



EpiCenter Alert Guidance Document

EpiCenter is a statewide syndromic surveillance system used by the Pennsylvania Department of Health's Office of Drug Surveillance and Misuse Prevention (ODSMP) to detect, track and characterize drug overdose events in near real-time. De-identified data on emergency department (ED) visits from participating hospitals are automatically collected in near real-time. Data from the emergency departments includes information such as facility name and location, date and time of the visit, patient age, gender, ZIP code of residence, chief complaint, and medical notes. 99% (172/173) of Pennsylvania's emergency department are currently connected to EpiCenter.

Most counties use a static threshold (see page 3 for threshold values). EpiCenter automatically creates an alert for the PDMP if the number of overdoses surpass the static threshold for that overdose type (see page 2) within a 24-hour period. Counties in Pennsylvania were grouped based on their population and historic overdose trends and a fixed threshold was assigned to the groups for alert monitoring purposes.

The ED visit data collected are classified into 3 overdose categories:

- Any Drug Overdose, which includes overdoses of any substance excluding alcohol-only overdoses, e.g., over the counter, prescription, and illicit drugs.
- Any Opioid Overdose, which includes overdoses of any opioid substance, including prescription and illicit opiates, such as heroin and illicitly manufactured fentanyl.
- Heroin Overdose, which includes overdoses where the chief complaint or medical notes indicate suspicion of heroin or diagnosis codes indicates heroin as the cause of the overdose. This information may not be based on laboratory testing and results may include cases related to fentanyl overdoses as well.

EpiCenter monitors and checks the data for the thresholds at two types of county Locations: home location and facility location.

- Home location:
 - The total count of overdose-related visits is calculated by using the patient's home ZIP code.
 - For example, if the location is set to Chester County and the data is totaled by home location, results will return for all patients with a home ZIP code in Chester County regardless of which ED they visit.
- Facility Location:
 - The total count of overdose-related visits is calculated by using the facility's ZIP code.
 - For example, if the location is set to Chester County and the data is totaled by facility location, results will return for all visits that took place at a facility with a ZIP code in Chester County regardless of the patient's county of residence.

Dynamic thresholds have been implemented for Allegheny and Philadelphia Counties, as well as for ZIP codes within the following counties, Allegheny, Berks, Bucks, Dauphin, Delaware, Lancaster, Lehigh, Luzerne, Montgomery, Philadelphia, Westmoreland, and York. Dynamic thresholds are calculated using a Poisson Ceiling Threshold analysis that computes the predicted count for the current 24-hour period as the average of the actual counts for the past 30 days. Alerts are triggered when the actual number of events is greater than 4 standard deviations above the predicted value.

Distributing Alerts

Once the Department of Health receives an alert for ED visits due to drug overdose that surpassed the threshold, epidemiologists review the case-level data to determine if the alert is valid. If valid, the alert is forwarded to state agencies, who disseminate the alert to local partners. Recipients are encouraged to share the alert with relevant stakeholders, including drug court teams, coroners, overdose task forces, medical directors, emergency department physicians, 911 county supervisors, and other stakeholders in the impacted county. All recipients of the alert can respond to a brief survey via a link in the alert email to make suggestions and recommendations to improve the notification system.

ZIP code alerts at the Home location are distributed if the number of events are $\geq 50\%$ of the static threshold for counties on the static threshold model. ZIP code alerts at the Facility location are not distributed in the interest of facility confidentiality.

Thresholds for Suspected Overdose by Facility Location

County Grouping by Overdose Type	Adams, Armstrong, Bedford, Bradford, Butler, Carbon, Centre, Clarion, Clearfield, Clinton, Columbia, Crawford, Elk, Fulton, Greene, Huntingdon, Indiana, Jefferson, Lawrence, Lebanon, Lycoming, McKean, Mifflin, Montour, Northumberland, Potter, Schuylkill, Somerset, Susquehanna, Tioga, Union, Venango, Warren, Wayne, Wyoming	Beaver, Blair, Cambria, Chester, Cumberland, Erie, Fayette, Franklin, Lackawanna, Mercer, Monroe, Northampton, Washington, Westmoreland	Berks, Bucks, Dauphin, Delaware, Lancaster, Lehigh, Luzerne, Montgomery, York	Allegheny	Philadelphia
Any Drug Overdose Threshold	6	10	15	Dynamic Thresholds	
Any Opioid Overdose Threshold	3	5	7		
Heroin Overdose Threshold	3	4	5		

Thresholds for Suspected Overdose by Home Location

County Grouping by Overdose Type	Adams, Armstrong, Bedford, Bradford, Cameron, Carbon, Centre, Clarion, Clearfield, Clinton, Columbia, Crawford, Elk, Forest, Fulton, Greene, Huntingdon, Indiana, Jefferson, Juniata, Lawrence, Lycoming, McKean, Mifflin, Monroe, Montour, Northumberland, Perry, Pike, Potter, Schuylkill, Snyder, Somerset, Sullivan, Susquehanna, Tioga, Union, Venango, Warren, Wayne, Wyoming	Beaver, Blair, Butler, Cambria, Chester, Cumberland, Erie, Fayette, Franklin, Lackawanna, Lebanon, Mercer, Northampton, Washington	Berks, Bucks, Dauphin, Delaware, Lancaster, Lehigh, Luzerne, Montgomery, Westmoreland, York	Allegheny	Philadelphia
Any Drug Overdose Threshold	6	9	16	Dynamic Thresholds	
Any Opioid Overdose Threshold	3	5	6		
Heroin Overdose Threshold	3	4	5		