

## Abstract

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### **Patterns of substance use and medications for opioid use disorder: Findings from a state-wide sample of people who use drugs**

Jaclyn White Hughto, PhD, MPH<sup>1</sup>, Abigail Tapper, MPH<sup>2</sup>, Patricia Case, ScD, MPH<sup>3</sup>, Thomas J. Stopka, PhD, MHS<sup>4</sup>, Wilson R. Palacios, PhD<sup>5</sup> and **Traci C. Green, PhD, MSc<sup>2</sup>**, (1)Brown University School of Public Health, Providence, RI, (2)Brandeis University, Waltham, MA, (3)Northeastern University, Boston, MA, (4)Tufts University, Boston, MA, (5)University of Massachusetts, Lowell, Lowell, MA

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**introduction:** Medications for opioid use disorder (MOUD) effectively treat opioid addiction. Exploring patterns of substance use by MOUD use, as well as the context that surrounds both, can help identify individuals at risk for treatment dropout.

**methods:** From 2019-2020, Massachusetts residents who used drugs in the past month completed a survey (N=305) and qualitative interview (n=113) on MOUD and substance use. Adjusting for age and gender, a multinomial logistic regression model examined the relationship between regular poly-substance use and current and past use of prescribed MOUD (referent=never). Qualitative data were double-coded and analyzed for emergent themes.

**results:** Overall, 24.6% of participants were between 18 and 30 years of age; 61.6% were male, and 73.9% were prescribed MOUD (36.3% currently; 37.6% previously). On average, participants reported using 2.3 substances regularly (SD=1.1; Range=0-6; Median=2). Regularly used substances included: heroin/fentanyl (68.9%); cocaine/crack (67.9%); benzodiazepines (29.2%); marijuana (39.3%), pain medications (14.4%), amphetamines (9.8%), and methamphetamine (3.3%). Heroin/fentanyl and benzodiazepine use were positively associated with past (heroin/fentanyl: aOR=2.49, 95% CI=1.26-4.92) and current (heroin/fentanyl: aOR=2.37, 95% CI=1.18-4.79, benzodiazepines: aOR=2.20, 95% CI=1.04-4.68) MOUD use. Pain medication was inversely associated with past (aOR=0.38, 95% CI=0.16-0.87) and current (aOR=0.27, 95% CI=0.11-0.65) MOUD use. Through in-depth interviews, participants described using prescribed and non-prescribed benzodiazepines to manage anxiety or to get high while taking MOUD. Many reported the continued use of heroin/fentanyl while on MOUD, particularly those on methadone. Pain management was cited as a benefit of buprenorphine use. Participants also described increasing cocaine/crack use to counteract methadone's mood-dampening effects. Increased use of other substances was cited as a common reason for forced and voluntary treatment dropout.

**conclusions:** Combined quantitative and qualitative findings highlight variations in continued substance use among people currently and previously prescribed MOUD, reasons for such use, and the implications for treatment delivery and continuity.

Chronic disease management and prevention Epidemiology Public health or related research