

SUMMIT COUNTY PUBLIC HEALTH

Population Health Vital Statistics Brief: VOLUME 3: DRUG OVERDOSES, Mar 1 - Mar 31, 2018



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Drug Overdose Visits to Hospital Emergency Rooms

From January 1, 2018 to March 31, 2018, emergency rooms serving Summit County residents have treated an estimated 348 drug overdoses (OD).^{*} After hitting a low of 2 per day by the middle of January, overdoses per day began to rise steadily, topping 6.0 per day by early February. However, as happened in 2017, daily overdoses are now rising again. Overdoses have fluctuated wildly since then, dropping sharply to under 4.0 per day in mid-February before rising again to nearly 6.0 by the third week of February. Starting in early March, overdoses per day began to decline sharply, and as of the end of March are down to pre-outbreak levels last seen between 2012 and 2015.

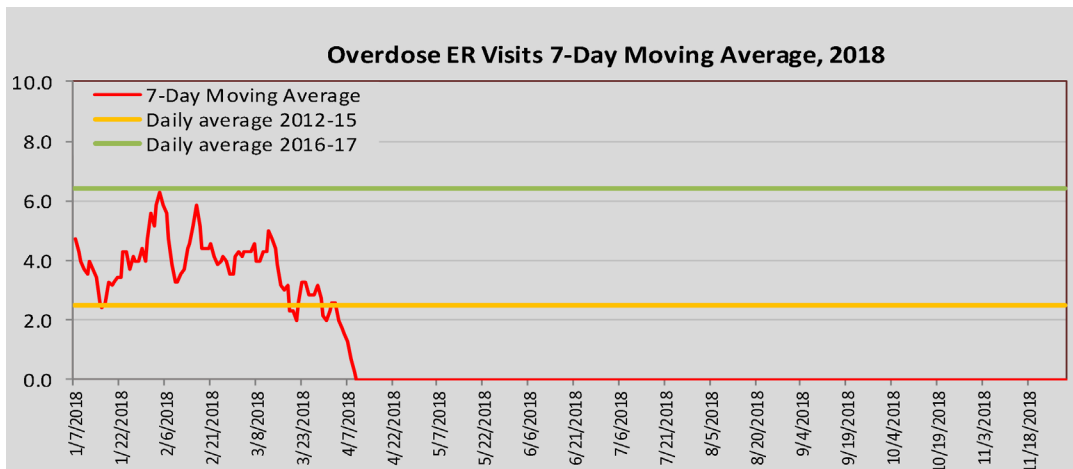
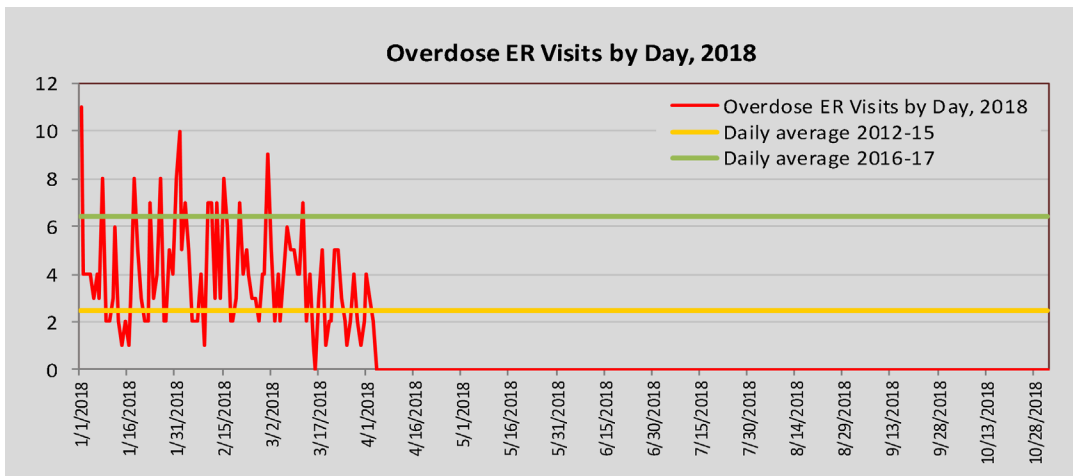


Figure 1a and 1b: Visits to the ER Due To Drug Overdoses By Day (top figure) and By Seven-Day Moving Average (bottom figure) -- Note: Because day-to-day total ER visits tend to fluctuate, a seven-day simple moving average chart is included to more clearly examine trends in the data. Source: EpiCenter

^{*} 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 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.

Day of Week "Heat Map" - YTD 2017

	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	11%	2%	6%	4%	0%	2%	0%	2%	0%	0%	0%	0%	4%	9%	6%	6%	15%	6%	6%	0%	11%	0%	4%	4%
Monday	2%	4%	2%	4%	0%	0%	0%	2%	0%	4%	6%	4%	4%	6%	0%	10%	10%	10%	4%	2%	2%	8%	10%	6%
Tuesday	8%	4%	2%	0%	2%	0%	0%	2%	0%	0%	6%	4%	4%	4%	6%	4%	6%	10%	4%	2%	10%	8%	10%	4%
Wednesday	4%	2%	0%	2%	4%	0%	2%	2%	6%	4%	8%	4%	6%	2%	2%	6%	4%	2%	2%	8%	8%	12%	4%	8%
Thursday	1%	7%	3%	0%	4%	3%	0%	0%	3%	9%	6%	6%	15%	3%	6%	1%	9%	1%	3%	3%	3%	9%	4%	3%
Friday	2%	2%	4%	2%	0%	0%	2%	4%	4%	2%	2%	4%	4%	2%	4%	13%	4%	7%	0%	4%	17%	9%	7%	4%
Saturday	5%	0%	11%	5%	2%	2%	5%	2%	0%	9%	0%	0%	2%	2%	5%	9%	2%	2%	7%	2%	7%	11%	5%	5%
Total	4%	3%	4%	2%	2%	1%	1%	2%	2%	3%	4%	4%	5%	4%	4%	7%	7%	5%	4%	3%	8%	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 March 1, 2018 to March 31, 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.

Percent of ER Visits By Hour - OD / Overdose-Related - YTD 2017

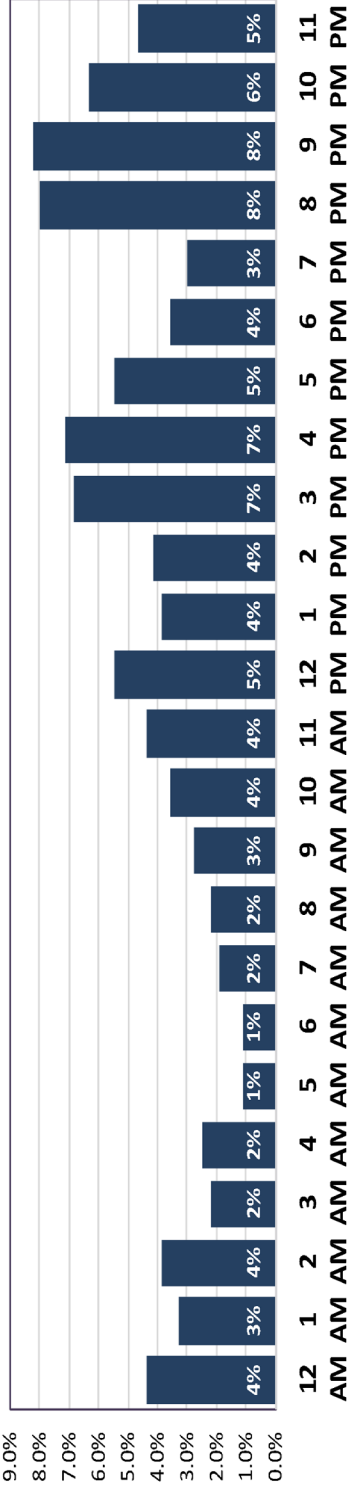


Figure 3: Summary Chart of ER Visits by Hour of the Day, March 1, 2018 to March 31, 2018, 2018
Source: Epicenter and SCPH

Percent of ER Visits By Day - OD / Overdose-Related - YTD 2017

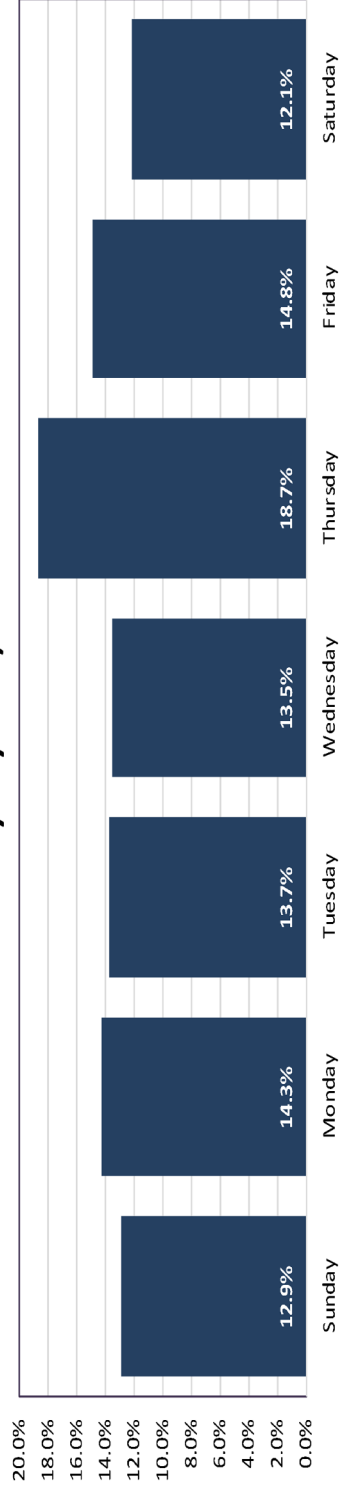


Figure 4: Summary Chart of ER Visits by Day of the Week, March 1, 2018 to March 31, 2018, 2018
Source: Epicenter and SCPH

Demographic and Geographic Profile of Overdoses, YTD 2018

Age - People in the 25-34 and 35-49 age categories (39% and 25%, respectively) still have the highest percentage of overdoses. Another 19% were in the 18-24 category, while people age 50-64 accounted for 11%. People in the under 18 and over 65 categories accounted for a combined 6.9%.

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

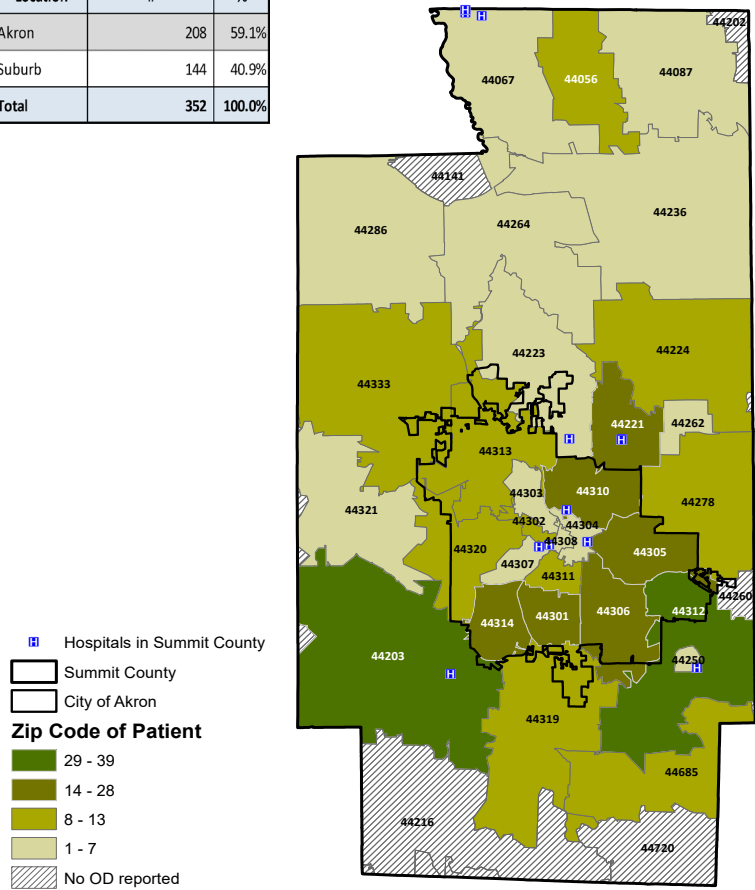
Geography* - Overdoses have happened throughout the county, with zip codes 44312 and 44203 having the highest number of overdoses at 35 and 33, respectively (11% of all cases each). Zip Codes 44306 and 44221 had 28 and 26 overdoses, respectively. Combined, Akron currently makes up 59% of all overdoses in 2018, while suburban communities make up the remaining 41%.

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

Row Labels	Count	Percent	Monthly trend
44203	39	11%	
44312	38	11%	
44306	28	8%	
44221	26	7%	
44310	22	6%	
44314	21	6%	
44301	19	5%	
44305	18	5%	
44320	13	4%	
44313	10	3%	
44319	10	3%	
44278	10	3%	
44333	10	3%	
44685	10	3%	
44311	9	3%	
44224	9	3%	
44056	8	2%	
44302	8	2%	
44303	7	2%	
44223	6	2%	
44304	5	1%	
44286	4	1%	
44307	4	1%	
44309	3	1%	
44308	3	1%	
44067	3	1%	
44250	2	1%	
44321	2	1%	
44087	2	1%	
44262	1	0%	
44264	1	0%	
44236	1	0%	
Grand Total	352	100%	--

Emergency Room Visits Due to Drug Overdose, Summit County by Home Zip Code of Patient, All Summit County Provider Types, As Of 3/31/2018

Location	#	%
Akron	208	59.1%
Suburb	144	40.9%
Total	352	100.0%



Source: EpiCenter

Figure 5: 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.

Demographic and Geographic Profile of Overdoses, YTD 2018 (cont)

Overdoses Per 1,000 by Zip Code (through March 31) - 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, figures by zip code are still too small to be a reliable indicator of the overdose rate for the population as a whole. 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 March 2018 (44286, 44303, and 44333), 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 34 overdoses relative to the first three months of 2017.

Emergency Room Visits Due to Drug Overdose Per 1,000 Population, Summit County January 1 - March 31, 2018

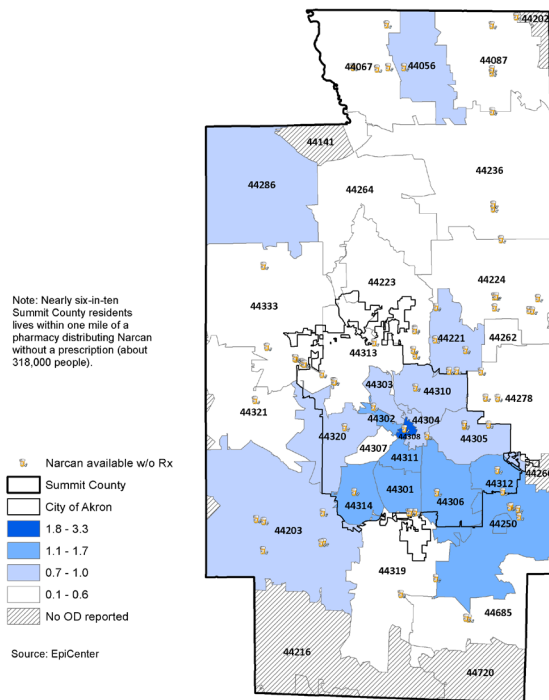


Figure 6a: Drug Overdoses Per 1,000 Population, YTD 2018
 Source: EpiCenter, U.S. Census Bureau, Ohio Pharmacy Board (Narcan)

Change In Emergency Room Visits Due to Drug Overdose, Summit County by Home Zip Code of Patient, All Provider Types Year-Over-Year Change, Jan-Mar 2017-to-Jan-Mar 2018

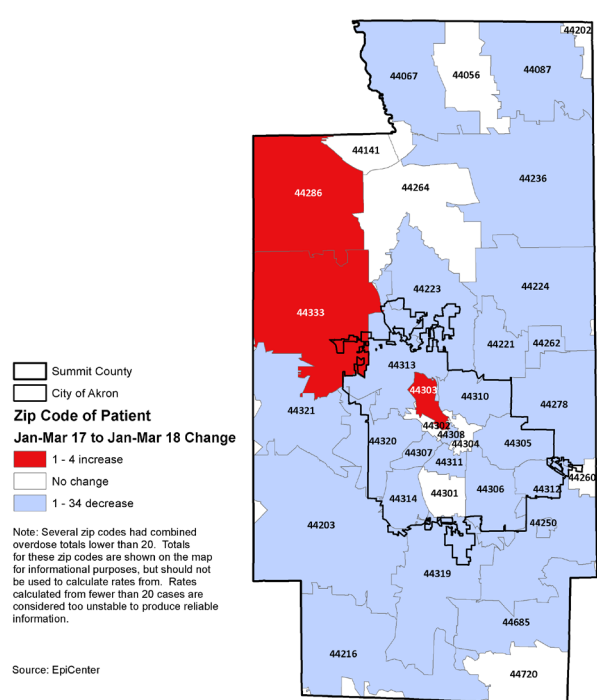


Figure 6b: Change in Number of Overdoses, Jan-Mar 2017 to Jan-Mar 2018
 Source: EpiCenter

Overdose Deaths In 2016 (current as of December, 2017)

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 tracked by the Summit County ADM board show 158 presumed overdoses between January through October 2017; well below the 257 overdoses reported between January through October 2016. **

** The number of death certificates with overdose-related causes of death tracked by Summit County Public Health show a total of 184 so far for 2017, with the latest certificates dated August 2017. Detailed information from the Ohio Department of Health are currently only available for 141 of these deaths.

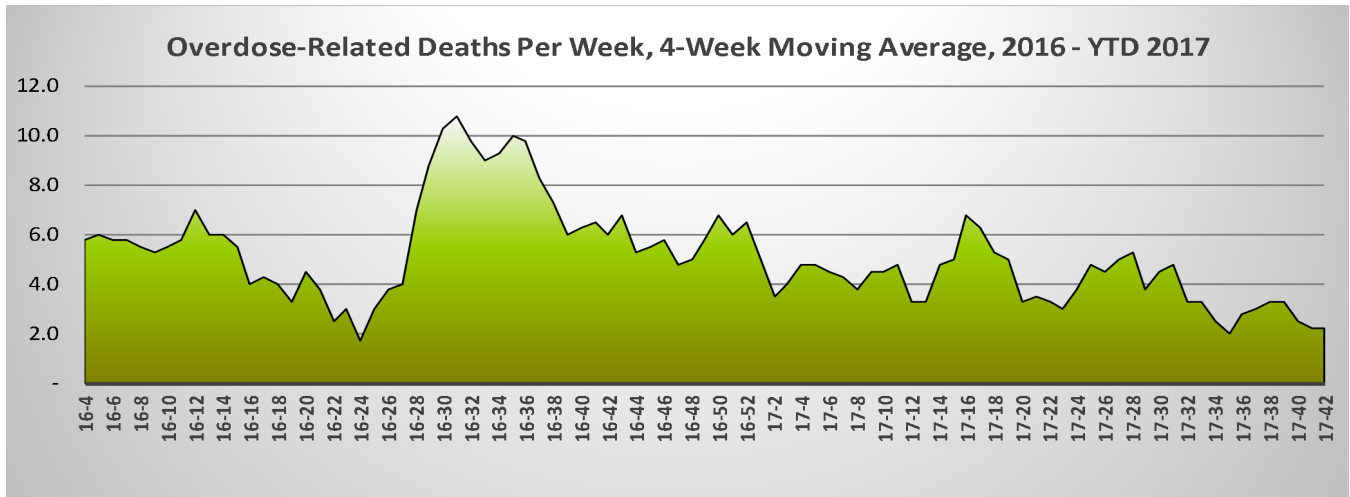


Figure 7: Drug Poisoning Deaths Per Week in Summit County, 2016-2017
Source: SCPH Vital Statistics Death Certificate records

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

Accidental poisoning by and exposure to...	Number	Percent
...narcotics and psychodysleptics [hallucinogens], not elsewhere classified	221	74.2%
...other and unspecified drugs, medicaments and biological substances	63	21.1%
...antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	12	4.0%
...other drugs acting on the autonomic nervous system	2	0.7%
Grand Total	298	100.0%

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

* An additional 12-16 people 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 298 overdose-related fatalities that have detailed cause of death information available through the state’s death certificate database as of 12/31/2017.

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

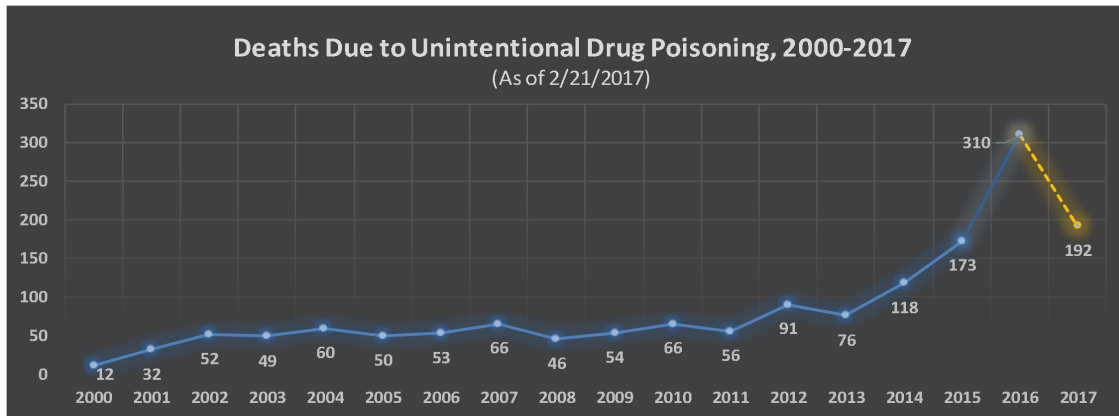


Figure 8: Drug Poisoning Deaths, 2000-2017 (primary underlying cause of death X40 - X44), Source: Ohio Department of Health Death Records, SCPH Note: ODH OD death figures for Summit County from 2017 are preliminary.

drug poisoning deaths, rising from 46% of all drug poisoning deaths between 2000 and 2009 to 69% of all drug poisoning deaths by 2016.

Taken together, as many people died of drug overdoses in 2015 and 2016 (480) as died in the entire decade from 2000-2009 (474).

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 9). 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

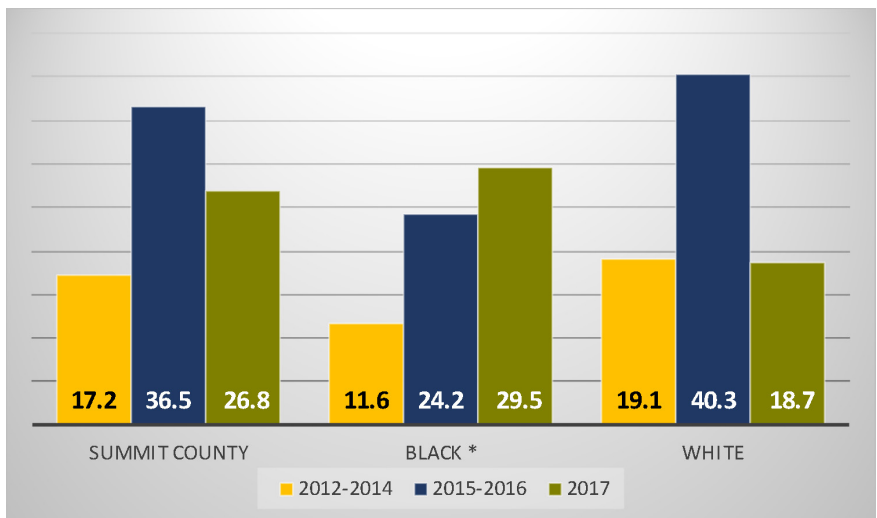


Figure 9: Age-Adjusted Drug Poisoning Deaths Per 1,000 Population, Total And By Race, 2000-2017 (primary underlying cause of death X40 - X44), Source: Ohio Department of Health Death Records, SCPH. Note: The black rate is based on only 13 deaths reported so far in 2017. It should be considered unstable 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.

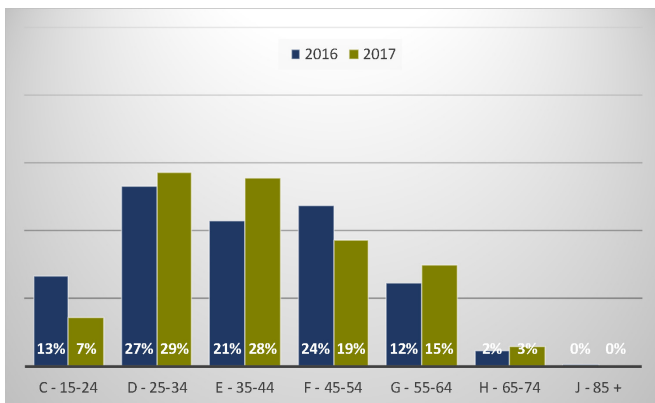


Figure 10: Age At Death of Persons Dying of Accidental Drug Poisoning, 2016-2017, Source: Ohio Department of Health Death Records, SCPH

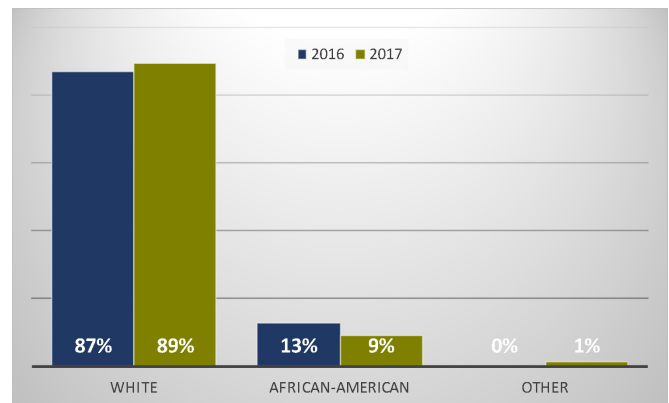


Figure 11: Race of Persons Dying of Accidental Drug Poisoning, 2016-2017, Source: Ohio Department of Health Death Records, SCPH

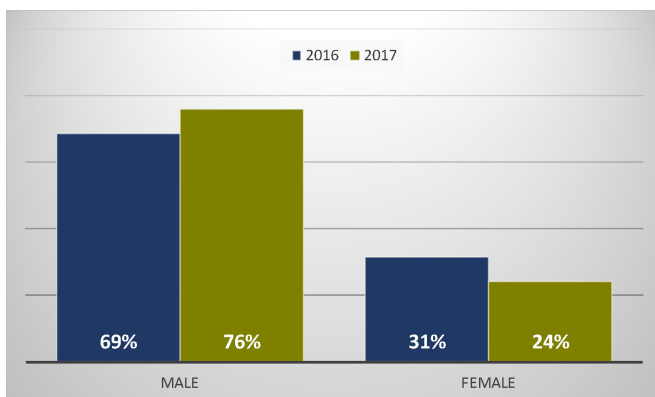


Figure 12: Sex of Persons Dying of Accidental Drug Poisoning, 2016-2017, Source: Ohio Department of Health Death Records, SCPH

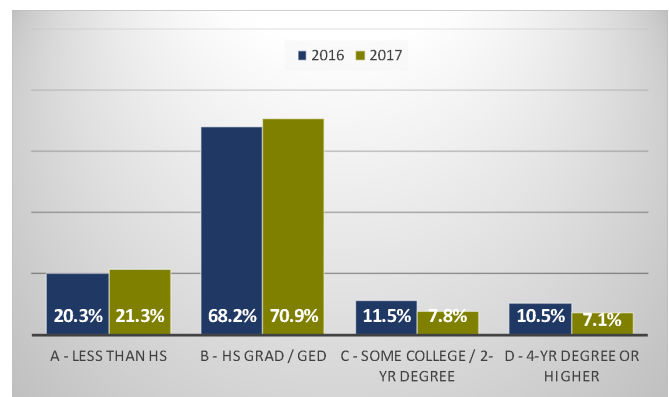


Figure 13: Educational Attainment of Persons Dying of Accidental Drug Poisoning, 2016-2017, Source: Ohio Department of Health Death Records, SCPH

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)

