# Annual Report on Substance Abuse & Mental Health 2018

**OVERVIEW**

This annual report provides an epidemiological summary of mental health and substance abuse issues in the county. It provides counts and rates of health events and attempts to provide context of how those numbers compare across demographic groups, residential areas, and time. The report focuses on substance abuses issues, such as unintentional overdoses, alcohol-related accidents, and drug withdrawals. The report also evaluates suicidal activities and ideation.

**CASE DEFINITION**

ED (emergency department) visit data were retrieved from the state's EpiCenter surveillance tool. Cases were included in the overdose analysis if the case notes for the patient included the term "overdose" or "OD." Where specified, traumatic injuries due to drugs caused by suicide attempts, adverse reactions to normal medications, or accidental overdose of over-the-counter or common drugs such as Tylenol or insulin were excluded from analysis. Cases were included for self-harm if case notes referenced "si", "self-harm", or "intentional" overdoses. Cases were included the alcohol analysis if the case notes referenced "alcohol" or "ETOH". Finally, cases were included in the withdrawal analysis if case notes indicated "withdrawal" or "detox" for the reason behind their visit. Mortality data was collected from the Ohio Department of Health's Public Health Information Warehouse. These data were provided by the Ohio Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations or conclusions. Deaths were categorized based on their coroner codes.

Data were analyzed through Microsoft Excel, EpiInfo, SPSS, and ArcGIS.

**NOTE ON COUNTS**

Data in this report are presented primarily as counts of cases or as incidence rates per 100,000 persons. Incidence rates are the number of new cases of a disease within a specified time period divided by the total population at risk in that time period. Annual rates were calculated by using annual population estimates provided by the Ohio Department of Health, or the U.S. Government (American Community Survey.

Case data numbers are reported with respect to limit disclosure of confidential personal information. When a denominator minus numerator is at least 10, then it was judged there was a high likelihood of identity disclosure to be sufficiently small. If there were fewer than 5 cases, data was either withheld (when reporting geographic regions), or collapsed to make larger categories (when reporting age/gender breakdowns).

All data is subject to numerous limitations. First, case notes in the EpiCenter tool are limited and often do not include full details of ED visit, such as drug used or intent of use. Second, case notes are recorded at patient intake and may change from a patient's initial examination to their final diagnosis. Moreover, the analysis has built-in biases, as different hospitals systems may have differing policies on how case notes are recorded, or how staff is trained (e.g. in determining suicidal intent). Additionally, policies may have changed over time. This creates doubts about comparing rates over time, or across regions. As a result, any conclusions based on this report must consider the limitations of the data.

Any questions can be directed to Chris Mundorf, Epidemiologist at Portage County Health District (cmundorf@portageco.com). Portage County bears the responsibility for any analysis, interpretation, or conclusion of these data.
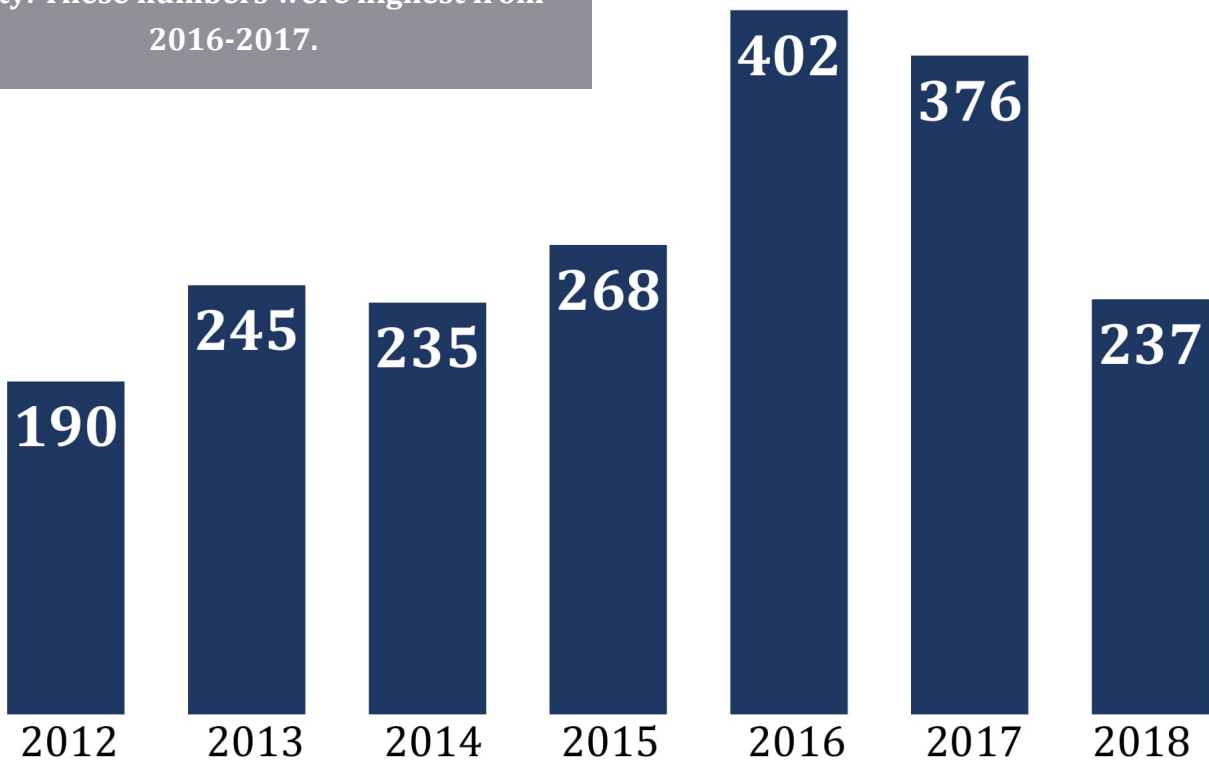
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# UNINTENTIONAL OVERDOSES

NON-FATAL

Several hundred people go to the ED for unintentional overdoses each year in Portage County. These numbers were highest from 2016-2017.

| Year | Visits |
|------|--------|
| 2012 | 190 |
| 2013 | 245 |
| 2014 | 235 |
| 2015 | 268 |
| 2016 | 402 |
| 2017 | 376 |
| 2018 | 237 |

**Unintentional Overdose ED Visits Portage County, OH, 2012-2018**

# Weekly ED visits in Portage County since 2012 with 12-week rolling average

ER visit totals along with a rolling 12-week average (**the bold red line**) indicate seasonal and annual trends in overdoses. **2018 seems to have been more similar to 2014 than 2016-2017.**
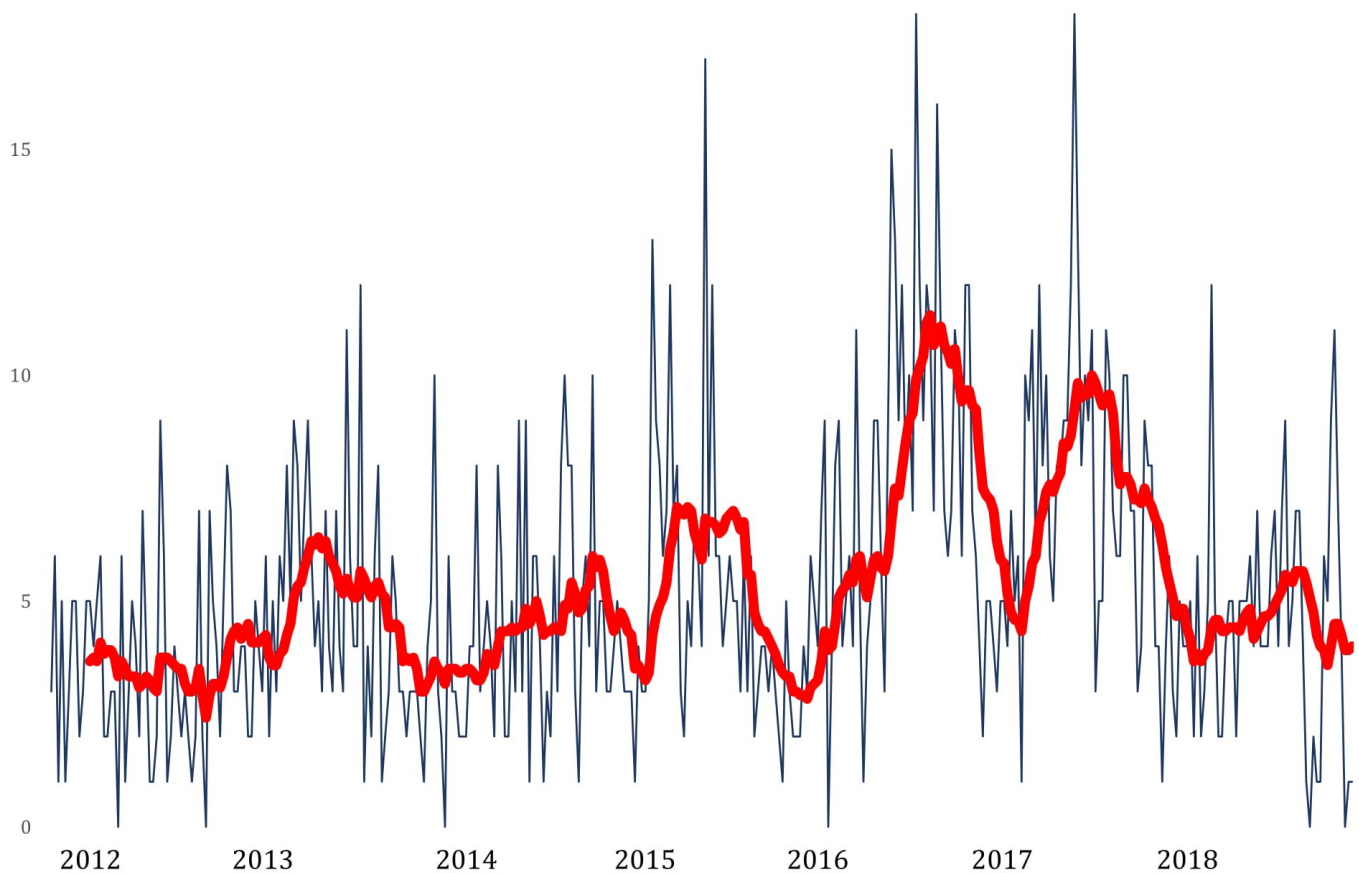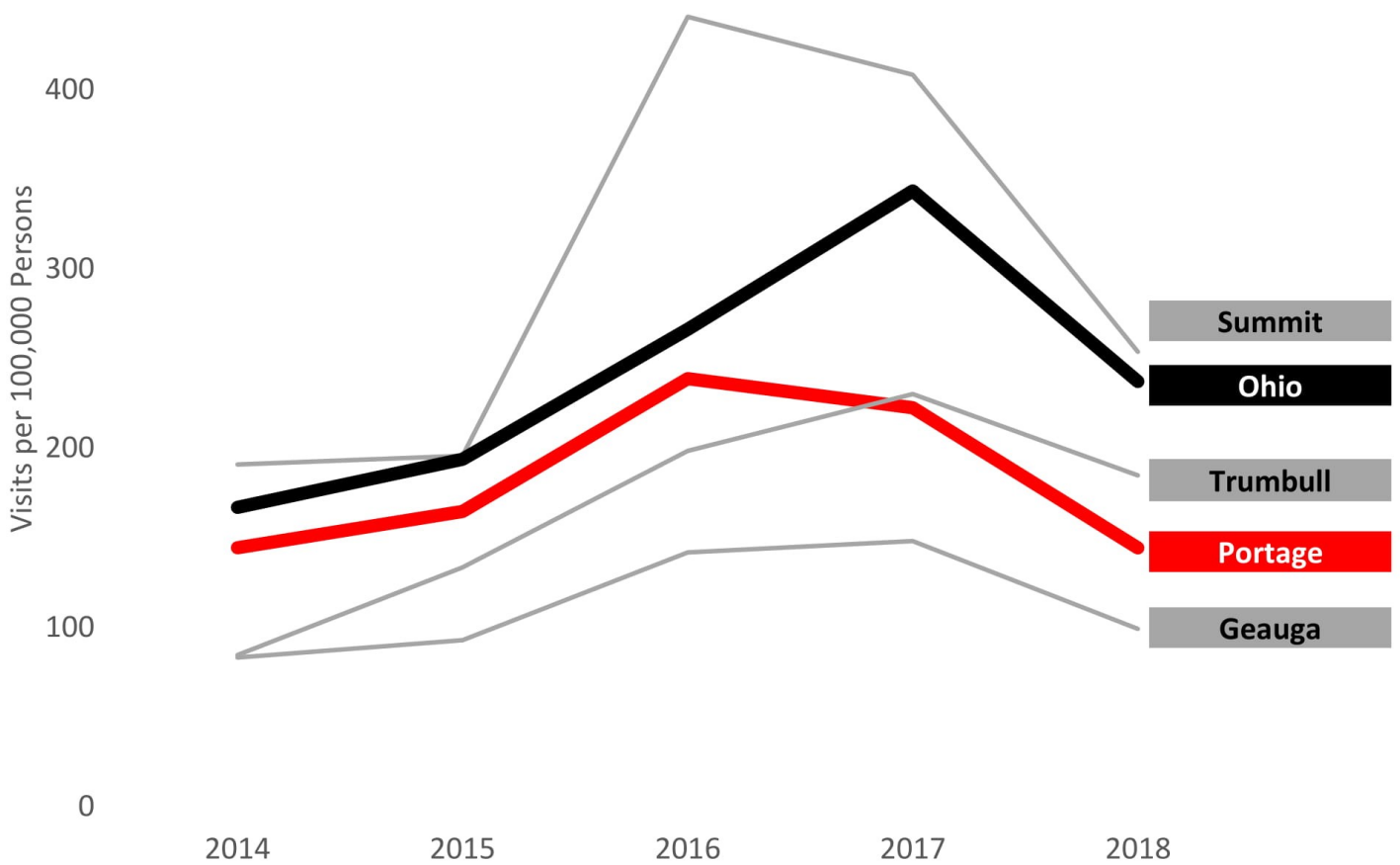
# Rate of ED Visits for Unintentional Overdoses
# per 1,000 Visits by Month,
# Portage County (with rolling 6-month average) & Ohio

The proportion of ED visits each month that were due to accidental overdoses is charted below. The ED proportion for Ohio (**the bold black line**), the ED proportion for Portage County (**the dotted red line),** and a rolling 6-month average of Portage County (**the bold red line**) all indicate a growth in 2016-2017. They also show a notable divergence in state and county overdoses starting at the end of 2016. This has mostly gone away in the last year.

For most of 2017, more than 1 in every 100 ED visit in Ohio was due an unintentional overdose, this rate was **~2x greater** than in Portage County

Rate of ED Visits for Overdoses per 1,000 ED Visits

14
12
10
8
6
4
2
0

2014    2015    2016    2017    2018
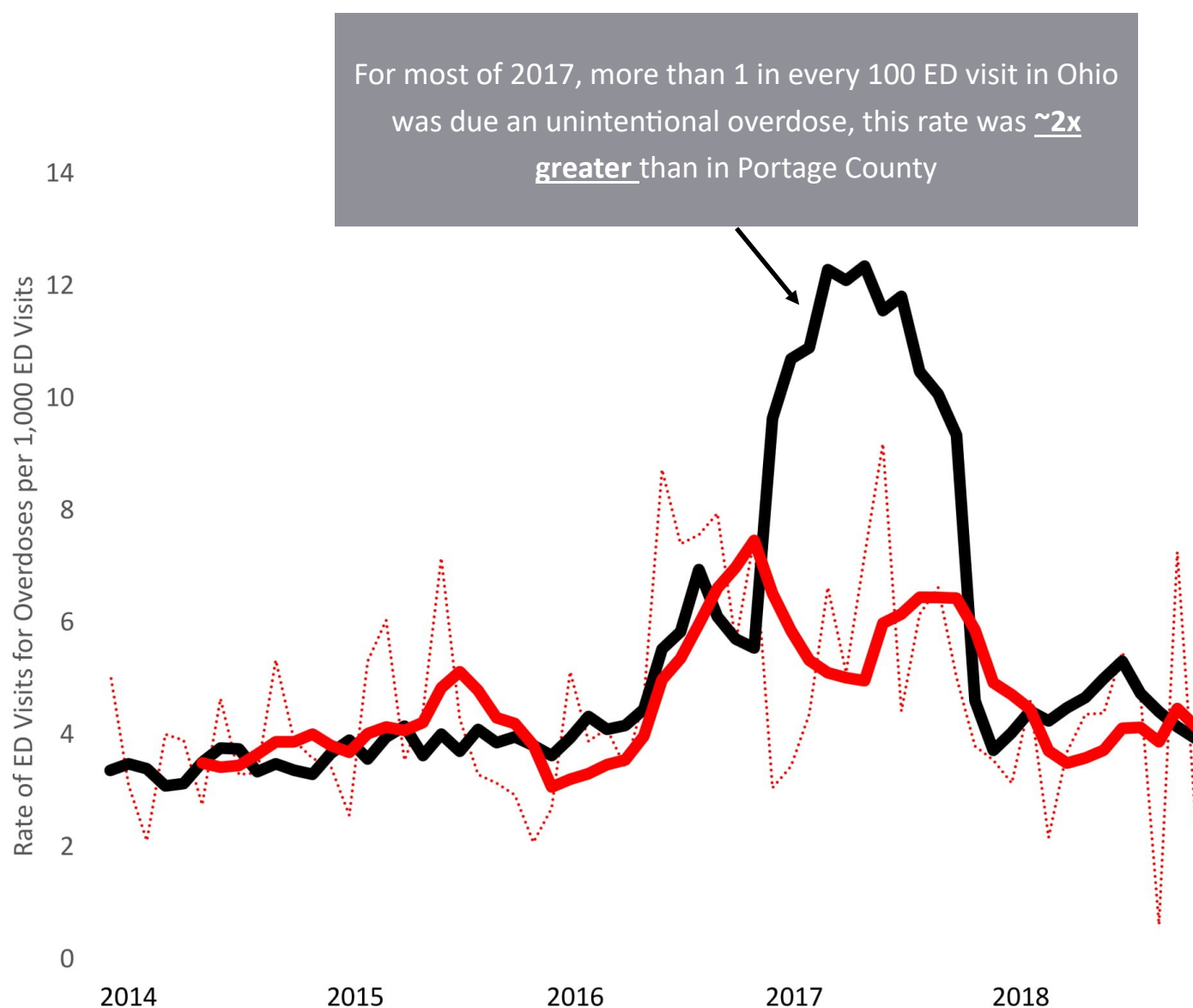
# Annual Rate of ED Visits for Unintentional Overdoses per 100,000 Persons, 2014-2018

Annual rates for Portage County (**the bold red line**), Ohio (**the bold black line**), and regional counties are compared below. Portage has consistently been below the state average, but this gap has grown starting in 2016. During the same time, Summit County experienced a surge in the rate.



In 2018, Ohio had a rate (237 per 100k) that was **1.6 x higher** than
Portage County (144).
While Summit County (254 ) was **1.8x higher** than Portage.

# Annual Rate of ED Visits for Unintentional Overdoses per 100,000 Persons, by Ohio County, 2018
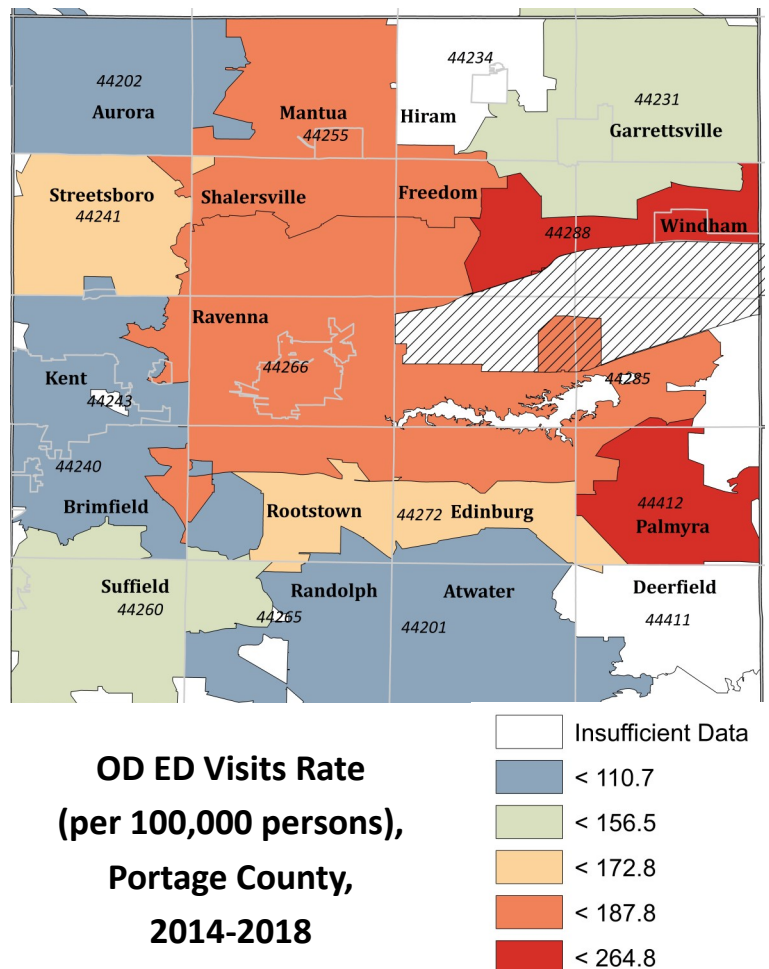
In 2018, the highest rates of overdose ED visits were focused in the SW region of the state. Marion (518.7 per 100k) had a **3.6x higher rate** than Portage (144.2 per 100k). Ashtabula (312.9) had a **2.2x higher rate.**
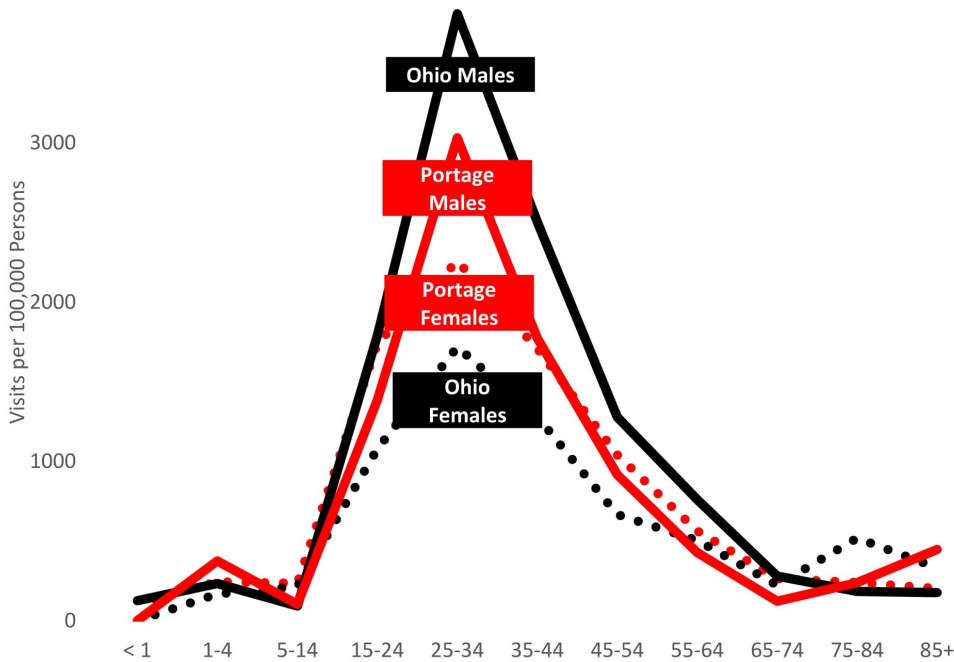


Legend:
- Insufficient Data
- < 162
- < 212
- < 253
- < 305
- < 518
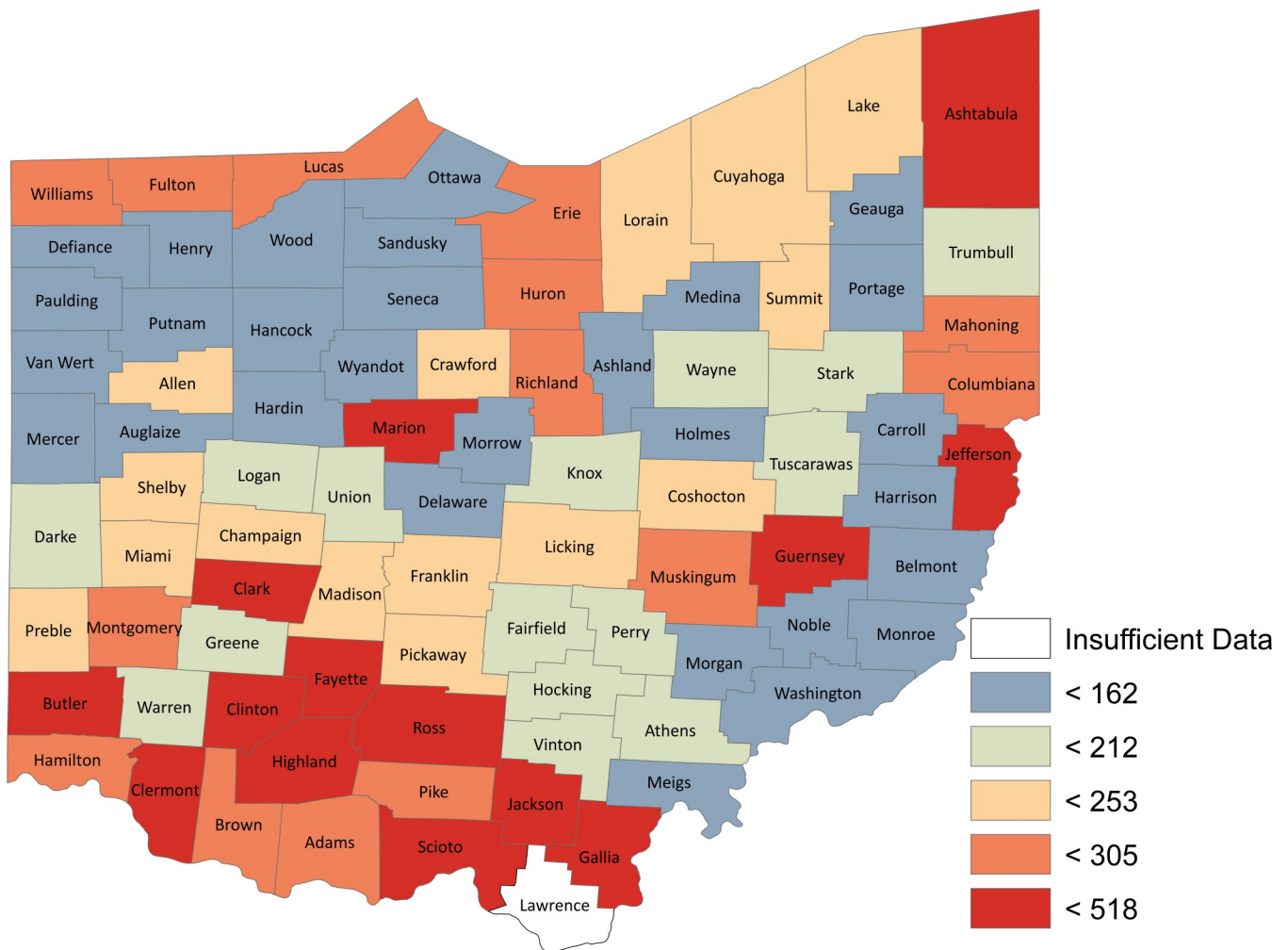
The 44266 zip had the highest rate of ODs in 2018 (63 per 100k), which was **1.5x greater** than the next highest zip code of 44240 (42).



**OD ED Visit Rate**
**(per 100,000 persons),**
**Portage County**
**2018**

Legend:
- < 5
- < 9
- < 13
- < 21
- < 42
- 63
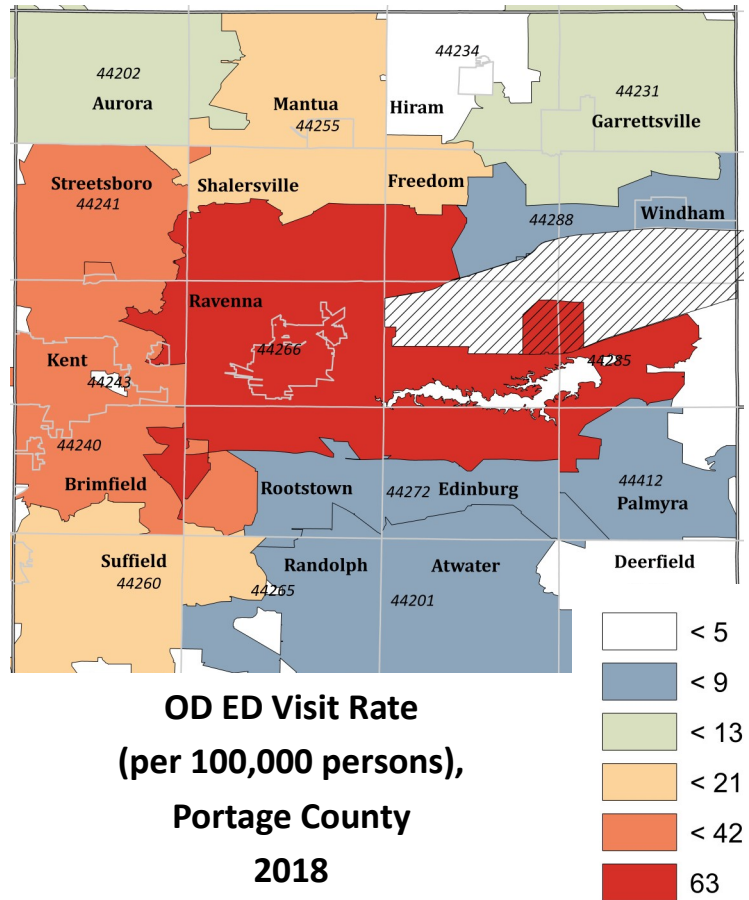
Since 2014, 44412 has experienced the highest rate in the county (264.8 per 100k), which was **1.2x higher** than the next highest zip code of 44288 (218.6).
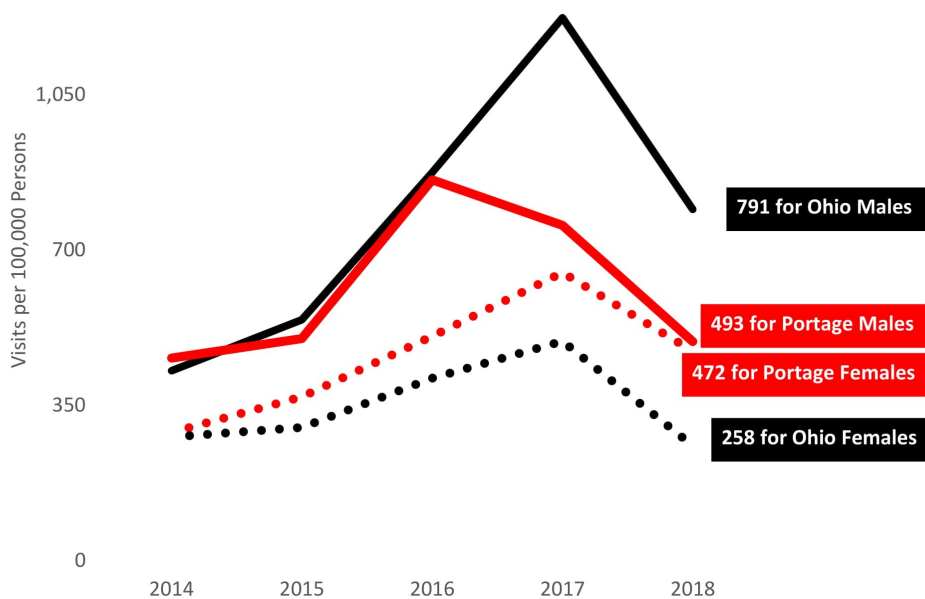


**OD ED Visits Rate**
**(per 100,000 persons),**
**Portage County,**
**2014-2018**

Legend:
- Insufficient Data
- < 110.7
- < 156.5
- < 172.8
- < 187.8
- < 264.8

# UNINTENTIONAL OD'S BY AGE & SEX



**Ohio Males**

**Portage Males**

**Portage Females**

**Ohio Females**

Visits per 100,000 Persons

3000

2000

1000

0

< 1   1-4   5-14   15-24   25-34   35-44   45-54   55-64   65-74   75-84   85+

**OD ED Visits Rate (per 100,000 persons), By Age Group, Portage County and Ohio by Sex, 2014-2018**

From 2014-2018, 25-35 year-olds have experienced the highest rate of ODs than any other age group. Ohio Males had the highest rate in this age group (3,810.8 per 100k), which was **1.26x higher** than Portage males (3,031.3 per 100k).



Visits per 100,000 Persons

1,050

700

350

0

2014   2015   2016   2017   2018

**791 for Ohio Males**

**493 for Portage Males**

**472 for Portage Females**

**258 for Ohio Females**

**OD ED Visits Rate (per 100,000 persons), Among 25-34 Year-Olds, Portage County and Ohio by Sex, 2014-2018**

Looking at the change in rate among those 25-34, the rate deviated between Portage and Ohio males in 2016, with the Ohio male rate in 2017 (1,223 per 100k) being **1.6x higher** than Portage males (755 per 100k).

# DEATHS DUE TO UNINTENTIONAL OVERDOSES
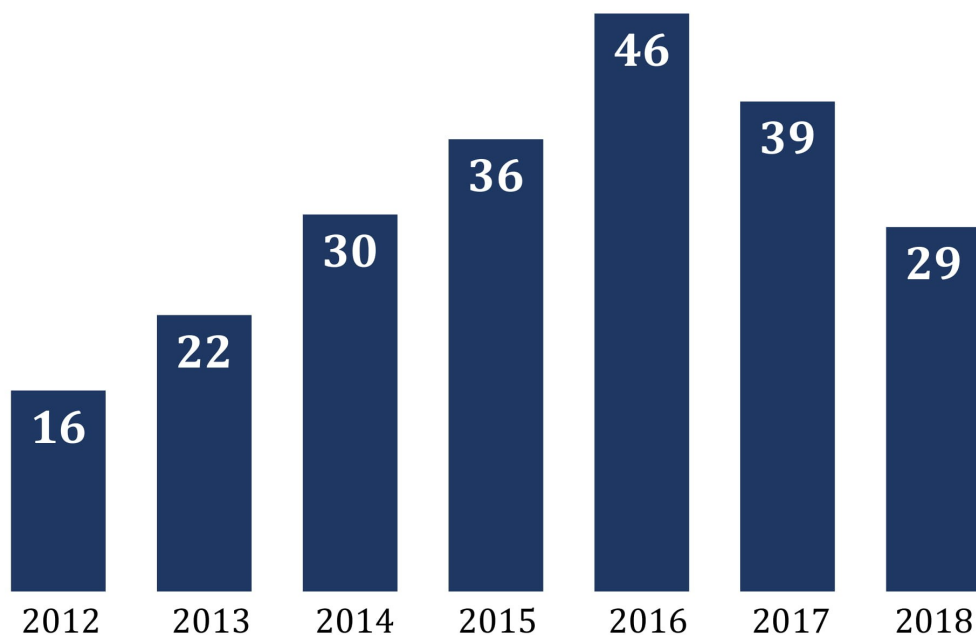
**Unintentional Overdose Deaths, Portage County, OH, 2012-2018**

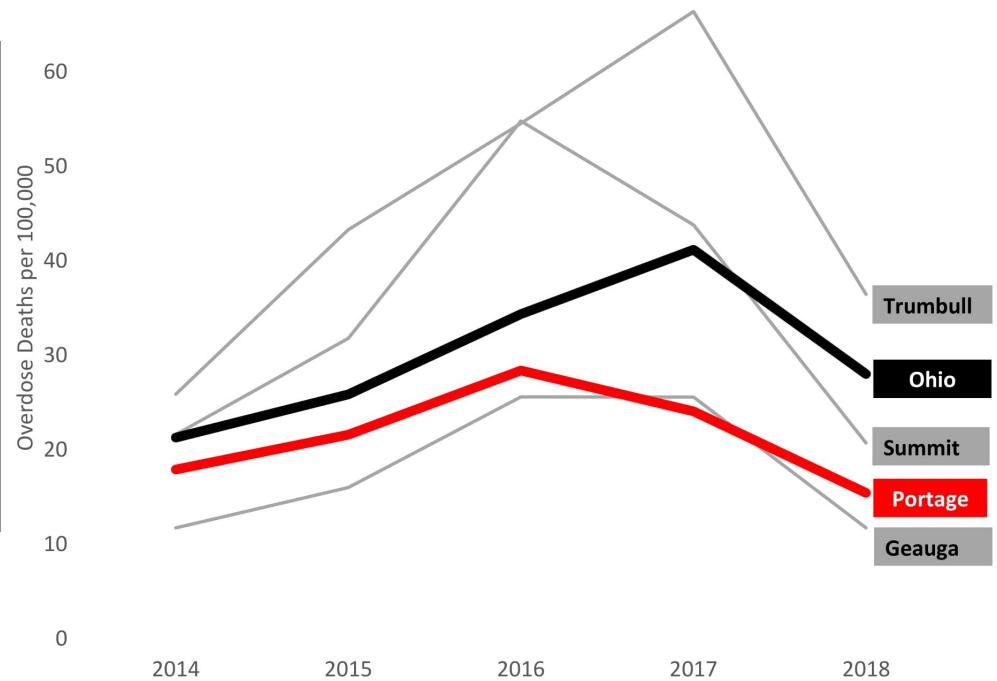| Year | Deaths |
|------|--------|
| 2012 | 16 |
| 2013 | 22 |
| 2014 | 30 |
| 2015 | 36 |
| 2016 | 46 |
| 2017 | 39 |
| 2018 | 29 |

The 2018 rate (deaths per 100k) was highest in the Southern part of the state. Trumbull (38.3) and Mahoning (36.5) had rates **2.5x and 2.4x higher** (respectively) higher than Portage in 2018 (15.4).
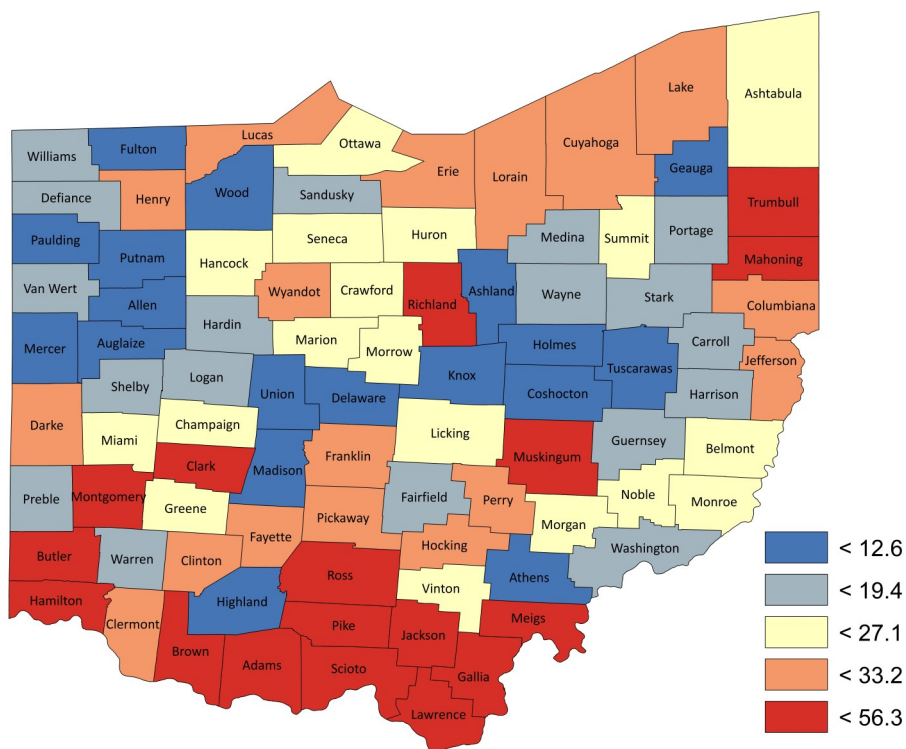
**Unintentional Overdose Death Rate (per 100,000 persons), Ohio Counties, 2018**

Legend:
- < 12.6
- < 19.4
- < 27.1
- < 33.2
- < 56.3

## Rate of Deaths Due to Unintentional Overdoses
## (rate per 100,000 Persons)
## By Year, 2014-2018

Portage has consistently been below the state average in OD deaths. In 2018, the state rate (28.0) was **1.8x higher** than Portage (15.4)

**Overdose Deaths per 100,000**

| | Legend |
|---|---|
| | Trumbull |
| | Ohio |
| | Summit |
| | Portage |
| | Geauga |

60
50
40
30
20
10
0

2014    2015    2016    2017    2018

## Annual Ratio of Unintentional Overdoses ED visits to
## Unintentional Overdoses Deaths, by Select Counties and Ohio,
## 2014-2018

In 2018, for every OD death there was 9.4 ED visits for ODs. This ratio was slightly higher than Ohio (8.5:1). Trumbull County had the lowest ratio of 5.1 ED visits for every OD death.

**Ratio ED Visits to Overdose Deaths**

Summit County:
12.3 overdoses per death

Portage County:
9.4 overdoses per death

Ohio
8.5 overdoses per death

Geauga County:
8.5 overdoses per death

Trumbull County:
5.1 overdoses per death

12
10
8
6
4
2
0

2014    2015    2016    2017    2018

**Death Rate (per 100k) Due to Overdoses by Zip Code, Portage County, 2007-2018**

Legend:
- Insufficient Data
- < 142.4
- < 153.6
- < 182.7
- < 279.6
- 340.0

The zip code of 44288 had the highest rate of OD death (340.0 per 100k) which was **1.24x higher** than the next highest zip code of 44266 (259.1 per 100k)



**Death Rate (per 100k) Due to Overdoses by Census Tract, Portage County, 2007-2018**

Legend:
- Insufficient Data
- < 133.8
- < 203.1
- < 261.5
- < 368.1
- 503.4
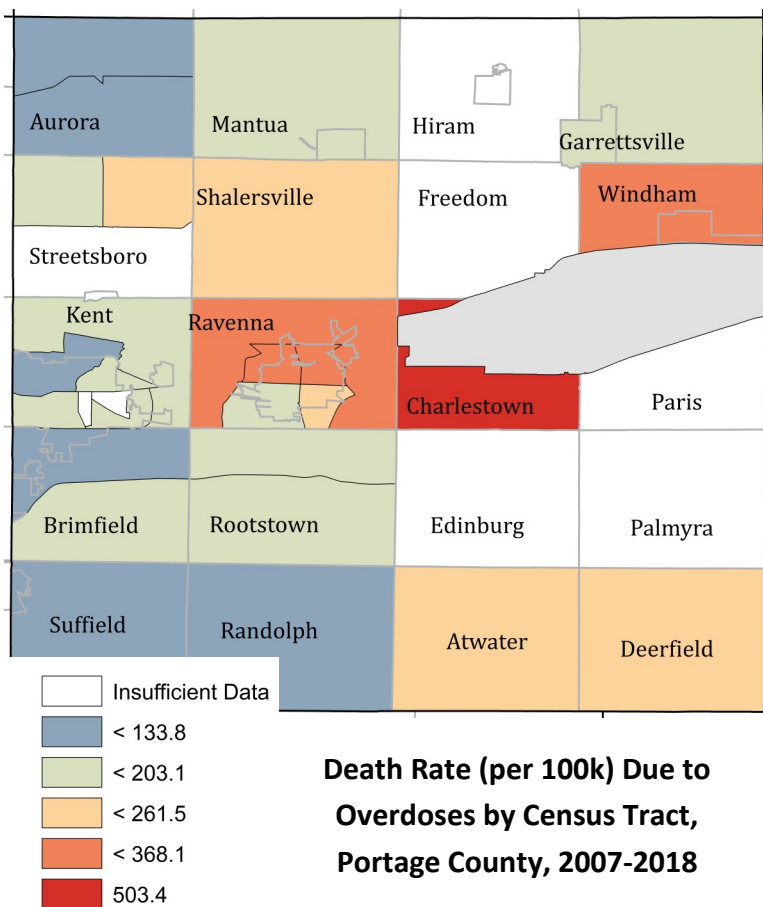
When presenting deaths by census tract, it appears Charlestown Township experienced the greatest rate of OD death (503.4 per 100k) since 2007, which is **1.39x higher** than the next highest census tract of Windham (363.1 per 100K).

# RISK FACTORS OF DRUG OVERDOSE DEATHS
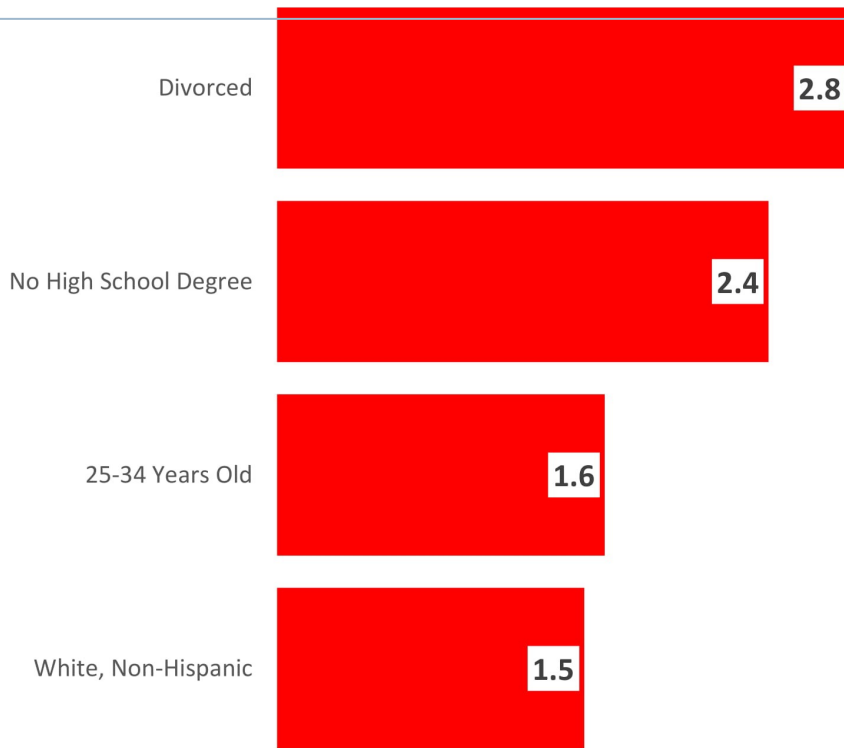
**Relative Risks of Drug Overdose Deaths Among Portage County Women, 2007-2018**

| Category | Relative Risk |
|---|---|
| Divorced | 2.8 |
| No High School Degree | 2.4 |
| 25-34 Years Old | 1.6 |
| White, Non-Hispanic | 1.5 |

From 2007-2018, Portage County men had 2.1x greater risk of dying from a drug overdose than women. Within each gender, there are strong risk factors associated with marital status, SES, race, and age.
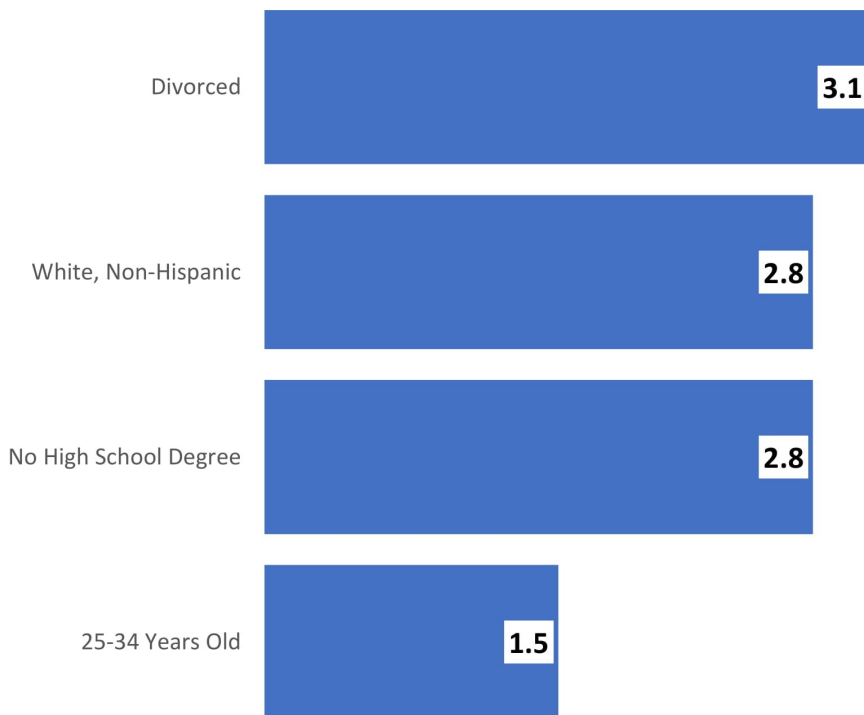
**Relative Risks of Drug Overdose Deaths Among Portage County Men, 2007-2018**

| Category | Relative Risk |
|---|---|
| Divorced | 3.1 |
| White, Non-Hispanic | 2.8 |
| No High School Degree | 2.8 |
| 25-34 Years Old | 1.5 |

Since 2007, Portage County men who were divorced had a 3.1x greater risk of overdose death than men who were not divorced.

# ED VISITS ASSOCIATED WITH ALCOHOL

## Weekly rate (per 100k) of ED visits associated with alcohol, Portage County and Ohio, 2014-2018

The graph below shows the weekly rate of ED visits due to alcohol a rolling 12-week average for Portage County (**the bold red line**) and Ohio (**the bold black line).** While rates have increased for Ohio, they have been steady for Portage County. The county rate typically ranges from 1.5 –2.0 visits per week for every 100,000 resident.
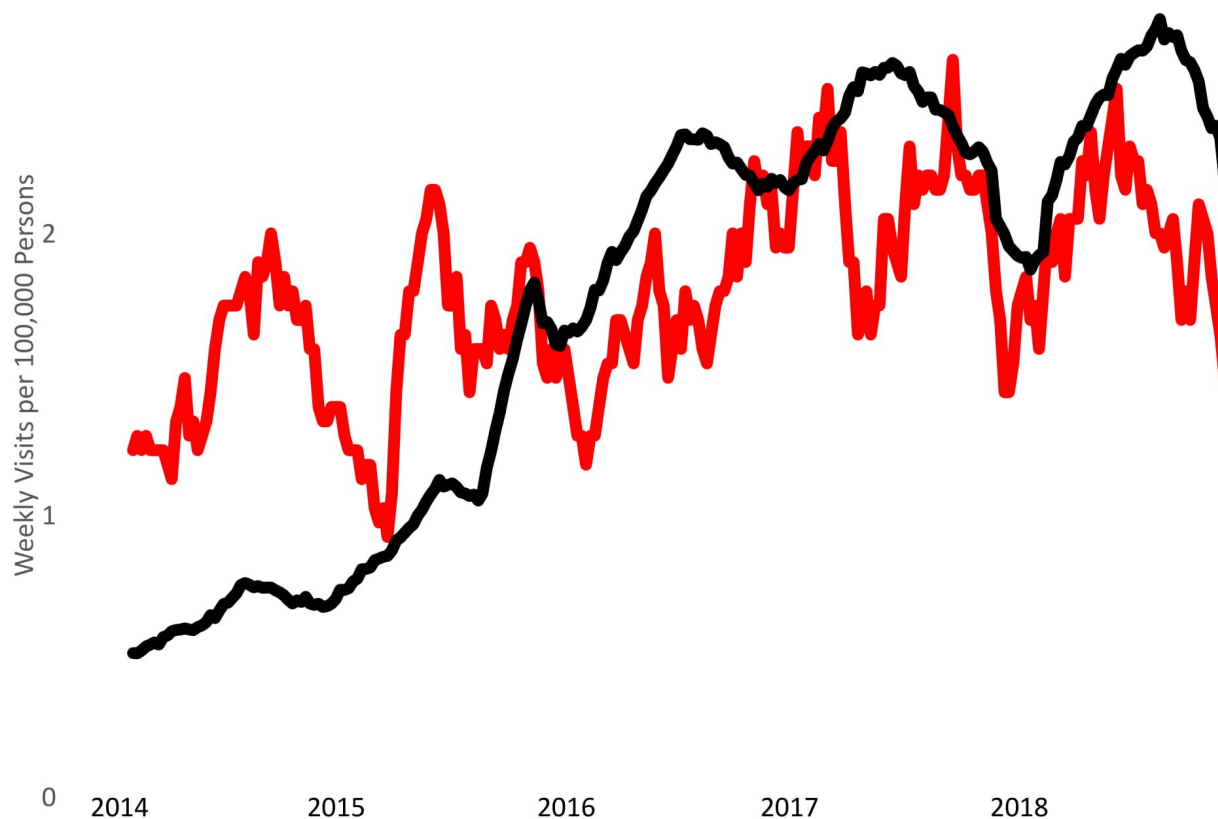
Huron County (277.0 per 100k) had the highest rate of alcohol visits, which was **2.7x greater** than Portage County's rate (102.9).
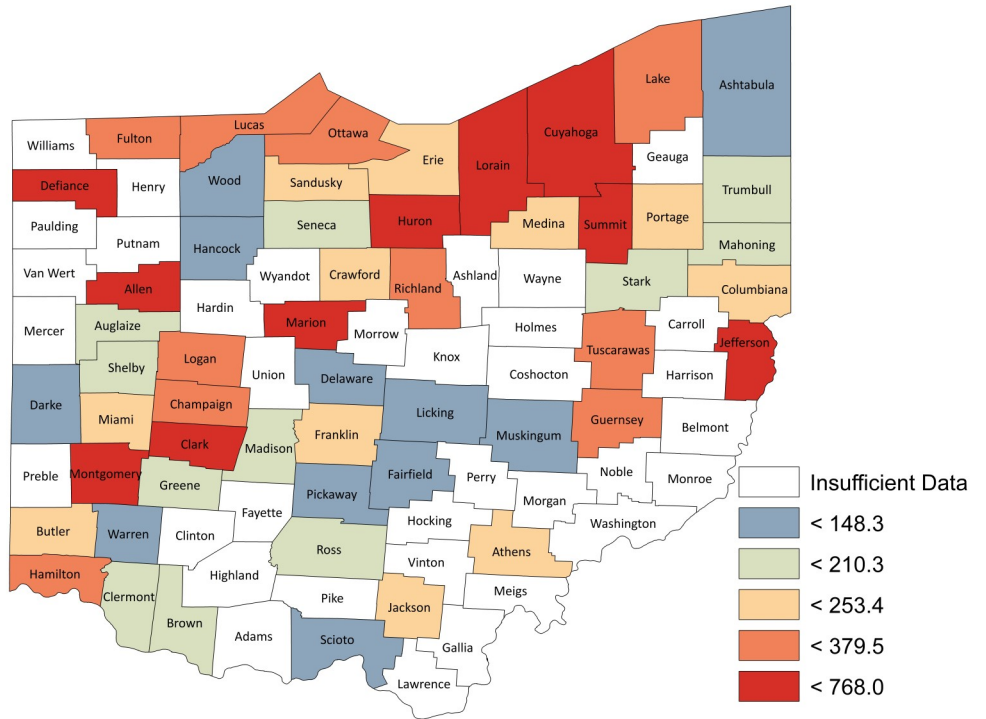


**Rate of ED Visits due to Alcohol (per 100,00 Persons)**
**by Ohio County, 2018**

The Ohio rate has grown 274% since 2014. Ohio's rate is 1.2x greater than Portage in 2018. Summit County has grown substantially since 2014, and has a rate (224.1) that is **2.2x greater** than Portage.
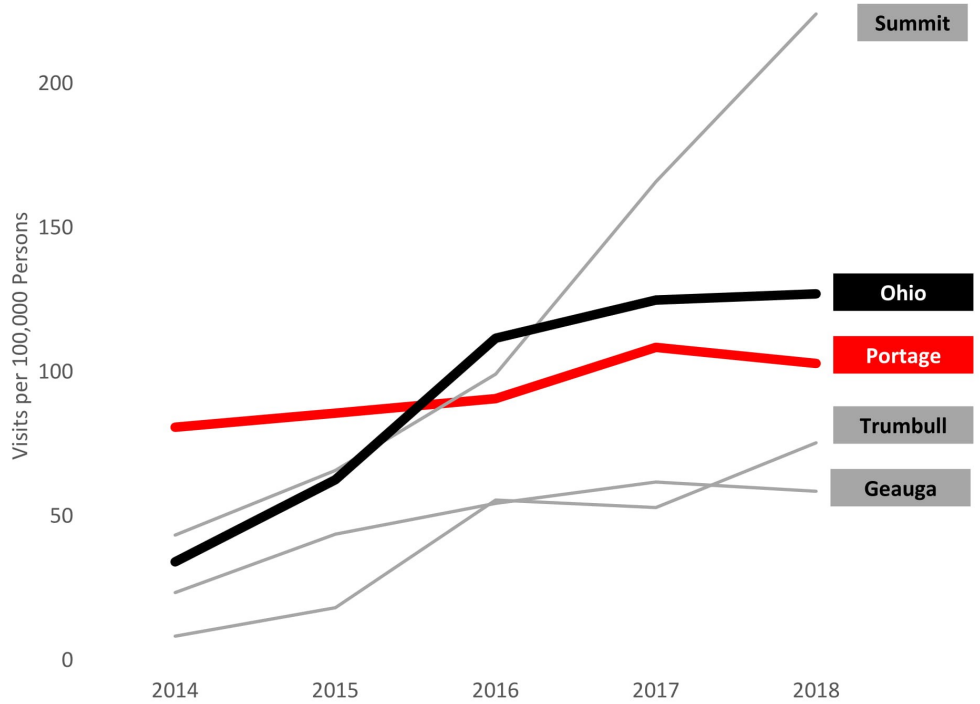


**Rate of ED Visits due to Alcohol (per 100,00 Persons)**
**by Select Ohio Counties, 2014-2018**

Rate of ED Visits due to Alcohol (per 100,00 Persons)
by Age Group and Sex, Portage County and Ohio, 2014-2018
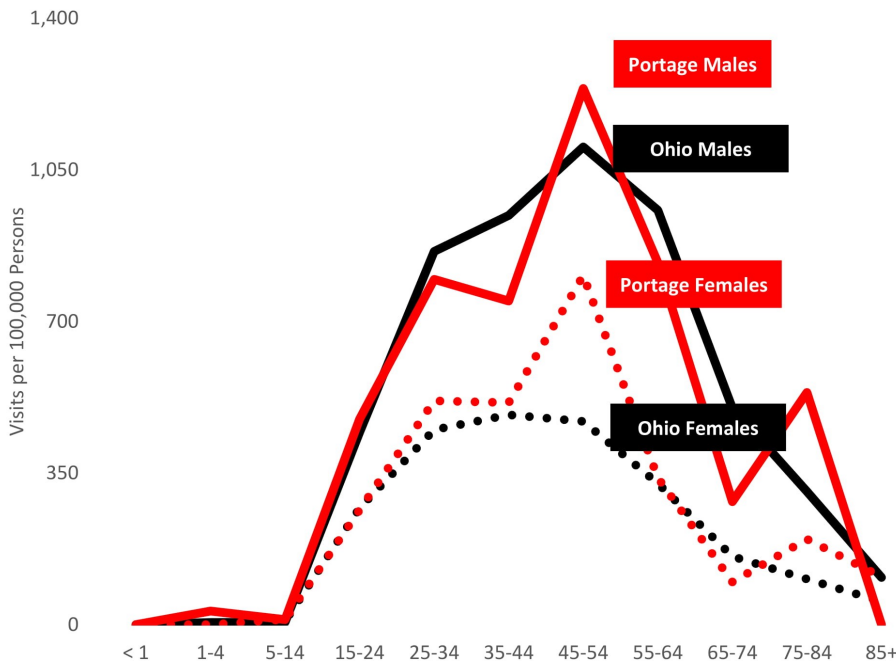
Men have higher alcohol ED rates than women. Those between the ages of 45-54 have the highest rates. Within this age group, Portage County men had a rate (1,237.8 per 100k) that was 1.12x higher than the Ohio average (1,102.7)



Rate of ED Visits due to Alcohol (per 100,00 Persons)
by Portage County Zip Code 2018

Insufficient Data
< 81.8
< 100.2
< 113.2
< 172.8
189.1
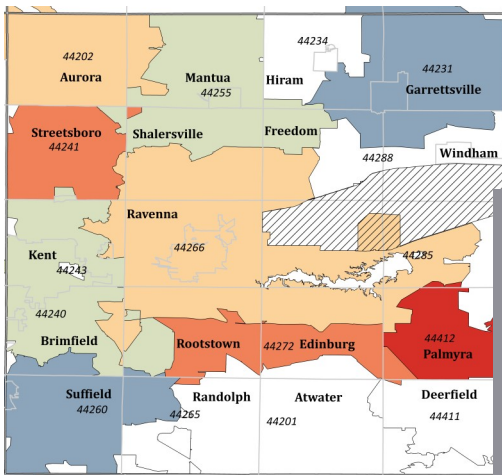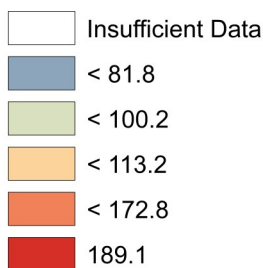
The map on the left shows the rate of alcohol visits in 2018, with 44112 having the highest rate (189.1 per 100k). The map on the right shows the rate for just men ages 45-54 from 2014-2018. The 44240 has the highest rate of 1,523 per 100k.
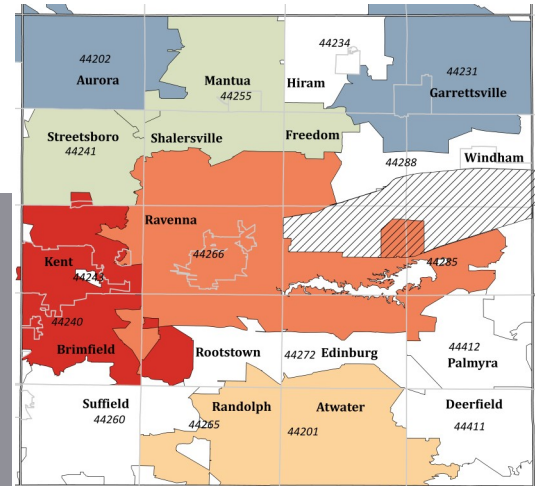


Rate of ED Visits due to Alcohol (per 100,00 Persons) Among Males 45-54, by Portage County Zip Code, 2014-2018

Insufficient Data
< 681.2
< 1,047.1
1,232.7
1,483.9
1,523.1

# DEATHS DUE TO ALCOHOL



**Rate of Deaths due to Alcohol (per 100,000 Persons)
by Ohio County, 2014-2018**
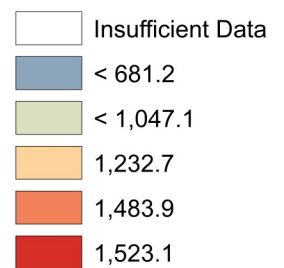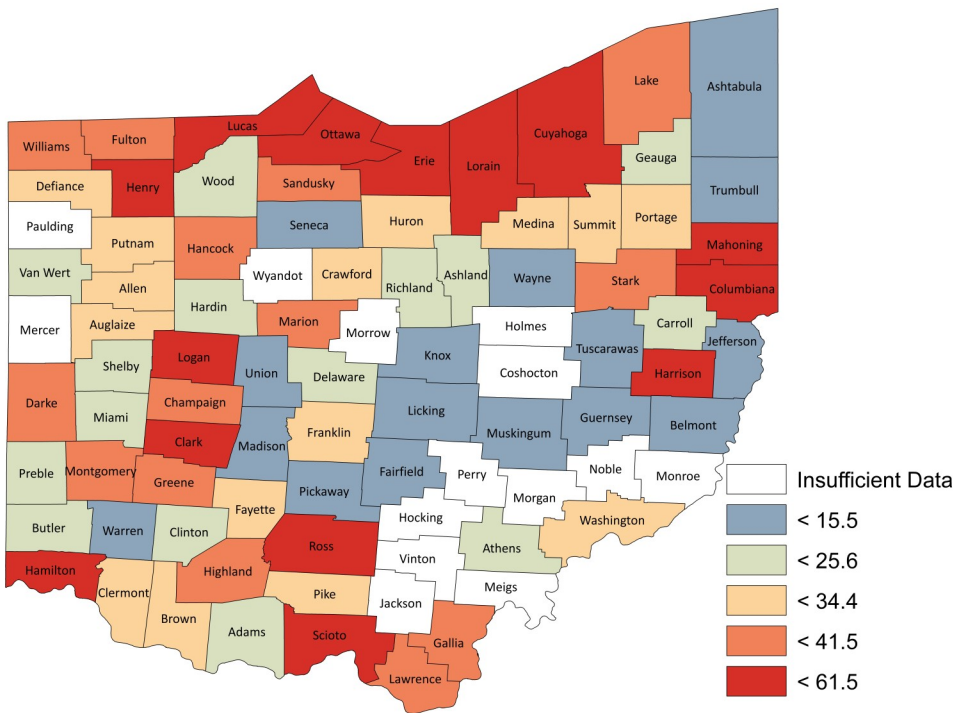
Ottawa County (61.5 per 100k) had the highest rate of alcohol-related death since 2014, which was **2.4x higher** than the rate for Portage (25.9)



**Rate of Deaths due to Alcohol (per 100,000 Persons)
by Portage County Zip, 2007-2018**
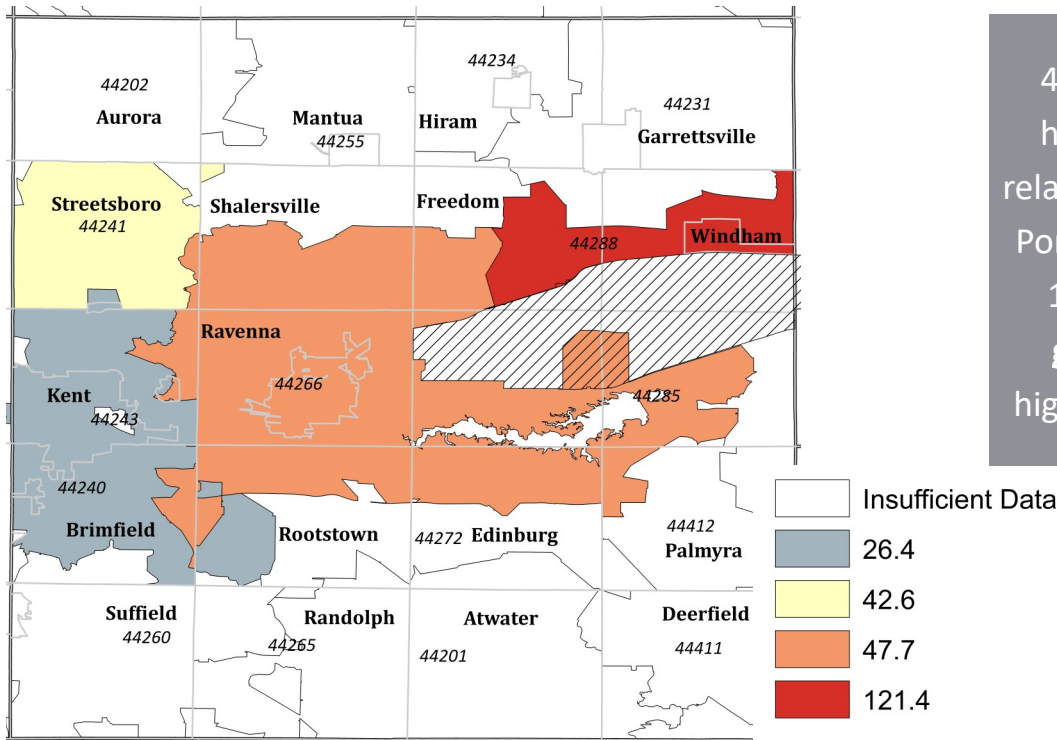
44288 experienced the highest rate of alcohol-related deaths since 2007 in Portage County (121.4 per 100k), which was **2.5x greater** than the next highest zip of 44266 (47.6)

The alcohol-related death rate has **risen by 44%** since 2014 for Portage County. The 2018 county rate (6.2 per 100k) is 1.1x greater than the state rate (5.4) and 1.9x greater than Summit County (3.3).
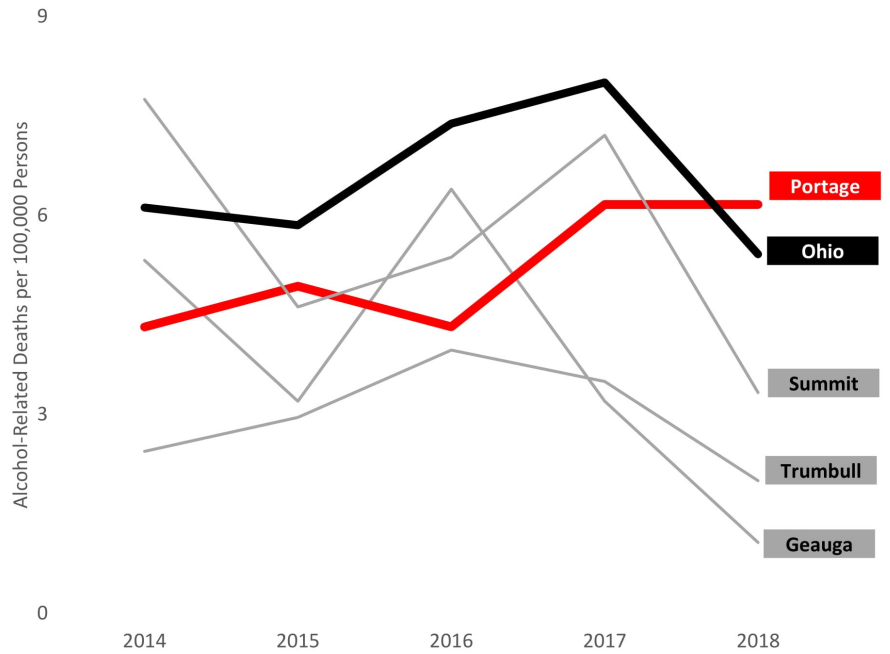


**Rate of Deaths Due to Alcohol (per 100,00 Persons)
by Select Ohio Counties, 2014-2018**

The alcohol-related death rate is highest in Portage among men ages 25-34 (136.3). Among all other age/sex categories, it is highest among those 45-54. The rate is highest for Ohio males (220.7), which is **2.3x higher** than Portage males (97.5)
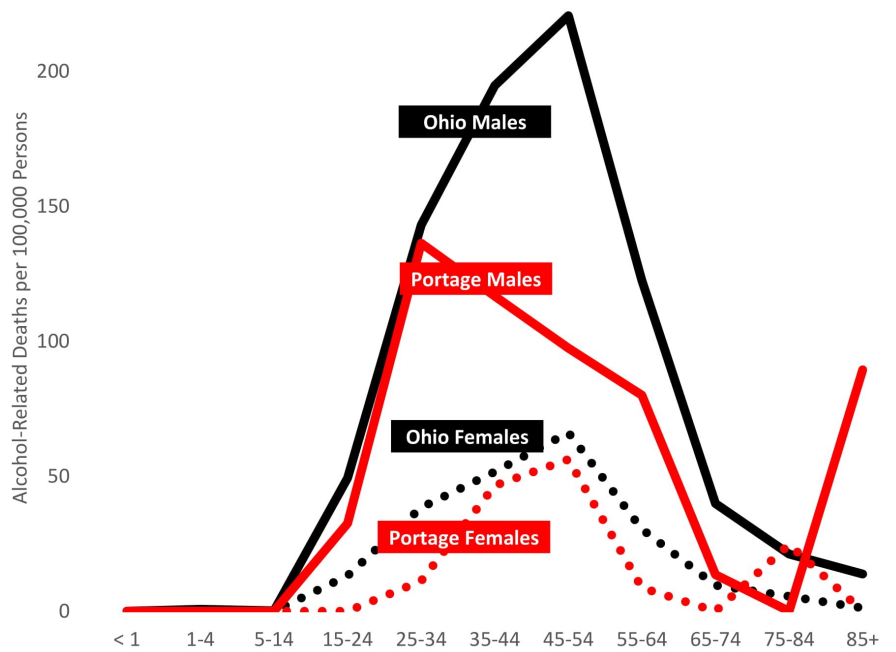


**Rate of Alcohol-Related Deaths (per 100,00 Persons)
by Age Group and Sex, Portage County and Ohio, 2014-2018**

# ED VISITS DUE TO DRUG WITHDRAWAL

## Weekly ED visit rate due to withdrawals, Portage County and Ohio,(12-week rolling average), 2014-2018

The graph below shows the weekly ED visit rate (visits per 100,000 people) due to drug withdrawals. This is shown as a 12-week rolling average for Portage County (**the bold red line**) and Ohio (**the bold black line).** Portage is consistently higher than the statewide average,  with rates peaking midway through 2015 and 2017.
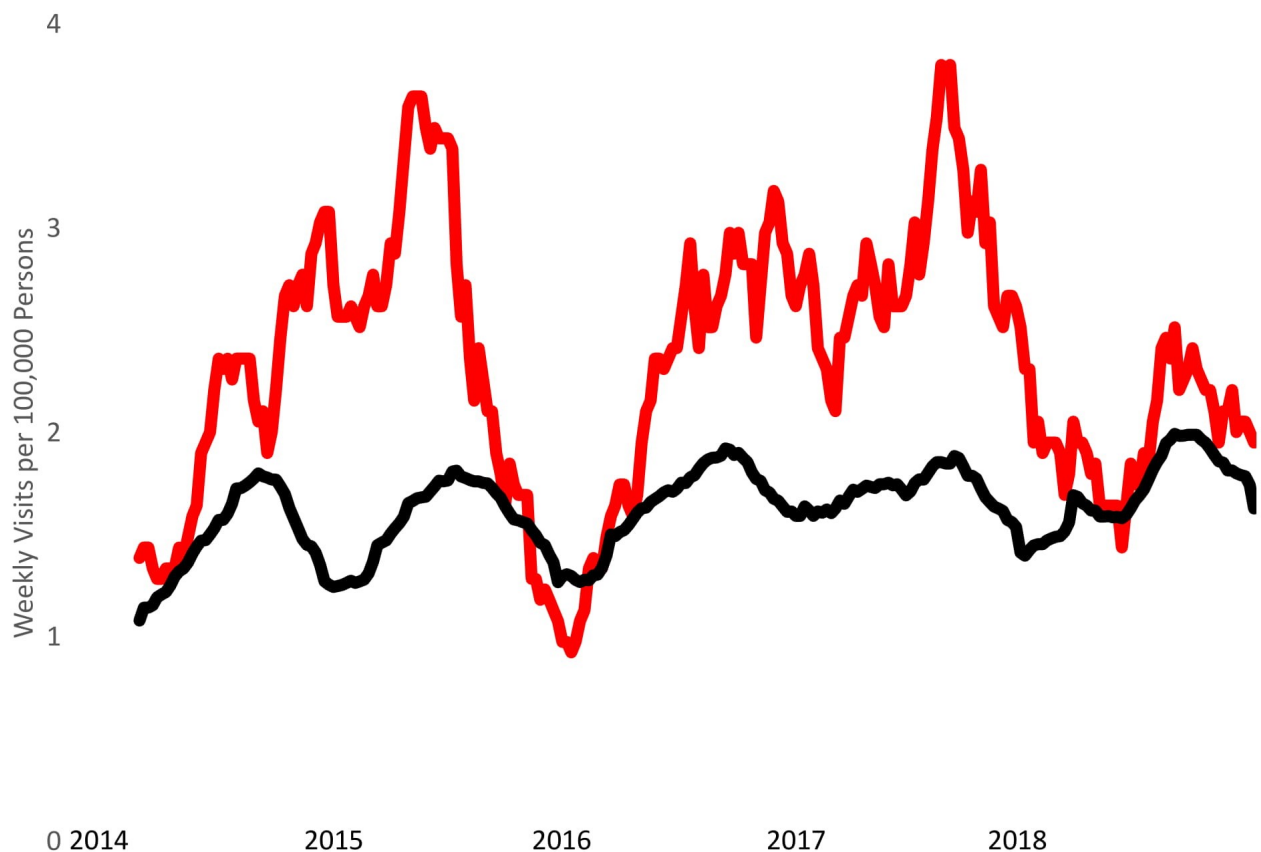
Lake County had the highest rate of ED drug withdrawal visits (224.7 per 100k), which was **2.2x higher** than Portage County (104.1 per 100k). Broadly, NE Ohio had much higher rates than the rest of the state.
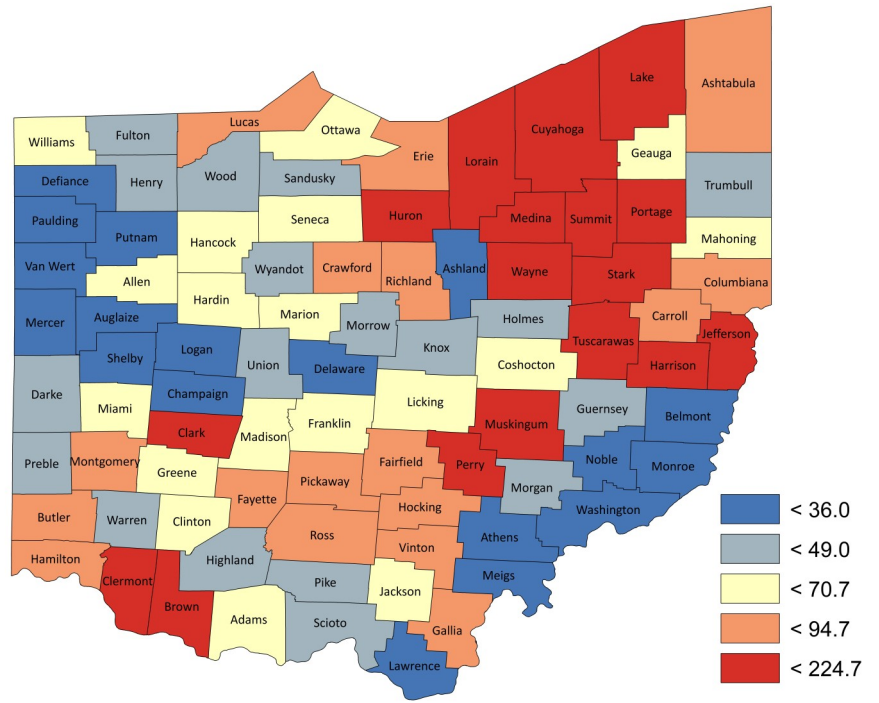


**Rate of ED Drug Withdrawal Visits (per 100,00 Persons) by Ohio County, 2018**

Rates have been steady overtime, with Portage consistently being above the state average (1.1x higher in 2018). Summit (174.6 per 100k) was 1.7x higher than Portage County in 2018.
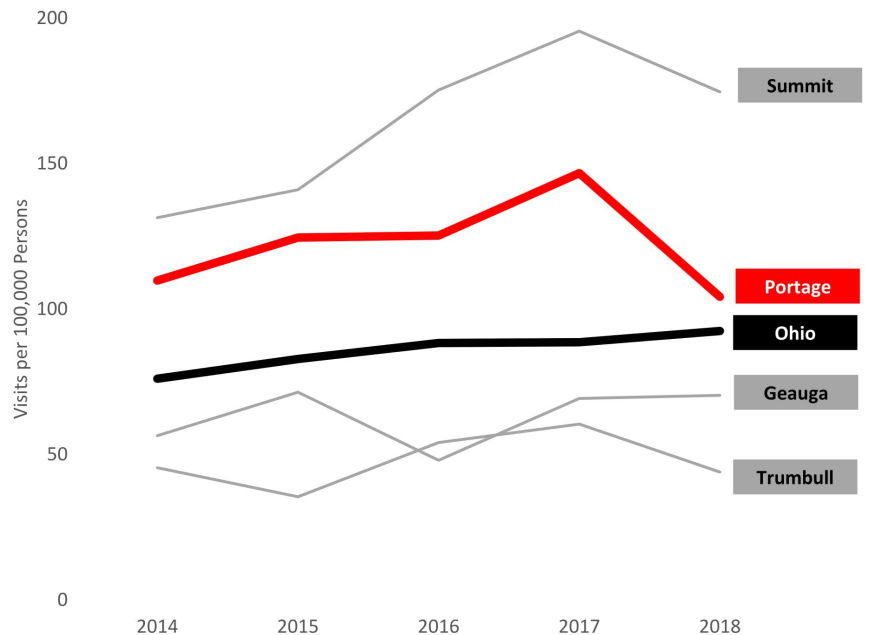


**Rate of ED Drug Withdrawal Visits (per 100,00 Persons) by Select Ohio Counties, 2014-2018**
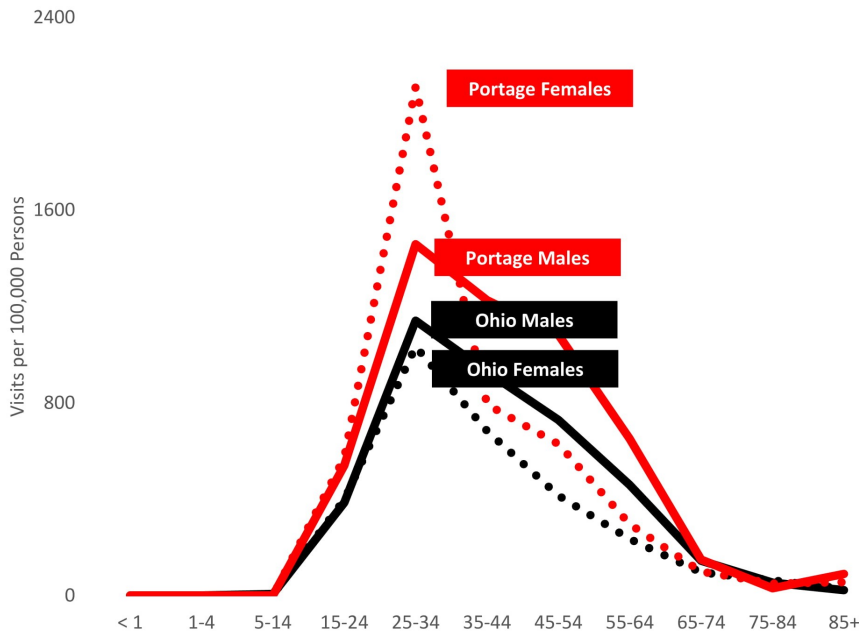
**Rate of ED Drug Withdrawal Visits (per 100,00 Persons)**
**by Age Group and Sex, Portage County and Ohio, 2014-2018**

The rate for drug withdrawal visits was highest among those between ages 25 to 34. 25-34 year old Portage Females (2,110.7 per 100k), experienced a rate that was **2.0x higher** than Ohio Females (1,032.9). Portage Males (1,457.9) was **1.3x higher** than Ohio Males (1,140.5).
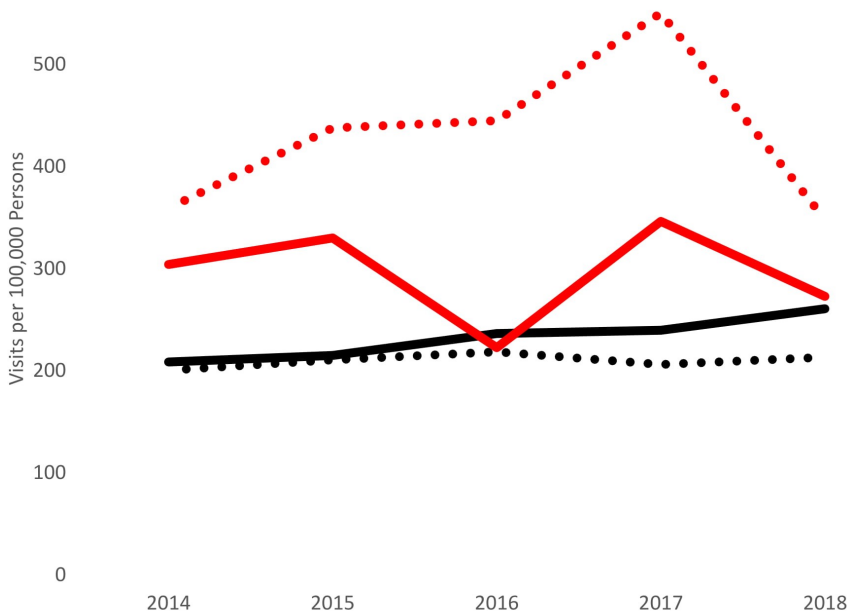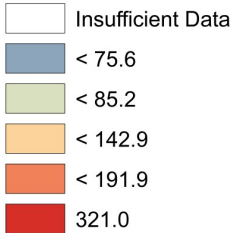


**Rate of ED Drug Withdrawal Visits (per 100,00 Persons)**
**Among 25-34 Year-Olds,**
**Portage County and Ohio by Sex, 2014-2018**

Looking just at those between the ages of 25 and 34, the withdrawal rate for Portage County women **rose 53.4%** from 2014-2017. In 2018, the rate for Portage women in this age group (348.0) was 1.3x higher than Portage men (272.7), and 1.6x higher than Ohio females.

Rate of ED Drug Withdrawal
Visits (per 100,00 Persons)
by Portage County Zip, 2018

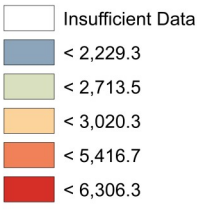Insufficient Data
< 75.6
< 85.2
< 142.9
< 191.9
321.0
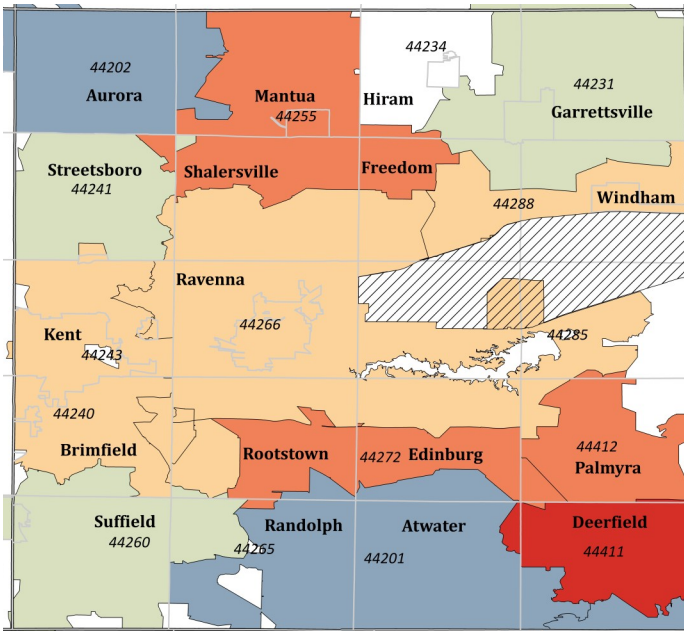
In 2018, the 44411 zip code experienced the highest rate of drug withdrawal ED visits (321 per 100k), which was **1.7x greater** than the next highest zip code 44412 (189)



Rate of ED Drug Withdrawal Visits
(per 100,00 Persons)
Among Female 25-34 Year-Olds,
by Portage County Zip, 2014-2018

Insufficient Data
< 2,229.3
< 2,713.5
< 3,020.3
< 5,416.7
< 6,306.3
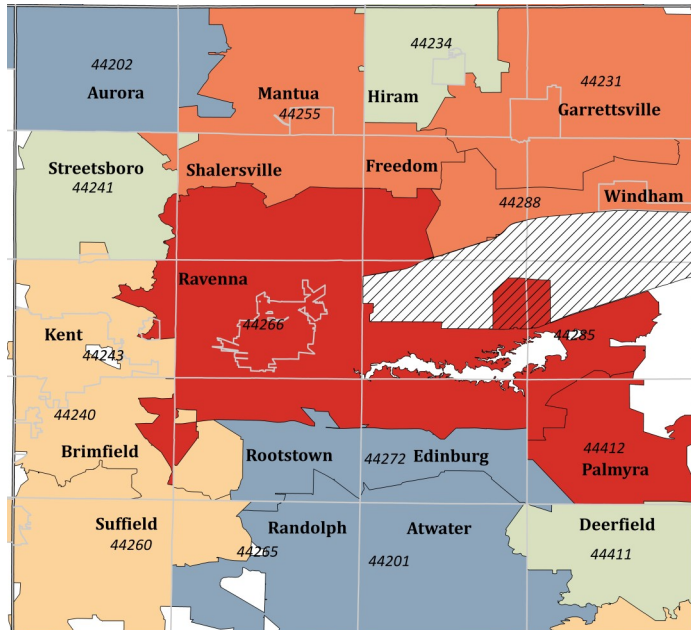
From 2014 to 2018, women between the ages of 25 and 34 suffered the highest rate of drug withdrawal ED visits in 44266 (5,685 per 100k) and 44288 (5,417). This was over twice the rate of the areas with the lowest risk in the county.

# ED VISITS DUE TO SELF-HARM

## Weekly ED visit rate due to self-harm, Portage County and Ohio,(12-week rolling average), 2014-2018

The graph below shows the weekly ED visits had a suicide intention along a rolling 12-week average for Portage County (**the bold red line**) and Ohio (**the bold black line**).  While rates have steadily increased for Ohio, they have slightly decreased in Portage County.
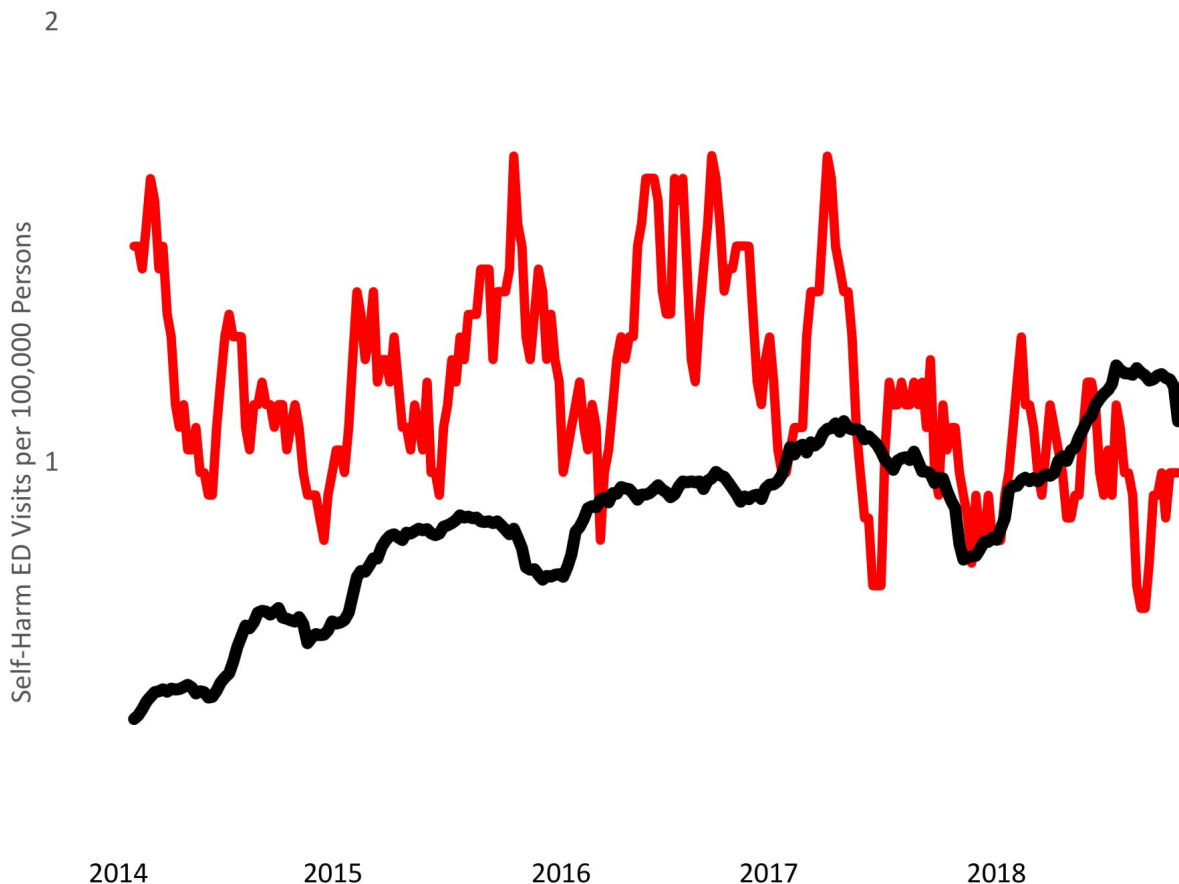
In 2018, Huron County had the highest rate of suicide ED visits (230.8), which was 4.1x higher than the state average. It was 4.46x higher than Portage County (51.8)
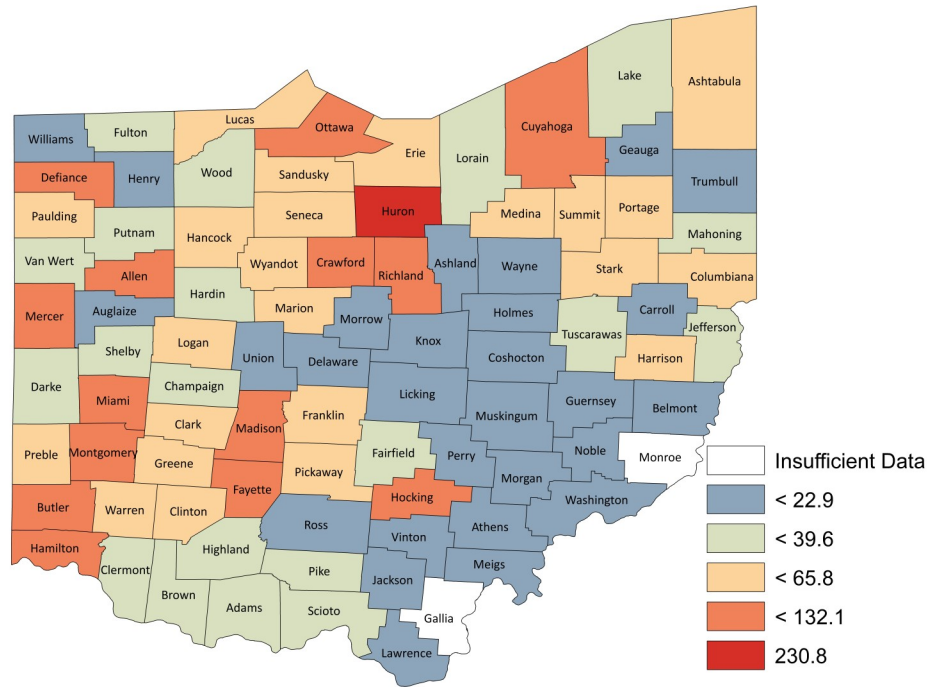


**Rate of ED Visits Due to Self-Harm (per 100,00 Persons) by Ohio County, 2018**

Since 2014, Miami County has experienced the highest rate of suicide visits (664.9), which was 2.1x higher than Portage (310.6). The rates appear to be highest in the SW region of the state.
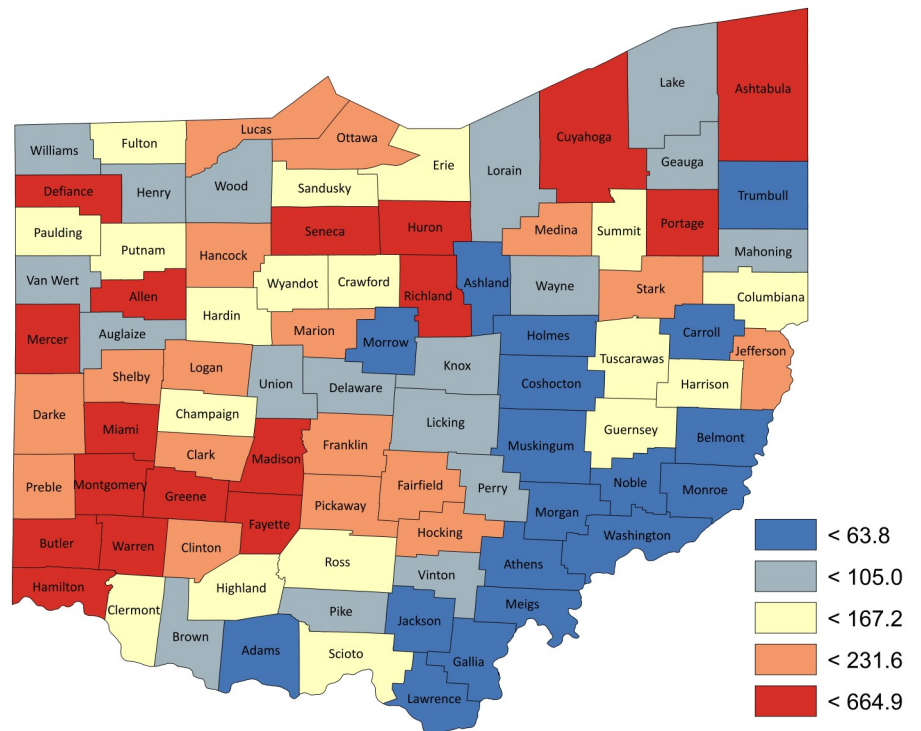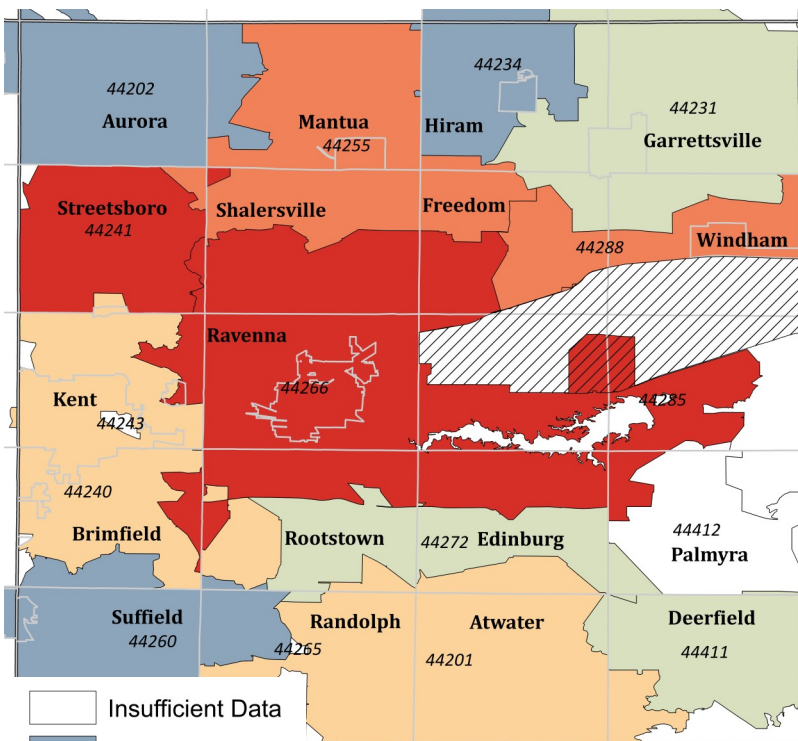


**Rate of ED Visits Due to Self-Harm (per 100,00 Persons) by Ohio County, 2014-2018**
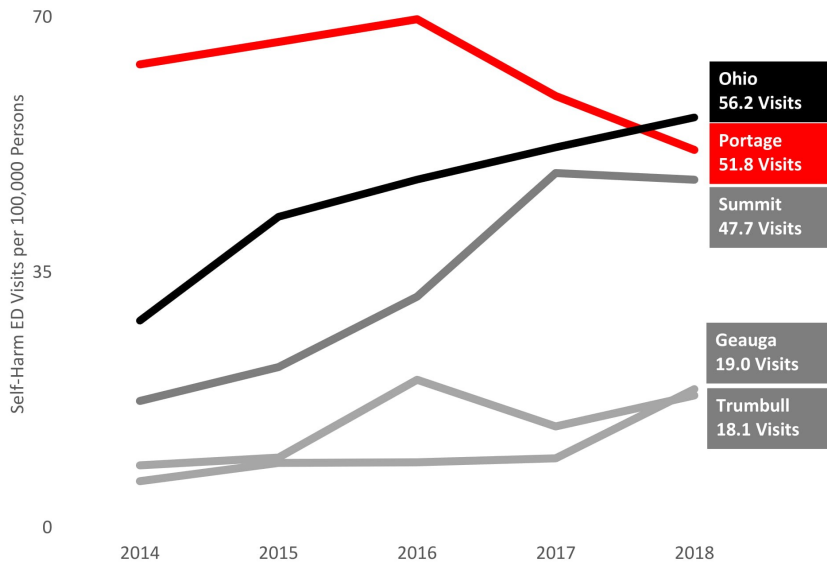
**Rate of ED Visits Due to Self-Harm (per 100,00 Persons)
by Select Ohio Counties, 2014-2018**

Portage County has experienced a **18.5% drop** in ED visits due to self-harm since 2014. Summit County and the State average has experienced a rise over the same period. In 2018, the state rate (56.2 per 100k) was 1.1x higher than Portage (51.8). Portage was 1.1x higher than Summit (47.7).
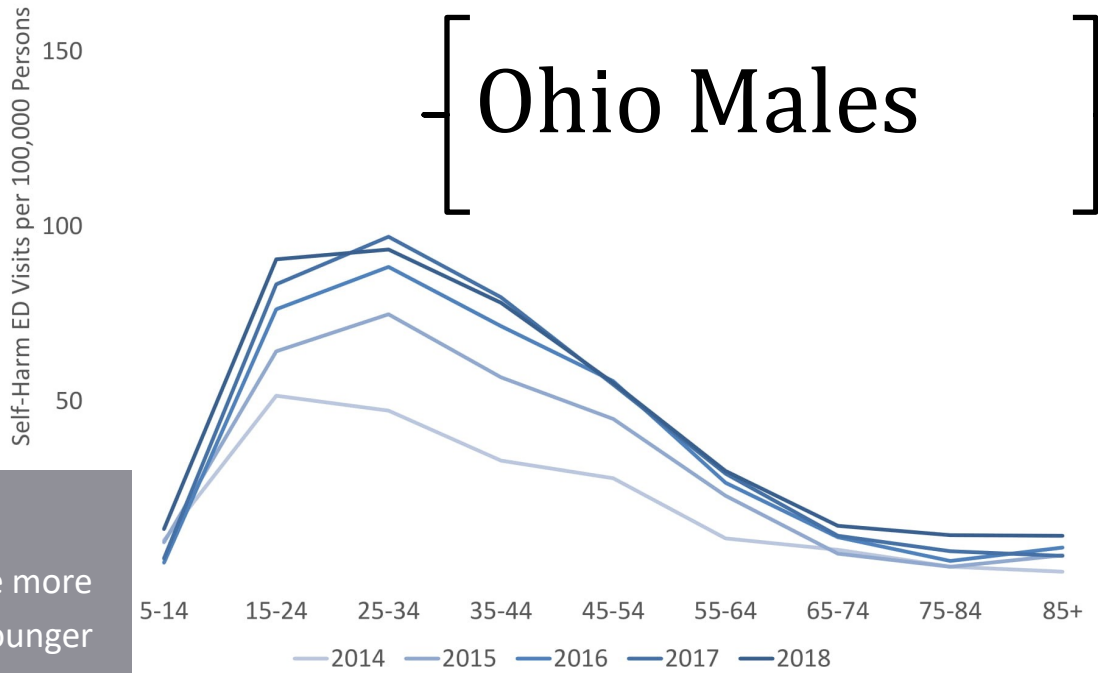


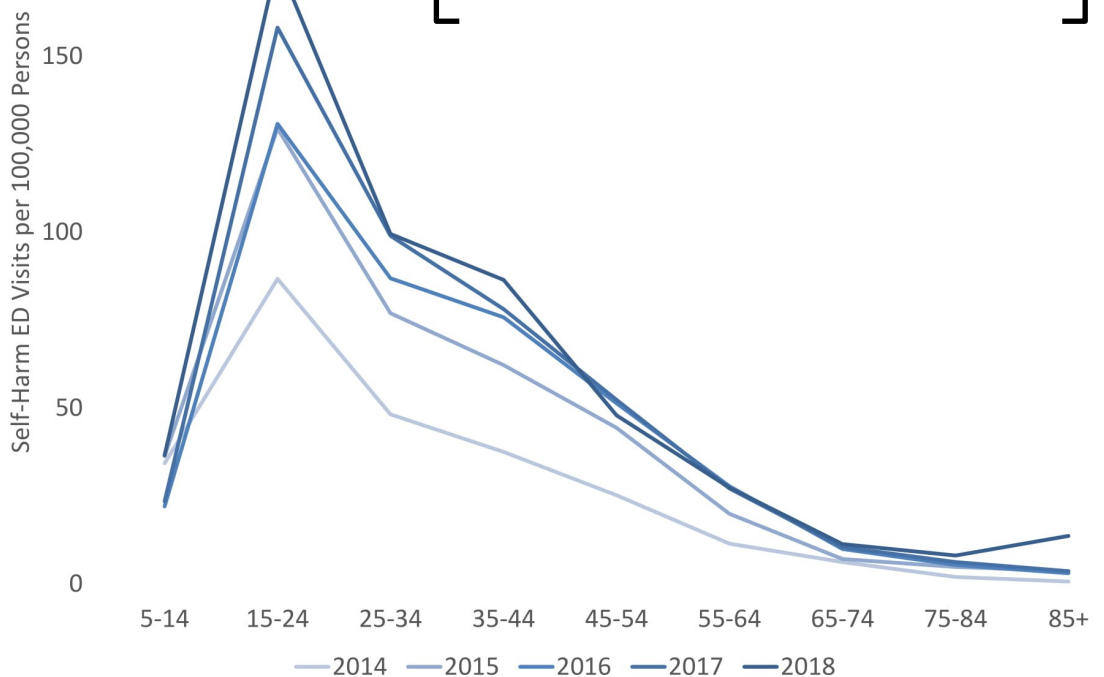**Rate of ED Visits Due to Self-Harm (per 100,00 Persons) by Portage County Zip, 2014-2018**

Since 2014, 44266 has experienced the highest rate of self-harm ED visits (524.1 per 100k), which was 1.3x greater than the next highest zip code of 44241 (390)

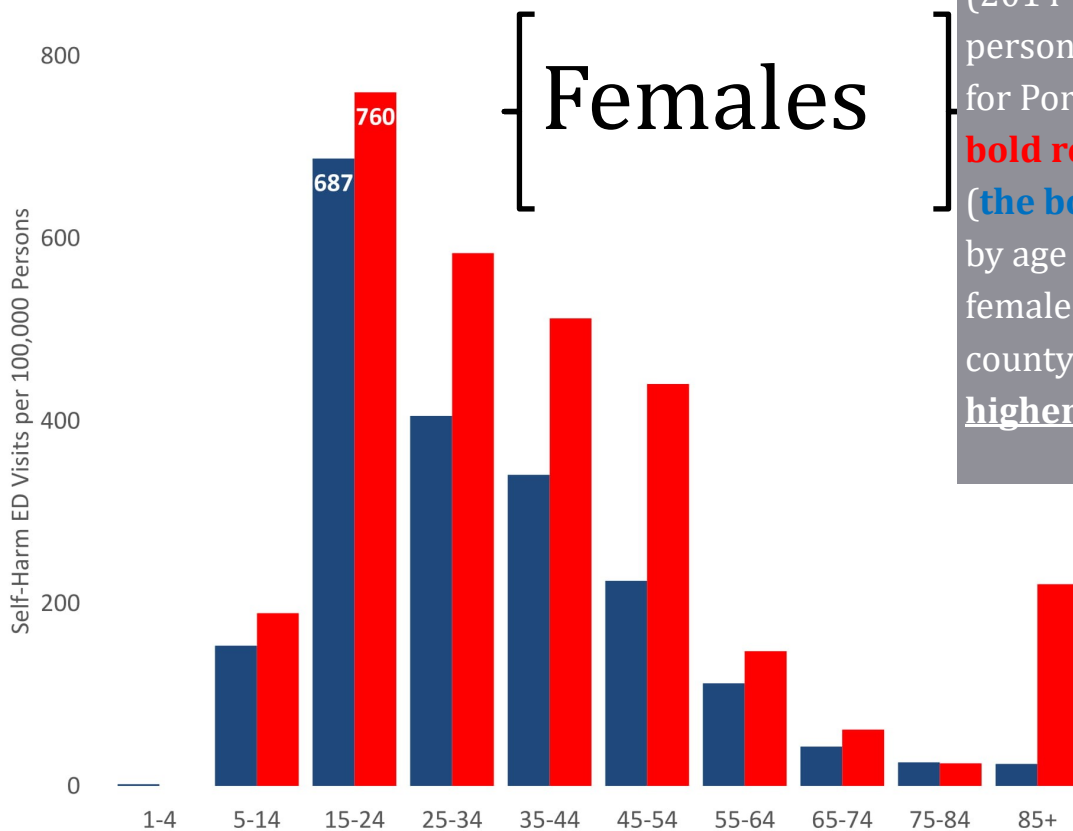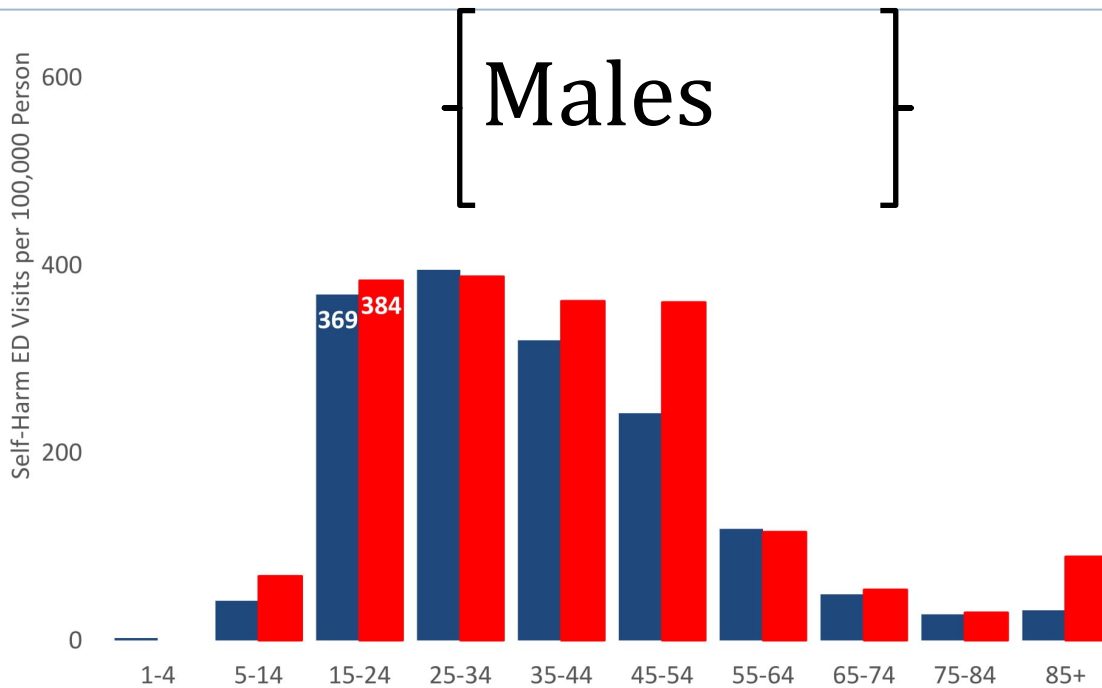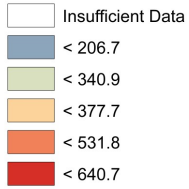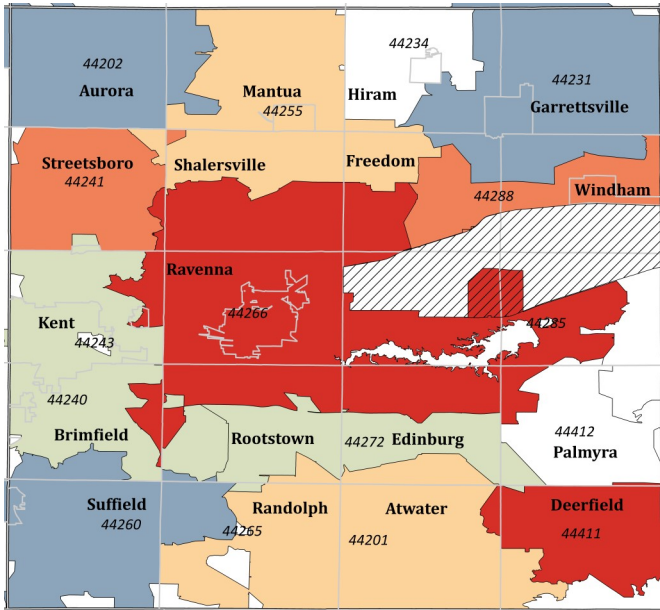# Self-Harm Visits per 100,000 Persons, By Age and Gender, Ohio, 2014-2018



Self-harm visits are more common among younger women, and this rate has risen steadily each year. The 2018 rate for women 15-24 was almost 2x higher than what it was in 2014.

# Self-Harm Visits per 100,000 Persons, By Age and Gender, Ohio, 2014-2018



Males

These graphs show rates (2014-2018 per 100,000 persons) of self-harm visits for Portage County (**the bold red columns**), Ohio (**the bold blue columns**) by age and gender. Among females 15-24, Portage county rates were **1.1x higher** than the state rate.

Females

**Rate of ED Visits Due to Self-Harm (per 100,00 Persons) Among Females, by Portage County Zip, 2014-2018**

Legend:
- Insufficient Data
- < 206.7
- < 340.9
- < 377.7
- < 531.8
- < 640.7

Among all women since 2014, 44266 (641 per 100k) has experienced the highest rate of self-harm visits, which was **1.2x greater** than the next highest zip code of 44411 (554).
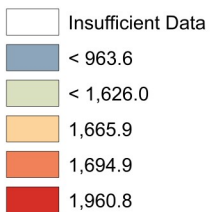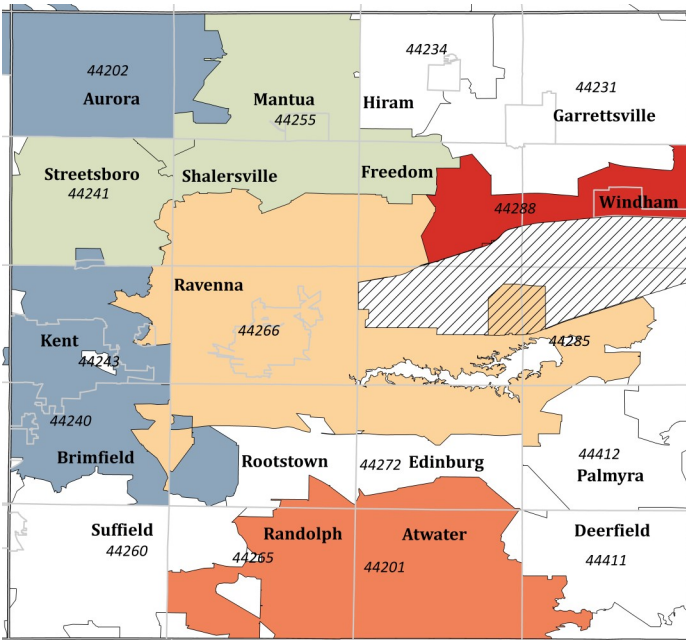


**Rate of ED Visits Due to Self-Harm (per 100,00 Persons) Among Female 15-24 Year-Olds, by Portage County Zip, 2014-2018**

Legend:
- Insufficient Data
- < 963.6
- < 1,626.0
- 1,665.9
- 1,694.9
- 1,960.8

Among only women between the ages of 15 and 24 since 2014, 44288 (1,961 per 100k) has experienced the highest rate of self-harm visits, which was **1.2x greater** than the next highest zip code of 44266 (1,666).

# DEATHS DUE TO SUICIDE

In 2018, Meigs County had the highest rate of suicide deaths (43.3 per 100k), which was 2.9x higher than the state average (14.9), and **2.7x higher** than Portage (16.6)
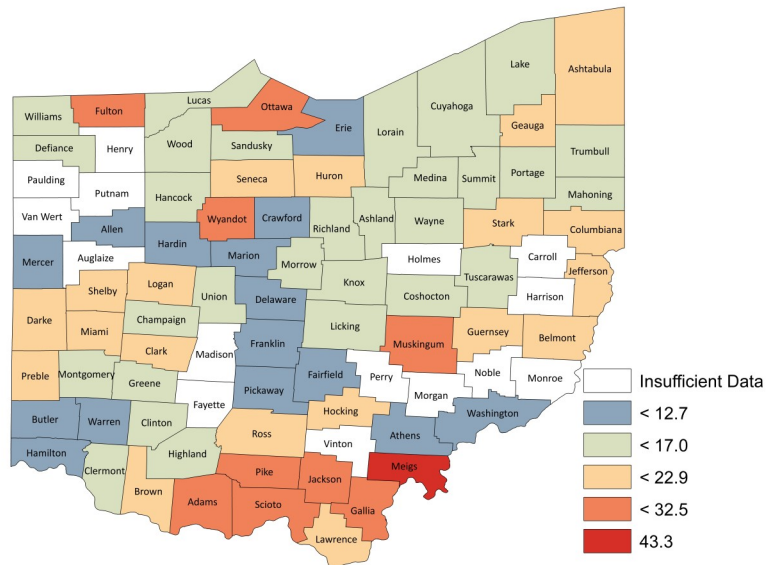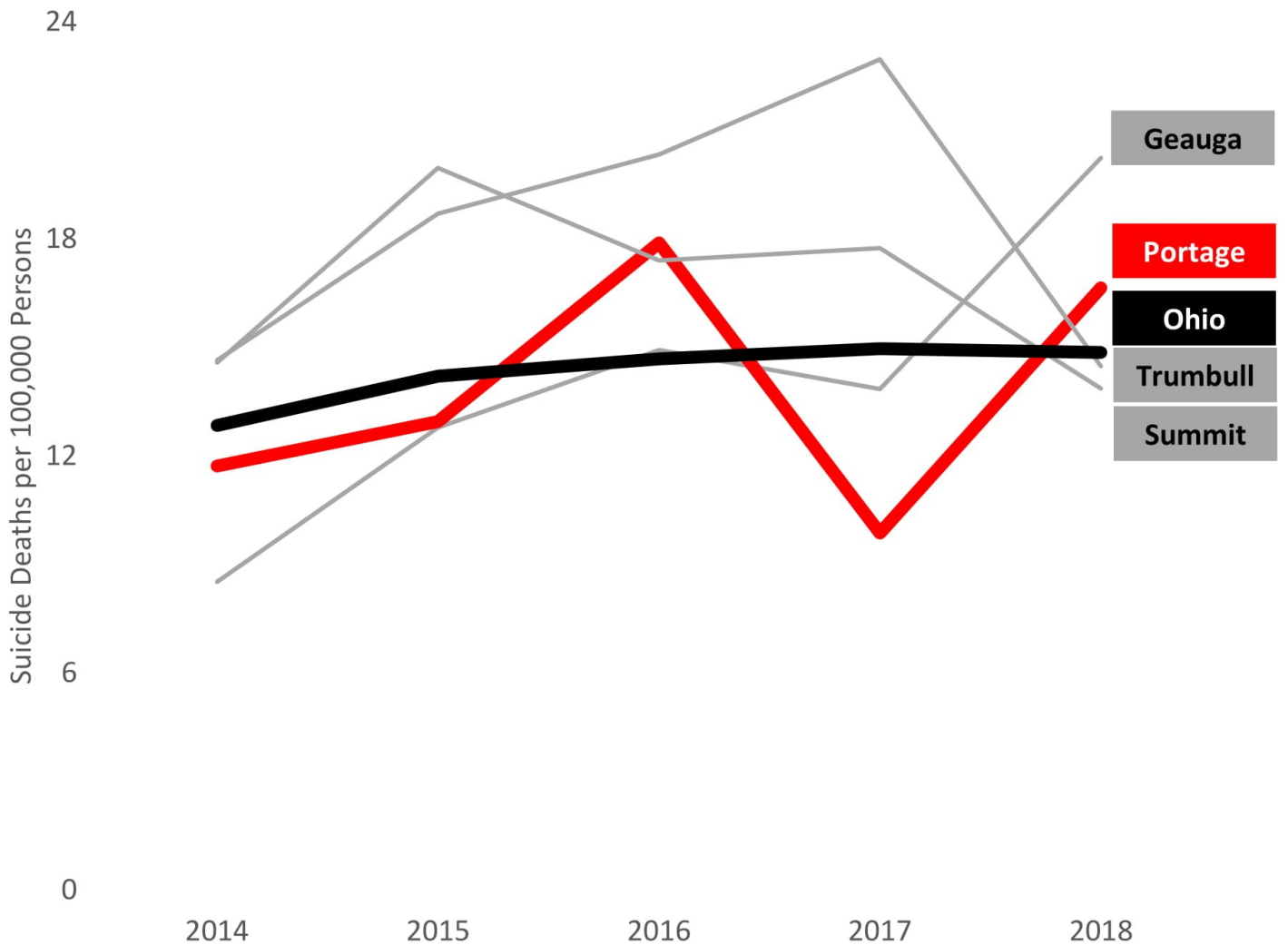


**Rate of Death by Suicide (per 100,00 Persons) by Ohio County, 2018**

Since 2014, Meigs again experienced the highest rate of suicide deaths (138.6 deaths per 100k), which was **1.9x higher** than the state average (71.3), and **2.1x higher** than Portage (69).
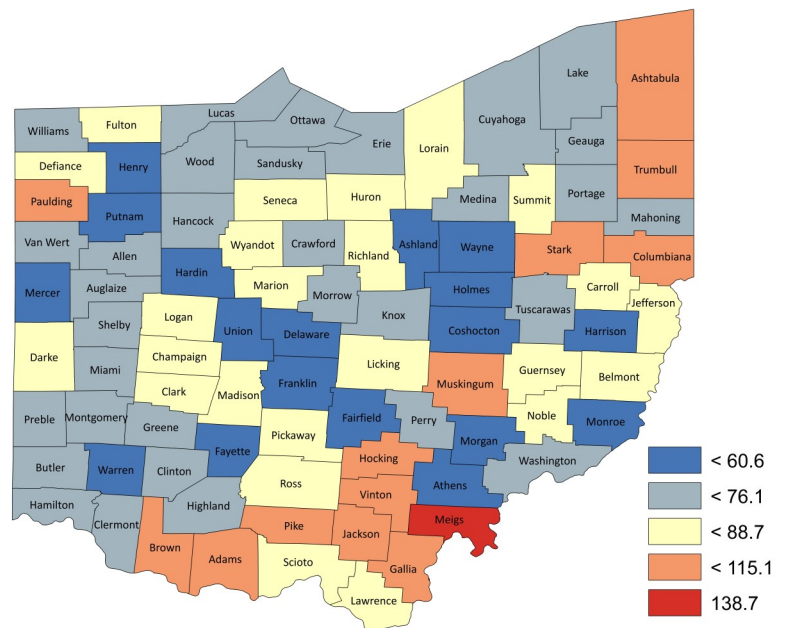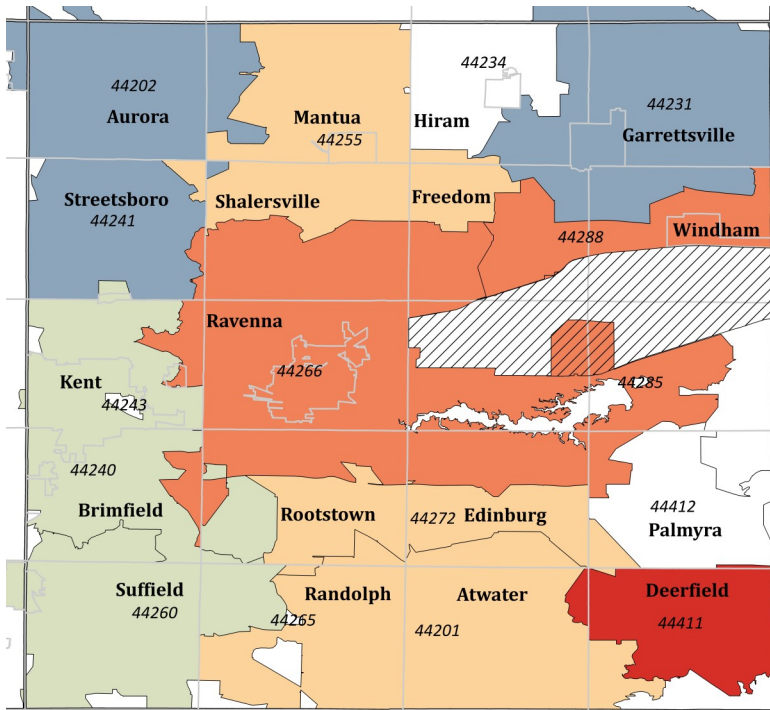


**Rate of Death by Suicide (per 100,00 Persons) by Ohio County, 2014-2018**

## Rate of Suicide Deaths (per 100,00 Persons)
## by Select Ohio Counties, 2014-2018



**Geauga**

**Portage**

**Ohio**

**Trumbull**

**Summit**

Suicide Deaths per 100,000 Persons

24

18

12

6

0

2014    2015    2016    2017    2018

Since 2014, the Portage County suicide death rate has risen **42%.** In 2018 the rate in Portage (16.6 per 100k) was 1.1x higher than the state average (14.9) and **1.2x higher** than Summit County (13.9)

**Rate of Suicide Death
(per 100,00 Persons)
by Portage County Zip, 2007-2018**

Legend:
- Insufficient Data
- < 60.2
- < 96.8
- < 117.6
- < 199.8
- 412.7

Since 2007, 44411 has experienced highest rate of suicides (366.8 per 100k), which is 2.0x higher than the next highest zip code of 44266 (187.6).



**Rate of Suicide Death
(per 100,00 Persons)
by Portage County Census Tract,
2007-2018**

Legend:
- Insufficient Data
- < 121.3
- < 198.0
- < 277.2
- < 330.3
- 559.3
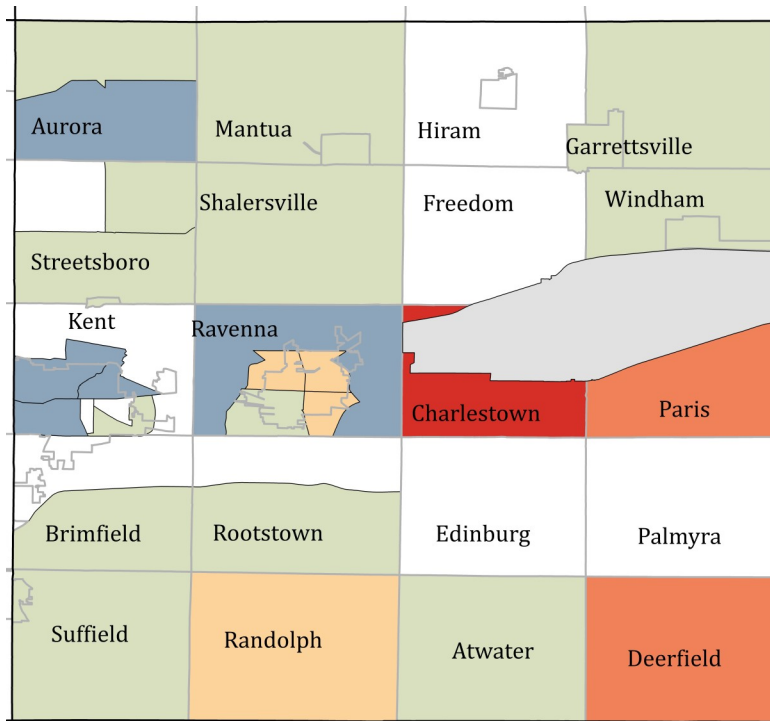
Since 2007, the Charlestown Township area has experienced the highest rate of suicides (559.3 per 100k), which is 1.7x greater than the next regions of Deerfield and Paris (319.6).

Men had much higher suicide rates than women since 2014, with the rate increasing with age. While Portage only saw 4 suicides for men over 85 since 2014, since the population of those men is so small, the rate was extremely high (357.8 per 100k).
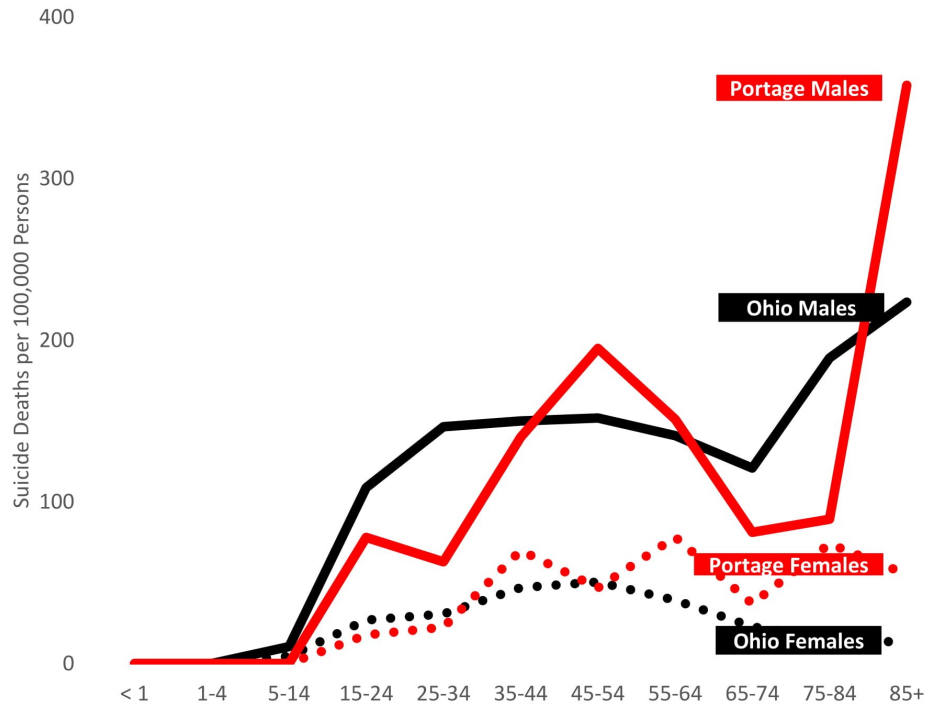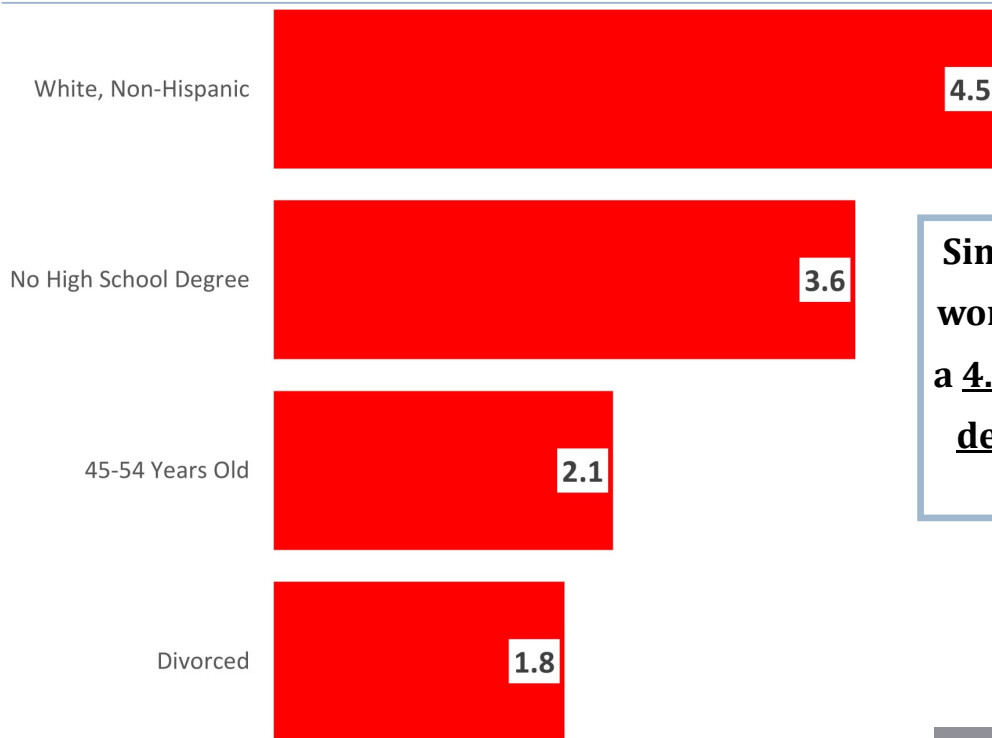


**Rate of ED Drug Withdrawal Visits (per 100,00 Persons) by Age Group and Sex, Portage County and Ohio, 2014-2018**

Since 2014, for every suicide death among female 15-24 years old, there has been 43 ED visits. On the other hand, for men and women 75-84, for every suicide death there was only 0.3 ED visit. This indicates how less common self-harm ED visits are for the elderly.
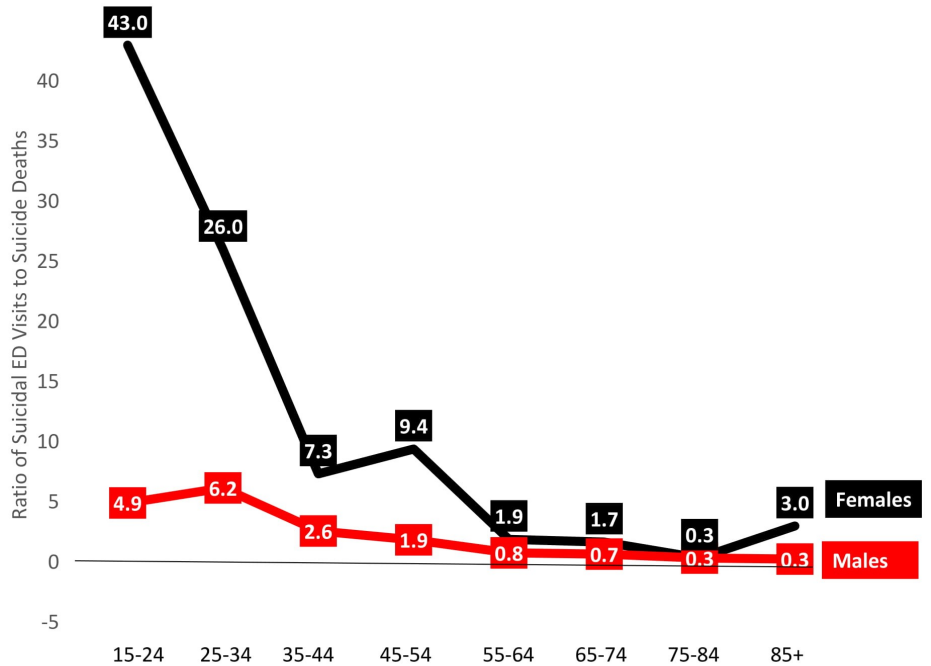


**Ratio of ED visit for Self-Harm to Suicide Deaths by Age Group, Portage County, 2014-2018**

# RISK FACTORS OF DEATH BY SUICIDE

**White, Non-Hispanic** — 4.5

**No High School Degree** — 3.6

**45-54 Years Old** — 2.1

**Divorced** — 1.8

**Relative Risks of Drug Overdose Deaths Among Portage County Women, 2007-2018**

> **Since 2007, Portage County women who were white had a 4.5x greater risk of suicide death than other women.**

**Widowed** — 2.8

**45-54 Years Old** — 2.4

**No High School Degree** — 2

**White, Non-Hispanic** — 1.8
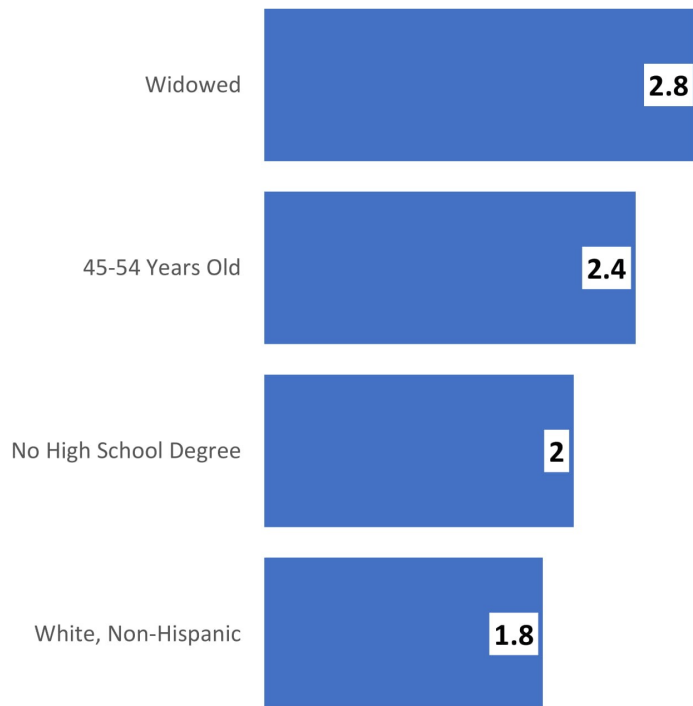
**Relative Risks of Drug Overdose Deaths Among Portage County Men, 2007-2018**

> **From 2007-2018, Portage County men had a 3.3x greater risk of dying from suicide than women. Within each gender, there seems to be strong risk factors associated with marital status, SES, race, and age.**