

The Impact of Mandated Prescription Drug Monitoring Program Registration on Prescription Opioid-Related Mortality in California

HPR86

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Background

Between 1999 and 2018, the number of drug-related overdose deaths in the US almost quadrupled. From 2008 to 2014, California accounted for 9.6% of prescription opioid-related deaths in the US. PDMP are databases at the state level that prescribers and pharmacists can access during patient care to make informed decisions on prescribing controlled substances. California implemented a pivotal mandate aimed at controlling prescription opioid misuse, which required prescribers to consult CURES before prescribing, ordering, administering, or furnishing Schedule II-IV controlled substances, which became effective in October 2018. This mandate required prescribers to check the CURES database before prescribing certain controlled substances to a patient for the first time and every four months thereafter if the substance is part of the patient's treatment. As per the prior research mandating PDMP registration is associated with decreases in both overall and high-dose opioid prescribing. However, there is a lack of research on the impact of this mandate on opioid-related death counts.

Objective

This study aimed to conduct a comparison of opioid prescriptions and mortality attributed to prescription opioids before and after the 2018 mandate in California.

Methods

Data from 2015 to 2018 (pre-mandate) and 2019 to 2022 (post-mandate) regarding opioid prescription count and pre- and post-mandate opioid prescription overdose deaths were compiled from The California Opioid Overdose Surveillance Dashboard. Using python descriptive statistics and a two-sample t-test were employed to assess the change in mean deaths from pre-mandate to post-mandate. Additionally, trends in opioid prescribing practices were examined to understand the impact of the mandate on opioid prescription counts and deaths due to opioid prescriptions. This study also explores the top six counties for opioid prescription-related deaths in California for the years 2015 (pre-mandate) 2022 (post-mandate).

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Results

Figure 1. Prescription Opioids Prescribed in California (2015-2022)

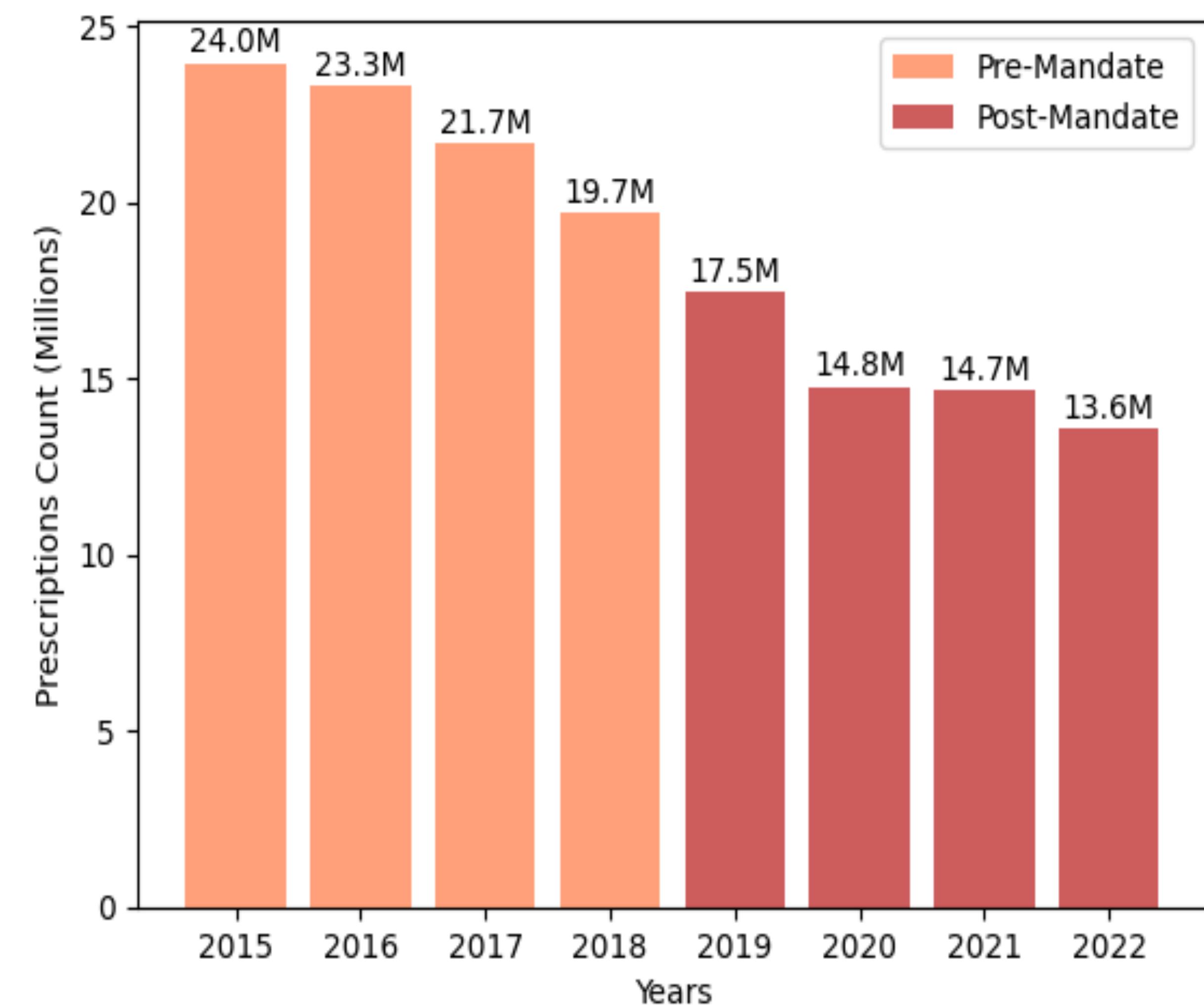


Figure 2. Prescription Opioid-Related Deaths in California (2015-2022)

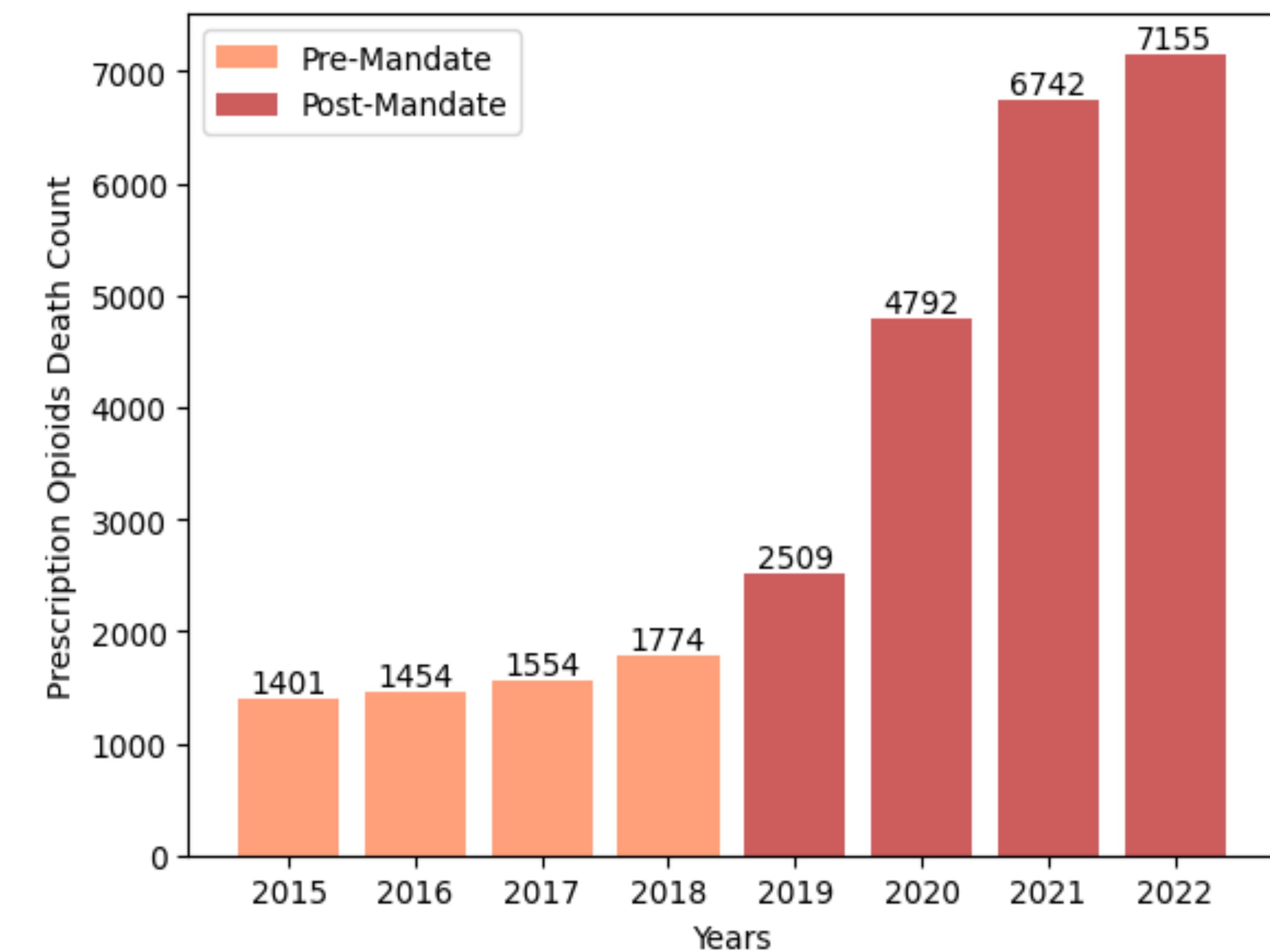
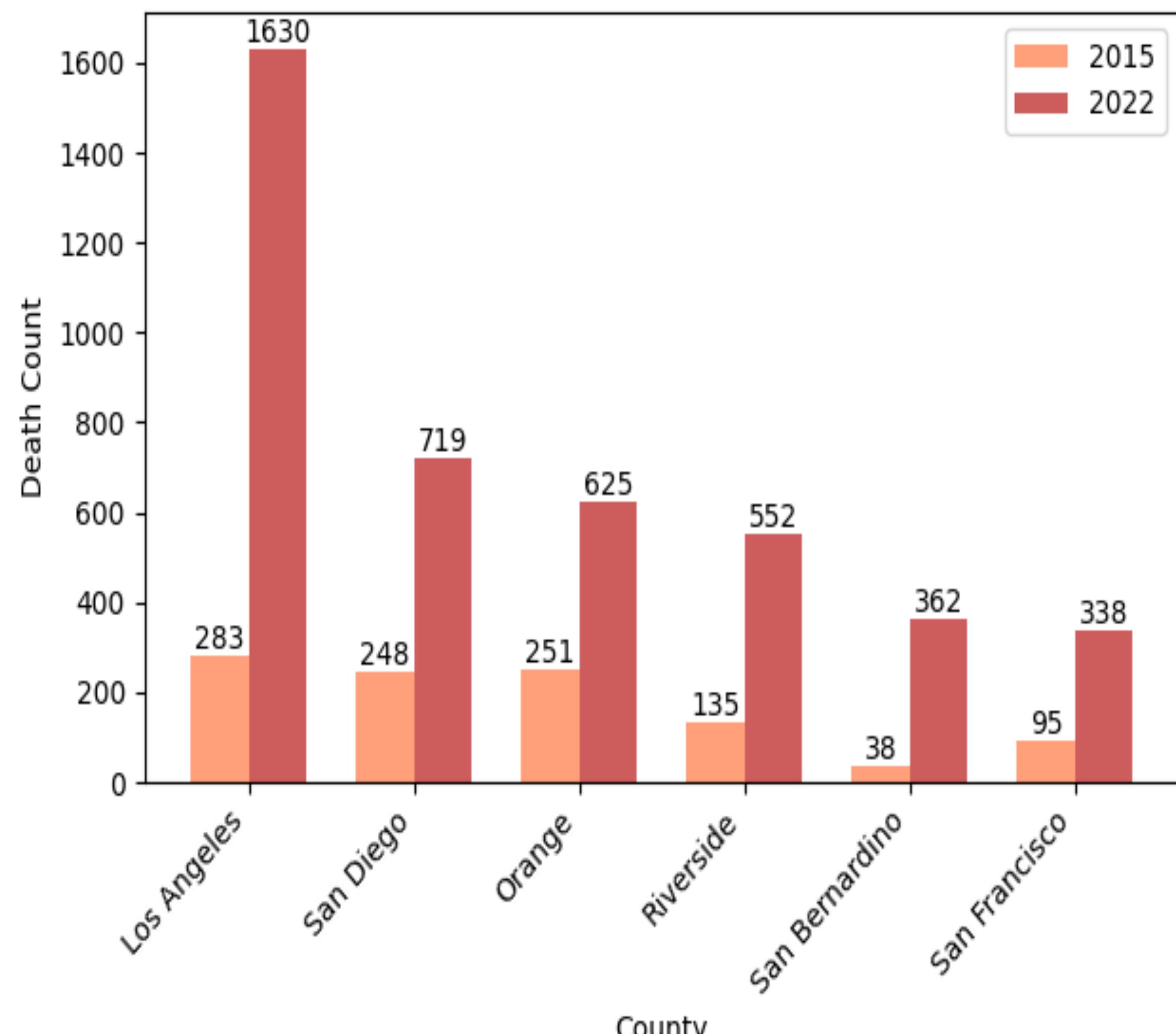


Figure 3. The Top Six Prescription Opioid-Related Deaths by County in California (2015 and 2022)



Before the mandate, opioid prescriptions totaled 88,650,538 and after the mandate, they decreased to 60,458,781. Descriptive statistics showed pre-mandate mean and standard deviation of (22,162,630, SD = 1,893,328) and post-mandate (15,114,695, SD = 1,658,434). The total number of deaths reported due to prescription opioids were 6,183 and 21,198 pre-mandate and post-mandate, respectively. The mean deaths due to prescription opioids during the pre-mandate period was (1,546, SD = 164.86) and post-mandate period (5,300, SD = 2,126.67). The results indicate a statistically significant difference in the number of deaths pre-mandate and post-mandate ($p = 0.012$).

Conclusions

The study findings indicate that there is a significant decrease in opioid prescriptions post-mandate, while the number of deaths due to prescription opioids has significantly increased. Opioid prescriptions have declined as they have become more controlled and restricted. However, these restrictions have not resulted in reduced opioid-related harm. This suggests that individuals who misuse opioids may be turning to illicit sources when faced with tighter restrictions.