

IDENTIFYING AND RESPONDING TO OVERDOSE CLUSTERS IN KING COUNTY, WA

CSTE Local Outbreak Detection CoP

December 12, 2022

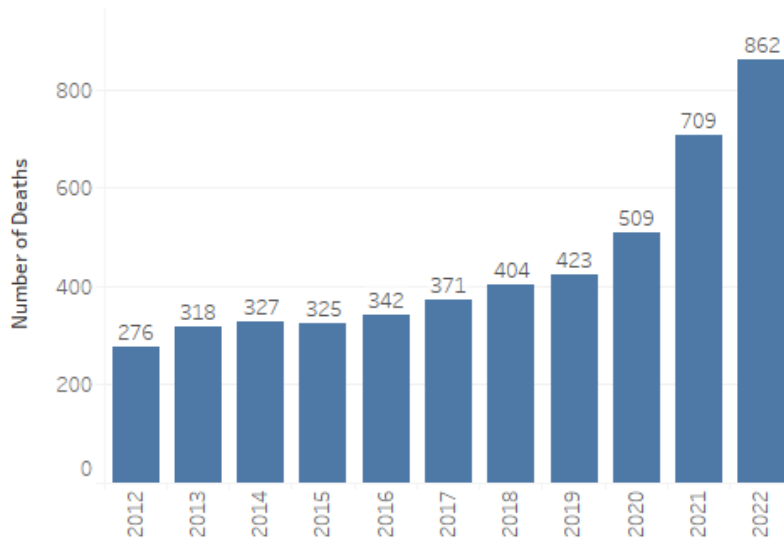
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Public Health
Seattle & King County 

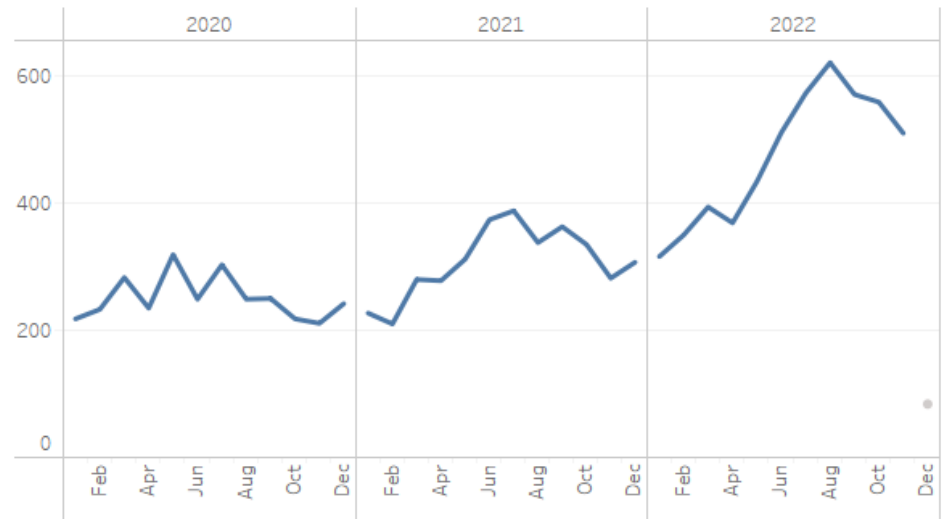
Background

- Both non-fatal and fatal overdoses continue to increase in King County and nationwide
- Currently track data through Emergency Medical Services, Medical Examiner's Office, and Emergency Department visits

Drug & Alcohol Poisoning Deaths, King County
(updated December 7, 2022)



Monthly # of Opioid Overdoses treated by KC EMS
(updated December 4, 2022)

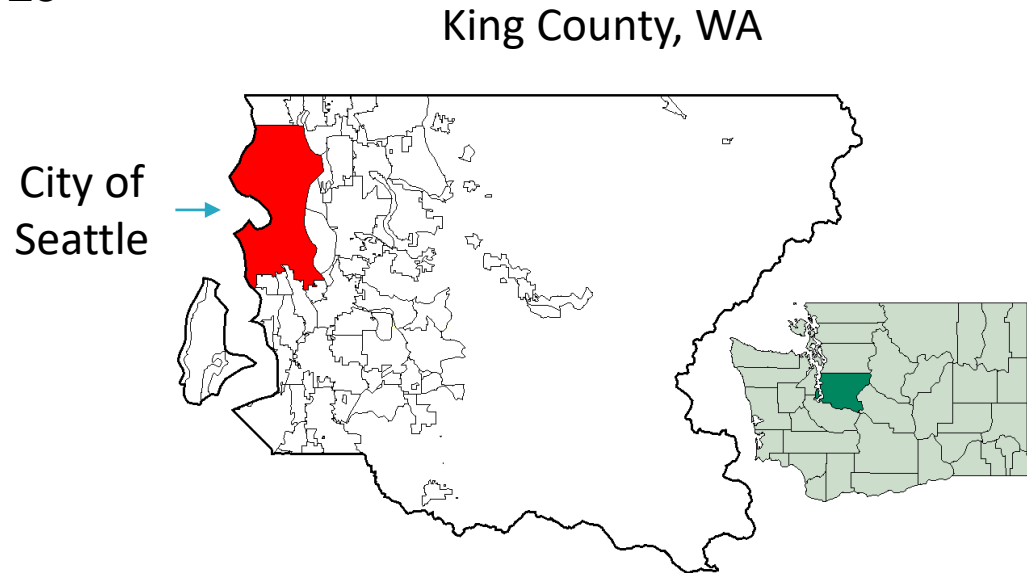


Background – King County, WA

Population: 2.2 million people; largest county in WA, bigger population than 15 states

39 incorporated cities.

7.6% of persons living in poverty
Increasing # of people unhoused



Background: King County Emergency Medical Services (EMS)

Tiered Response System



Publicly Funded Regional Response System

- Property tax levy
- EMS System is supported by the EMS Division of Public Health-Seattle and King County in conjunction with regional partners
- Levy provides for centralized data collection and analysis

Partnership between EMS Division and Overdose Prevention and Response Team at Public Health

- Jointly developed and refined an algorithm to identify overdoses in EMS data
- Worked together with a biostatistics doctoral student at the University of Washington who developed a probabilistic method of combining records EMS records (BLS+ALS) for unique person-incident (pipeline methodology)

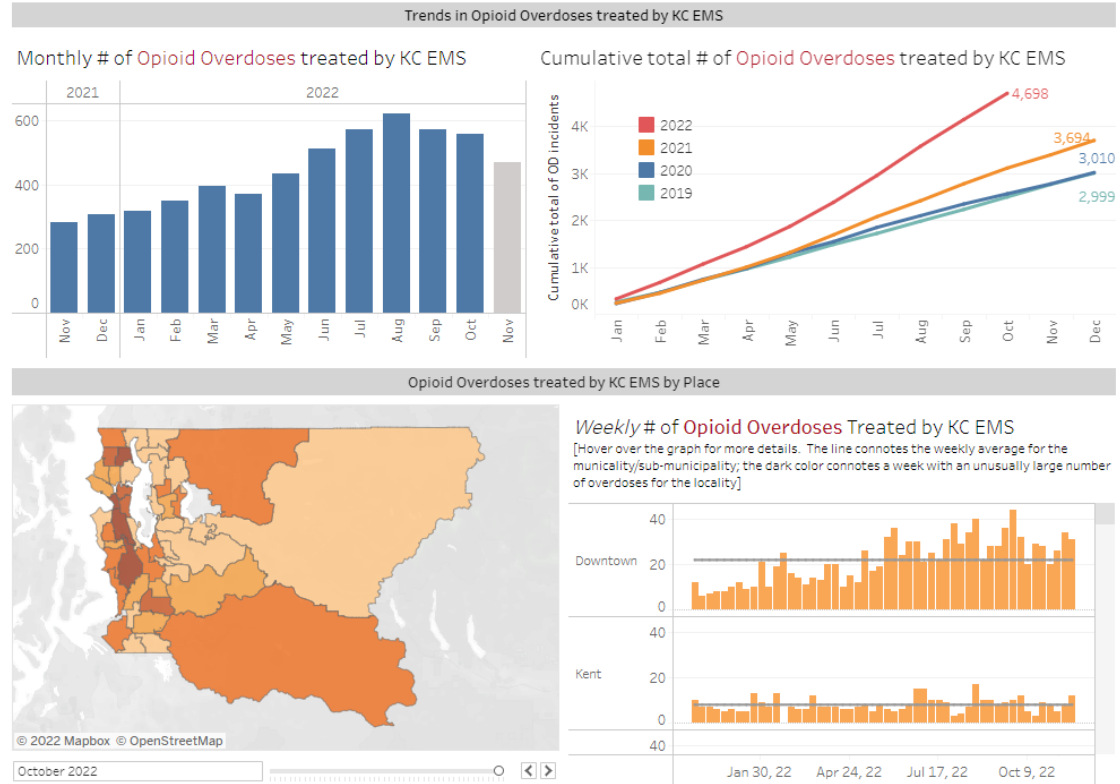
Partnership between EMS Division and Overdose Prevention and Response Team at Public Health

- Monitor non-fatal overdose
 - Trends
 - Outreach to people who have survived an overdose
 - Cluster detection

Emergency Medical Services

(As of 11/27/2022)

This dashboard summarizes opioid overdoses in King County treated by Emergency Medical Services (KC EMS) personnel. Nearly all overdoses treated by EMS personnel are non-fatal.

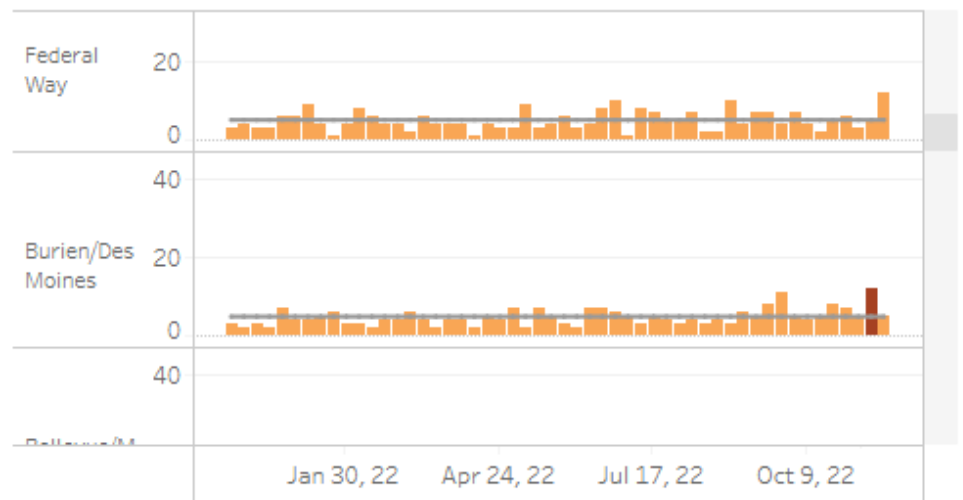


Identifying potential clusters in EMS data by City or Neighborhood

- Pipeline and overdose algorithm are run weekly
- An average for the past year for that city or neighborhood is represented by the grey line
- A cluster is defined as three standard deviations over the rolling average number of overdoses for that area in the past year
- Clusters are examined by a reviewer to determine if multiple people overdosed simultaneously or if there are any new or unusual patterns of overdose

Weekly # of Opioid Overdoses Treated by KC EMS

[Hover over the graph for more details. The line denotes the weekly average for the municipality/sub-municipality; the dark color denotes a week with an unusually large number of overdoses for the locality]

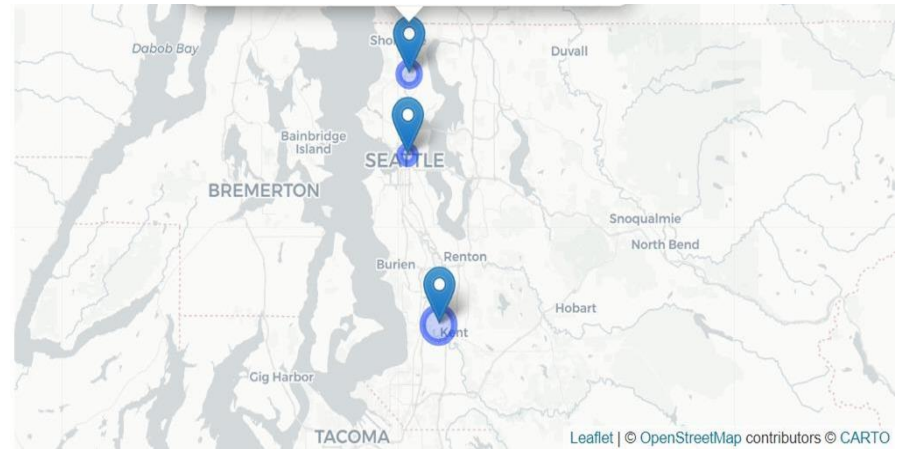


Clusters: Leverage Relationships with Fire Departments and Emergency Departments

- **Cluster notification by Fire Department**
 - Notified by Seattle Fire of a cluster of people who thought they were using cocaine alone but it had been adulterated with opioids
 - Not seen in our city/neighborhood data because the overdoses were spread over two neighborhoods and two different week periods
- **Cluster notification by an Emergency Department**
 - Notified by a Physician in the ED
 - Not seen in our city/neighborhood data because the overdoses were in a single encampment that happened to be at the intersection of three neighborhoods

Moving towards using SatScan to detect clusters

- SatScan
 - Software that is used to detect clusters through space and time that significantly deviate from the norm
 - Allows for more precise targeting and analysis of spatial and temporal patterns
- Benefits of using SatScan
 - Can look at both non-fatal and fatal overdose events
 - Increased resolution through a shift from neighborhood to point level event monitoring
 - Increased accuracy not limited by geographic or temporal boundaries



Clusters in Emergency Department visit data and Medical Examiner's Office data

- Rapid Health Information NetwOrk (RHINO) at WA DOH implements SatScan weekly on Emergency Department visit data and notifies us if anything is detected
 - By hospital location
 - By patient location
 - Run automatically through R and send R markdown report if detected
- Medical Examiner's Office data
 - Bi-weekly meetings with Medical Examiner's Office team
 - Beginning to use SatScan to identify clusters in MEO data

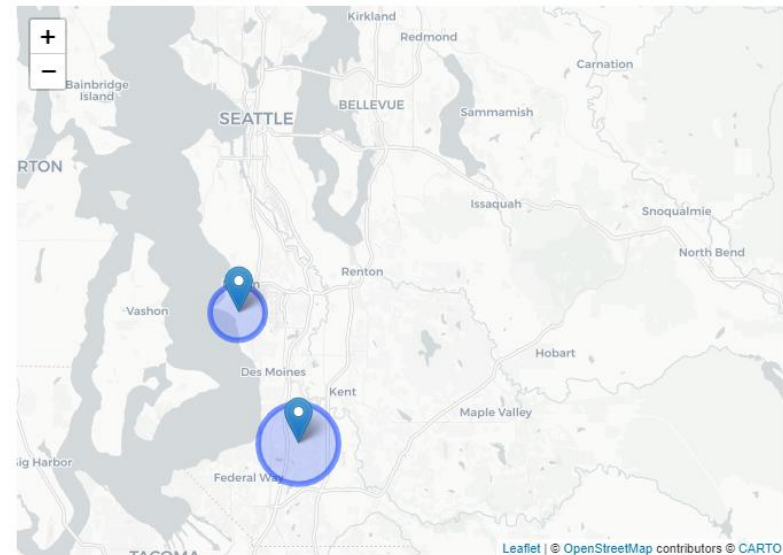
Automated Cluster Scanning Report

2022-09-06

King County Department of Public Health

Prospective Space-Time Permutation Model 30 Day Cluster Scan Study Period, 90 Day Historical Baseline

King County Overdose Cluster Map



Click Map Cluster to Access Popup

All Clusters Are Ongoing at Time of Scan

Determining if the event is of public health importance

The specific drug threat was previously thought to be non-existent, uncommon or recently increasing in King County

or

We are seeing the impact of the drug in a new geographic region or sub-population

or

There are unexpected outcomes from the drug threat (e.g. serious health threat)

Determining outreach and public communications response

There is an action specific to the drug threat that can be taken to protect the public from a health risk

Communication is necessary to:

- Inform the public and raise awareness of overdose prevention strategies.
- Aid the investigation
- Ensure appropriate and responsible messaging and transparency
- Inform healthcare providers for public health or patient care purposes (e.g., provide information on screening, testing, or care management).

Action and communication examples

- Communication channels
 - Drug alert system
 - Community organizations, harm reduction agencies
 - Communications campaign via flyers
 - Listservs
- Outreach to partners
 - Information sharing
 - Provide information and communications materials
 - Harm reduction tools (naloxone, fentanyl test strips, etc.)

April 21, 2022: New evidence of fentanyl in rock form in King County

There is new evidence of fentanyl being sold in rock form in King County. If you or someone you know is using rock or powdered drugs (especially those who believe you are using crack or powder cocaine), be aware it could be fentanyl or contain fentanyl.

Regardless of what substances are used, reduce overdose risk by doing the following:

- **Test drugs for fentanyl.** Order Fentanyl Test Strips here: <https://redcap.link/kcfts>
- **Always have naloxone.** Get naloxone at most pharmacies or order it anonymously here: www.lacedandlethal.com/how-to-spot-an-overdose

WARNING:

White powders
containing
deadly fentanyl
are circulating in
Seattle/King County.



Fentanyl is also commonly found in
blue pills (called 'Blues', 'Percs', 'M30s').



REDUCE OVERDOSE RISK

- Avoid using alone.
- Take turns with others and "watch & wait" between hits.
- Avoid mixing drugs.
- Have Naloxone (Narcan) ready. Find it near you at stopoverdose.org
- Call 911 if you suspect an overdose.
- Sign up for drug alerts: kingcounty.gov/overdose



Getting treatment is now easier than ever!
**Washington
Recovery Help Line**
24-hour Help for Substance Abuse, Problem Gambling & Mental Health
1.866.789.1511
www.washrecoveryhelp.org

Public Health
Seattle & King County 

Jan. 2022

Challenges

- Verifying information that may be documented in narrative reports
- Identifying clusters that may cross boundaries/ neighborhood borders
- Deciding what level of communication and outreach is appropriate
- Coordination is necessary across many different partners and multiple data sets to rapidly get accurate and actionable information

Questions and Discussion

Thank you!

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