Fatal Opioid Overdose in the Tri-County Region

This data brief presents information summarizing the number of people in the Tri-County region who have died from an opioid overdose, a critical indicator for measuring the burden of opioid overuse and misuse in the region. These data help track progress toward the Tri-County Opioid Safety Coalition's goal to decrease the harms and overdose deaths from opioids in the community. We present data using two sources: County Medical Examiner Reports, and WONDER data from the Centers for Disease Control and Prevention (CDC).

Key Findings

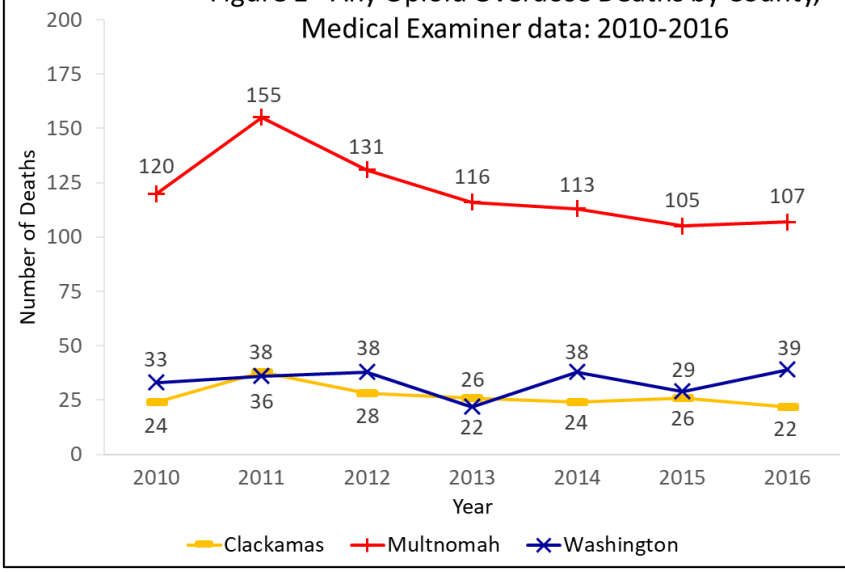
- In 2016, 168 people died from an opioid overdose in the Tri-County region. Most deaths (64%) were reported in Multnomah County.
- Overdose deaths and death rates in the Tri-County region have remained at about the same level since 2013.
- Multnomah County had the highest overdose death rates over time, followed by Clackamas and then Washington counties.
- Heroin deaths accounted for a larger proportion of all opioid deaths in Multnomah County, compared with Clackamas and Washington counties.
- Overdose death rates were higher for males compared with females, and highest for those aged 45-54.
- Higher overdose death rates were experienced by American Indian/Alaska Native, White, and Black/African American populations, while Asian/Pacific Islander and Hispanic populations had the lowest death rates.
- Overdose deaths involving fentanyl/synthetic opioids were over three times higher in 2017 than in 2016.

Medical Examiner Data

These figures display number of fatal opioid overdose deaths based on case reports for deaths investigated by the Medical Examiner (ME). These data are considered an effective source for rapidly collecting information about overdose deaths due to opioids, but crude numbers rather than rates must be displayed because county of residence is not established in the data.

This first figure displays the total number of opioid overdose deaths by county.

Figure 1 - Any Opioid Overdose Deaths by County, Medical Examiner data: 2010-2016



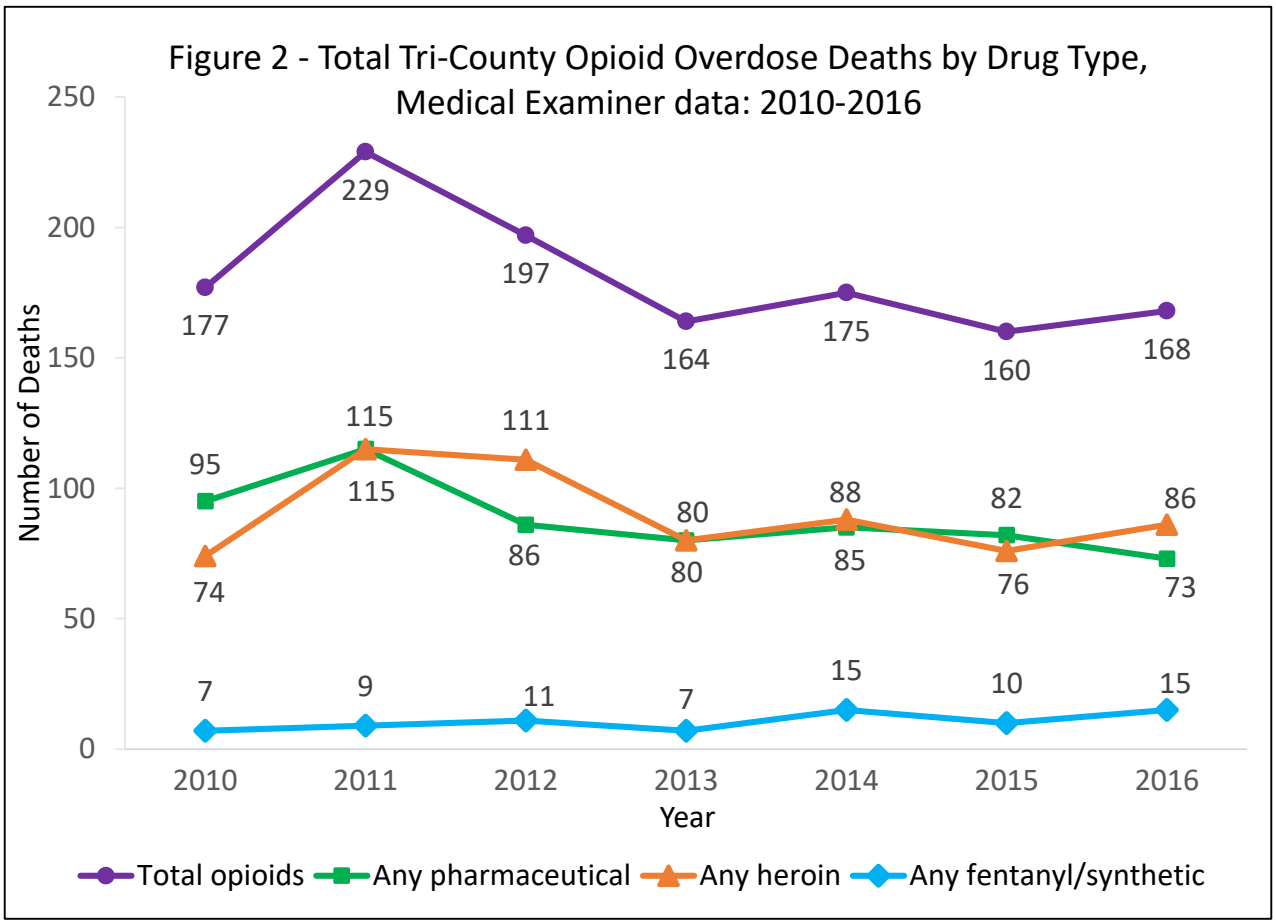
The Tri-County Opioid Safety Coalition coordinates efforts to decrease the harms and overdose deaths from opioids, improve the quality of life for people living with chronic pain, and improve the quality of life for people with opioid use disorder in Clackamas, Multnomah, and Washington counties.

Medical Examiner Data (continued)

(Findings for Figure 1 on previous page):

- In 2016, 168 people died from an opioid overdose in the Tri-County region. Most deaths (64%) were reported in Multnomah County.
- The number of opioid overdose deaths have decreased in Multnomah County over time, though the numbers have been near the same level since 2013. The number of deaths have remained at nearly the same level over time in Clackamas and Washington counties.

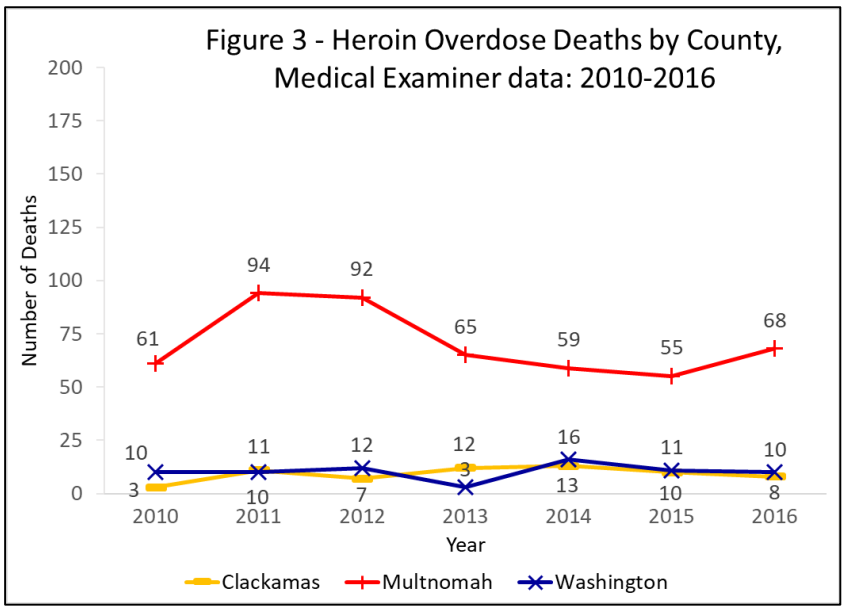
The figure below breaks down the number of overdose deaths by drug type for the entire Tri-County region.

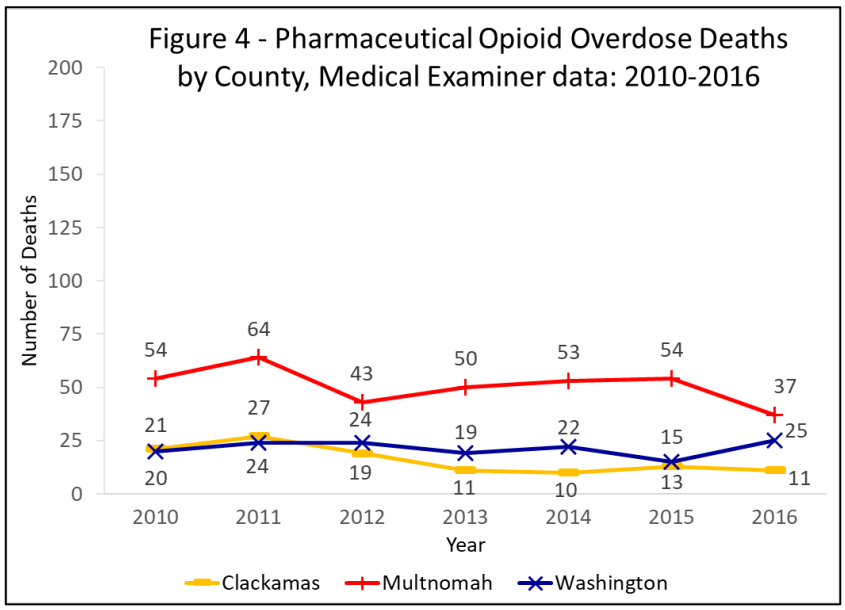


- Overdose deaths have been due to pharmaceutical opioids and heroin in roughly equal proportion for the Tri-County region.
- Overdose deaths in the Tri-County region have remained at about the same level since 2013.

Medical Examiner Data (continued)

The figures below break out the number of deaths by county over time, presented separately for deaths due to heroin and to pharmaceutical opioids.

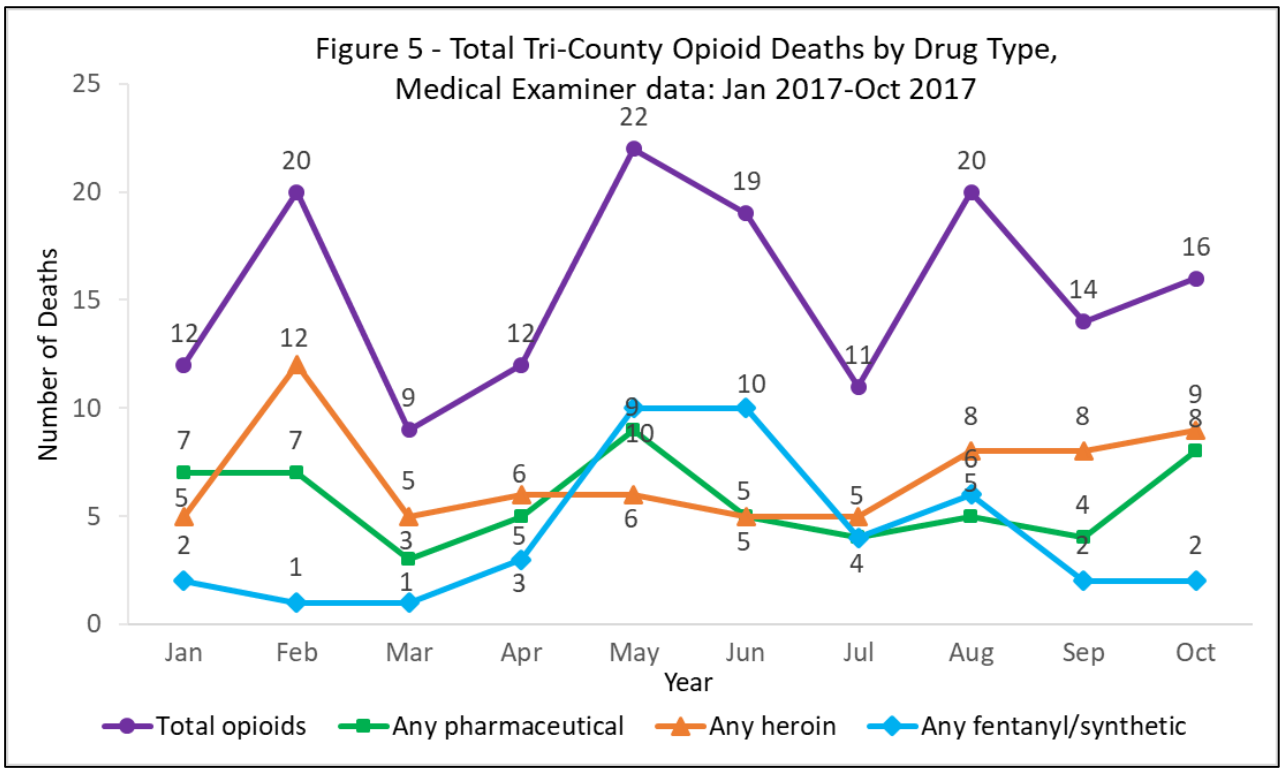




- Heroin deaths accounted for a larger proportion of all opioid deaths in Multnomah County, compared with Clackamas and Washington counties.

Medical Examiner Data (continued)

The figure below gives monthly detail for the most recent year of data (partial for 2017). Deaths are broken down by drug type for the entire Tri-County region to highlight the proportion of opioid deaths due to heroin, fentanyl/synthetic opioids, or any pharmaceutical opioids.

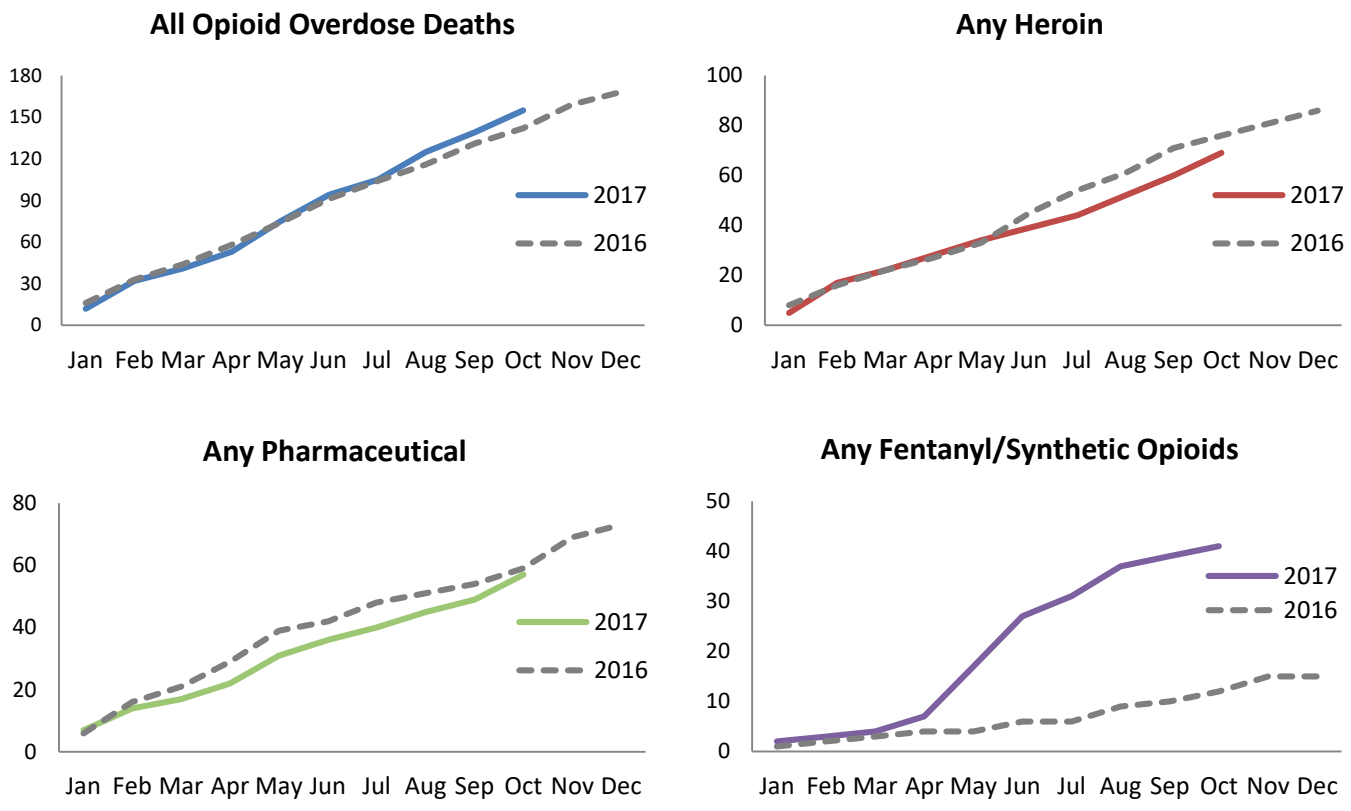


- These data show an increase in deaths due to fentanyl/synthetic opioids during the early summer months in 2017, relative to deaths due to pharmaceutical opioids and heroin.
- These results highlight the value of monthly medical examiner data to assess possible trends within shorter time frames.

Medical Examiner Data (continued)

The figure below compares 2016 and 2017 cumulative overdose deaths by drug type for the Tri-County region.

Figure 6 - Year-to-Date Cumulative Number of Fatal Opioid Overdoses by Drug Type and Month
Clackamas, Multnomah, and Washington Counties, 2016 and 2017

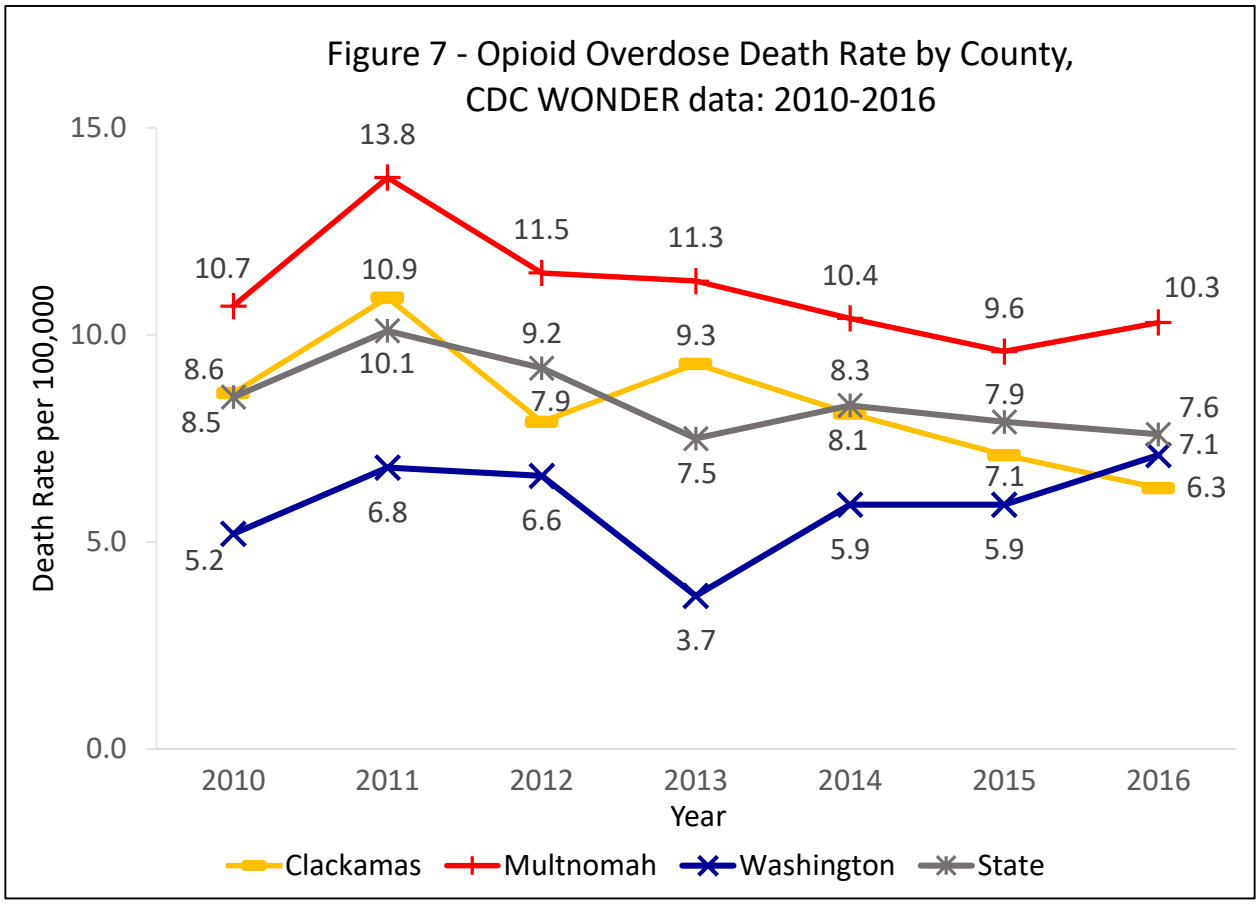


- Overdose deaths involving fentanyl/synthetic opioids were over three times higher in 2017 than in 2016.
- Overdose deaths due to all opioids, any heroin, and any pharmaceutical opioids were about the same in 2016 and 2017.

CDC WONDER Data

These figures display age-adjusted rates of fatal overdose based on the Centers for Disease Control and Prevention's (CDC) WONDER, an ad hoc query system for vital statistics data by which users can view results by state or county. Compared with Medical Examiner data, WONDER data are reported as rates rather than crude numbers, allowing for a more accurate comparison between counties. WONDER results are considered more definitive, and more comparable to other jurisdictions, but a disadvantage is the longer lag time for data availability.

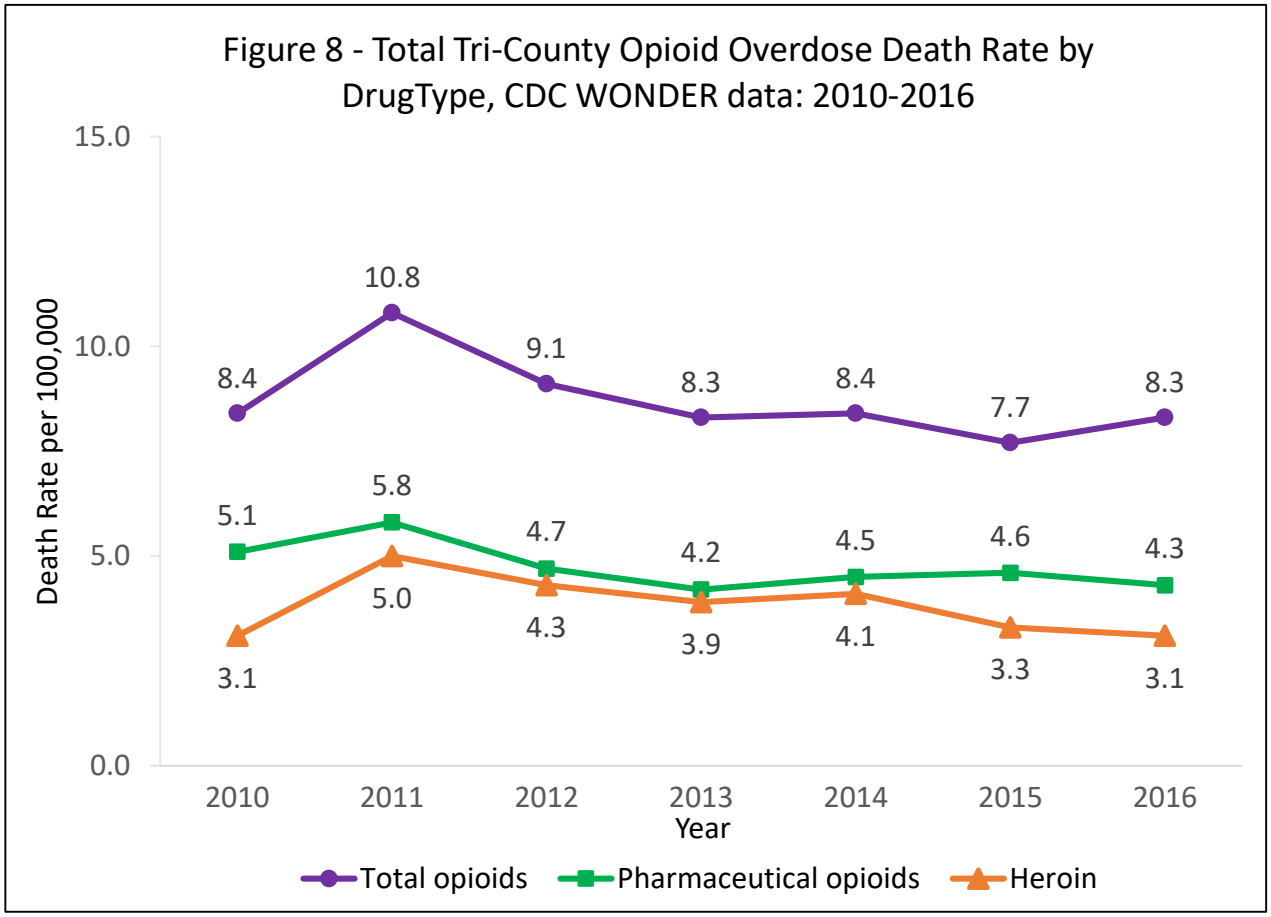
Figure 7 below shows total overdose death rates by county and for the state.



- Multnomah County had consistently higher death rates compared to Clackamas and Washington counties as well as statewide.
- Clackamas County overdose death rates decreased consistently after 2013, and 2016 marked the first year where that county's rate dipped below Washington County's overdose death rate.

CDC WONDER Data (continued)

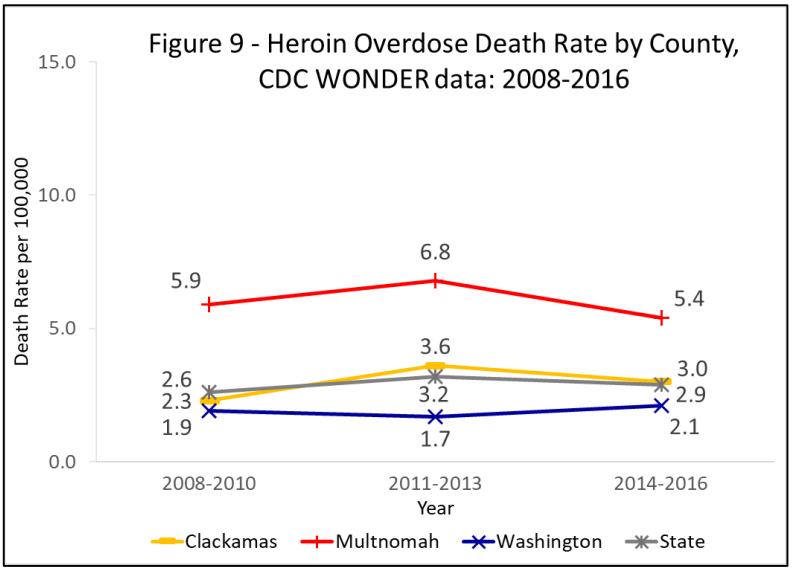
The figure below breaks down the number of overdose deaths by drug type for the entire Tri-County region.

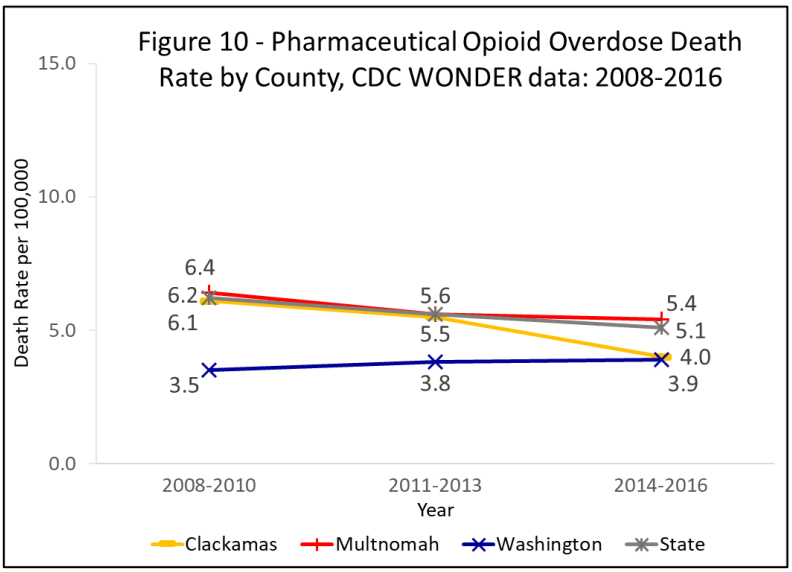


- Similar to results based on Medical Examiner data, the proportion of deaths due to pharmaceutical opioids and heroin was about the same, with slightly higher rates for pharmaceutical opioids that became more consistent after 2014.

CDC WONDER Data (continued)

The figures below show the age-adjusted overdose death rates by county over time due to heroin and pharmaceutical opioids. Data were grouped in 3-year increments to overcome data limitations with rates based on small numbers.



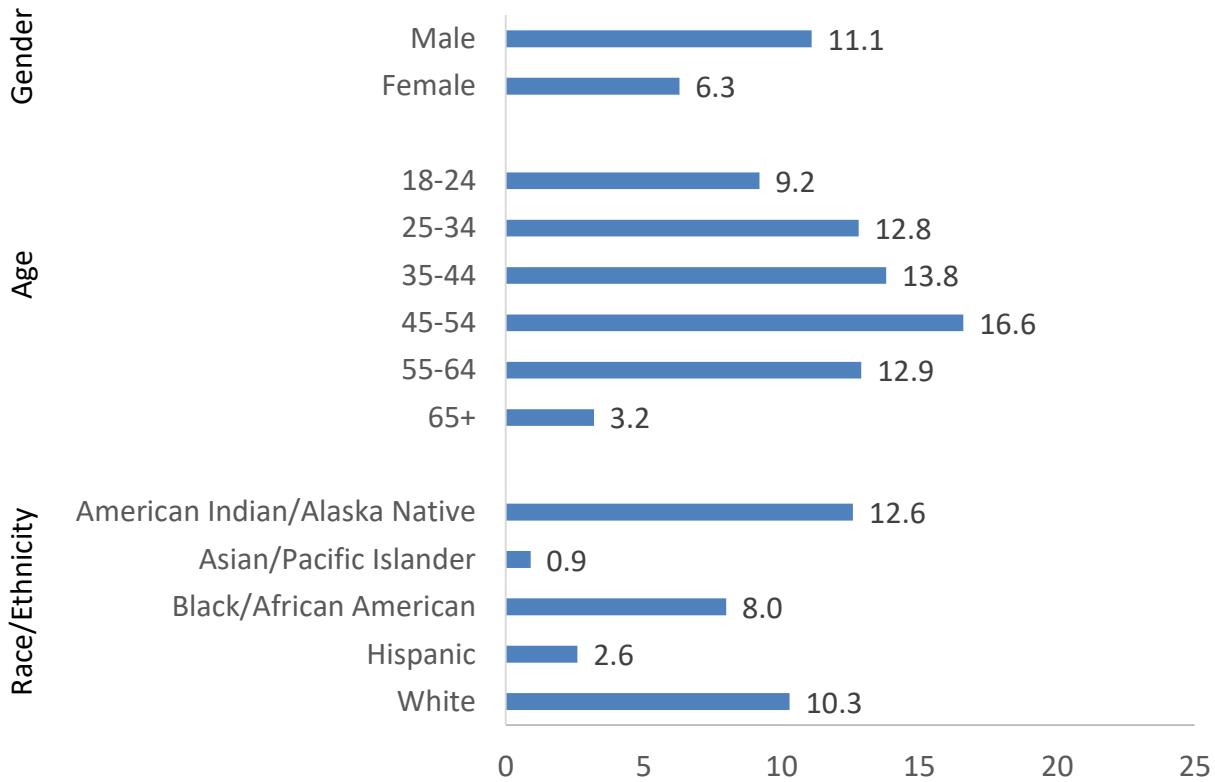


- Overdose death rates were highest in Multnomah County and lowest in Washington County for heroin.
- There was a consistent but slight decrease in overdose deaths due to pharmaceutical opioids in Clackamas County, while rates were similar over time for Washington and Multnomah counties.

CDC WONDER Data (continued)

To help assess potential differences in overdose deaths within subgroups defined by gender, age group, and race/ethnicity, the figure below presents overdose death rates broken down by these demographic characteristics.

Figure 11 - Total Tri-County Opioid Overdose Death Rate by Gender, Age (2010-2016), and Race/Ethnicity (2000-2016), CDC WONDER data



- Males were more likely to experience an opioid overdose death compared to females.
- The opioid-related death rate increased with age up to a peak of 16.6/100,000 for those aged 45-54. The rate dropped again for those aged 55-64, and was lowest for those aged 65 and older.
- Higher opioid overdose death rates were experienced by American Indian/Alaska Native, White, and Black/African American populations, while Asian/Pacific Islander and Hispanic populations had the lowest death rates.

Data Source and Methods

Direct comparison of results for deaths by drug type should be made with caution because drug categories between Medical Examiner (ME) and WONDER data sources differ. We include both data sources because of offsetting advantages of each: ME data are available much sooner, and WONDER data allow for cross-jurisdictional comparison.

Medical Examiner Data

Data were obtained through the Oregon Medical Examiner Database for deaths investigated by the Medical Examiner (ME)* in Clackamas, Multnomah, and Washington counties. Cases were identified using a literal text search for specific drugs, categories of drugs, and ICD-10 codes. This method was validated by case reviews. Data were included if the primary or contributing causes of death involved at least one of the following: prescription opioid, heroin, fentanyl/synthetic opioids, or an unspecified opioid. All manners of death (i.e., accident, suicide, homicide, and unspecified) were included. Some deaths involve multiple substances and categories are not mutually exclusive.

Drug categories were defined as follows:

- All Opioids includes any substance where pharmacologic type is opioid, including heroin, and any death where a specific opioid was not listed (e.g.,"opioid", "opiate")
- Pharmaceutical opioid refers to specific brands of prescription opioids as well as methadone
- “Fentanyl/Synthetic” includes any mention of fentanyl or derivates plus illegal opioids such as U-47700, 4-ANPP, kratom/mitragynine

It is not possible to calculate death rates by county because 1) deaths investigated by the ME are assigned to a county based on where the death occurred rather than the residence of the deceased and 2) address information for the deceased is sometimes incomplete. As a result, the denominator, or the population at risk for a death investigated by the ME, is unknown, precluding calculation of a rate and making cross-county comparisons more difficult.

While the ME should be involved in all drug-related deaths, the ME does not conduct an investigation in some rare cases, generally due to reporting errors. Overall, ME data are considered an effective source for rapidly collecting information on opioid-related deaths.

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* Deaths investigated by the ME include deaths that are:
- Apparently homicidal, suicidal, or occurring under suspicious or unknown circumstances;
- Resulting from the unlawful use of controlled substances or the use or abuse of chemicals or toxic agents;
- Occurring while incarcerated in any jail, correctional facility, or in police custody;
- Apparently accidental or following an injury;
- By disease, injury, or toxic agent during or arising from employment;
- While not under the care of a physician during the period immediately previous to death;
- Related to disease which might constitute a threat to the public health; or
- In which a human body apparently has been disposed of in an offensive manner.

Data Source and Methods (continued)

CDC WONDER Data

We accessed this data from the following website: https://wonder.cdc.gov/

The Underlying Cause of Death data available on WONDER are county-level national mortality and population data based on death certificates for U.S. residents. Each death certificate identifies a single underlying cause of death and demographic data, using the 4-digit ICD-10 code or group of codes. The definitions used for CDC WONDER opioid overdose deaths were as follows:

- Total opioid: Underlying cause of death X40-X44, X60-X64, X85, Y10-Y14 (drug poisoning), plus any multiple cause of death T40.0 (opium), T40.1 (heroin), T40.2-T40.4 (opioid pain relievers), T40.6 (other and unspecified narcotics).
- Heroin: drug poisoning as above, plus multiple cause of death code T40.1.
- Opioid prescription: drug poisoning as above, plus multiple-cause of death codes T40.2-T40.4.

Data are presented as rates and age-adjusted to the U.S. Standard 2000 population, which removes any differences in underlying mortality due only to differences in age composition.

The time lag for availability of data is about two years. Because of rates based on small numbers for individual counties, it is necessary to present some data as three-year averages.

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