

# Changes in Prescription Opioid Exposures Reported to Poison Centers Following the Emergence of the COVID-19 Pandemic

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## INTRODUCTION

- Poison centers provide geographically-specific and timely data on the misuse of substances such as prescription opioids
- Concern regarding poison centers' capacity to provide standard care arose with the emergence of the COVID-19 pandemic
- We examined changes in exposures reported to poison centers in the first 17 weeks of 2020 (December 29, 2019 through April 25, 2020) to assess the impact of the COVID-19 pandemic on collection of data on prescription opioid exposures

## METHODS

- The Researched Abuse, Diversion and Addiction-Related Surveillance (RADARS) System receives weekly prescription opioid exposure data from poison centers
- Trends in exposures across all ages involving ten prescription opioids (oxycodone, fentanyl, hydrocodone, morphine, hydromorphone, oxymorphone, methadone, buprenorphine, tramadol, and tapentadol) from 48 participating centers were evaluated
- Spline regression models assuming a Poisson distribution were used to identify time points where trends in exposure case counts significantly changed in 2020
- The average exposures per week during each identified time period in 2020 were compared to the same timeframe in 2019
- Changes in exposures by caller site, exposure reason, and medical outcome were evaluated

## RESULTS

- In 2020, two points were identified where trends in exposures significantly changed
- Week 1 through week 10 (12/29/19 through 3/7/20)
  - Exposures showed a nonsignificant increase
- Week 11 through week 14 (3/8/20 through 4/4/20)
  - Exposures decreased 6.0% each week on average
- Week 15 through week 17 (4/5/20 through 4/25/20)
  - Exposures increased by 3.4% each week on average.

**Table 1: Difference in Average Weekly Exposures Cases in 2020 relative to 2019 Week**

Exposure category	Weeks <sup>a</sup>		
	1 through 10	11 through 14	15 through 17
<b>All exposures</b>	6.9% (3.5 to 10.4)	-6.2% (-11.1 to -1.1)	-10.4% (-15.7 to -4.7)
<b>Caller site</b>			
Residence	11.0% (4.6 to 17.8)	9.8% (-0.2 to 20.8)	11.3% (-0.0 to 24.0)
Health care facility	1.4% (-2.7 to 5.6)	-14.2% (-19.8 to -8.2)	-20.6% (-26.6 to -14.0)
Other	42.9% (26.7 to 61.2)	1.5% (-16.6 to 23.7)	-6.2% (-25.7 to 18.5)
<b>Exposure reason<sup>b</sup></b>			
Intentional abuse	41.9% (28.6 to 56.5)	21.1% (3.5 to 41.6)	36.9% (14.3 to 64.1)
Intentional misuse	2.0% (-9.8 to 15.2)	-25.6% (-39.1 to -9.0)	-13.5% (-30.5 to 7.9)
Suspected suicidal	-1.6% (-6.7 to 3.7)	-12.8% (-20.0 to -4.9)	-22.7% (-30.3 to -14.3)
Unintentional general	15.8% (4.6 to 28.2)	17.9% (-0.5 to 39.7)	18.0% (-2.8 to 43.2)
Unintentional therapeutic error	0.2% (-6.9 to 7.8)	-12.3% (-22.1 to -1.4)	-11.5% (-22.6 to 1.2)
<b>Medical outcome</b>			
No effect + minor effect	-0.3% (-5.5 to 5.2)	-15.7% (-22.8 to -7.9)	-19.7% (-27.6 to -11.0)
Moderate + major + death	4.8% (-0.8 to 10.8)	-5.2% (-13.3 to 3.7)	-10.7% (-19.4 to -1.1)
Not followed	11.4% (2.8 to 20.8)	-1.1% (-13.2 to 12.7)	-16.4% (-27.9 to -3.1)
Unable to follow	39.5% (24.7 to 56.2)	16.3% (-3.1 to 39.5)	36.9% (10.2 to 70.1)
Unrelated	-6.7% (-22.7 to 12.6)	21.3% (-13.6 to 70.3)	49.0% (3.7 to 114.0)

<sup>a</sup>Weeks represent Sunday through Saturday with the first week including days from the previous year

<sup>b</sup>Five most common exposure reasons evaluated

## RESULTS contd.

- In 2020, average weekly exposures from week 1 through week 10 was 6.9% higher than the same weeks in 2019
- From week 11 through week 14, average weekly exposures was 6.2% lower than the same weeks in 2019
- From week 15 through week 17, average weekly exposures was 10.4% lower than the same weeks in 2019
- Calls from health care facilities, intentional misuse, and suspected suicidal exposures decreased more than 20% relative to 2019
- Unintentional general and intentional abuse exposures were consistently greater in 2020 than 2019

## CONCLUSIONS

- Beginning in early March, exposure calls involving prescription opioids decreased each week through the beginning of April
- In early April, calls increased each week. The most significant reductions relative to 2019 were in suspected suicidal exposures and calls originating from health care facilities
- Unintentional general exposures and intentional abuse exposures in 2020 were greater than 2019 and remained relatively stable
- Further evaluation is needed to determine the extent to which these observations are due to changes among the general population or exposures not captured due to taxed resources at poison centers and health care facilities

## LIMITATIONS

- Poison center data is based on spontaneous self-reported information which presents a potential bias of ambiguous answers, inaccurate product identification, or incomplete data
- Not all exposures are reported to poison centers therefore cases may underestimate the true number of exposures in the population
- Exposure information is specific to the exposure, not necessarily the substance involved in the exposure

## DISCLOSURE

The RADARS System is supported by subscriptions from pharmaceutical manufacturers, government and non-government agencies for surveillance, research and reporting services. RADARS System is the property of Denver Health and Hospital Authority, a political subdivision of the State of Colorado. Denver Health retains exclusive ownership of all data, databases and systems. Subscribers do not participate in data collection nor do they have access to the raw data.