female	% OOD Encounters with Buprenorphine Rx - Female	OOD Encounters - Male	% OOD Encounters with Buprenorphine Rx - Male
1/1/2015	2,516	0.00%	3,050	0.20%
4/1/2015	2,928	0.14%	3,199	0.06%
7/1/2015	3,058	0.16%	3,550	0.11%
10/1/2015	3,042	0.13%	3,616	0.19%
1/1/2016	3,408	0.06%	4,044	0.10%
4/1/2016	4,079	0.12%	4,668	0.19%
7/1/2016	4,372	0.11%	5,279	0.09%
10/1/2016	4,071	0.27%	5,359	0.28%
1/1/2017	5,551	0.11%	7,034	0.34%
4/1/2017	6,119	0.25%	7,911	0.23%
7/1/2017	6,336	0.35%	8,217	0.29%
10/1/2017	6,006	0.72%	7,817	0.60%
1/1/2018	5,879	0.70%	7,693	0.86%
4/1/2018	6,573	0.67%	8,873	0.91%

7/1/2018	6,933	1.05%	9,773	1.08%
10/1/2018	6,582	1.35%	9,156	1.52%
1/1/2019	6,653	1.26%	9,107	2.01%
4/1/2019	7,415	1.86%	9,989	2.85%
7/1/2019	7,989	3.30%	10,655	4.25%
10/1/2019	7,452	3.72%	10,277	5.27%
1/1/2020	7,463	4.10%	10,402	5.34%
4/1/2020	6,364	3.10%	9,757	4.48%
7/1/2020	8,154	3.56%	12,018	4.54%
10/1/2020	7,244	3.95%	11,244	4.85%
1/1/2021	7,547	3.82%	11,327	5.21%
4/1/2021	8,621	3.94%	13,103	5.05%
7/1/2021	8,962	4.47%	13,461	5.74%
10/1/2021	8,037	5.06%	12,076	6.91%
1/1/2022	8,130	5.24%	12,091	7.29%
4/1/2022	9,420	5.00%	13,425	7.23%
7/1/2022	10,023	5.30%	14,334	6.89%
10/1/2022	9,409	5.15%	13,508	6.86%
1/1/2023	9,995	5.77%	14,225	8.36%
4/1/2023	10,510	6.25%	15,206	8.53%

Table 3: Opioid Use Disorder ED Encounters with Buprenorphine Prescription – Race and Ethnicity Comparison

Quarter Start Date	OOD Encounters - Black	% OOD Encounters with Buprenorphine Rx - Black	OOD Encounters - Hispanic	% OOD Encounters with Buprenorphine Rx - Hispanic	OOD Encounters - White	% OOD Encounters with Buprenorphine Rx - White
1/1/2015	948	0.00%	291	0.00%	4,081	0.12%
4/1/2015	1043	0.00%	246	0.00%	4,556	0.11%
7/1/2015	1042	0.10%	289	0.00%	5,019	0.14%
10/1/2015	1273	0.00%	288	0.00%	4,813	0.23%
1/1/2016	1494	0.07%	335	0.00%	5,321	0.08%
4/1/2016	1681	0.24%	403	0.25%	6,329	0.14%
7/1/2016	1780	0.11%	599	0.00%	6,889	0.12%
10/1/2016	1863	0.21%	648	0.46%	6,544	0.28%
1/1/2017	2508	0.16%	858	0.58%	8,798	0.20%
4/1/2017	2753	0.25%	988	0.30%	9,788	0.17%
7/1/2017	2914	0.07%	1,000	0.70%	10,114	0.36%
10/1/2017	2656	0.30%	1,177	1.02%	9,450	0.70%
1/1/2018	2624	0.53%	1,144	0.79%	9,296	0.86%
4/1/2018	2888	0.42%	1,296	0.93%	10,668	0.92%

7/1/2018	3056	0.95%	1,457	1.44%	11,533	1.10%
10/1/2018	3274	1.25%	1,366	2.71%	10,453	1.37%
1/1/2019	3292	1.40%	1,351	3.03%	10,440	1.62%
4/1/2019	3501	1.91%	1,413	2.97%	11,769	2.55%
7/1/2019	3632	2.53%	1,519	4.74%	12,664	4.07%
10/1/2019	3539	3.14%	1,546	7.76%	11,907	4.57%
1/1/2020	3659	3.22%	1,514	7.33%	11,869	4.90%
4/1/2020	3308	3.39%	1,264	6.65%	10,806	3.78%
7/1/2020	4160	3.56%	1,761	5.39%	13,333	4.00%
10/1/2020	3808	4.31%	1,655	6.34%	12,185	4.32%
1/1/2021	4080	4.02%	1,711	6.20%	12,185	4.51%
4/1/2021	4623	3.70%	1,989	6.13%	14,039	4.49%
7/1/2021	4783	4.54%	1,954	7.22%	14,612	5.09%
10/1/2021	4493	5.74%	1,915	8.15%	12,722	5.96%
1/1/2022	4329	5.87%	1,939	9.85%	13,016	5.94%
4/1/2022	4862	5.59%	2,169	9.96%	14,782	5.83%
7/1/2022	4982	5.52%	2,366	8.75%	15,921	5.94%
10/1/2022	4798	6.50%	2,219	10.09%	14,903	5.42%
1/1/2023	5295	7.03%	2,376	10.02%	15,454	6.79%
4/1/2023	5529	6.85%	2,395	12.15%	16,567	7.15%