

Population Health Vital Statistics Brief:

Drug Overdoses, 4th Quarter 2020

The *Population Health Vital Statistics Data Brief* series was created to provide regular updates to the 2016 Community Health Assessment and to provide the community with additional important information about population health. For more information on the Community Health Assessment and to access other reports in the *Vital Statistics Data Brief* series, please visit scph.org/assessments-reports



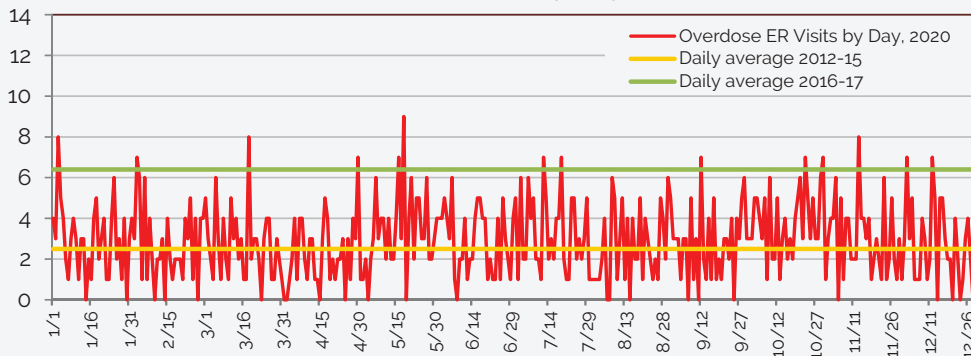
Summit County Public Health Population Health Division
1867 W. Market St., Akron, Ohio 44313 (330) 923-4891
www.scphoh.org

Drug Overdose Visits to Hospital Emergency Rooms

From January 1, 2020 to December 31, 2020, emergency rooms serving Summit County residents have treated an estimated 1,087 drug overdoses (OD); a 7-day average of 2.7 overdoses per day, as of 12/31*. Overdoses in 2020 have fluctuated in a relatively narrow range (between 2.0 and 4.0 per day) throughout the year, and are currently just above the 2.5 per day average of the 2012-2015 pre-Carfentanyl period. After hitting a low of 1.1 per day in early April, the 7-day moving average rose slowly, peaking at 4.7 per day in mid-May before bottoming out at 1.3 per day in early August.

Multiple OD visits (more than one visit to an ER in the same hospital system) -- A total of 79 people visiting an ER for an overdose in 2020 made more than one visit (7.3% of the total).

Overdose ER Visits by Day, 2020



Overdose ER Visits 7-Day Moving Average, 2020

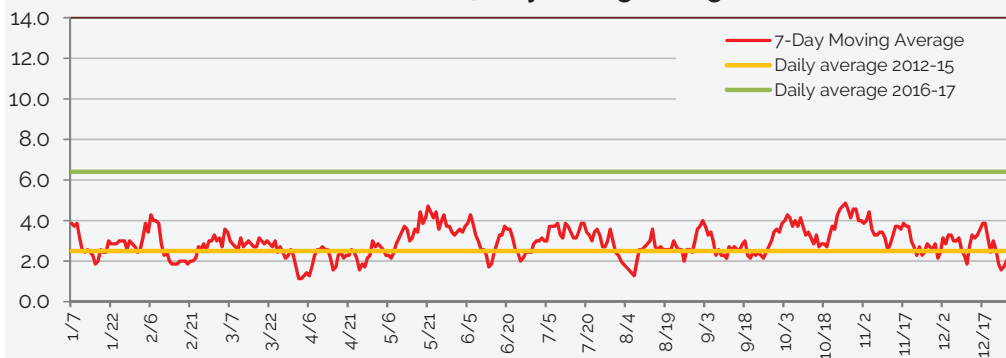


Figure 1a and 1b: Visits to the ER Due To Drug Overdoses By Day (top figure) and By Seven-Day Moving Average (bottom figure) -- Note: Because day-to-day total ER visits tend to fluctuate, a seven-day simple moving average chart is included to more clearly examine trends in the data. *Source: EpiCenter*

* Drug overdose data is retrieved from the state's ESSENCE 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 ESSENCE 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 ESSENCE 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.



QR code link to SCPH Drug Dashboards

Day of Week "Heat Map" - YTD 2020

	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Sunday	4%	3%	3%	1%	1%	1%	4%	1%	1%	5%	5%	1%	5%	4%	6%	6%	5%	6%	6%	6%	5%	9%	7%	6%
Monday	4%	4%	4%	4%	3%	3%	1%	2%	1%	2%	4%	3%	3%	3%	4%	4%	5%	4%	4%	6%	5%	12%	7%	6%
Tuesday	4%	8%	3%	3%	3%	0%	3%	3%	3%	1%	3%	2%	3%	5%	4%	5%	6%	3%	5%	3%	7%	10%	7%	7%
Wednesday	3%	5%	4%	1%	2%	4%	3%	1%	3%	2%	4%	5%	1%	6%	4%	7%	10%	5%	4%	4%	2%	4%	9%	7%
Thursday	7%	3%	4%	1%	4%	1%	1%	1%	1%	4%	6%	5%	6%	6%	4%	4%	4%	4%	3%	6%	8%	6%	6%	6%
Friday	4%	5%	4%	3%	1%	2%	2%	2%	1%	5%	3%	4%	3%	3%	3%	4%	7%	5%	5%	7%	7%	10%	6%	6%
Saturday	6%	4%	1%	2%	3%	1%	2%	2%	3%	1%	0%	6%	5%	6%	3%	5%	6%	4%	7%	9%	3%	4%	10%	8%
Total	5%	5%	3%	2%	2%	2%	2%	2%	2%	3%	4%	3%	4%	5%	4%	5%	6%	4%	5%	6%	5%	8%	7%	7%

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.*

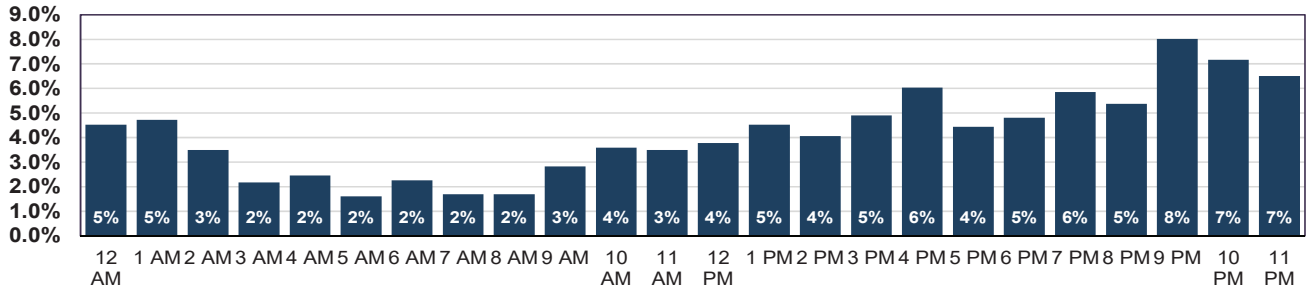


Figure 3: Summary Chart of ER Visits by Hour of the Day, January 1, 2020 to December 31, 2020 *Source: EpiCenter / SCPH*

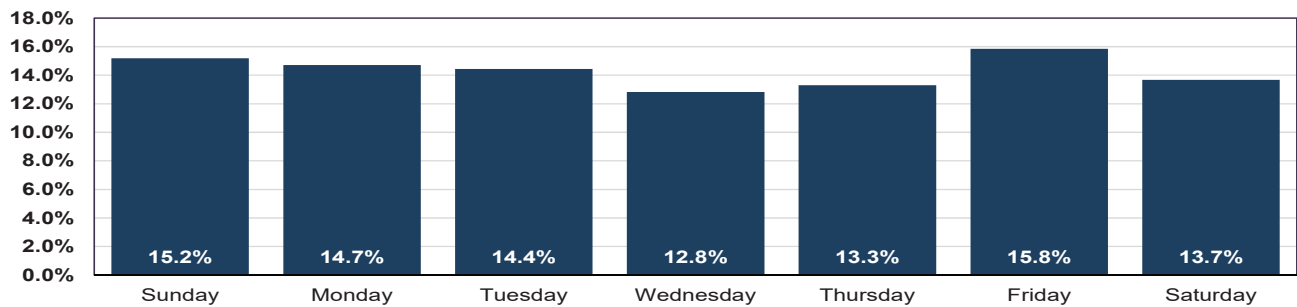


Figure 4: Summary Chart of ER Visits by Day of the Week, January 1, 2020 to December 31, 2020, *Source: EpiCenter / SCPH*

Demographic and Geographic Profile of Overdoses, YTD 2020

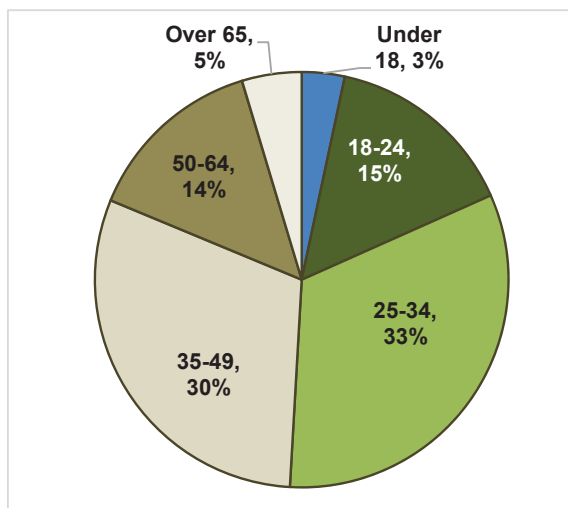


Figure 5: Age of ER Visitors. *Source: EpiCenter/SCPH*

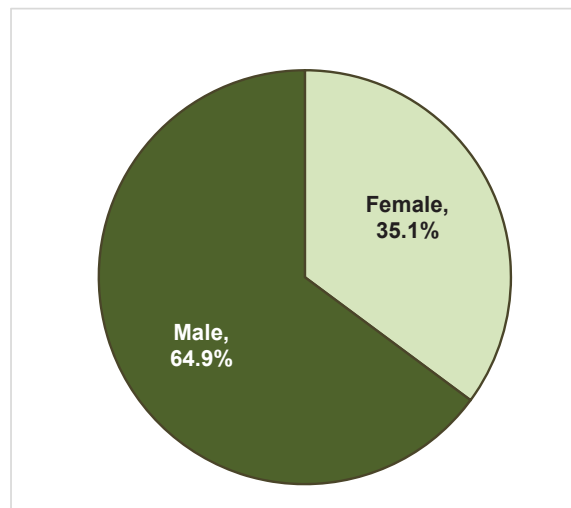


Figure 6: Sex of ER Visitors. *Source: EpiCenter/SCPH*

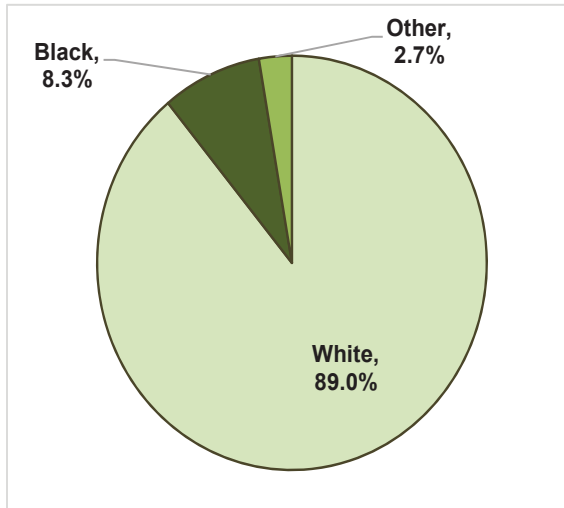


Figure 7: Race of ER Visitors, Source: EpiCenter/SCPH

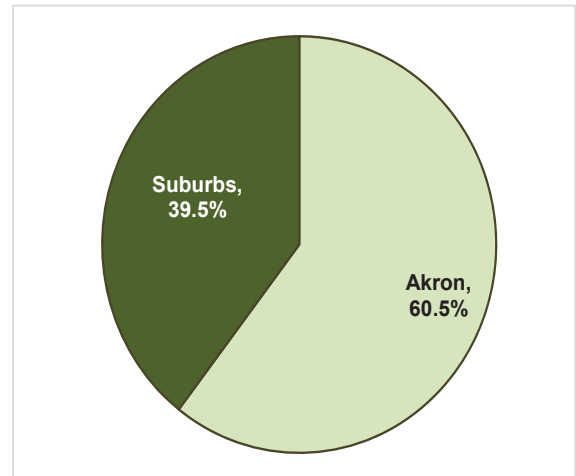


Figure 8: Location of ER Visitors, Source: EpiCenter/SCPH

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

Row Labels	Count	Percent	Monthly trend
44203	92	9%	
44306	71	7%	
44312	68	7%	
44305	67	7%	
44314	65	7%	
44310	63	6%	
44221	53	5%	
44320	42	4%	
44301	37	4%	
44319	36	4%	
44309	36	4%	
44307	35	4%	
44224	34	3%	
44685	33	3%	
44313	32	3%	
44311	31	3%	
44067	23	2%	
44303	18	2%	
44223	17	2%	
44236	17	2%	
44087	14	1%	
44278	14	1%	
44302	13	1%	
44333	12	1%	
44304	12	1%	
44216	10	1%	
44056	10	1%	
Grand Total	985	100%	

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

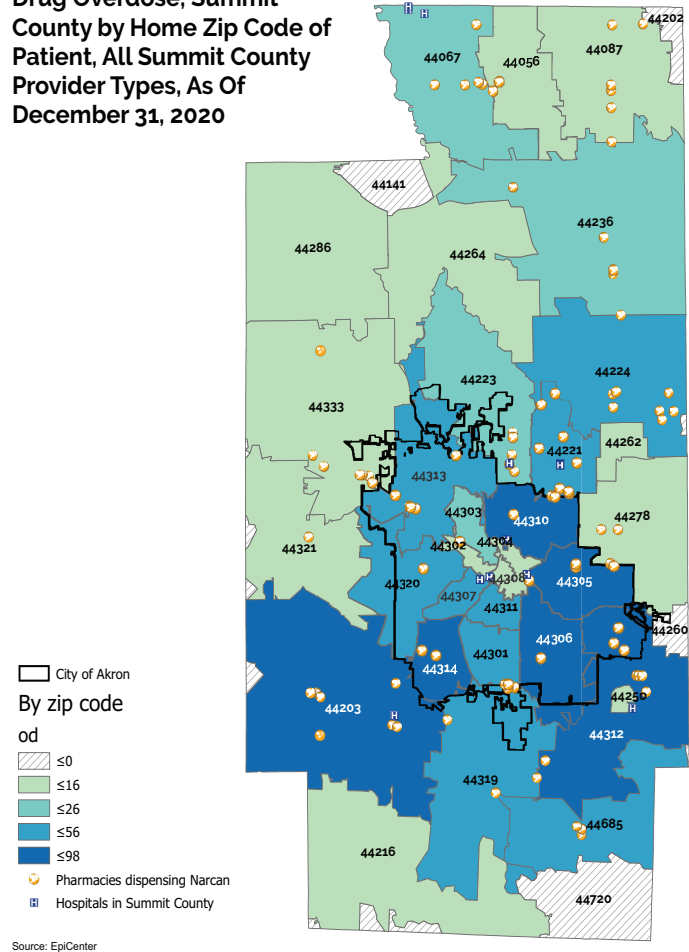
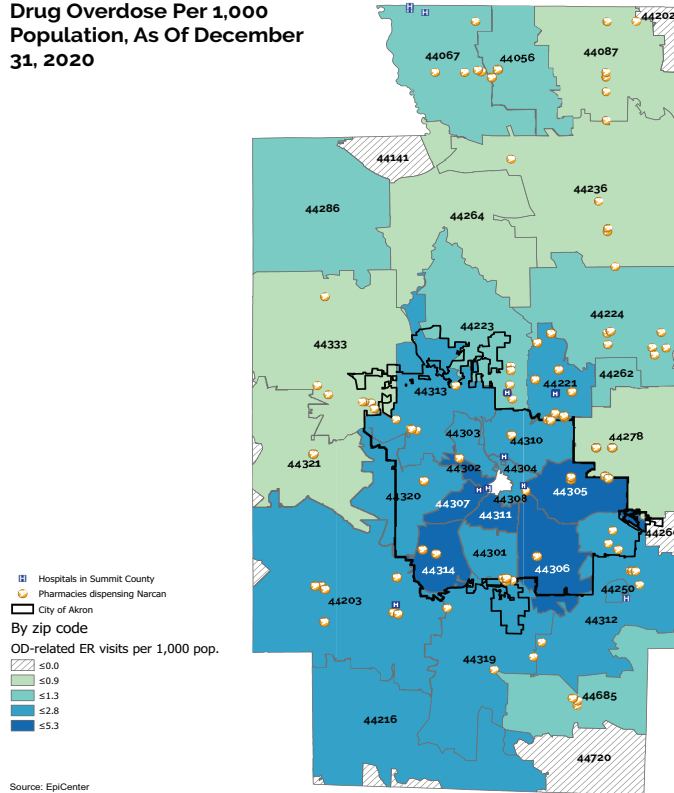


Figure 8a: Number and Percent of ER Visits Due to Drug Overdoses, YTD 2020

Source: EpiCenter and SCPH. Note: Specific figures for zip codes with fewer than 10 overdoses are not shown to preserve confidentiality.

* - Overdoses for the 44250 zip code area (Lakemore) are sometimes reported by EpiCenter as being in 44312.

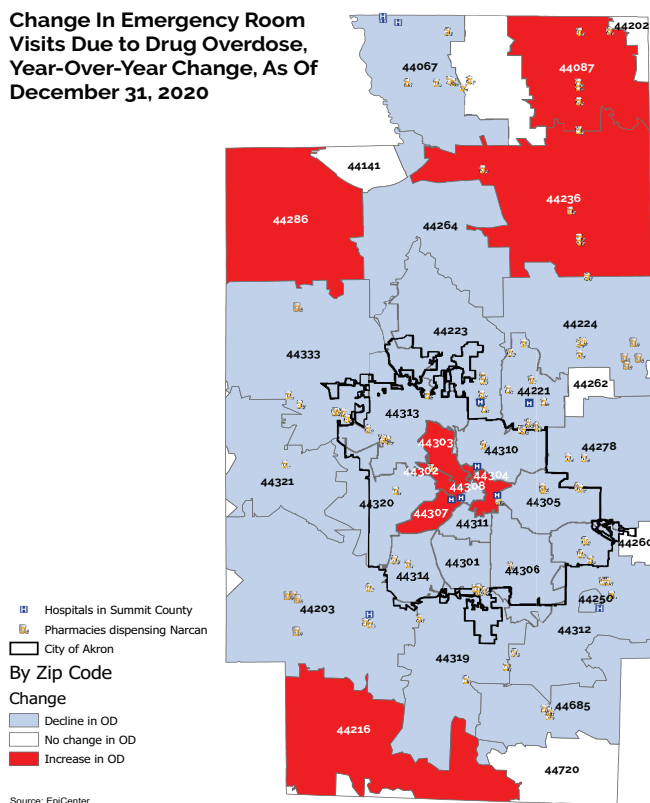
Emergency Room Visits Due to Drug Overdose Per 1,000 Population, As Of December 31, 2020



Overdoses Per 1,000 by Zip Code - Figure 9 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 9: Drug Overdoses Per 1,000 Population, YTD 2020
 Source: EpiCenter, U.S. Census Bureau, Ohio Pharmacy Board (Narcotic)

Change In Emergency Room Visits Due to Drug Overdose, Year-Over-Year Change, As Of December 31, 2020



Change In Overdoses by Zip Code - Figure 10 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. Nine zip codes have shown year-over-year increases as of September 2020, while the rest have either shown no change or have improved. So far, zip code 44303 has had the largest increase (7 more ODs than this time last year), while 44203 has had the largest decrease (87 fewer ODs than this time last year).

Figure 10: Change in Number of Overdoses, YTD 2019 to YTD 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 11 and 12 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). All of the decreases were statistically significant. Only the use of 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 pain killers 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 drugs among middle and high school students means significantly fewer teens are at risk of becoming trapped in the deadly cycle of opiate addiction as they get older.

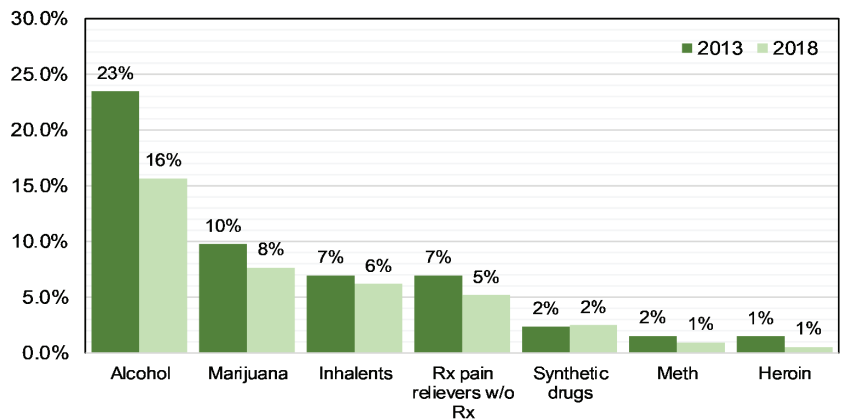


Figure 11: Percent of Middle School Students Ever Using Each Substance, Summit County, 2013 & 2018

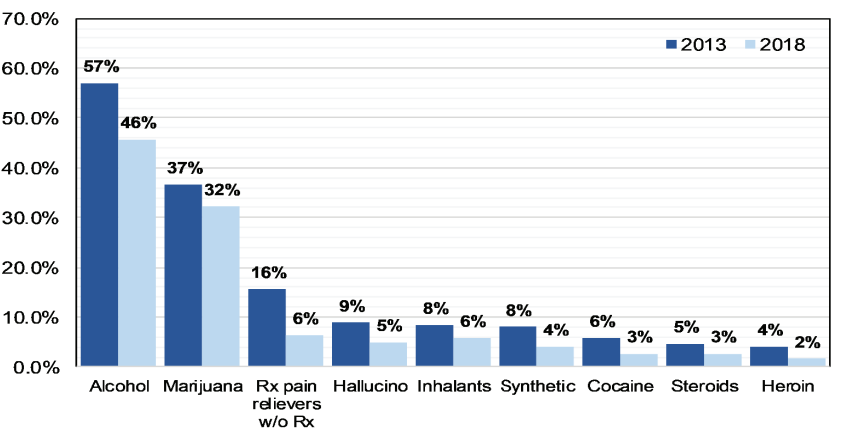


Figure 12: Percent of High School Students Ever Using Each Substance, Summit County, 2013 & 2018

Overdose Death Hot Spots

Figures 9 and 10 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 13, 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 14, 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.

Drug Death Hotspots By Block Group, Summit County, 2007-2014

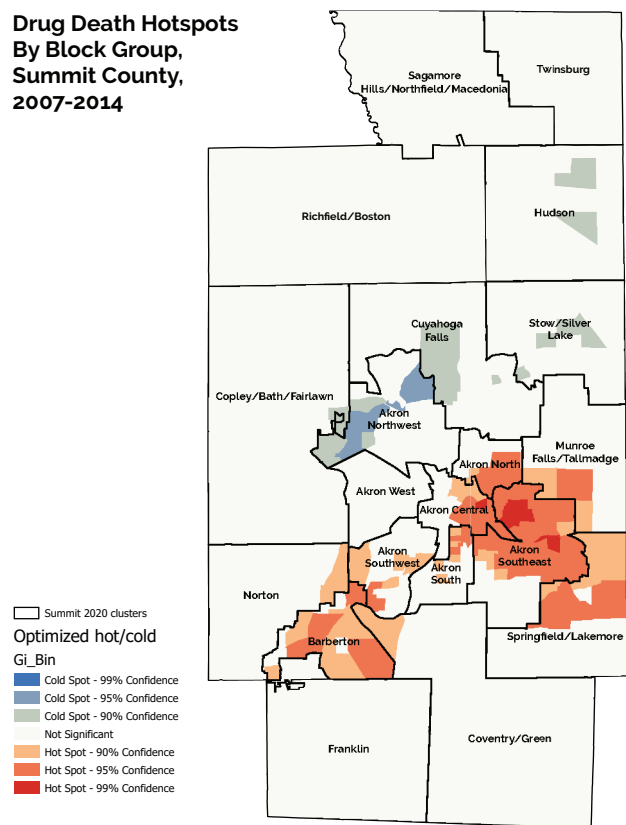


Figure 13: Drug Death Hotspot Map, 2007-2014

Drug Death Hotspots By Block Group, Summit County, 2015-2019

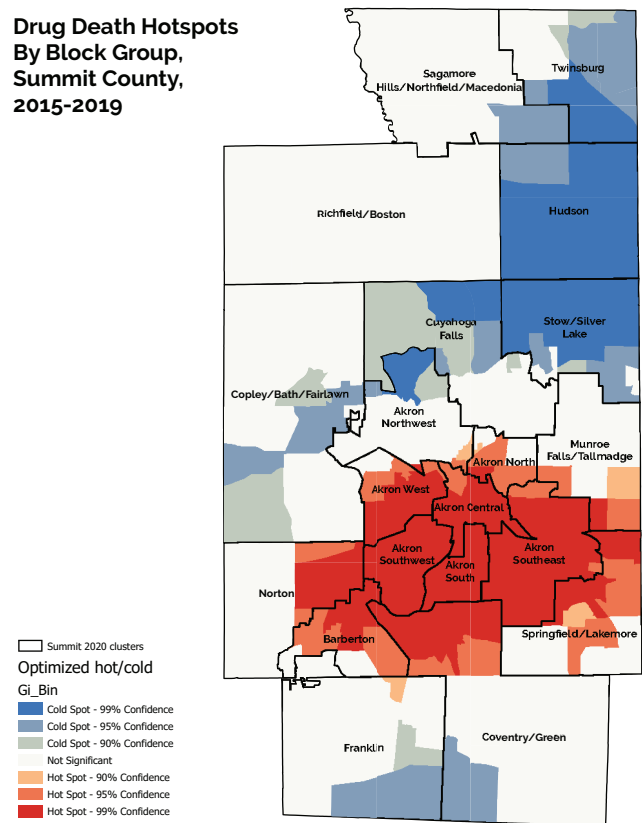


Figure 14: Drug Death Hotspot Map, 2015-2019 (YTD)

Trends In Substance Abuse, Akron-Canton Region

Table 15 below presents data from "Surveillance of Drug Abuse Trends in the State of Ohio, June 2019 - 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."

"Changes in availability during the past six months include: increased availability for methamphetamine; likely increased availability for fentanyl and marijuana; and decreased availability for prescription opioids and prescription stimulants."

"In addition to reporting current high availability of marijuana, participants and community professionals reported current high availability of high-grade marijuana extracts and concentrates (aka "dabs"), particularly noting the current high availability of cannabis vape cartridges."

"Respondents discussed the ease of masking marijuana use by using cartridges containing THC in vaporizers (vape pens or e-cigarettes), noting that no odor is emitted. A law enforcement officer remarked, "Those cartridges are everywhere, thousands of them."

Ohio Substance Abuse Monitoring Network (OSAM) Drug Assessment Summary, June 2019 - January 2020, Akron-Canton Region (Summit, Portage, Stark, Tuscarawas, and Carroll Counties)

Akron-Canton Region	Current Availability ²			Quality ³	Price per gram	Change in Availability		
	Users	Law Enforcement	Treatment Providers	Users		Users	Law Enforcement	Treatment Providers
Powdered cocaine	10	10	6	5	\$25 - \$80	No change	No change	No change
Crack cocaine	10	4	7	5	\$30 - \$100	No change	No change	No change
Heroin ^{1, 4}	10	3 (just heroin)	2 (just heroin)	10	\$60 - \$140	↓	No change	↓
Fentanyl / carfentanil ⁷	10	10	10	10	\$80 - \$100	↑	No change	No change
Prescription opioids	3	8	4-5	-- ⁵	Varies ⁸	↓	↓	↓
Suboxone	10	2	7	-- ⁵	Varies ⁸	↑	No change	↓
Sedative-Hypnotics	10	2-3	5	-- ⁵	Varies ⁸	↓	↑	↓
Marijuana	10	10	10	-- ⁶	\$10-\$60 (for extracts)	↑	↑	↑
Methamphetamine	10	10	10	10	\$10 - \$30	↑	↑	↑
Prescription stimulants	7	6	4-6	-- ⁵	Varies ⁸	No change	No change	No change
Ecstasy / Molly	5 (Molly) / 5 (Ecstasy)	Not rated	2 (Molly) / 5 (Ecstasy)	8 (Molly) / 7-8 (Ecstasy)	\$60-80 (Molly) / \$25 (Ecstasy)	↑	No change	No change

¹ Users, treatment providers, and law enforcement all report that unadulterated heroin is rarely seen in the region; "heroin" is composed of mostly or entirely fentanyl or one of its analogs. In fact, heroin is sometimes used to reduce the potency of fentanyl.

² *Current availability* is rated by users on a 0 to 10 scale, where 0 means "impossible to get" and 10 means "easy to get"

³ *Quality* is rated by users on a 0 to 10 scale, where 0 means "poor quality" and 10 means "high quality"

⁴ Participants (drug users and former users) report that quality was going down even though what's being sold is mostly fentanyl. According to those in OSAM focus groups, dealers were deliberately reducing quality both to make more money and to reduce the chances of being charged with murder if users die. Some dealers are reported to be mixing meth into heroin to reduce the odds of an overdose. Evidence suggests that users are also switching from heroin to meth to reduce the chances of dying of an overdose.

⁵ The quality of prescription medications remain the same as when they were dispensed in the case of dealers simply selling legitimate products illegally. Users of illegally-obtained prescription medications have no idea what substances they might contain, or how powerful the resulting drug might be.

⁶ Quality varies by type of product (i.e., marijuana vs. an extract or concentrate).

⁷ Fentanyl and carfentanil are not often found in pure form, though law enforcement does report that some users seek out pure fentanyl. These substances are most often used to increase the power and addictiveness of other drugs rather than sold on their own.

⁸ Prices vary widely depending on the drug. For example, the price of Dilaudid is about \$15-20 for an 8 mg pill, \$50 for 100 mg of morphine, \$15-20 for 10 mg of Percocet, or \$12 for 20 mg Oxycontin pill. The latest Drug Trends report shows a rough estimate of cost at about \$1-\$2 per milligram.

Trends In Overdose Deaths

Total overdose deaths rose sharply from 2013 to 2016, then began a rapid decline (see Figure 16a). Opiates such as heroin, fentanyl, and carfentanil drove the sharp increases over the past several years. However, the mix of drugs driving overdoses today appears to be changing.

Figures 16b and 16c show selected drugs that have been included on the death certificates of drug poisoning victims over the past several years. From 2012-2020, 1,050 people who died of drug poisoning had a prescription opiate mentioned on their death certificate. A total of 965 had either fentanyl or a fentanyl analog mentioned, while 343 mentioned carfentanil from 2016 to 2020.

Figure 16c 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 3% by 2020.

The one drug that has shown a sustained increase 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 its peak and 10 percentage points higher than carfentanil. Deaths involving fentanyl and prescription opiates appear to have increased from 2019-2020.

* The ODH death certificate data for 2020 is incomplete. Summit County Medical Examiner's Office data currently show a total of 206 overdose deaths.

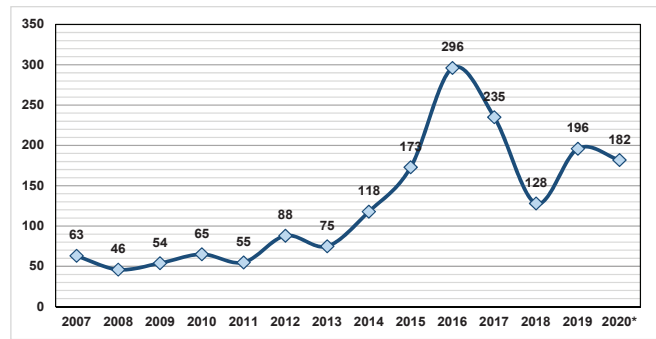


Figure 16a: Drug Overdoses 2000-2020, Source: ODH Death Records, SCPH

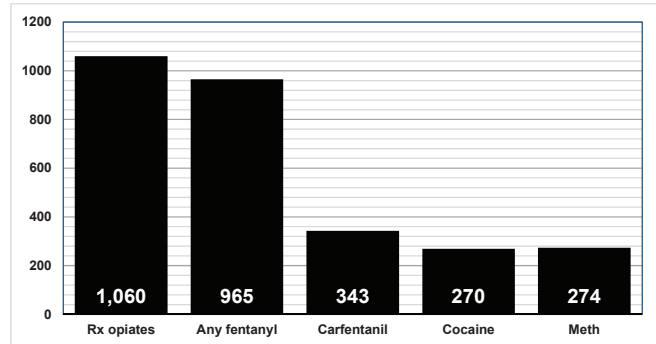


Figure 16b: Overdoses Involving Selected Drugs, 2012-2020 Source: ODH Death Records, SCPH

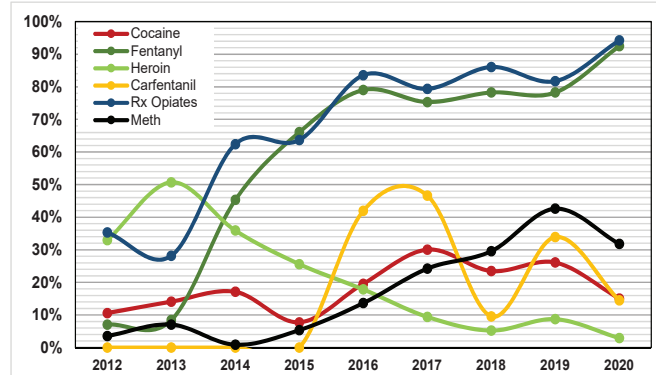


Figure 16c: Most Common Specific Drugs Mentioned On Death Certificates As A Percent of All Poisoning Deaths, 2012-2020 Source: ODH Death Records, SCPH (Note: Since many overdose fatalities involve multiple drugs, totals will not add up to 100%).

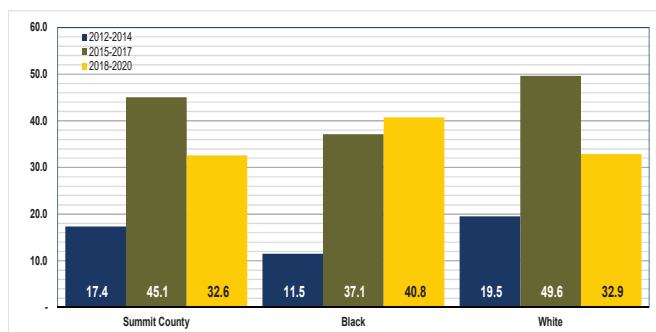


Figure 17: Age-Adjusted Drug Poisoning Deaths Per 1,000 Population, Total And By Race, 2012-2020 (primary underlying cause of death X40 - X44), Source: ODH Death Records, SCPH.

Demographics of Drug-Related Deaths, 2012-2020

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. However, the white rate declined from 2018-2019, from 49.6 per 1,000 in 2015-17 to 32.9 per 1,000 in 2018-20. For African-Americans in the same periods, the rate rose from 37.1 to 40.8 per 1,000. From 2012-2014, the African-American drug-related death rate was just 59% as high as the white rate. By 2015-2017, the African-American rate was nearly 75% as high as the white rate. By 2018-2020, the African-American rate passed the white rate (124%).

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 21 present some basic demographic information about drug poisoning deaths over time (for deaths where data is currently available):

- In 2012-2014, the biggest age group was 45-54, which accounted for 29% of overdose deaths. By 2018-2020, the 25-34 and 35-44 age groups were the highest at 27% each.
- Male deaths were more than double the rate of female deaths in all three time periods.
- More than half of drug poisoning deaths were among those with an educational attainment of high school graduate / GED or less in all three time periods.

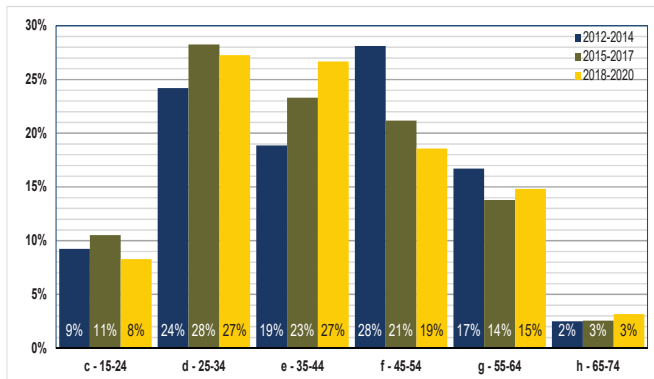


Figure 18 Age At Death of Persons Dying of Accidental Drug Poisoning, 2012-2020. Source: Ohio Department of Health Death Records, SCPH

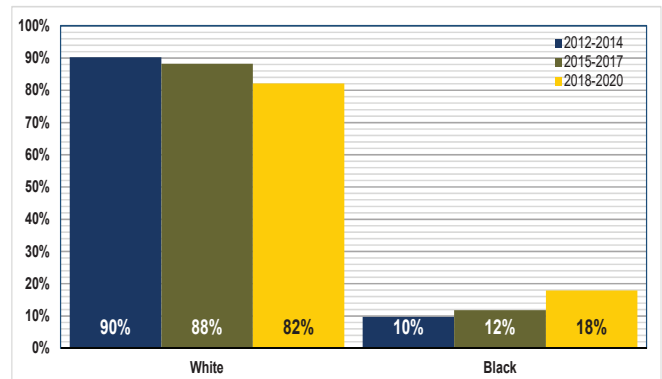


Figure 19: Race of Persons Dying of Accidental Drug Poisoning, 2012-2020. Source: Ohio Department of Health Death Records, SCPH

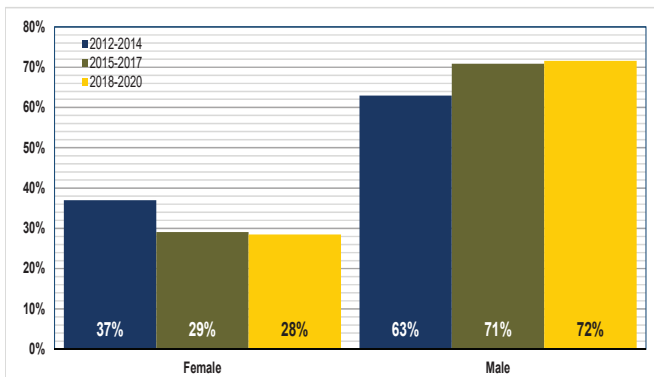


Figure 20: Sex of Persons Dying of Accidental Drug Poisoning, 2012-2020. Source: Ohio Department of Health Death Records, SCPH

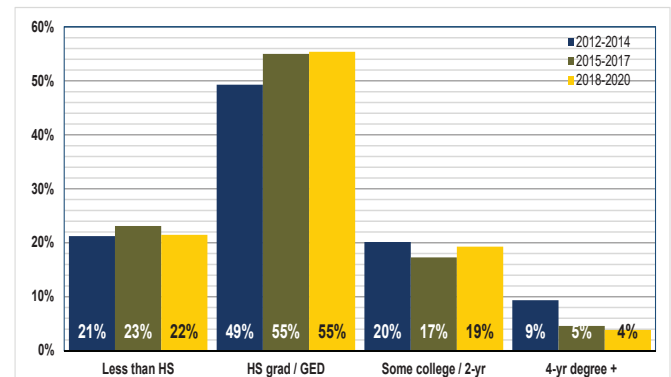


Figure 21: Educational Attainment of Persons Dying of Accidental Drug Poisoning, 2012-2020. Source: Ohio Department of Health Death Records, SCPH