

A Retrospective Analysis of Prescribing Trends for Medications of Opioid Use Disorder



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INTRODUCTION

Both methadone and buprenorphine are effective in managing opioid use disorder (OUD), though methadone was used more frequently due to its earlier invention and approval. Buprenorphine has been accepted as an alternative medication for opioid use disorder (MOUD) treatment since 2002 due to its more flexible prescribing options and unique pharmacological profile. This retrospective exploratory study investigates how prescribing practices of methadone vs. buprenorphine have changed between 2014-2023.

METHODS AND RESULTS

Data was collected through retrospective analysis, including biographical information and MOUD type on admission for surgery. Biographic information included age, sex, BMI, Race, ethnicity, smoking status, other medications (anti-depressants, anti-psychotics, anti-anxiety), mental health diagnoses, ASA score and type of insurance. This single center retrospective cohort study was approved by the institutional review board. Results were reported described with frequency counts (%). Differences in prescription rates were analyzed using chi square. Analyses were performed using SPSS Statistical Software (IBM SPSS Inc., Armonk, NY) with significance set at $P < .05$. 1743 patients were included in this study. This cohort was predominantly white (96.3%) and on Medicaid, Medicare, or replacement insurance (74.8%). We found a significant difference in rates of methadone and buprenorphine use from 2014 to 2023 ($p < 0.001$), as well as significantly different

Buprenorphine prescribing practices have increased significantly over the past decade. Despite this increase, there remains a need for more standardized guidelines in the management of this medication to ensure safe and effective patient care.

Change in type of MOUD prescribed over time

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	P-value
N	79	164	180	162	247	184	202	205	210	104	
Methadone	34 (43.0)	74 (45.1)	76 (42.2)	46 (28.4)	66 (26.7)	54 (29.3)	60 (29.7)	55 (26.8)	57 (27.1)	24 (23.1)	<0.001
Buprenorphine	45 (57.0)	90 (54.9)	104 (57.8)	116 (71.6)	181 (73.3)	130 (70.7)	142 (70.3)	150 (73.2)	153 (72.9)	80 (76.9)	

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rates of buprenorphine therapy over the same period ($p < 0.001$). Since 2014, the proportion of buprenorphine vs methadone use has increased (57% to 76.9%), and the combination therapy buprenorphine/naloxone has increased in frequency over buprenorphine (51.1% to 82.5%).

DISCUSSION

- The use of buprenorphine for treating OUD has increased significantly, particularly in rural Maine, likely in part due to buprenorphine's safety profile which does not require daily visits to opioid treatment programs
- Buprenorphine is the most commonly prescribed drug in Maine. Following the MAT act removing federal restrictions on buprenorphine prescribing, we will likely see more people on buprenorphine than methadone.
- With that increase comes a need for further discussion on guidelines that can be implemented across various specialties to ensure consistent patient care
- A limitation of this study is that it was conducted within one state and one healthcare system, making it difficult to generalize to other regions. Additionally, buprenorphine incidence was always higher in our cohort given the relatively few OTPs in Maine.

CONCLUSION

The use of buprenorphine for treating OUD has increased significantly over the past decade, particularly in rural areas of Maine. Despite this increase, there remains relatively little guidance on its management across care settings, highlighting the need for standardized guidelines to ensure safe and effective patient care.