Summit County Public Health

Population Health Vital Statistics Brief:

VOLUME 3: DRUG OVERDOSES, Jan 1 - Nov 30, 2017

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Drug Overdose Visits to Hospital Emergency Rooms

From January 1, 2017 to November 30, 2017, emergency rooms serving Summit County residents have treated an estimated 2,190 drug overdoses (OD).* Overdoses per day peaked at about 10 per day in late March. Since January 1st, overdoses have hit double-digits on 57 of the 334 days (about 17% of the time). By comparison, in 2016 we saw double-digit overdoses on 100 of the 366 days of the year, 27%. Beginning in the third week of October, overdoses per day began a sustained decline, dropping from 6.9 per day on October 28th to a low of 3.4 on November 15th, and then slowly growing again to 4.4 per day by November 30th. Overdoses have remained in the single-digits for 33 straight days, and are well below the rate per day seen on November 30, 2016 (9.4 overdoses per day).

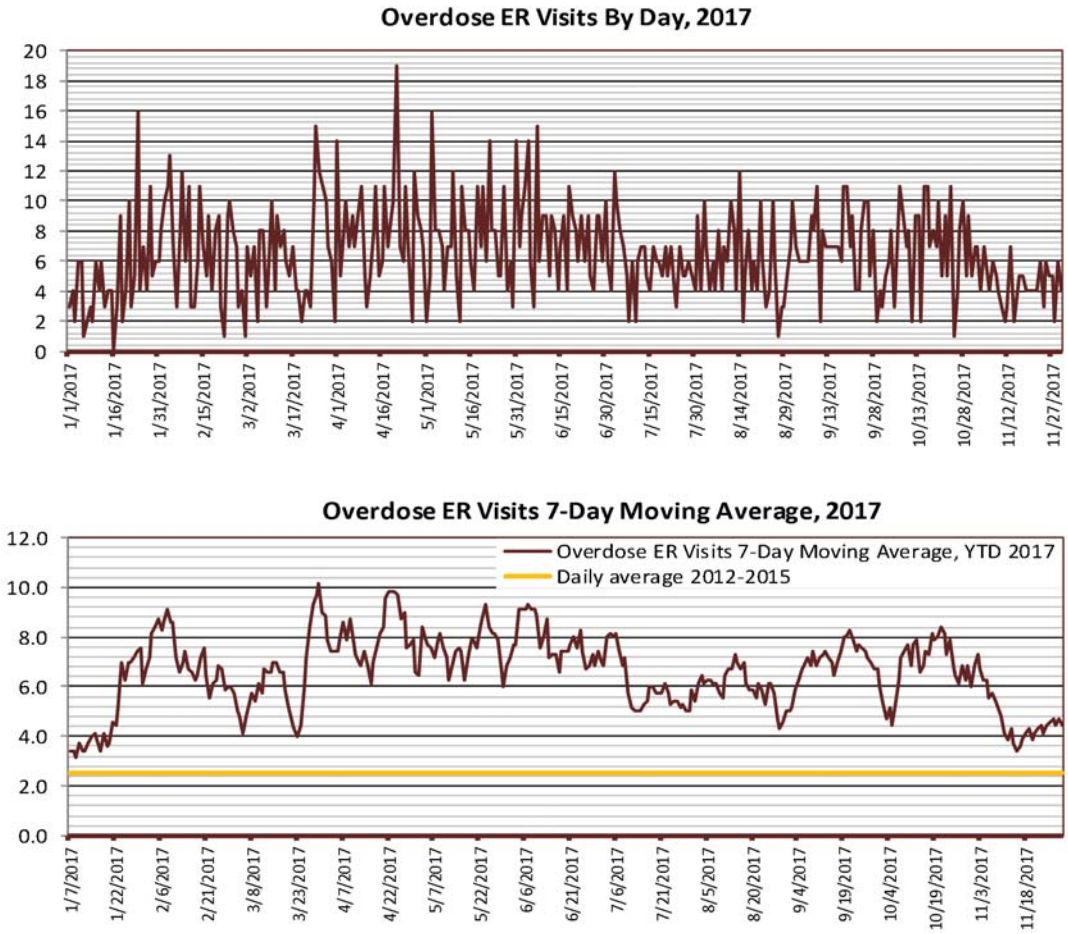

Figure 1a and 1b: Visits to the ER Due To Drug Overdoses By Day (top figure) and By Seven-Day Moving Average (bottom figure) -- Note: Because day-to-day total ER visits tend to fluctuate, a seven-day simple moving average chart is included to more clearly examine trends in the data. *Source: EpiCenter*

* *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 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	5%	3%	4%	2%	2%	2%	2%	1%	2%	1%	2%	2%	7%	6%	4%	5%	6%	9%	6%	5%	6%	9%	6%	5%
Monday	3%	3%	3%	3%	3%	1%	2%	1%	2%	3%	2%	5%	5%	6%	6%	5%	6%	7%	4%	8%	7%	4%	7%	8%
Tuesday	3%	2%	2%	2%	2%	1%	1%	2%	2%	3%	3%	5%	5%	5%	4%	5%	6%	8%	7%	11%	4%	6%	3%	7%
Wednesday	4%	2%	3%	2%	2%	2%	1%	2%	2%	1%	3%	4%	4%	5%	5%	8%	6%	6%	9%	7%	8%	4%	5%	5%
Thursday	5%	5%	5%	2%	2%	1%	2%	1%	2%	2%	4%	3%	5%	7%	2%	5%	6%	6%	6%	7%	7%	6%	6%	3%
Friday	4%	3%	2%	3%	2%	2%	1%	1%	2%	2%	3%	5%	3%	5%	6%	6%	6%	9%	5%	6%	6%	8%	4%	4%
Saturday	7%	5%	2%	2%	1%	1%	2%	0%	1%	2%	2%	4%	5%	7%	5%	5%	7%	6%	6%	6%	8%	6%	4%	4%
Total	5%	3%	3%	2%	2%	1%	1%	1%	2%	2%	3%	4%	5%	6%	5%	6%	6%	7%	6%	7%	7%	6%	5%	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, 2017 to November 30, 2017. 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.*

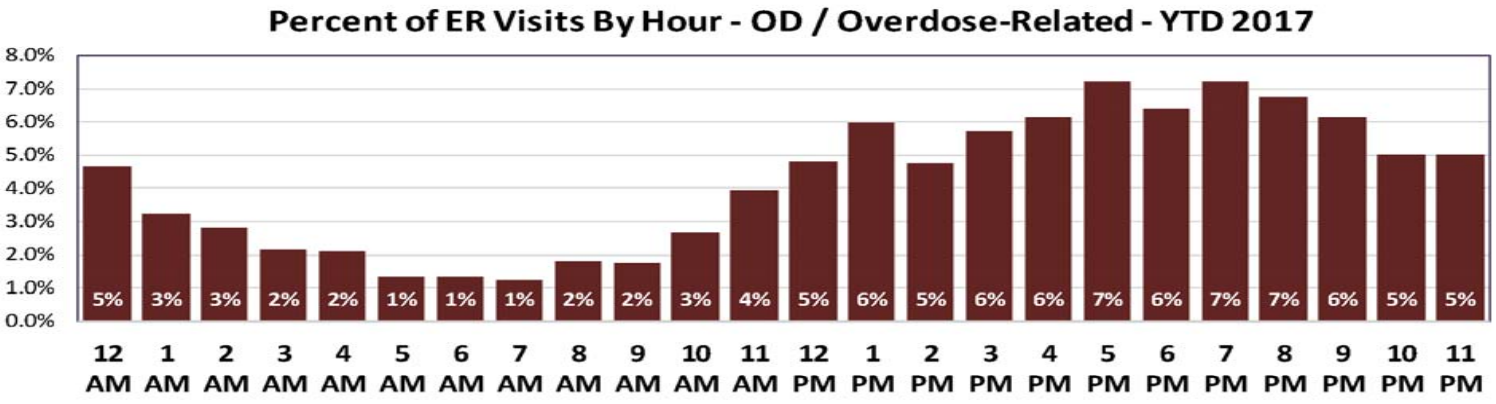

Figure 3: Summary Chart of ER Visits by Hour of the Day, January 1 - November 30, 2017
Source: EpiCenter and SCPH

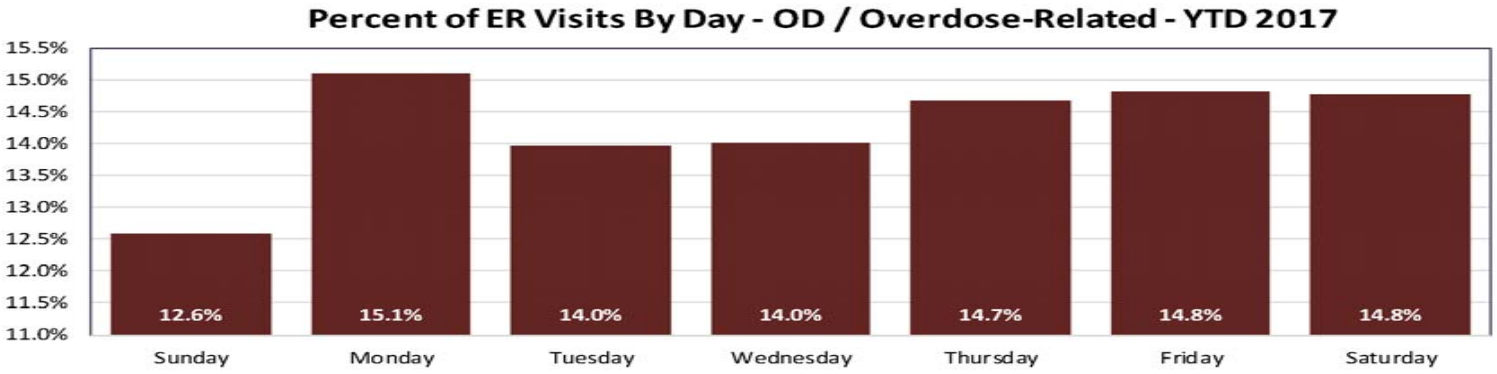

Figure 4: Summary Chart of ER Visits by Day of the Week, January 1 - November 30, 2017
Source: EpiCenter and SCPH

Demographic and Geographic Profile of Overdoses, YTD 2017

Age - People in the 25-34 and 35-49 age categories (39% and 29%, respectively) still have the highest percentage of overdoses. Another 15% were in the 18-24 category, while people age 50-64 accounted for 14%. People in the under 18 and over 65 categories accounted for a combined 4.3%.

Gender - Males made up 61% of overdoses so far in 2017; females 39%.

Geography* - Overdoses have happened throughout the county , with zip code 44203 having the highest number of overdoses at 300 (14% of all cases). Zip Code 44312 had the second-highest number of overdoses at 191 (9% of all cases), while 44306 had 162 cases, which was 7% of the county-wide total. Combined, Akron currently makes up 59% of all overdoses in 2017, while suburban communities make up the remaining 41%.

Number and Percent of Overdoses by Zip Code, January 1 - November 30, 2017

Row Labels	Count	Percent	Monthly trend
44203	300	14%	
44312	191	9%	
44306	162	7%	
44314	158	7%	
44305	151	7%	
44310	143	7%	
44221	108	5%	
44319	90	4%	
44301	87	4%	
44320	83	4%	
44313	69	3%	
44223	60	3%	
44311	60	3%	
44224	59	3%	
44685	59	3%	
44278	46	2%	
44307	41	2%	
44309	37	2%	
44067	35	2%	
44302	33	2%	
44333	27	1%	
44056	26	1%	
44308	22	1%	
44304	21	1%	
44216	21	1%	
44087	21	1%	
44303	19	1%	
44236	17	1%	
44321	13	1%	
44262	10	0%	
Grand Total	**2,185**	**100%**	

Emergency Room Visits Due to Drug Overdose, Summit County by Home Zip Code of Patient, All Summit County Provider Types, As Of 11/30/2017

Location	#	%
Akron	1,291	58.5%
Suburb	915	41.5%
Total	**2,206**	**100.0%**

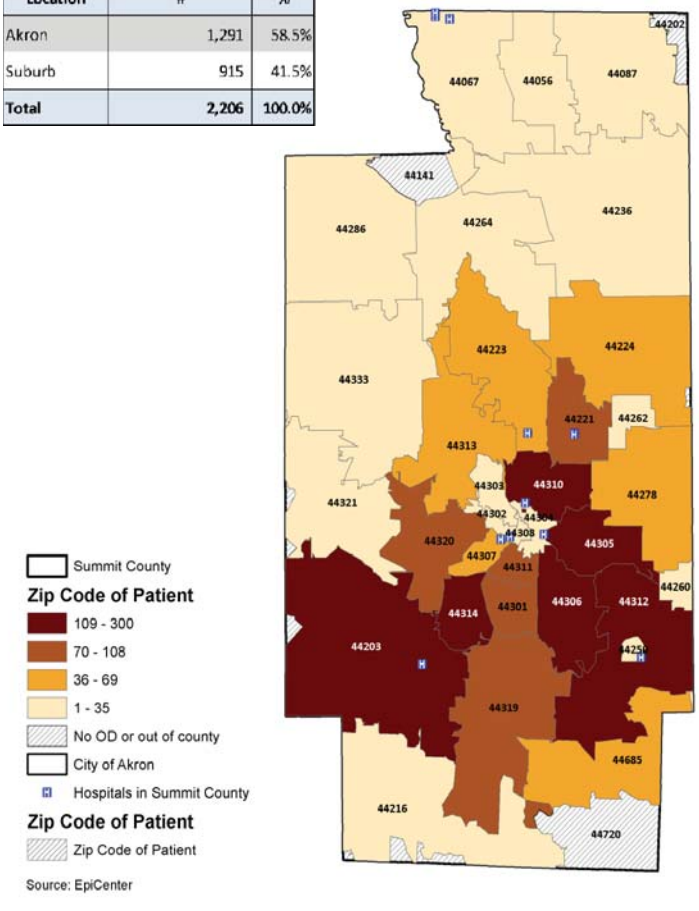

Figure 5: Number and Percent of ER Visits Due to Drug Overdoses, YTD 2017
Source: EpiCenter and SCPH. Note: Figures for zip codes with fewer than 10 overdoses are not shown to preserve confidentiality.

** - 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 2017 (cont)

Overdoses Per 1,000 by Zip Code (through November 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. As the map shows, the heaviest concentration of overdoses per 1,000 population come from zip codes in the center of the county, running roughly from Barberton to the west, through southern Akron, into the Springfield / Lakemore area to the east and zip code 44310 in northern Akron. These areas have consistently seen the highest rates per 1,000 since the overdose crisis began. Zip Code 44308 zip code has the highest rate of the zip codes with at least 20 total overdoses (23.9 per 1,000), while the 44311 and 44314 zip codes had overdose rates of 10.2 and 8.3 per 1,000, respectively. The lowest rate for zip codes with at least 20 total overdoses is 44087, with a rate of 1.0 overdoses per 1,000.

Change In Overdoses by Zip Code - Figure 6b shows the change in overdoses by patient zip code from the total of weeks 1-26 compared to weeks 27-48 of 2017. Among zip codes with 20 or more overdoses in 2017, 44067 had the fastest growth (33%). Zip Codes 44224 and 44303 also had relatively higher percentage growth in overdoses, 22% and 15%, respectively. Twenty-one zip codes experienced declines from the beginning of 2017.

Note: Though 44264 saw a huge percentage increase, there were fewer than 20 total overdoses, making the rate unstable. Data for 44264 is included to keep the map consistent, but readers should consider the data with caution.

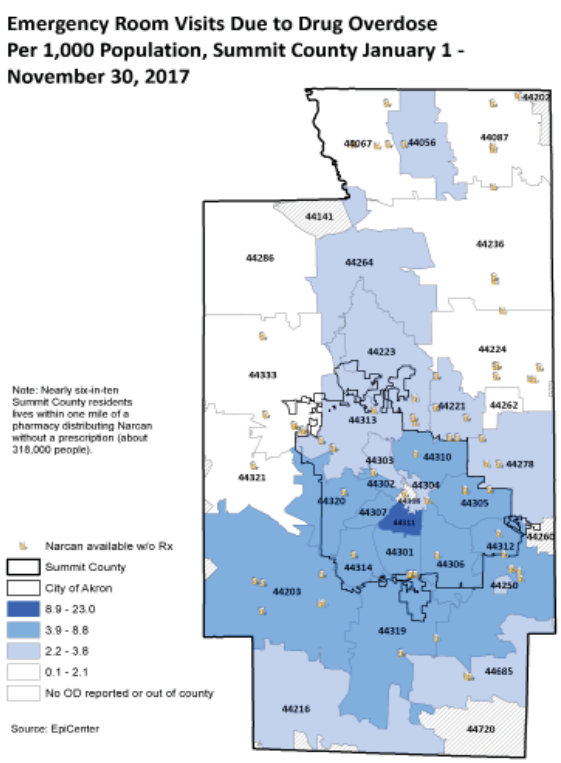

Figure 6a: Drug Overdoses Per 1,000 Population, YTD 2017
Source: EpiCenter, U.S. Census Bureau, Ohio Pharmacy Board (Narcan)

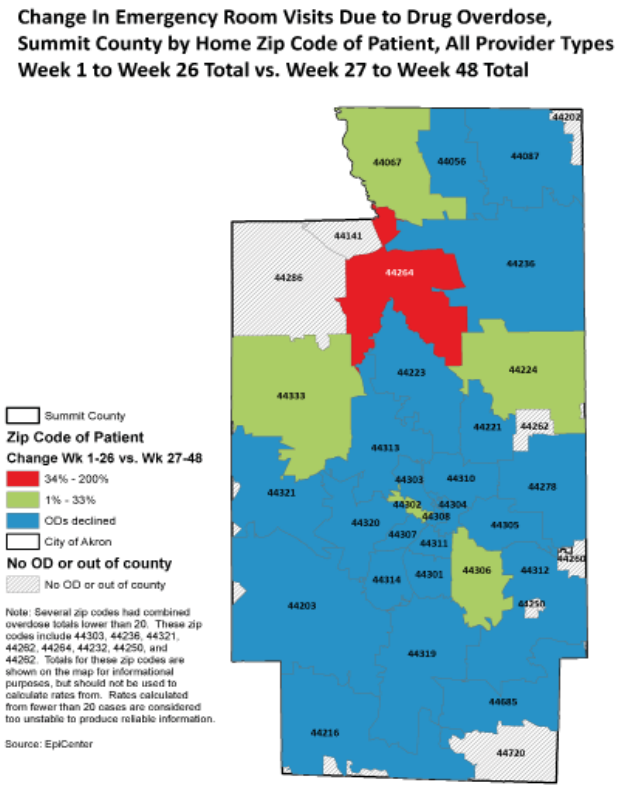

Figure 6b: Change in Number of Overdoses, Weeks 1-26 and Weeks 27-48
Source: EpiCenter

Overdose Deaths In 2016 (current as of November 30, 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 November 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 long delay in receiving certified overdose totals is due to the heavy burden the crisis is placing on medical examiners' offices around the state.

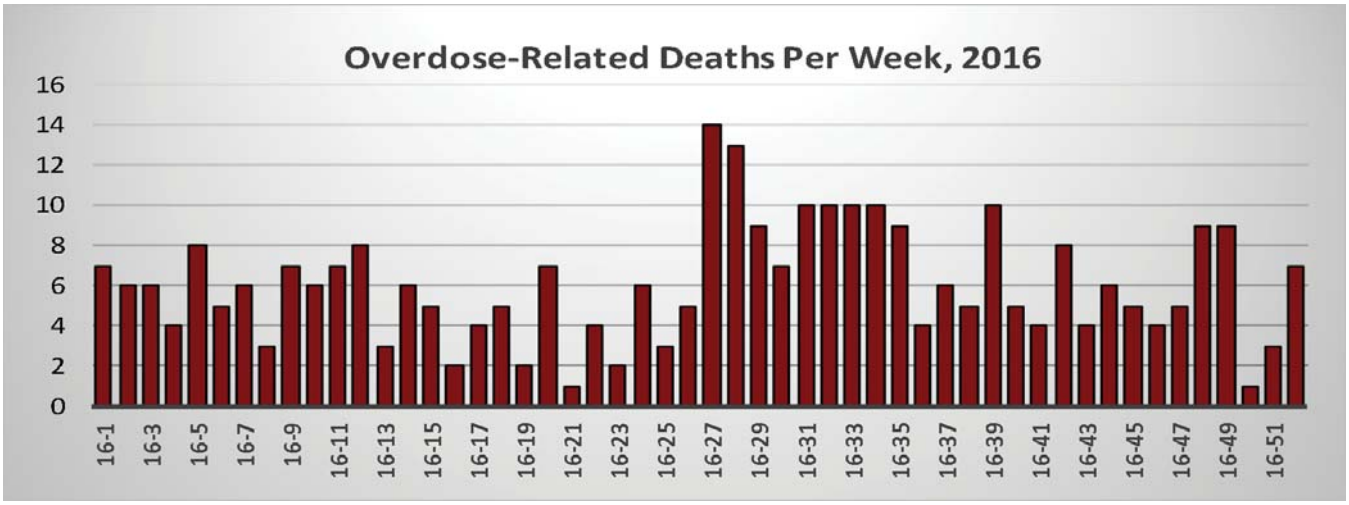

Figure 7: Drug Poisoning Deaths in Summit County, 2000 Through 2016
Source: SCPH Vital Statistics Death Certificate records

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 10/31/2017.

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

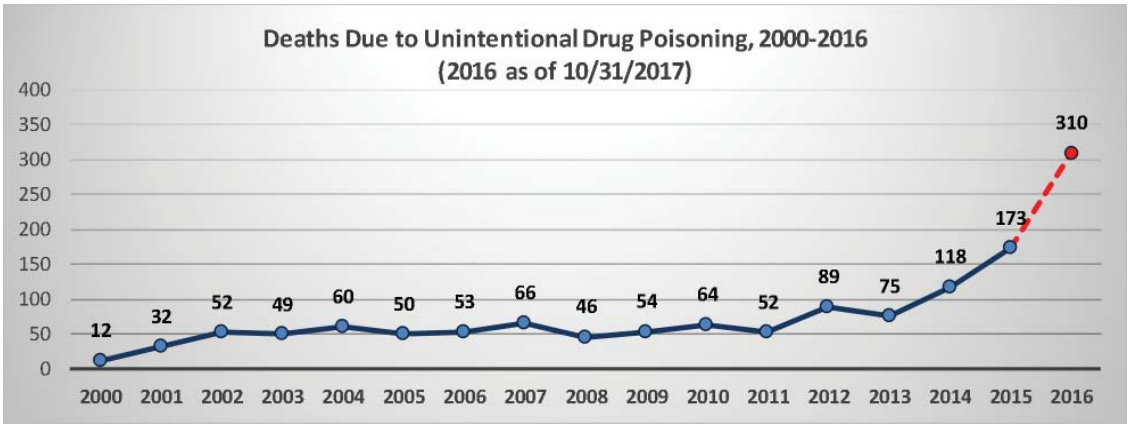

Figure 8: Drug Poisoning Deaths, 2000-2016 (primary underlying cause of death X40 - X44), *Source: Ohio Department of Health Death Records, SCPH* Note: ODH OD death figures for Summit County from 2015 have been revised from 131 to 178.

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.

However, the growth in 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 the heroin overdose epidemic in greater proportions than other races.

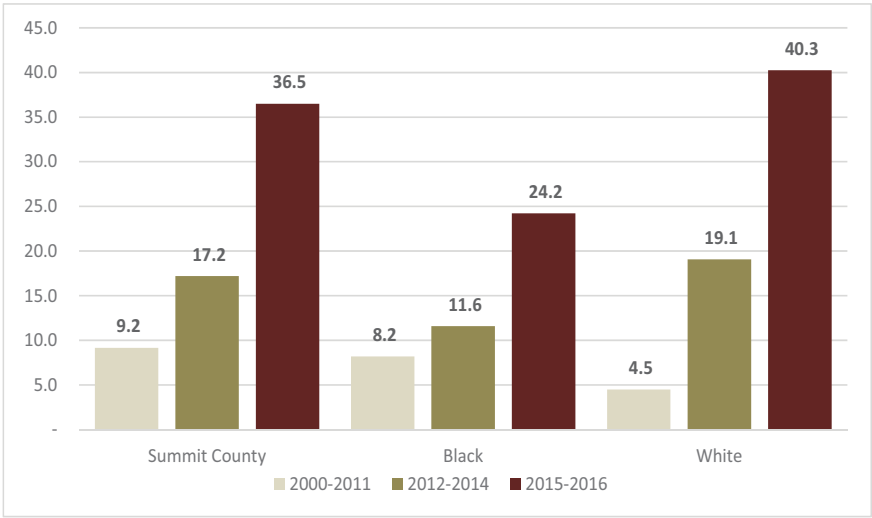

Figure 9: Age-Adjusted Drug Poisoning Deaths Per 1,000 Population, Total And By Race, 2000-2016 (primary underlying cause of death X40 - X44), *Source: Ohio Department of Health Death Records, SCPH*

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 the 298 drug poisoning deaths in 2016 for which detailed death certificate data is currently available.

- The biggest single age group is 25-34, which accounted for 27% of total drug poisoning deaths, closely followed by those in the 45-54 age group (24%).
- Nearly three-quarters of the deaths were male (69%) and the remainder female (31%).
- The vast majority of drug poisoning deaths were to those with an educational attainment level of some college or less (89%). Only 11% of deaths were to those with a 2-year degree or more.
- The vast majority of deaths in 2015 were white (86%), while 12% are African-American.

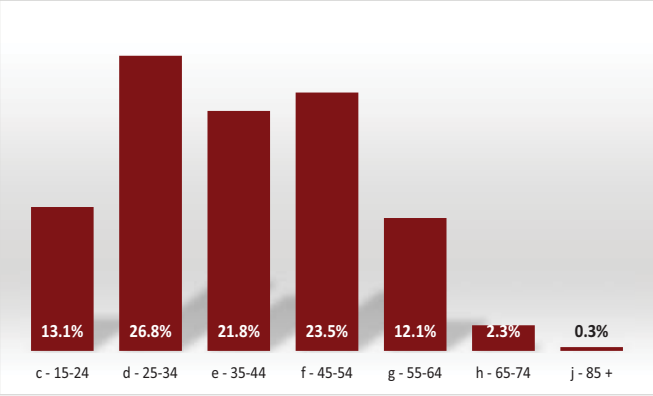

Figure 10: Age At Death of Persons Dying of Accidental Drug Poisoning, 2016, *Source: Ohio Department of Health Death Records, SCPH*

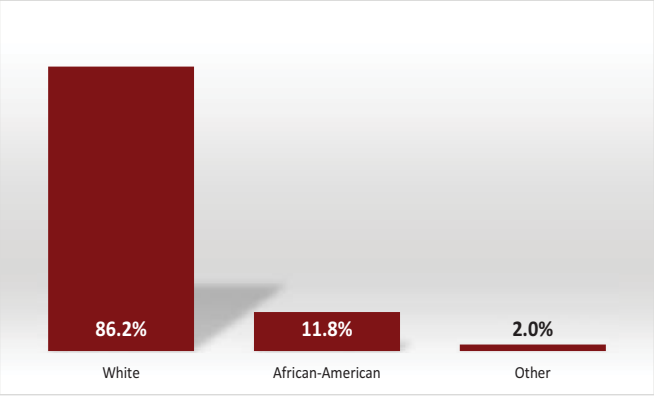

Figure 11: Race of Persons Dying of Accidental Drug Poisoning, 2016, *Source: Ohio Department of Health Death Records, SCPH*

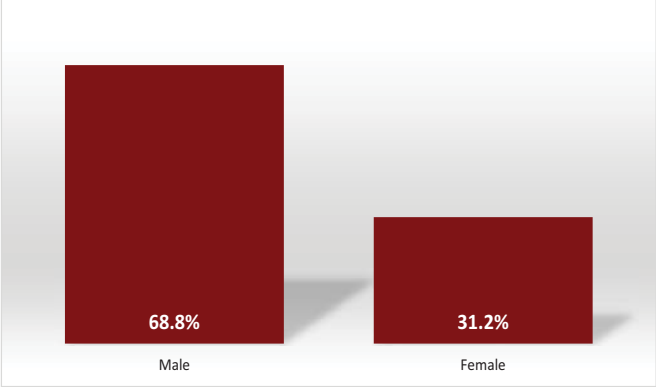

Figure 12: Sex of Persons Dying of Accidental Drug Poisoning, 2016, *Source: Ohio Department of Health Death Records, SCPH*

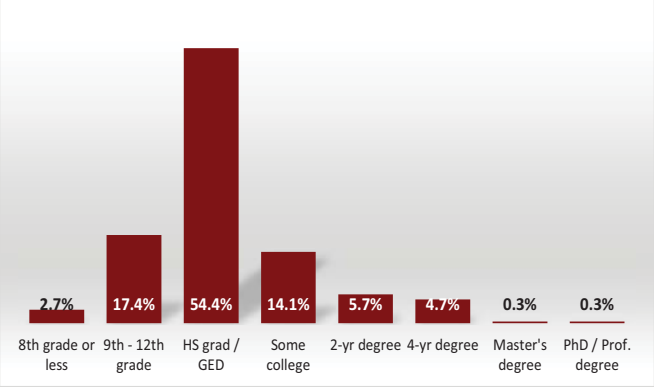

Figure 13: Educational Attainment of Persons Dying of Accidental Drug Poisoning, 2016, *Source: Ohio Department of Health Death Records, SCPH*

[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.*