

A Timeline of the COVID-19 Pandemic and the Impact on Overdose Incidents in 2020

Overview:

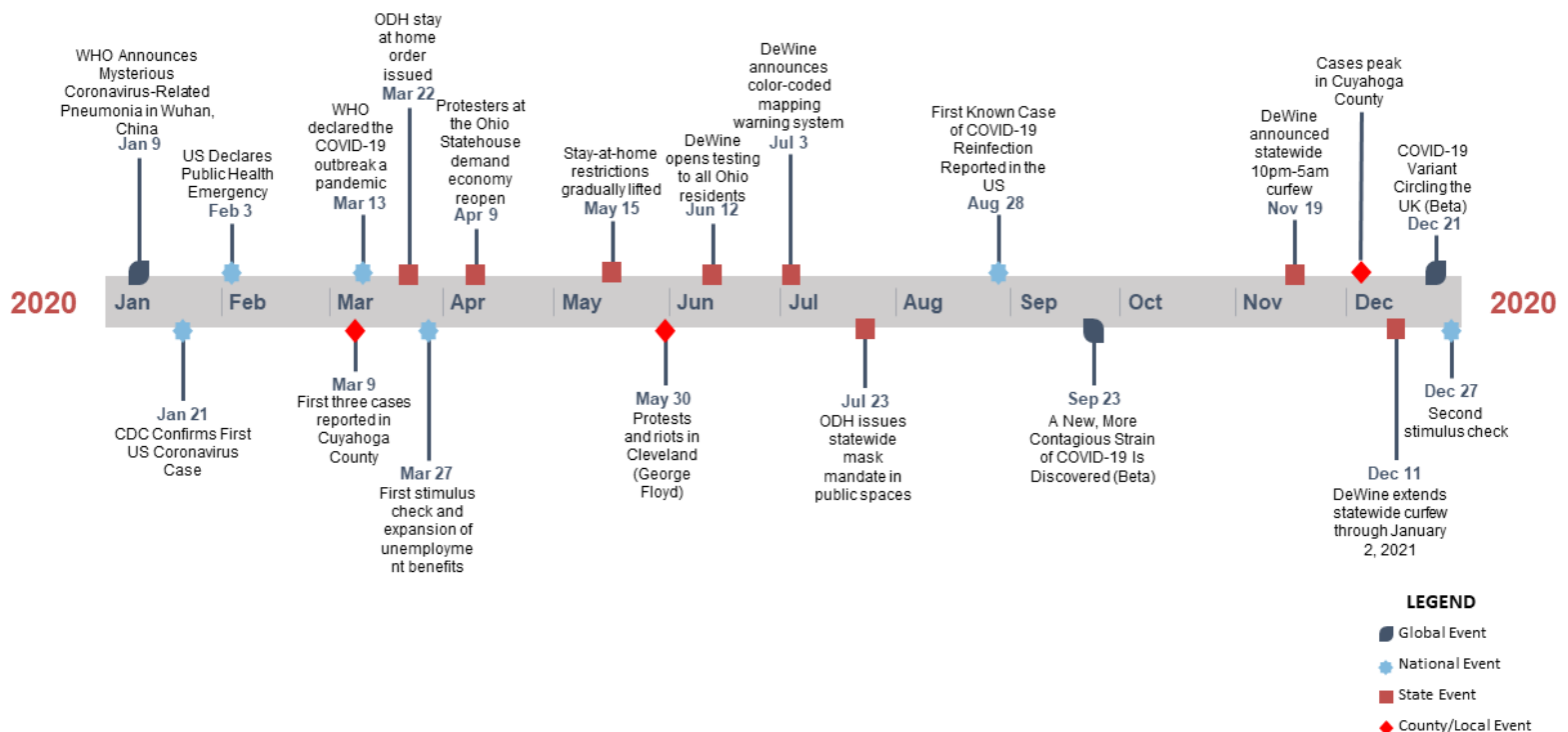
In March 2020, the World Health Organization (WHO) declared that COVID-19 had become a pandemic - infecting people across various countries and territories across all continents. The virus presented severe clinical morbidity and substantial mortality.¹

In Ohio, Governor Mike DeWine announced statewide measures to combat the spread of coronavirus, including but not limited to, closing K-12 schools for three weeks, banning public events larger than 100 people, and closing nursing homes and psychiatric hospitals to visitors.² This was followed by Ohio becoming the first state to order bars and restaurants to limit services to takeout only. Salons, barbershops, and tattoo shops were ordered to close.³ All of these measures were taken before the first coronavirus death was reported in Ohio and prior to Governor DeWine issuing a stay-at-home order.^{4,5} Despite measures to contain the spread of COVID-19, it rapidly spread across Cuyahoga County.

Figure 1 shows key dates that occurred in 2020 regarding the pandemic in Cuyahoga County, Ohio, nationally and globally. The first COVID-19 cases reported in Cuyahoga County occurred in early March; by late March a state-wide stay-at-home order was issued. Other events occurred through the remainder of the year that could have influenced substance use habits and overdose risk, e.g., re-openings, case surge, protests, stimulus checks and curfews.

Figure 1: COVID-19 Timeline: Key Dates, 2020

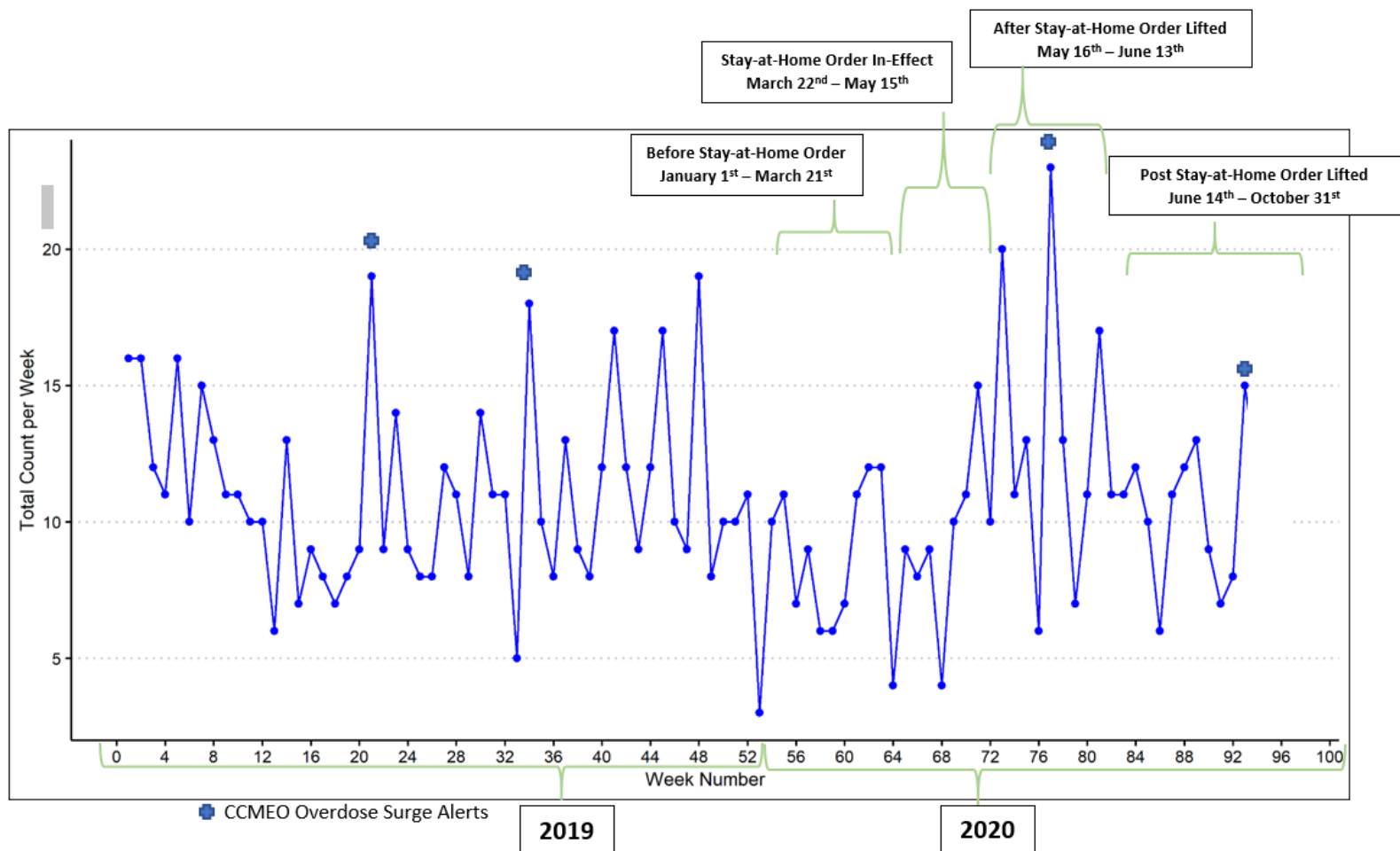
COVID-19 Timeline: Key Dates



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As far as overdose activity, Cuyahoga County initially saw a decrease in drug-related overdose deaths from January-March 2020 before the stay-at-home order was enacted in Ohio. The relatively low number of overdose deaths at the beginning of 2020 was sustained throughout the 8-week stay-at-home order, which began the last week in March. In the 4 weeks immediately after the stay-at-home order was lifted, Cuyahoga County saw a record-breaking month of drug-related overdose deaths. In the post stay-at-home order time period (June 14 – October 31, 2020), drug-related overdose deaths returned to 2019 levels (see Figure 2). In 2020, Cuyahoga County experienced 553 overdose deaths, down from 582 in 2019.

Figure 2: Cuyahoga County Medical Examiners' Office (CCMEO) Drug-Related Overdose Deaths Timeline, 2019-2020



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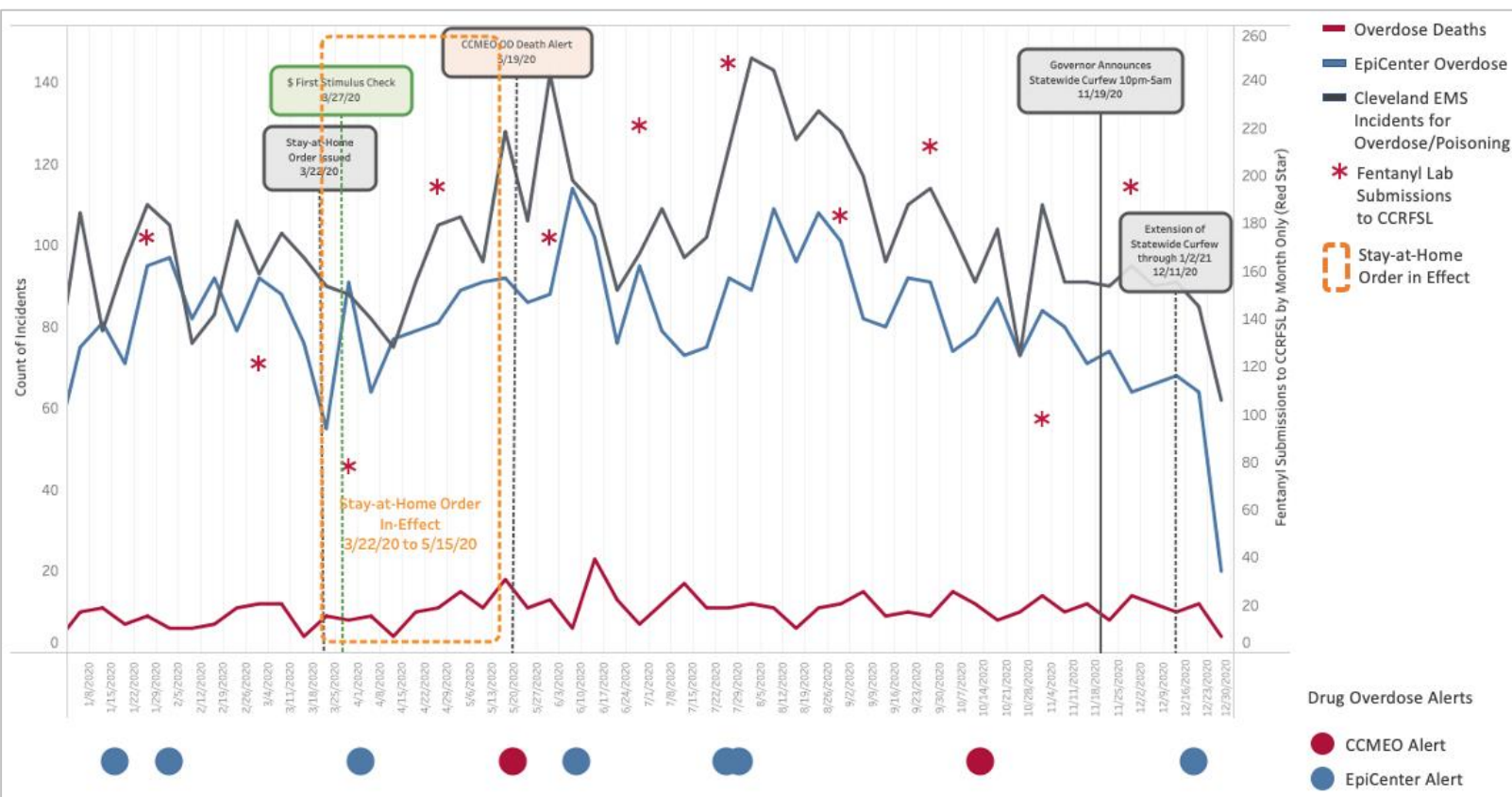
Analysis:

In an effort to better understand the potential impact of COVID-19 on drug-related overdose incidents in Cuyahoga County, Tableau was used to layer multiple drug-related data for 2020 onto the timeline of significant events related to COVID-19. See the footnote for a link to the public Tableau workbook. ⁴

The combined timeline is shown in Figure 3, which includes results for 2020 for the following:

- ❖ Drug related overdose deaths, provided by the CCMEQ, by week: red line
- ❖ Cleveland EMS incident responses to “overdose/poisoning” provided by Cleveland Division of Police, by week: dark navy blue line.
- ❖ EpiCenter suspected drug overdose instances accessed by the Cuyahoga County Board of Health (CCBH), by week: light blue line.
- ❖ Cuyahoga County Regional Forensics Science Lab fentanyl submission (by law enforcement) counts, by month: red stars.
- ❖ Significant events primarily related to COVID-19: multi-colored call-outs.
- ❖ Drug overdose alerts for both CCMEQ and EpiCenter: red and light blue dots.

Figure 3: COVID-19 Timeline and CCMEQ/EpiCenter Alert Comparison



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Results

When reviewing this multi-source drug overdose related data with significant dates in 2020 around COVID-19, the timeframe around the stay-at-home order enacted in Ohio appears to be the most significant. Between January 2020 and before the stay-at-home was enacted on March 22, 2020, overdose deaths, ED visits due to suspected drug overdose and Cleveland EMS responses to “overdose/poisoning” incidents were relatively low. During the initial first half of the stay-at-home order through mid-April, the numbers remained low and fentanyl lab submissions to the Cuyahoga County Regional Forensics Lab (CCRFSL) dipped. Towards the end of the stay-at-home order (end of April, beginning of May), slight increases in overdose deaths, ED visits and Cleveland EMS responses occurred.

Once the stay-at-home order was gradually lifted starting on May 15, 2020, there were overall spikes in the number of overdose deaths, ED visits due to suspected drug overdose, Cleveland EMS responses to “overdose/poisoning” incidents and an increase of fentanyl lab submissions to the CCRFSL. Spikes in ED visits and overdose deaths triggered CCMEQ and EpiCenter alerts (CCMEQ alert: 5/19/2020; EpiCenter alert: 6/8/2020).

After the spikes occurred, overdose deaths, ED visits, Cleveland EMS responses and fentanyl lab submissions remained steady through quarter three of 2020. On November 19, 2020 a statewide curfew was enacted. Although there were CCMEQ and EpiCenter alerts administered in the last quarter of 2020, the general number of overdose incidents dipped after the statewide curfew was enacted.

Other noticeable trends in these data occurred after stimulus payments were issued by the federal government shortly after the stay-at-home order was issued. Overdose incidents generally increased in the time period after the stimulus payments were issued.

Discussion

It is generally very difficult to pinpoint the specific cause(s) of drug overdose increases, or spikes. Seasonal changes can be accompanied by overdose increases, or spikes. Changes in the drug supply that might include more potent drug types entering the market, or possibly contamination of opioids with stimulants can also play a role. Specific to COVID-19, it appears the lifting of the stay-at-home orders, release of stimulus checks, the drug supply normalizing and population mobility could have all contributed to a rapid increase in overdose incidents.

Although we know little about who received stimulus payments and precisely when they were received, providing additional funds to the general population may have contributed to some unintended consequences such as increasing opportunity to purchase illicit opioids, thereby leading to a higher number of overdose incidents.^{6,7,8} Our aim is not to stigmatize payments, as they were important in our community. Rather, we hope this discussion will highlight possible considerations to supplement any future monetary disbursements and changes in population mobility with consideration of targeted harm reduction strategies that would coincide with stimulus checks.

Initially, general population mobility was seriously limited due to the COVID-19 pandemic. International travel was also restricted⁹ and the drug supply may have been significantly interrupted similar to other supply chain issues experienced across the globe. Drug trafficking patterns, both global and local, were likely affected due to disruptions in travel. In May 2020, international exports began to normalize, likely

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including the illicit opioids, and particularly illicitly manufactured fentanyl (IMF). The U.S. Customs and Border Protection (CBP) reported a 197% increase in fentanyl seized between May and June 2020 (240 lbs. and 713 lbs., respectively) with sustained high seizure weights through 2020 and 2021.¹⁰ Locally, the CCRFSL reported an 150% increase in fentanyl submissions from April to May 2020, and reported a high level of submissions through 2020. These data imply that increased access to IMF likely contributed to the spike in Cuyahoga County during this point in the pandemic and the sustained high supply has fueled the continuance of drug overdose both nationally and locally.

Other possible causes for periods of higher-than-normal drug-related overdose may include: the interruption of prevention and treatment services; using alone; lack of social support; worsening mental health during the pandemic; and stress on already vulnerable populations.^{11,12,13}

Substance use, the illicit drug market and the COVID-19 pandemic are complex issues. The COVID-19 pandemic is ongoing and the number of COVID-19 cases and overdose incidents continued to rise in 2021. The factors observed in this exploration that possibly lead to spikes in drug-related overdoses should be carefully considered should similar events occur in the future.

Limitations

The above analysis has some limitations. A comparison of fentanyl lab submissions (or seizure) and EpiCenter overdoses was not made because EpiCenter data can be filtered for suspected overdoses related to opioids. The EpiCenter data available at the time for this analysis is for all overdose incidents. Fentanyl lab submissions (or seizure) data includes jurisdictions across the county, yet EMS data in this analysis is only for Cleveland. The analysis observed trends across multiple data sources to determine possible correlations and cannot make any causative conclusions.

Suggested Citation:

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Citations:

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