Drug Overdose Visits to Hospital Emergency Rooms

From March 1, 2020 to March 31, 2020, emergency rooms serving Summit County residents have treated an estimated 84 drug overdoses (OD); a 7-day average of 2.3 overdoses per day, as of 2/29*. The 7-day average number of overdoses has spent much of 2020 at or around those levels last seen in the four years before the 2016 outbreak began (2012-2015). Summit County had ten fewer overdoses in March 2020 than in March 2019 (an 11% decrease over the same month last year).

Multiple OD visits (more than one visit to an ER in the same hospital system) -- So far in 2020, 10 people visiting an ER for an overdose made more than one visit (3.9% of the total).

Drug overdose data is retrieved from the state’s EpiCenter surveillance tool. “Overdose” cases include all emergency visits by a Summit County resident to any medical provider in which drugs were identified as the cause of traumatic injury. Overdose cases were further refined by selecting only those cases where the case notes included the terms “OD” or “overdose.” Traumatic injuries due to drugs caused by suicide attempts, allergic reactions to normal medications, or accidental overdoses of everyday drugs (such as Tylenol or ibuprofen) were removed where identified. Zip codes refer to the zip code of residence of the patient visiting the ER. Data cited in this report represents the full-day totals from the day before the report’s release.

It is important to note that these are estimated figures rather than a full and final count because initial diagnoses and/or details of a particular case may change from a patient’s initial examination to his or her final outcomes, and because the limited case notes field in EpiCenter may not include all details necessary to firmly classify a case as an overdose.

It is also important to note that case notes available through EpiCenter rarely identify the specific drug or drugs involved in an overdose. Therefore the figures here can be associated with any drug, not just heroin and/or fentanyl.
Figure 2: ER Visits by Time of Day and Day of Week -- The chart above presents total Summit County ER visits for each hour of each day. The chart is read left to right, and presents the percentage of each day's ER visits due to drug overdoses that occur in each hour of the day for all days from January 1, 2020 to December 31, 2020. The cells are also color coded to show a “heat map” effect of busier and slower times throughout each of the seven days of the week. Source: EpiCenter and SCPH calculations.

Figure 3: Summary Chart of ER Visits by Hour of the Day, January 1, 2020 to December 31, 2020 Source: EpiCenter / SCPH

Figure 4: Summary Chart of ER Visits by Day of the Week, January 1, 2020 to December 31, 2020, Source: EpiCenter / SCPH

Demographic and Geographic Profile of Overdoses, YTD 2020

Figure 5: Age of ER Visitors, January 2020. Source: EpiCenter/SCPH

Figure 6: Sex of ER Visitors, January 2020. Source: EpiCenter/SCPH
Figure 7: Race of ER Visitors, Feb. 2020. Source: EpiCenter/SCPH

Figure 8: Location of ER Visitors, Feb. 2020. Source: EpiCenter/SCPH

Number and Percent of Overdoses by Zip Code, January 1 - December 31, 2020

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<tr>
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Emergency Room Visits Due to Drug Overdose, Summit County by Home Zip Code of Patient, All Summit County Provider Types, As Of March 31, 2020

Map 1: Number of ER Visits Due to Drug Overdoses, YTD 2020
Source: EpiCenter and SCPH.

Note: Overdoses for the 44250 zip code area (Lakemore) are sometimes reported by EpiCenter as being in 44312.
Overdoses Per 1,000 by Zip Code - Figure 10 shows the number of overdoses per 1,000 population by zip code. The heaviest concentration of overdoses per 1,000 population remain in zip codes in the central and southeast portions of the county.

Figure 10: Drug Overdoses Per 1,000 Population, YTD 2020
Source: EpiCenter, U.S. Census Bureau, Ohio Pharmacy Board (Narcan)

Change In Overdoses by Zip Code - Figure 11 shows the change in overdoses by patient zip code on a year-over-year basis, comparing totals for Year-To-Date 2019 with totals for Year-To-Date 2020. Three zip codes have shown year-over-year increases as of March 2020, while the rest have either shown no change or have improved. So far, zip code 44303 has had the largest increase (5 more ODs than this time last year), while 44310 has had the largest decrease (16 fewer ODs than this time last year).

Figure 11: Change in Number of Overdoses, Mar 2019 to Mar 2020
Source: EpiCenter
Drug Use Among Teens

Since 2013, Summit County Public Health and the Summit County ADM Board have collaborated to conduct an expanded Youth Risk Behavior Survey (YRBS) in Summit County. The YRBS, which was conducted in 2013 and again in 2018, was administered by the Prevention Research Center for Healthy Neighborhoods at Case Western Reserve University. The survey focused on both middle school (grades 7-8) and high school students (grades 9-12).

Alcohol and other substance abuse is one of the major focal points of the YRBS. The issue of teen use and abuse of substances is especially important because the teen years are often the time when patterns of abuse begin to develop.

Figures 12 and 13 below show the percentage of both middle and high school students who have ever used each of the substances mentioned. Nearly one-in-four middle school students used alcohol at least once in 2013; a figure which fell to just 16% by 2018. The same pattern holds for each of the substances students were asked about (Figure 11). These decreases were statistically significant. Only synthetic drugs remained unchanged at about 2%.

Figure 12 presents the same data for high school students. Like middle schoolers, self-reported substance abuse among high school students fell significantly for all substances students were asked about. Though all the declines are good news, the drop in the percent of students who report using prescription pain relievers without a prescription may be the most important. The percent who say they ever used prescription painkillers fell from 16% to just 6% between 2013 and 2018.

For many, the pathway to addiction begins with the abuse of prescription opioids. A decline in the abuse of these among middle and high school students means significantly fewer teens are at risk of becoming trapped in the deadly cycle of opioid addiction.

Figure 12: Percent of Middle School Students Ever Using Each Substance, Summit County, 2013 & 2018

Figure 13: Percent of High School Students Ever Using Each Substance, Summit County, 2013 & 2018
Overdose Death Hot Spots

Figures 14 and 15 at right show how drug overdose fatalities have spread over time in Summit County. So-called “hot spots” on these maps show areas of the county where the number of drug overdose fatalities are more heavily clustered than other parts of the county. In the same way, cold spots are those areas where fatalities are less clustered than other parts of the county. Each area of the maps are shaded to show how much confidence there is that each area is either a hot spot (shades of red), a cold spot (shades of blue), or neither (yellow).

Figure 14, above right, shows the calculated hot spots for drug overdose fatalities between 2007 and 2014. Two main hot spots with 90% and 95% confidence levels can be found; one in Barberton in the west and including parts of the Akron South and Southeast clusters. A second, larger hotspot runs from the Akron North and Central clusters south and east and including much of the Springfield / Lakemore cluster. Several scattered cold spots were also found to the north-central and north-eastern parts of the county.

Figure 15, below right, shows the calculated hot spots for drug overdose fatalities between 2015 and 2019. As the map shows, the hot spots from 2007-2014 have merged and expanded, running from Barberton and Norton in the southwest through the vast majority of the City of Akron and much of the Springfield / Lakemore cluster right up to the Portage County border.

The cold spots found from 2007-2014 also merged and expanded since 2014, running from the southwest portions of the Copley / Bath / Fairlawn cluster through the Hudson and Twinsburg clusters in the northeast.
Trends In Substance Abuse, Akron-Canton Region

Table 16 below presents data from "Surveillance of Drug Abuse Trends in the State of Ohio, June 2018 - January 2019" published by the Ohio Substance Abuse Monitoring Network (OSAM). The data in this report highlights emerging trends in the previous six month period and provides some insight on how those trends impact today’s overdose picture. The report relies primarily on input by focus groups made up of drug users, community professionals, service providers, and law enforcement. The report’s primary conclusions can be found below:

"Crack cocaine, fentanyl, heroin, marijuana, methamphetamine, Neurontin® (gabapentin), powdered cocaine, sedative-hypnotics and Suboxone® (buprenorphine) remain highly available in the Akron-Canton region."

"While the consensus among participants was that heroin is highly available, many participants clarified that what is available are heroin-fentanyl mixtures and fentanyl sold as heroin. Heroin is being replaced by cheaper substitutions (fentanyl and methamphetamine). Reportedly, many heroin users prefer and seek fentanyl to heroin due to increased tolerance to opiates, while other heroin users have become fearful of fentanyl overdose death and have switched to methamphetamine use for that reason."

"Participants and law enforcement reported that the availability of marijuana and marijuana extracts and concentrates ("dabs") has increased during the past six months."

"Lastly, participants reported that many of the sedative-hypnotics (particularly Xanax®) found on the street are not pharmaceutical sedatives but "fake" pills pressed with other substances (usually fentanyl)."
Trends In Overdose Deaths

Total overdose deaths rose sharply from 2013 to 2016, then began a rapid decline, and are now back to 2014 levels (see Figure 17a). Opiates such as heroin, fentanyl, and carfentanil drove the sharp increases over the past 3 years. However, the mix of drugs driving overdoses today appears to be changing.

Figures 17b and 17c show selected drugs that have been included on the death certificates of drug poisoning victims over the past several years. From 2012-2019, 839 people who died of drug poisoning had a prescription opiate mentioned on their death certificate. A total of 750 had either fentanyl or a fentanyl analog mentioned, while 274 mentioned carfentanil from 2016 to 2019.

Figure 17c shows trends in the drugs contributing to the overdose epidemic. Since 2014, prescription opiates and fentanyl have been the most common substances, with each drug being found in three quarters or more of overdose victims. As a percentage of total overdoses, all but one drug peaked or leveled off in 2017 or before; prescription opiates and fentanyl peaked in 2016; carfentanil and cocaine peaked in 2017. Heroin peaked in 2013 (included on 40% of death certificates) then dropped to only 5% by 2018.

The one drug that has shown a sustained increase as a percentage of the total since 2014 is methamphetamine. Between 2012 and 2015, Summit County averaged 3 deaths per year involving methamphetamine. Between 2016 and 2019, the county averaged nearly 35 deaths involving methamphetamine annually. Methamphetamine was mentioned on 43% of all drug poisoning-related death certificates in 2019; nearly as high as heroin at it’s peak and 10 percentage points higher than carfentanil, which is rising again after a one-year decline.
Demographics of Drug-Related Deaths

Drug-related death rates by race have evolved over time. Both black and white rates experienced a significant rise between the 2012-2014 and 2015-2017 periods. In 2018 and 2019, the rate for whites declined 53% vs. only 24% for African-Americans. From 2012-2014, the African-American drug-related death rate was just 55% as high as the white rate. By 2015-2017, the African-American rate was nearly 75% as high as the white rate. By 2018-2019, the African-American rate was 119% as high as the white rate.

What these figures make clear is that the overdose epidemic remains a community-wide crisis. The epidemic is striking all parts of the community; city and suburban, white and African-American, male and female, young and old.

Figures 18 to 22 present some basic demographic information about drug poisoning deaths in 2016 vs. 2017 for which detailed death certificate data is currently available:

- In 2012-2014, the biggest age group was 45-54, which accounted for 29% of overdose deaths. By 2018-2019, the 25-34 age group was the highest at 27%.
- Male deaths were double the rate of female deaths in all three time periods.
- The vast majority of drug poisoning deaths were to those with an educational attainment level of high school graduate / GED or less in all three time periods.
- Though the vast majority of deaths were white in all years, African-American deaths as a percent of the total have been rising steadily.