

Non-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 experienced a non-fatal 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 Safety Coalition's goal to decrease the harms and overdose deaths from opioids in the community. We present data using two sources: emergency medical services response (EMS), and emergency department and urgent care clinic encounters (ESSENCE).

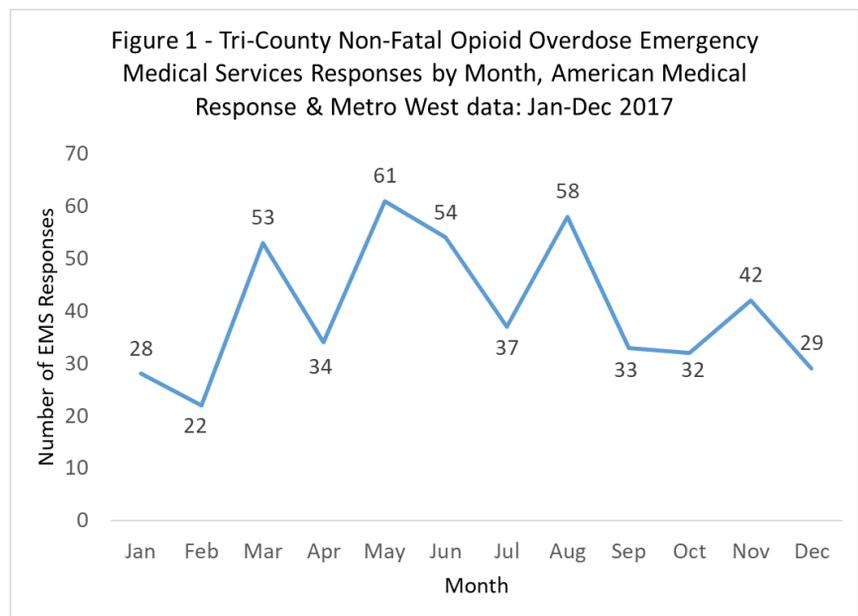
Key Findings

- The number of emergency responses for non-fatal overdose indicate moderate monthly variation during 2017 in the Tri-County region.
- The number of ED/urgent care visits for non-fatal overdose remained stable in Clackamas and Multnomah counties in 2016-2017, but increased in Washington County over the last three quarters of 2017.
- In the Tri-County region, Multnomah County experienced a larger number of non-fatal overdoses compared to Clackamas and Washington counties.

EMS Response

This data system tracks Emergency Medical Services (EMS) encounters involving the administration of naloxone to reverse an opioid overdose that resulted in patient improvement. For EMS, Multnomah and Clackamas counties use American Medical Response (AMR) and Washington County uses Metro West.

The following figure shows the number of responses per month in 2017 for non-fatal overdose, combined for the Tri-County area.



- These results indicate moderate variability in monthly overdose response, with an average of 40/month, and an estimated 483/year.

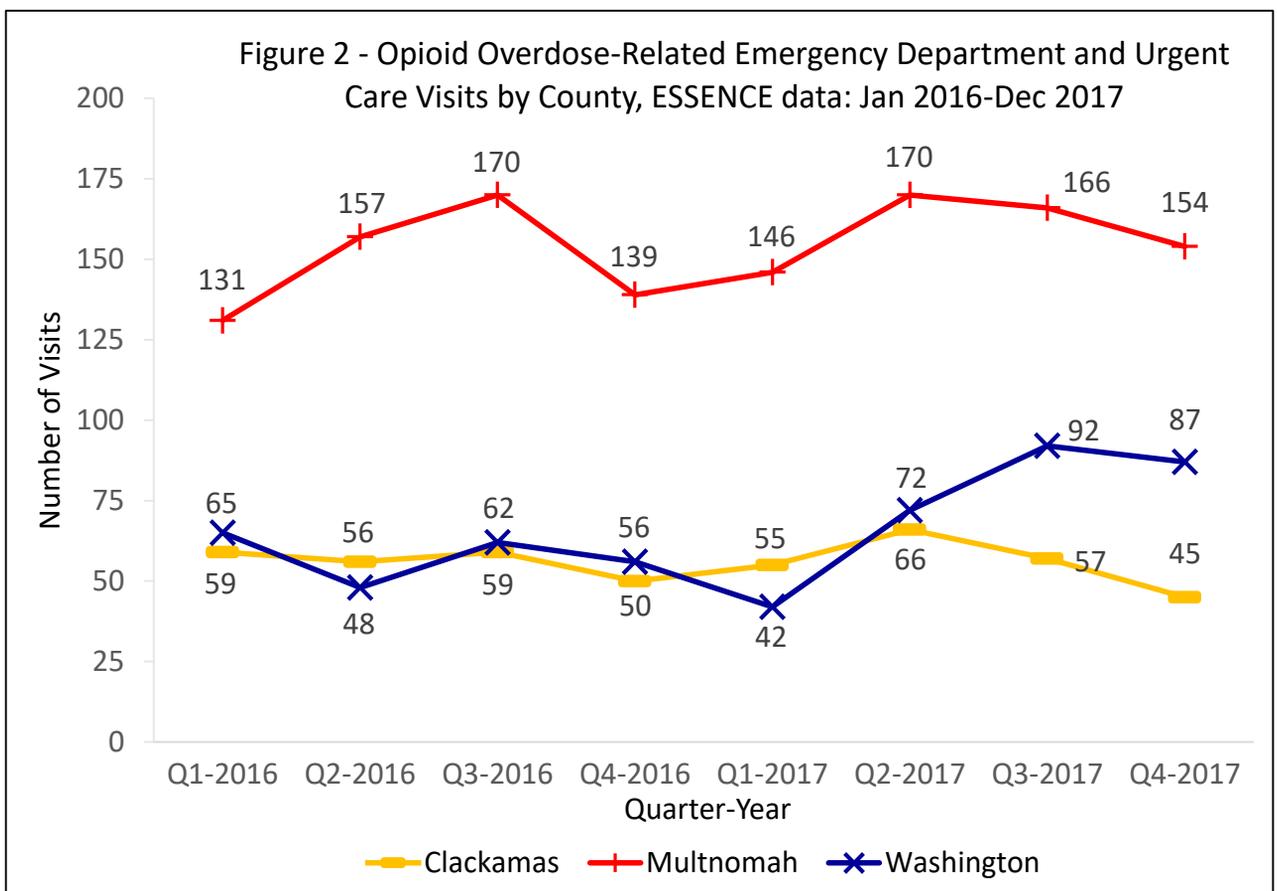


The Tri-County Opioid Safety Coalition coordinates efforts to decrease the harms and overdose deaths from opioids, improve the quality of life for people living with chronic pain, and improve the quality of life for people with opioid use disorder in Clackamas, Multnomah, and Washington counties.

Emergency Department and Urgent Care Visits (ESSENCE)

The number of non-fatal overdoses in the Tri-County region below are based on the Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE). This system provides real-time data to monitor reasons for visits at emergency departments and participating urgent care clinics.

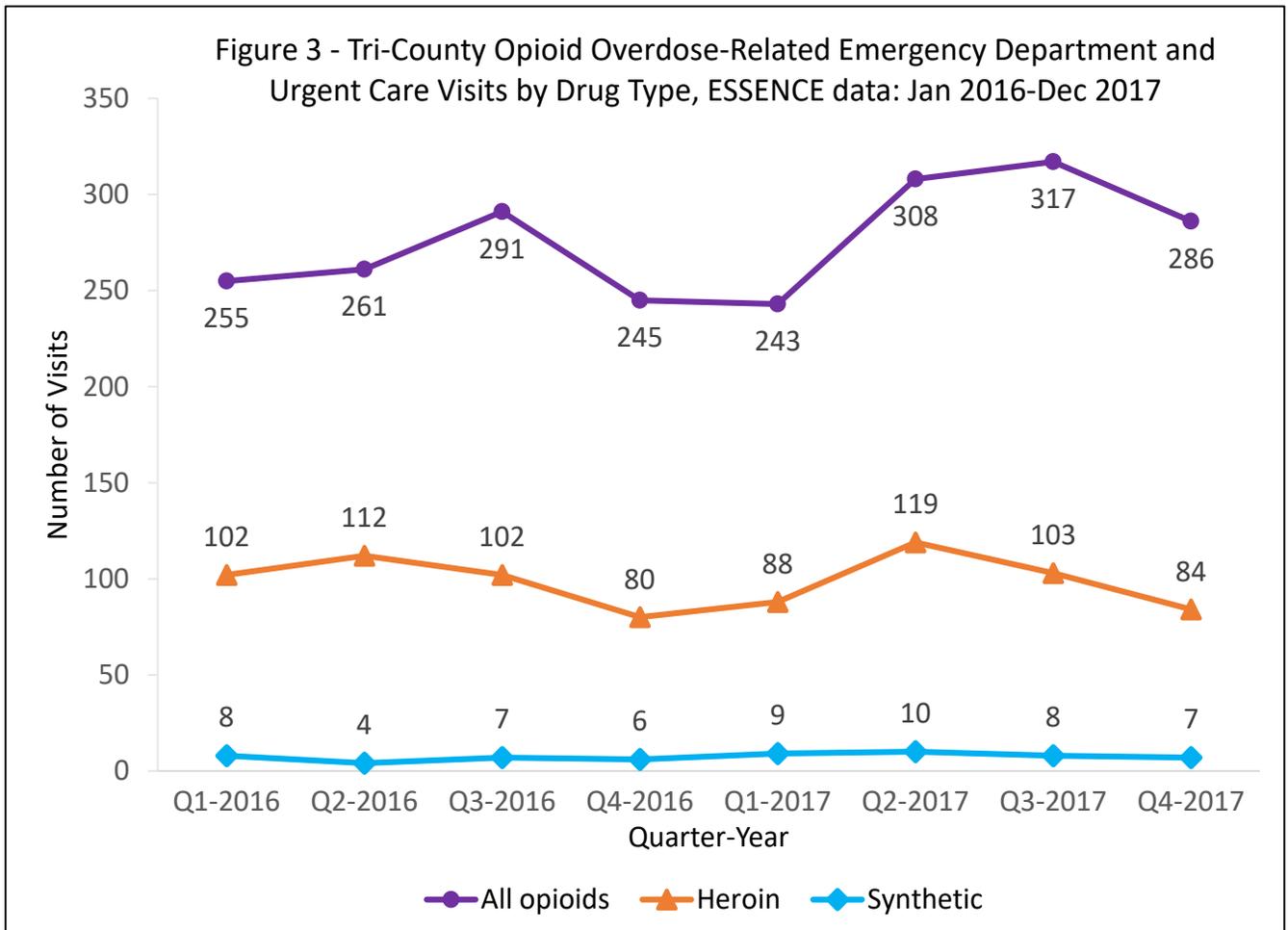
The figure below shows quarterly trend data for the total number of emergency and urgent care visits occurring as a result of an opioid overdose, broken down for each county.



- In 2016-2017, there were 2,024 visits identified as being due to an opioid overdose. Multnomah County accounted for the majority (56%) of these visits in the region.
- The number of visits for non-fatal overdose were relatively stable over time in Multnomah and Clackamas counties.
- There were similar numbers of visits for non-fatal overdose in Clackamas and Washington counties over time, with an increase in the final three quarters for Washington County.

Emergency Department and Urgent Care Visits (ESSENCE) (continued)

The figure below shows quarterly trend data for the total number of emergency and urgent care visits occurring as a result of an opioid overdose, broken down by drug type.



- The number of visits for non-fatal overdose due to heroin and synthetic opioids were relatively stable over time in the Tri-County region.
- Synthetic opioids accounted for 10 or less visits for non-fatal overdose per quarter, and heroin accounted for an average of 99 per quarter, which was 36% of all visits for non-fatal overdose.

Data Source and Methods

Emergency Medical Services

Multnomah and Clackamas counties both use American Medical Response (AMR) as the transport agency for Emergency Medical Services (EMS), while Washington County uses Metro West. The case definition used for identifying non-fatal overdoses includes emergency medical responses to overdose calls when naloxone was administered by EMS and the patient became more alert and responsive after administration (increase of Glasgow Coma Scale score ≥ 3).

We reviewed 5% (n=88) of all cases who were administered naloxone from January 1, 2016-August 22, 2017. The positive predictive value (true positive cases) was high, 92.0%, but the negative predictive value was low at 52.4%. The negative predictive value suggests that we are missing roughly 50% of the opioid overdose cases based on our current case definition. Alternative case definitions yielded significantly lower positive predictive values.

This methodology may not reflect the actual number of overdoses for multiple reasons. Only instances in which an ambulance arrived on scene are counted and 9-1-1 is not always called for overdoses. Cases aren't captured in the EMS system in instances where naloxone was either not administered or was administered by someone other than the paramedic, such as another first responder (e.g., Fire and Rescue, law enforcement) or a bystander. Changes in state law in 2013 increased the availability of naloxone to laypersons and this was further expanded in 2017, potentially making layperson-administration of naloxone to reverse overdoses more common. In other words, using only EMS data to assess the number of non-fatal overdoses likely results in an undercount.

ESSENCE

ESSENCE*, Oregon's syndromic surveillance system, provides real-time discharge diagnosis data from emergency departments and participating urgent care clinics. The data in this report reflect opioid-overdose visits reported to ESSENCE from facilities in Clackamas, Multnomah, and Washington counties.

Cases were identified through ESSENCE queries based on patient ICD-10 codes of the following discharge diagnoses:

- All Opioids: Poisoning by and adverse effect of: opium, heroin, other opioids, methadone, synthetic narcotics, or other/unspecified narcotics. ICD-10 codes: T40.0, T40.1, T40.2X (excluding T40.2X6), T40.3, T40.4 (excluding T40.0X6), T40.6 (excluding T40.606 and T40.696)
- Heroin: Poisoning by and adverse effect of: heroin. ICD-10 code: T40.1
- Fentanyl/Synthetic: Poisoning by and adverse effect of: synthetic narcotics. ICD-10 code: T40.4 (excluding T40.0X6)

* Electronic Surveillance System for the Early Notification of Community-Based Epidemics

Data Source and Methods (continued)

ESSENCE uses existing clinical data for the purposes of surveillance. The primary use of visit information is for clinical care - this secondary use is subject to limitations that should be considered when interpreting these data.

Although the opioid and heroin queries have high positive predictive values (85% and 98%, respectively), the positive predictive value for the fentanyl query is lower at 68%, meaning 32% of visits identified as a fentanyl overdose are false positives (visit was not for fentanyl overdose).

These data represent counts and not rates; fluctuations in population size may influence visits. When comparing jurisdictions, these considerations should be taken into account.