

# Trends in hydrocodone combination product exposures reported to California Poison Control System (CPCS) following DEA rescheduling

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## BACKGROUND

- From 2010-2014, reported drug overdose deaths in the United States increased by 23%. Hydrocodone drug overdose deaths accounted for 7% of these (~3,000 deaths annually).
- During this time period, hydrocodone combination products (HCPs) were the only opioid analgesics in Schedule III.
- The US Drug Enforcement Agency (DEA) increased regulation of HCPs by making them Schedule II in October 2014.
- The aim of this study was to analyze opioid exposures, specifically HCPs, reported to the California Poison Control System (CPCS) before and after the 2014 rescheduling.

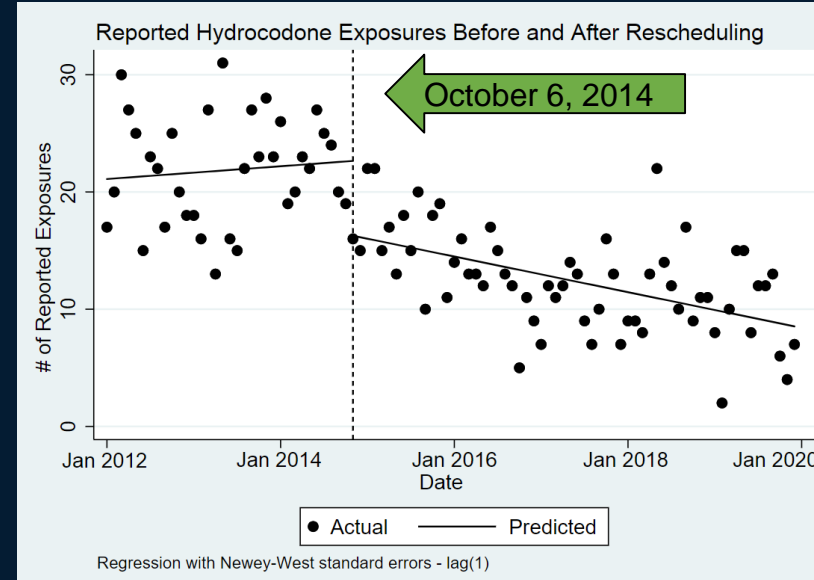
## METHODS

- Observational retrospective study from January 2012 - December 2019
- Analysis of trends in exposures to HCPs and alternative opioids reported to the CPCS following rescheduling of HCPs via Interrupted Time Series Analysis (ITSA)
- Additional ITSAs to assess whether there were significant differences in severe outcomes after rescheduling
- Reviewed associations between patient characteristics and severe clinical outcomes for HCP exposures (logistic regression)

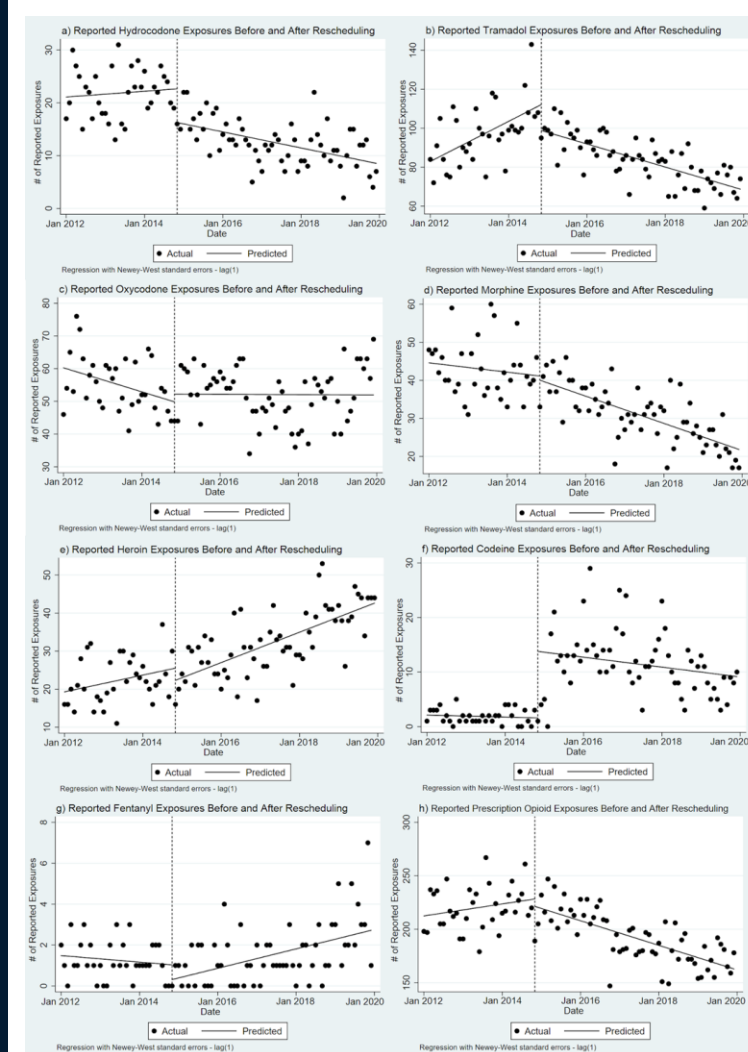
## RESULTS

1. HCP exposures decreased following rescheduling ( $p < 0.01$ ). Additionally, exposures decreased for tramadol and morphine (both  $p < 0.01$ ). Exposures increased for heroin and fentanyl (both  $p < 0.01$ ). No significant changes seen for codeine and oxycodone exposures.
2. Severe outcomes resulting from HCP exposures decreased but the result was not statistically significant ( $p = 0.052$ ). Similarly, changes in severe outcomes were not significant for tramadol and codeine. Increases were significant for oxycodone, heroin, and fentanyl ( $p < 0.01$  for all three).
3. After rescheduling, those under 18 years old, unintentionally exposed, intentionally exposed, and experiencing adverse effects were less likely to report severe health outcomes.

# Increased federal regulation of hydrocodone combination products (e.g. Vicodin, Norco) led to a decrease in reported exposures.



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