Summit County Public Health

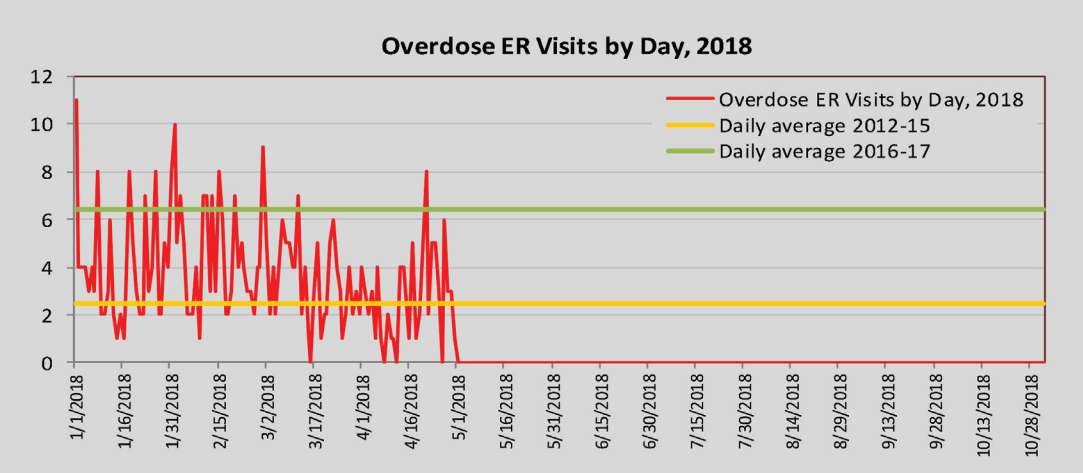
Population Health Vital Statistics Brief:

VOLUME 3: DRUG OVERDOSES, Apr 1 - Apr 30, 2018

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, 2018 to April 30, 2018, emergency rooms serving Summit County residents have treated an estimated 436 drug overdoses (OD).* After trending downward from early February through early April, overdoses briefly spiked again, rising to a high of 4 per day for a two-week span before once again declining to about 3 per day by the end of the month.



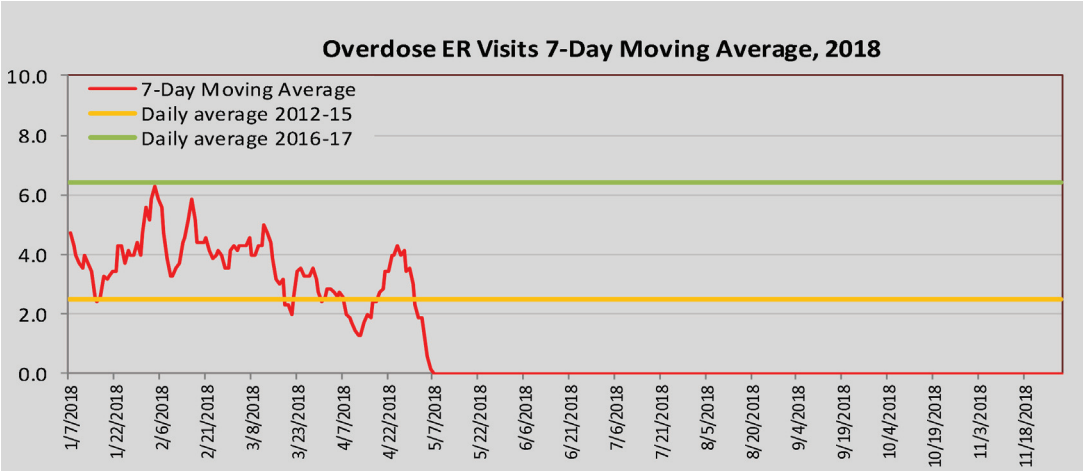


Figure 1a and 1b: Visits to the ER Due To Drug Overdoses By Day (top figure) and By Seven-Day Moving Average (bottom figure) -- Note: Because day-to-day total ER visits tend to fluctuate, a seven-day simple moving average chart is included to more clearly examine trends in the data. *Source: EpiCenter*

* *Drug overdose data is retrieved from the state's EpiCenter surveillance tool. "Overdose" cases include all emergency visits to a Summit County 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 Ibuprofin) 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.

Day of Week "Heat Map" - YTD 2018

	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	9%	2%	5%	4%	0%	4%	0%	2%	0%	0%	0%	4%	0%	7%	5%	7%	15%	5%	5%	2%	11%	2%	7%	4%
Monday	3%	3%	2%	3%	3%	0%	0%	2%	0%	5%	5%	5%	3%	7%	2%	8%	10%	8%	3%	5%	2%	7%	10%	5%
Tuesday	8%	3%	2%	0%	2%	0%	0%	2%	2%	2%	0%	5%	7%	3%	7%	3%	5%	10%	5%	2%	8%	11%	10%	5%
Wednesday	4%	2%	0%	2%	4%	0%	2%	2%	7%	0%	4%	7%	7%	2%	4%	5%	4%	4%	5%	7%	7%	12%	4%	9%
Thursday	1%	7%	3%	1%	4%	3%	0%	0%	3%	3%	8%	6%	14%	3%	7%	1%	8%	1%	3%	3%	3%	10%	4%	3%
Friday	1%	3%	5%	3%	0%	0%	3%	3%	3%	1%	5%	4%	3%	4%	5%	14%	4%	8%	1%	4%	12%	7%	5%	3%
Saturday	3%	0%	8%	5%	2%	3%	3%	2%	0%	8%	0%	0%	5%	2%	5%	11%	3%	3%	7%	3%	7%	10%	3%	7%
Total	4%	3%	4%	2%	2%	1%	1%	2%	2%	3%	3%	4%	6%	4%	5%	7%	7%	6%	4%	4%	7%	8%	6%	5%

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, 2018 to April 30, 2018. 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.*

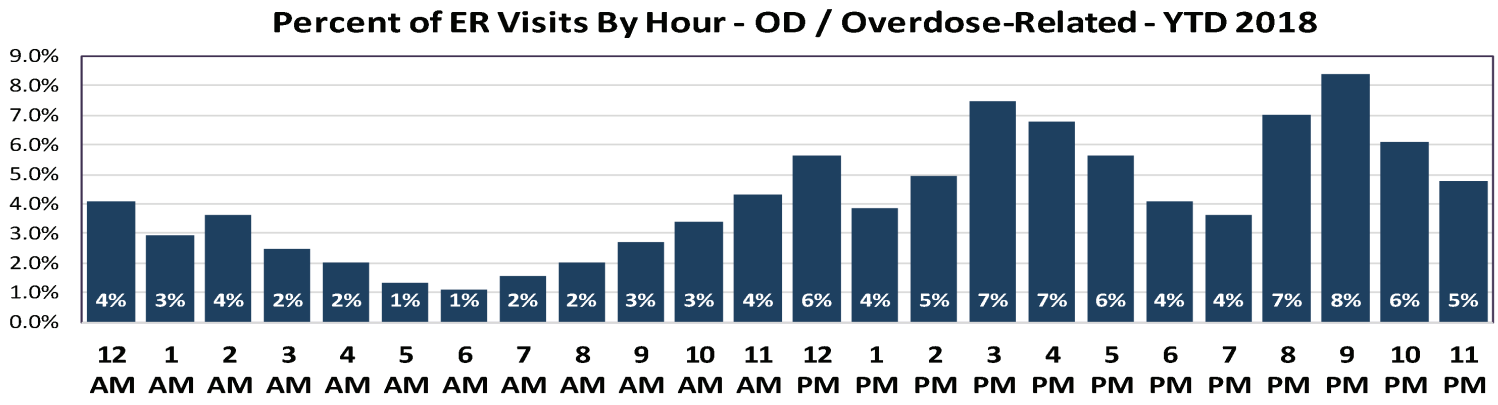


Figure 3: Summary Chart of ER Visits by Hour of the Day, March 1, 2018 to April 30, 2018, 2018
Source: EpiCenter and SCPH

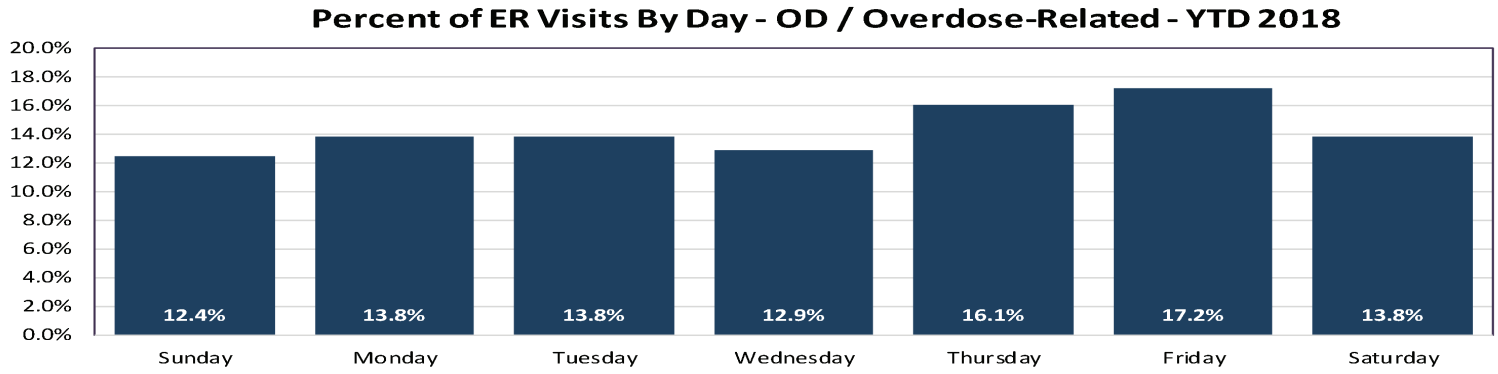


Figure 4: Summary Chart of ER Visits by Day of the Week, March 1, 2018 to April 30, 2018, 2018
Source: EpiCenter and SCPH

Demographic and Geographic Profile of Overdoses, YTD 2018

Age - People in the 25-34 and 35-49 age categories (34% and 28%, respectively) still have the highest percentage of overdoses. Another 17% were in the 18-24 category, while people age 50-64 accounted for 16%. People in the under 18 and over 65 categories accounted for a combined 5.2%.

Gender - Males made up 60% of overdoses so far in 2018; females 40%.

Geography* - Overdoses have happened throughout the county , with zip codes 44203 and 44312 having the highest number of overdoses at 45 and 44, respectively (10% of all cases each). Zip Codes 44306 and 44221 had 36 and 31 overdoses, respectively. Combined, Akron currently makes up 58% of all overdoses in 2018, while suburban communities make up the remaining 42%.

Number and Percent of Overdoses by Zip Code, January 1 - December 31, 2018

Row Labels	Count	Percent	Monthly trend
44203	45	10%	
44312	44	10%	
44306	36	8%	
44221	31	7%	
44310	29	7%	
44314	27	6%	
44301	24	5%	
44305	23	5%	
44319	15	3%	
44320	14	3%	
44224	13	3%	
44278	13	3%	
44333	13	3%	
44685	12	3%	
44311	11	3%	
44302	11	3%	
44313	11	3%	
44056	9	2%	
44223	8	2%	
44304	8	2%	
44303	8	2%	
44307	5	1%	
44286	5	1%	
44309	4	1%	
44087	4	1%	
44236	4	1%	
44308	3	1%	
44067	3	1%	
44321	2	0%	
44250	2	0%	
44264	1	0%	
44262	1	0%	
Grand Total	**439**	**100%**	--

Emergency Room Visits Due to Drug Overdose, Summit County by Home Zip Code of Patient, All Summit County Provider Types, As Of 4/30/2018

Location	#	%
Akron	261	58.4%
Suburb	186	41.6%

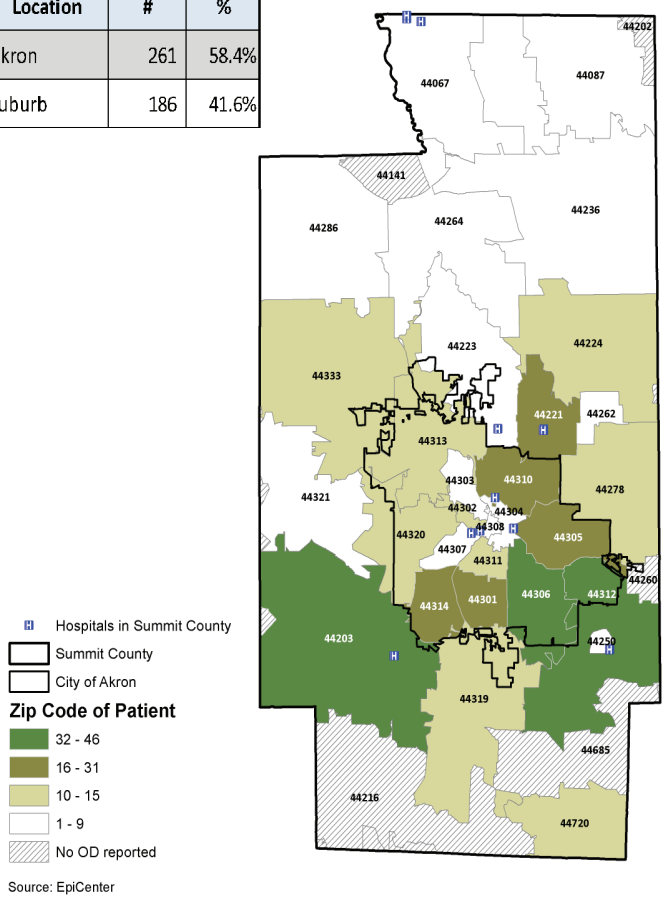


Figure 5a: Number and Percent of ER Visits Due to Drug Overdoses, YTD 2018
Source: EpiCenter and SCPH. Note: Figures for zip codes with fewer than 10 overdoses are not shown to preserve confidentiality.

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

Race - In April 2018, EpiCenter added overdose data by race. Nearly 91% of overdoses since July 2016 have been white, while nearly 8% have been black. The remaining 2% includes people of Asian, other, or unknown races. Whites make up 91% of overdoses but only 80% of the population (making them over-represented), while blacks make up 8% of overdoses but 14% of the population (making them under-represented).

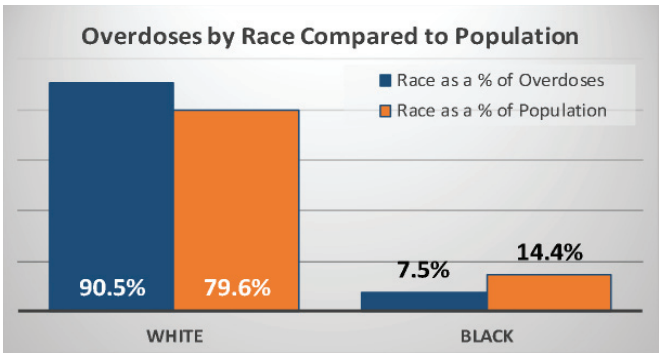


Figure 5b: Overdoses by Race and Population by Race, Whites and Blacks only, *Source: EpiCenter, American Community Survey, 2016*

Overdoses Per 1,000 by Zip Code (through April 30) - Figure 5 shows the raw number of overdoses by patient zip code. Figure 6a shows the number of overdoses per 1,000 population by zip code. So far in 2018, the heaviest concentration of overdoses per 1,000 population come from zip codes in the central and southeast portions of the county. However, because the number of overdoses for 2018 is still small for most zip codes, figures used to calculate a rate per 1,000 by zip code are still too small to be a reliable indicator of the overdose rate for that zip code. Until the numbers of overdoses rise beyond at least 20, figures for individual zip codes should be viewed with caution.

Change In Overdoses by Zip Code - Figure 6b shows the change in overdoses by patient zip code on a year-over-year basis, comparing totals for Year-To-Date 2017 with totals for Year-To-Date 2018. Only three zip codes have shown year-over-year increases as of April 2018 (44286, 44333, and 44302), while many have shown decreases. It should be noted that both gains and losses have been relatively modest, with the exception of 44203, which has seen a net decrease of 63 overdoses relative to the first three months of 2017.

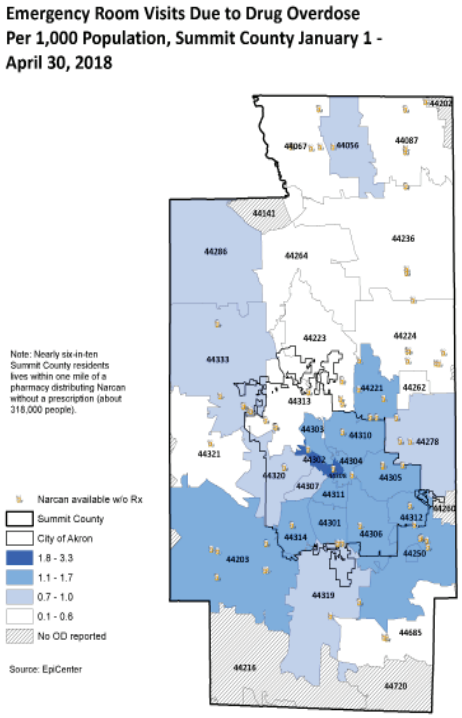


Figure 6a: Drug Overdoses Per 1,000 Population, YTD 2018
Source: EpiCenter, U.S. Census Bureau, Ohio Pharmacy Board (Narcan)

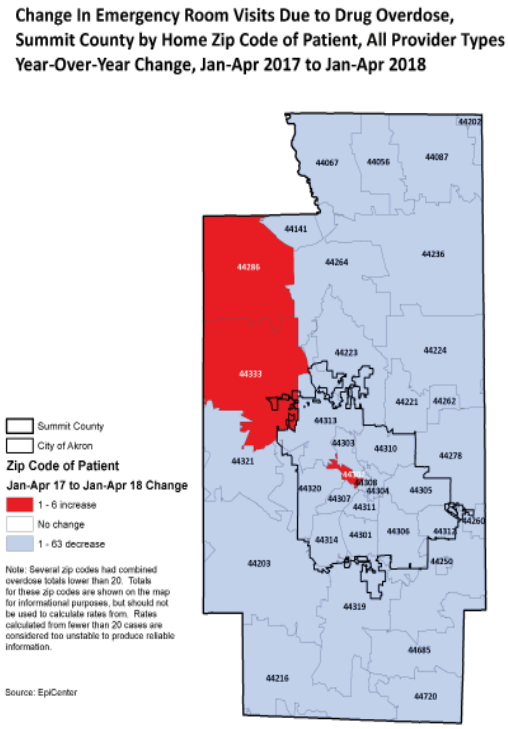


Figure 6b: Change in Number of Overdoses, Jan-Apr 2017 to Jan-Apr 2018 *Source: EpiCenter*

Overdose Deaths In 2016-2017 (current as of April 2018)

During the first 26 weeks of 2016, just before the overdose epidemic hit the community, Summit County was averaging approximately 4.9 OD deaths per week (128 total). Beginning in the 27th week, deaths immediately began to accelerate, with 27 confirmed deaths in the first two weeks of the epidemic alone. The number of deaths during the worst of the 2016 overdose epidemic (July 1 to September 30) averaged 8.7 per week; nearly double the rate seen during the first six months of the year.

All told, Summit County suffered at least 310 unintentional overdose-related deaths in 2016.* This figure represents the total number of deaths with an overdose-related cause and a signed death certificate on file with the Summit County Public Health Vital Statistics office received as of the end of December 2017. Preliminary estimates of Summit County Medical Examiner's data for 2017 show 226 presumed overdoses between January through December 2017; 27% below the 2017 total of 310 overdoses. **

** The number of death certificates with overdose-related causes of death tracked by Summit County Public Health show a total of 228 so far for 2017, with the latest certificates dated December 2017. Detailed information from the Ohio Department of Health are currently only available for 180 of these deaths.

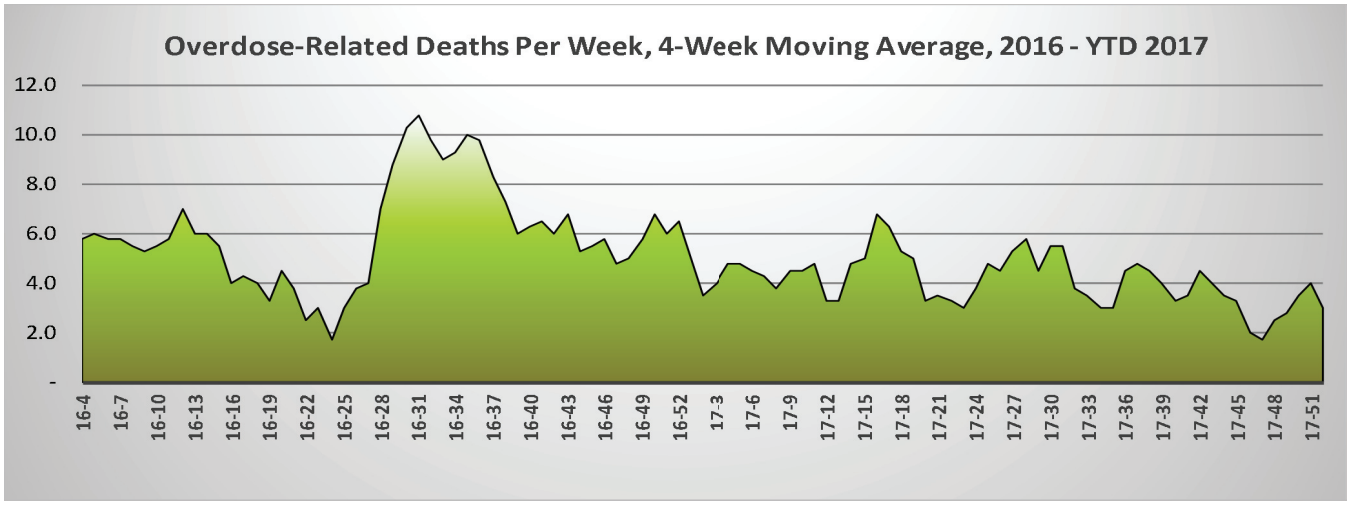


Figure 7: Drug Poisoning Deaths Per Week in Summit County, 2016-2017
Source: SCPH Vital Statistics Death Certificate records

Figure 8 shows the classification of drugs causing accidental drug poisoning fatalities in 2016-2017. The category of narcotics and psychodysleptics, which contains opiates, was responsible for three-quarters of overdose deaths. Most of the remaining deaths were caused by other and unspecified drugs.

Accidental poisoning by and exposure to...	2016		2017	
	Number	Percent	Number	Percent
...narcotics and psychodysleptics [hallucinogens], not elsewhere classified	219	73.7%	128	71.1%
...other and unspecified drugs, medicaments and biological substances	61	20.5%	39	21.7%
...antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	12	4.0%	9	5.0%
...other drugs acting on the autonomic nervous system	2	0.7%		0.0%
...nonopioid analgesics, antipyretics and antirheumatics		0.0%	1	0.6%
Grand Total	**297**	**100.0%**	**180**	**100.0%**

Figure 8: Drug Poisoning Deaths By Type of Drug, Summit County, 2016-2017
Source: SCPH Vital Statistics Death Certificate records

* An additional 16 people (in 2016) and 11 people (in 2017) were victims of intentional drug overdose; suicide where the method as intentionally overdosing on one or more drugs. These deaths are tracked separately because they were caused by an intentional act rather than an accidental ingestion of a lethal dose.

Deaths recorded in Figure 8 represent the number of overdose-related fatalities that have detailed cause of death information available through the state's death certificate database as of 3/31/2018.

Trends In Substance Abuse, Akron-Canton Region

The table below presents data from "Surveillance of D r ug Abuse Trends in the State of Ohio, January - June 2017" published by the *Ohio Substance Abuse Monitoring Network (OSAM)*. While about a year old, the data highlights trends emerging at the time 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.

One of the findings of the report was that the availability of heroin was growing while quality was declining. According to the report, "heroin" in this region has morphed into pure fentanyl often cut with other substances (including heroin itself) to reduce its potency. By early 2017, users reported that dealers were deliberately reducing potency, both to increase profit and to reduce the odds of their users dying of an overdose (which helps the dealers avoid murder / manslaughter charges).

A second finding is that users were beginning to switch to meth to reduce the risk of dying from a heroin overdose and, for users taking Vivatrol, to replace the high lost when Vivatrol shuts off the brain's opiate receptors. All parties reported rapidly growing availability of meth throughout the region. Additional details by specific type of drug can be found in the table and notes below.

Ohio Substance Abuse Monitoring Network (OSAM) Drug Assessment Summary, January 2017 - June 2017, Akron-Canton Region (Summit, Portage, Stark, Tuscarawas, and Carroll Counties)

Akron-Canton Region	Current Availability[2]			Quality[3]	Change in Availability		
	Users	Treatment Providers	Law Enforcement	Users	Users	Treatment Providers	Law Enforcement
Powdered cocaine	10	7	5-10	8	↓	No change	No change
Crack cocaine	10	8	5 or 7	Varies	No consensus	No change	No change
Heroin / fentanyl[1]	10	10	NA	↓[4]	↑	No change	No change
Prescription opioids	10	6-7	5	--[5]	↓	↓	↓
Suboxone	10	9	3	--[5]	↑	No change	No change
Sedative-Hypnotics	10	6	5	--[5]	↑	No change	↓
Marijuana	10	10	10	--[6]	↑	↑	↑
Methamphetamine	10	10	7	7 / 5[7]	↑	↑	↑
Prescription stimulants	10	1	3	--[5]	No change	↓	No change
Ecstasy / Molly	8	1	2	Varies	↑ (Molly) / No change (Ecstasy)	No change	No change
Synthetic marijuana	10	3	1 (Summit) / 10 (Tusc.)	NA	↓	No change	↓ (Summit) / ↑ (Tusc.)

[1] Users report that just heroin is rarely seen in the region; "heroin" is composed of mostly or entirely fentanyl or one of its analogs. In fact, heroin is often 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. However, participants in Tuscarawas County reported that some dealers were crushing Xanax pills and re-pressing them with fentanyl, which could significantly increase the potency. Ultimately, users of illegally-obtained prescription medications have no idea what substances they might contain.

[6] Quality varies by type of product (i.e., marijuana vs. an extract or concentrate) However, like sedatives, participants in Tuscarawas County reported that some dealers were mixing marijuana with fentanyl, which could significantly increase the potency.

Long-Term Trends in Overdose Deaths

Deaths due to accidental poisoning and exposure to various types of drugs held fairly steady for most of the decade of the 2000s, fluctuating between nine and 12 deaths per 100,000 from 2002 to 2009. However, deaths due to drug overdoses rose sharply in five of the next seven years. In fact, overdose death rates were nearly five times higher in 2016 than 2010, rising from 12 per 100,000 in 2010 to just over 56 per 100,000 by 2016. Deaths due to poisoning by narcotics and hallucinogens led the way, making up nearly 54% of all drug poisoning deaths since 2000 (761 total deaths); a much larger number and percentage than in any other single category. In addition, narcotic and hallucinogen poisonings have been growing as a percentage of all drug poisoning deaths, rising from 46% of all drug poisoning deaths between 2000 and 2009 to 69% of all drug poisoning deaths by 2016.

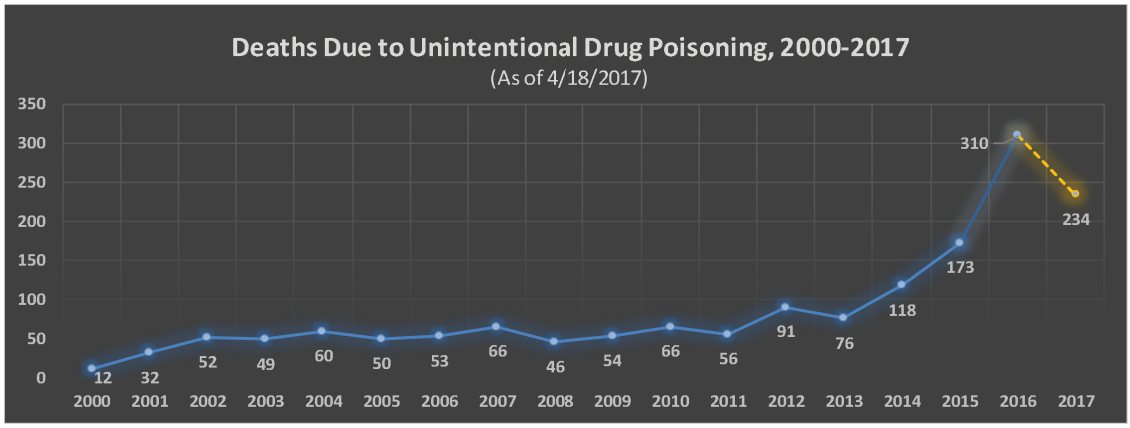


Figure 9: Drug Poisoning Deaths, 2000-2017 (primary underlying cause of death X40 - X44), *Source: Ohio Department of Health Death Records, SCPH* Note: ODH OD death figures for Summit County from 2017 are preliminary.

Taken together, 1,002 people died of drug overdoses from 2012-2017; nearly double the 596 that died in the 11 years from 2000-2011.

Drug poisoning deaths rose both in raw numbers and per 100,000 population. Figure 9 below shows that drug poisoning deaths rose from 9.2 per 100,000 between 2000 and 2011, to 17.2 per 100,000 between 2012 and 2014, and again to 36.5 per 100,000 in 2015-2016; a four-fold increase. Preliminary figures for 2017 show significantly fewer drug-related deaths than in 2016. While 2017 figures are preliminary, January - August deaths for 2017 are well below the number for the same period in 2016.

The growth in drug-related death rates by race differ sharply. African-American drug poisoning rates are now three times higher, and white rates nearly 10 times higher, than the first decade of the 2000s (see Figure 10). While not directly comparable because of different methodologies, this sharper rise among whites is consistent with recent findings around the nation that whites are becoming victims of

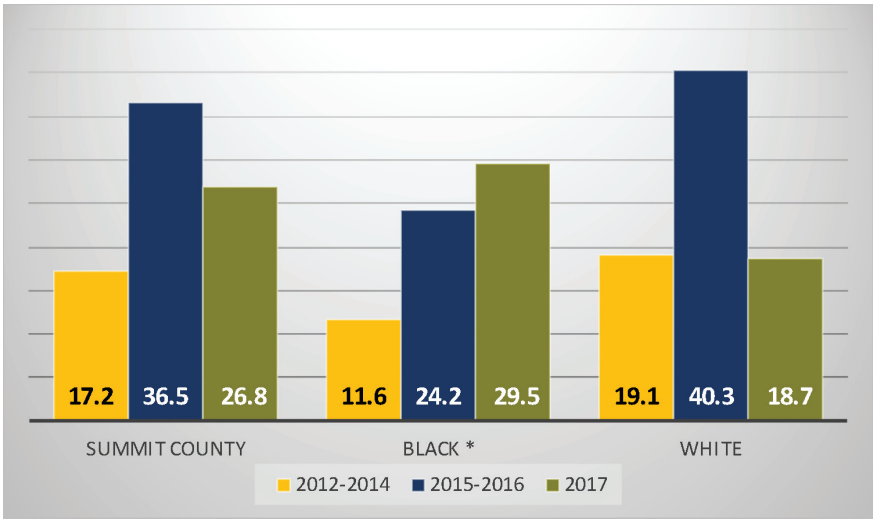


Figure 10: Age-Adjusted Drug Poisoning Deaths Per 1,000 Population, Total And By Race, 2000-2017 (primary underlying cause of death X40 - X44), *Source: Ohio Department of Health Death Records, SCPH. Note: The black rate is based on only 13 deaths reported so far in 2017. It should be considered unstable and to be used with caution. It is included here for informational purposes only. All 2017 rates will be re-calculated when final overdose death totals for 2017 are available.*

the heroin overdose epidemic in greater proportions than other races. For example, a 2015 CDC study of heroin use rates between 2002 and 2013 showed that the white rate of heroin use during the past year rose from 1.4 per 1,000 whites between 2002 and 2004 to 3.0 per 1,000 between 2011 and 2013.[2]

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

Figures 10 to 13 present some basic demographic information about drug poisoning deaths in 2016 vs. 2017 for which detailed death certificate data is currently available (2016, 298 deaths; 2017, 141 deaths).

- In both years, the biggest single age group is 25-34, which accounted for 27% - 29% of total drug poisoning deaths, closely followed by those in the 35-44 age group (19% - 24%).
- Male deaths were higher to date in 2017 than 2016 (69% and 76%, respectively).
- The vast majority of drug poisoning deaths were to those with an educational attainment level of some college or less in both 2016 and 2017.
- In both years, the vast majority of deaths in 2015 were white.

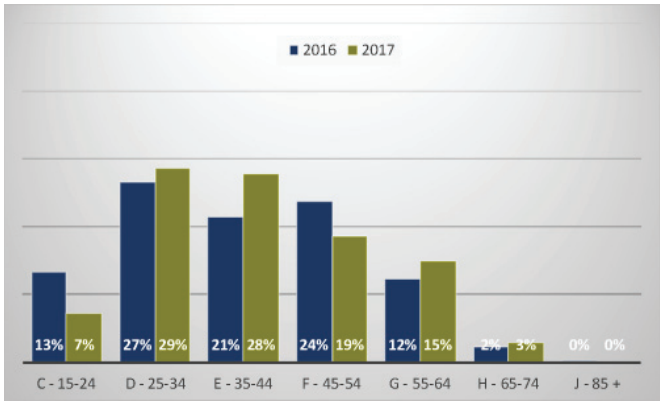


Figure 11: Age At Death of Persons Dying of Accidental Drug Poisoning, 2016-2017, *Source: Ohio Department of Health Death Records, SCPH*

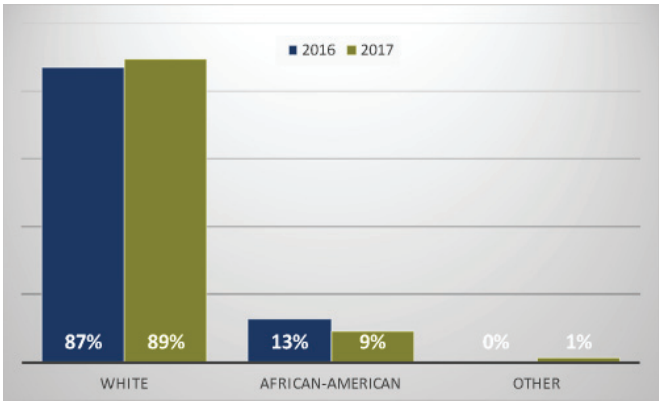


Figure 12: Race of Persons Dying of Accidental Drug Poisoning, 2016-2017, *Source: Ohio Department of Health Death Records, SCPH*

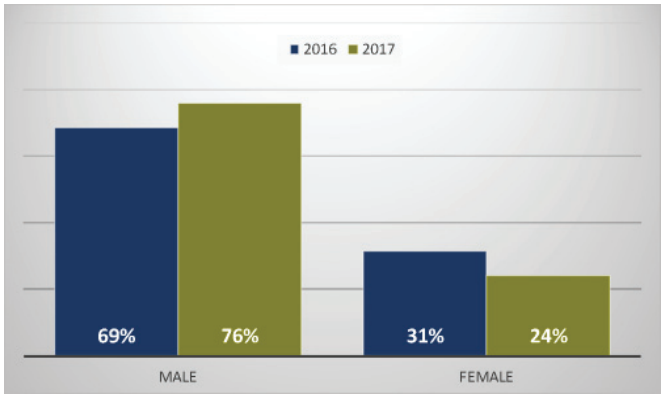


Figure 13: Sex of Persons Dying of Accidental Drug Poisoning, 2016-2017, *Source: Ohio Department of Health Death Records, SCPH*

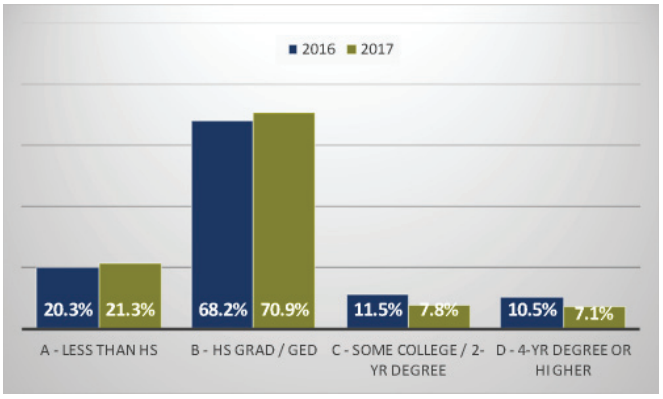
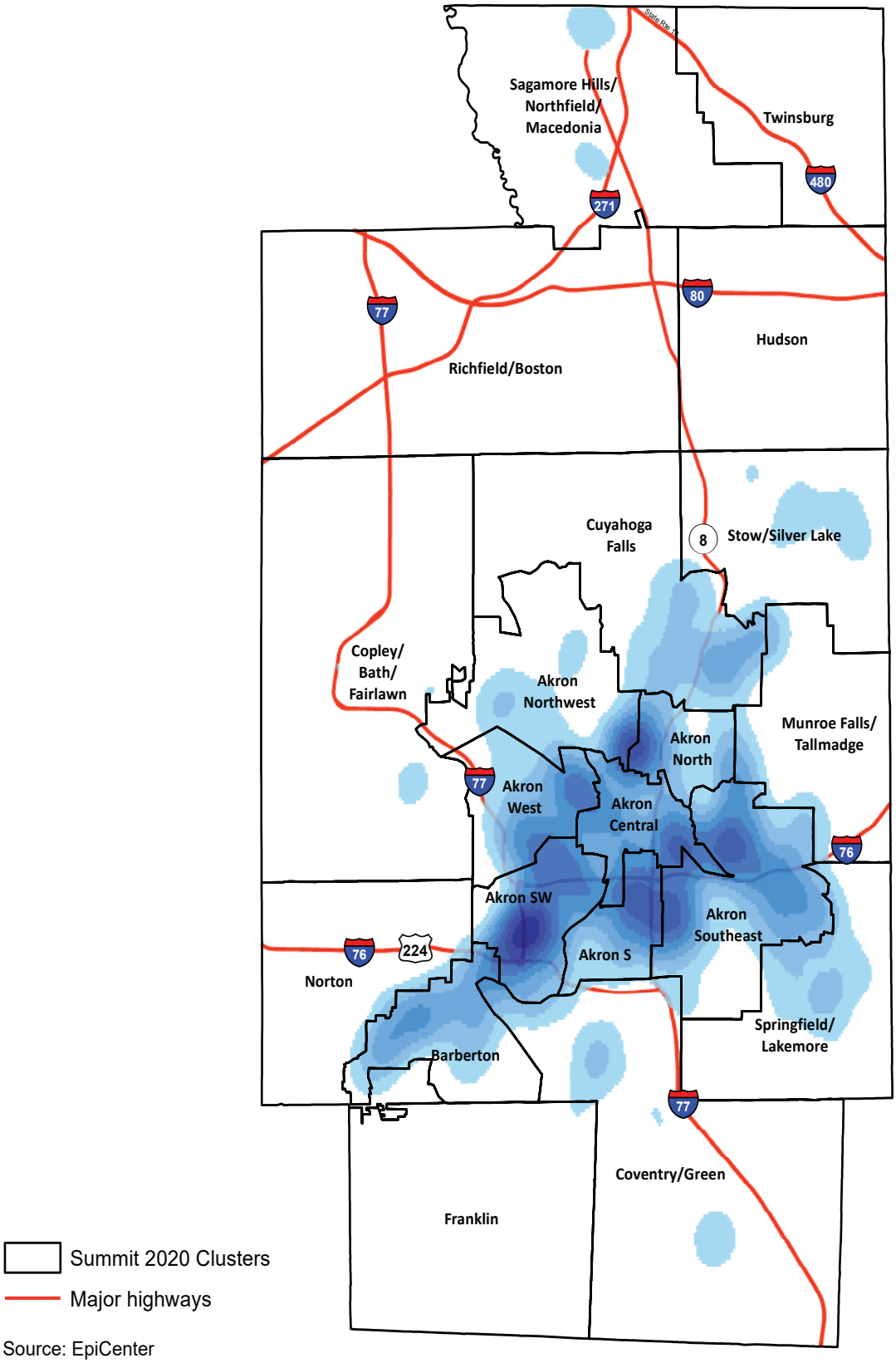


Figure 14: Educational Attainment of Persons Dying of Accidental Drug Poisoning, 2016-2017, *Source: Ohio Department of Health Death Records, SCPH*

[2] *Centers for Disease Control and Prevention (CDC)*; Vital Signs: Demographic and Substance Use Trends Among Heroin Users — United States, 2002–2013; *https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6426a3.htm.*

Density Map of Drug Poisoning Deaths, Summit County, 2016-2017 (2017 prelim)



Source: EpiCenter