

Mortality of Buprenorphine and Methadone in the United States 2010-2017

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Introduction

- During an ever-growing opioid overdose crisis, buprenorphine is increasingly dispensed as a treatment for opioid use disorder. Like all opioids, however, buprenorphine has the potential for misuse and abuse.
- The objective of this study was to provide public health surveillance of buprenorphine overdose mortality.
- The study is part of a Risk Evaluation and Mitigation Strategy for SUBOXONE sublingual film, authorized generic of SUBOXONE film, SUBOXONE tablets, and SUBUTEX tablets.

Methods

- Drug mentions on death certificates from 2010 to 2017 were analyzed from the Drug Involved Mortality database to identify buprenorphine-involved and methadone-involved deaths.
- Deaths identified as poisonings were included. Mortality rates adjusted by population and dispensing were calculated.
- Dosage units dispensed data were obtained from IQVIA™; these data are estimates of retail dispensing of buprenorphine.

Results

- Decedents with buprenorphine listed on their death certificate (n=3,241) were younger and slightly more likely to be white than methadone (n=31,659).
- The proportion of polysubstance involvement among buprenorphine-involved deaths rose from 76.7% in 2010 to 93.8% in 2017.
- Benzodiazepines were the most frequent drug substance found with buprenorphine.

Results

Figure 1: Mortality Rates by Quarter (Population-Adjusted), 2010 through 2017
Centers for Disease Control and Prevention Drug Involved Mortality Database

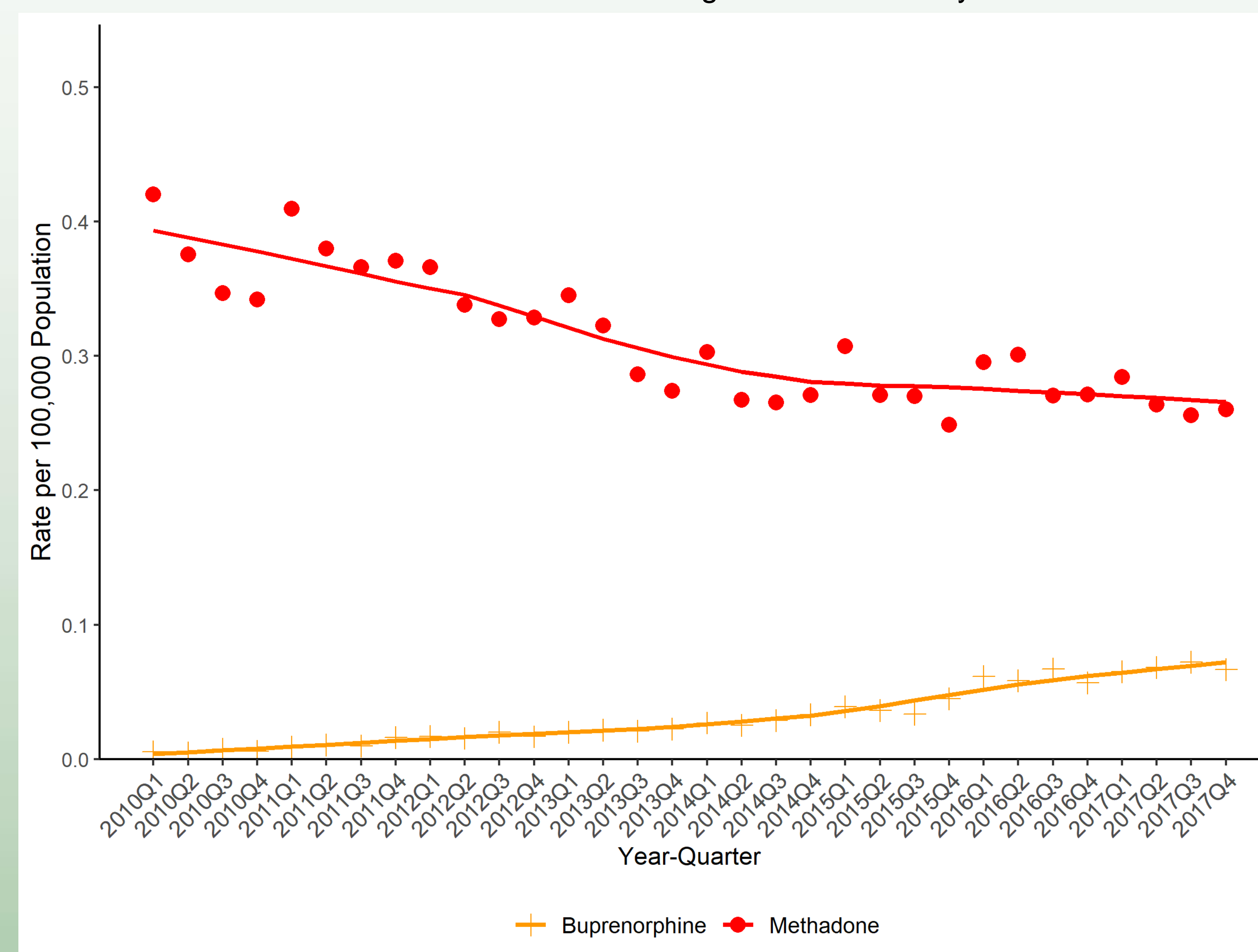
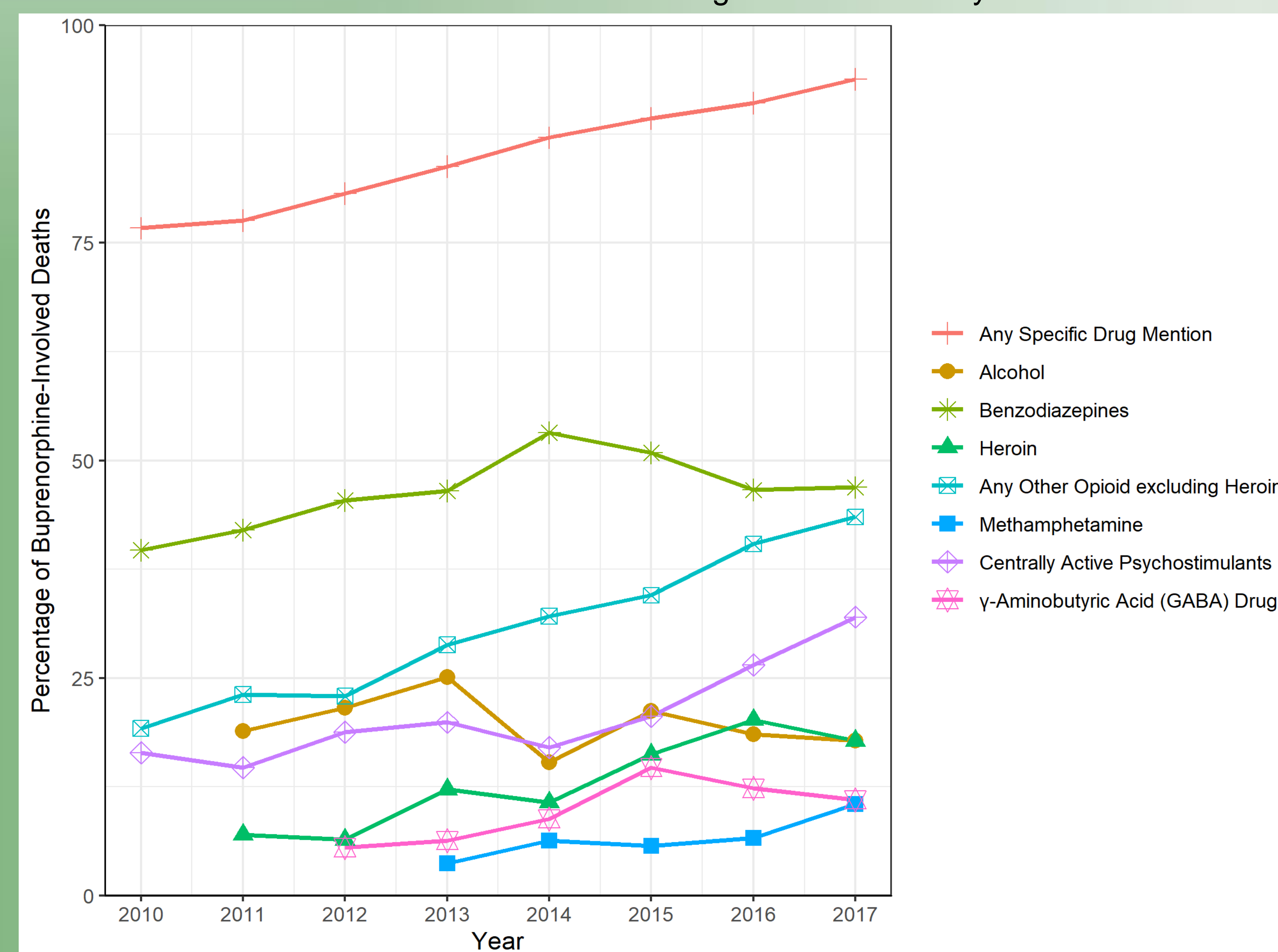


Figure 2: Proportions of Buprenorphine-Involved Deaths Identified as Polysubstance Overdose Deaths by Year, 2010 through 2017
Centers for Disease Control and Prevention Drug Involved Mortality Database



Results

- The buprenorphine-involved mortality rate increased from 0.006 deaths per 100,000 population in 2010 to 0.068 in 2017.
- Methadone-involved mortality rates decreased from 0.371 to 0.266 over the same period. When adjusted by dispensing, the buprenorphine-involved mortality rate has risen three-fold from 0.066 cases per 100,000 dosage-units dispensed in 2011 to 0.225 cases in 2017.
- This indicates the number of cases is rising proportionally faster than the number of dosage units dispensed, which is confounded by the changes in death certificate reporting practices.

Conclusions

- Increasing buprenorphine mortality disproportionate to dispensing is concerning as the need for maintenance therapy is rising.
- Given the high proportion of polysubstance buprenorphine-involved deaths in 2017, there is substantial need to communicate the risks of polysubstance use to patients.

Limitations

- Deaths from Puerto Rico and US territories are not included, and results are likely not generalizable to these geographies.
- Heterogeneity exists between the state and local practices of medical examiners and coroners. While standards for the practice of death investigation exist, these were introduced during the timeframe of this study (2014), and the diagnostic acumen of the pool of medical examiners and coroners could change over time. Identification of individual opioids is reliant on inclusion of these details in the relevant fields on the death certificate, and these practices are dependent on state and local policies. The proportion of drug overdose deaths in which no specific drugs are identified varies widely by state.

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