

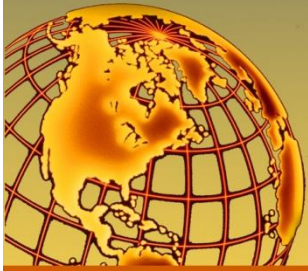
# Drug-Related Overdose Deaths in Pennsylvania, 2018



**DEA  
BULLETIN**



**Philadelphia  
Division**



(U) This DEA Bulletin is based on preliminary reporting and may be subject to updating as additional information becomes available.

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Since 2014, the Drug Enforcement Administration (DEA) Philadelphia Division Intelligence Program (PDIP) has annually collected and analyzed data and disseminated perceived trends and key findings that concern drug-related overdose deaths in Pennsylvania. This analysis has informed a multi-disciplinary audience relating to the drugs, populations, and geographic areas of greatest concern. Moreover, this has helped to fulfill two critical strategic objectives: to enable law enforcement authorities to effectively identify and investigate drug suppliers, and more importantly to allow public health and treatment officials to efficiently focus their efforts on reducing demand, abuse, and overdose deaths.

Fundamentally, the drugs that contribute to death are indicators of illicit drug availability in the user market. Analysis of overdose death data highlights geographic patterns of abuse and identifies at-risk populations and when coupled with drug treatment statistics, law enforcement-provided drug seizure data, and public health indicators, contributes to informed data-based decisions on how to allocate resources and develop strategic initiatives.

As in previous years, the PDIP requested information on drug-related overdose deaths from Pennsylvania's coroners and medical examiners for deaths that occurred in 2018. In 2018, the PDIP published a comprehensive opioid assessment for Pennsylvania.<sup>1</sup> This document can be referenced for historical data at the county level. In addition, data included in the Appendices of the aforementioned report has been updated to include 2018 data and can be found at [www.OverdoseFreePA.org](http://www.OverdoseFreePA.org), an interactive website developed, hosted, and maintained by the University of Pittsburgh School of Pharmacy's Program Evaluation Research Unit, Pennsylvania Opioid Overdose Reduction Technical Assistance Center (TAC).

<sup>1</sup> <https://www.dea.gov/documents/2018/10/15/opioid-threat-pennsylvania>

## KEY FINDINGS

- In 2018, approximately 4,491 drug-related overdose deaths were reported by Pennsylvania coroners and medical examiners—an 18 percent decrease from 2017. In 2018, 12 people in Pennsylvania died of a drug-related overdose each day.
- The drug-related overdose death rate in Pennsylvania was 35 per 100,000 people in 2018. The overdose rate decreased in 41 counties, increased in 23, and remained unchanged in 3. The ten highest overdose death rates were concentrated in eastern and central Pennsylvania counties in 2018, compared to southwestern Pennsylvania counties in 2017.
- Despite a statewide decrease in overdose deaths, the rate of decrease by region was not uniform. The largest decrease in overdose death rates occurred in the Southwest District<sup>2</sup> (41 percent), while rates of decrease in the remaining districts ranged from 11 percent to 1 percent.
- The presence of an opioid, illicit or prescription, was reported in 82 percent of drug-related overdose deaths in Pennsylvania in 2018, compared to 84 percent of drug-related overdose deaths in 2017.
- Fentanyl was the most frequently identified substance in drug-related overdose deaths (70 percent of deaths), remaining consistent with 2017. The younger population demographic was associated with fentanyl usage, as fentanyl was present in more than 75 percent of drug-related overdose decedents within the 15 to 24 and 25 to 34 age groups.
- Heroin remained the second most frequently identified substance in drug-related overdose deaths (35 percent), followed by cocaine (33 percent), benzodiazepines (28 percent), and fentanyl-related substances (FRSs) (23 percent).
- Cocaine prevalence in drug-related overdose deaths did not change significantly from 2017 to 2018 (32 percent and 33 percent, respectively). Methamphetamine was detected in 10 percent of drug-related overdose deaths in 2018, compared to 7 percent in 2017. However, this is not a statistically significant change in methamphetamine presence.
- The 25 to 34 year-old age group represented the most affected age group with 29 percent of drug-related overdose deaths in 2018. This is similar to the 30 percent of drug-related overdose deaths in this age group in 2017.
- In 2018, 70 percent of drug-related overdose decedents were male, consistent with 2017, but not consistent with the population distribution of across the Commonwealth (49 percent male, 51 percent female).
- In 2018, 79 percent of drug-related overdose decedents were Non-Hispanic White, 13 percent were Non-Hispanic Black, 3 percent were Hispanic, 3 percent

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<sup>2</sup> Pennsylvania Department of Health Districts, [www.health.state.pa.us](http://www.health.state.pa.us)

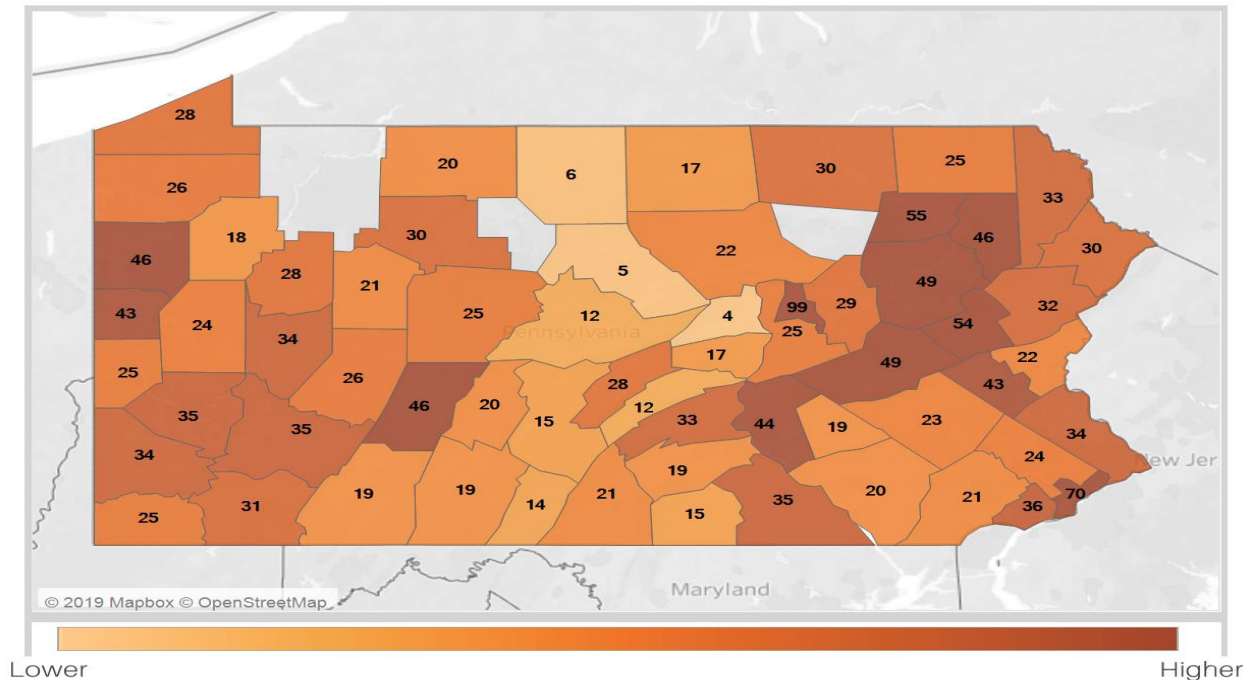
were identified as Other Race, and 2 percent were identified as Unknown. The racial distribution of overdose deaths was consistent with 2017 data and general population statistics across the Commonwealth.

## DETAILS

### Overdose Death Data<sup>3</sup>

In 2018, Pennsylvania coroners and medical examiners reported approximately 4,491 drug-related overdose deaths. Among individual counties, rates ranged from 0 to 99 per 100,000 population. Figure 1 depicts the rates of drug-related overdose deaths in Pennsylvania counties in 2018.

(U) Figure 1: Rate of Drug-Related Overdose Deaths per 100,000 people, Pennsylvania, 2018.



<sup>3</sup> The methodology used in this analysis can be found at *OverdoseFreePA* (<https://www.overdosefreepa.pitt.edu/datastandardization>).

The top 10 counties with the highest rate of overdose deaths in 2018 are markedly different than 2017. For example, rural Montour County and urban Philadelphia County (with an 8 percent decrease in the total number of overdose deaths) are the two highest counties respectively in 2018, switching places from 2017. Among the top 10 counties, the distribution of rural and urban counties was slightly different from 2017; six rural counties were in the top 10 rates in 2018, after only five in 2017. The most notable shift in the 2018 top 10 counties, was their concentration in eastern and central Pennsylvania, which reflects the significant decreases observed in southwestern Pennsylvania. Interestingly, the changes in rate and rank among the six newest counties in the top 10 is significant, as their combined average overdose death rate increased from 37 to 49 per 100,000 in 2018, while their average rank decreased from 24 to 6. Individually, the largest change in rate was noted in Montour County, rising from 66 to 99 per 100,000 people; the largest change in rank was Schuylkill County, rising from the 39th highest rate of drug-related overdose deaths in 2017 to the 6th highest in 2018 (see Figure 2).

Despite a statewide decrease in overdose deaths, the rate of decrease by region was not uniform. The largest decrease in overdose death rates occurred in the Southwest District<sup>4</sup> (41 percent), while the remaining regions showed decreases of 11 percent (South Central and Southeast), 7 percent (Northwest), 2 percent (Northeast), and 1 percent (North Central) (see Figure A1 for District map).

## Toxicology Trends

Reporting from Pennsylvania coroners and medical examiners revealed that 218 unique drugs were detected during toxicology screenings of 4,491 overdose death victims in 2018. Consistent with prior years, detections of multiple drugs in individual screenings were prevalent: 87 percent of decedents presented two or more drugs, 46 percent presented four or more drugs, and 16 percent presented six or more drugs.

Among identified drug categories<sup>5</sup>, fentanyl was observed in 70 percent of decedents, double that of heroin. Notably, FRSs & non-prescription synthetic opioids (NPSOs) increased to 23 percent from 18 percent in 2017, while prescription opioid detections decreased to 18 percent from 20 percent in 2017 (see Figure 3).

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<sup>4</sup> Pennsylvania Department of Health Districts, [www.health.state.pa.us](http://www.health.state.pa.us)

<sup>5</sup> A complete listing of the drugs contained in each drug category is available on *OverdoseFreePA* ([www.overdosefreepa.org](http://www.overdosefreepa.org)).

**(U) Figure 2. Ranking of the Rate of Drug-Related Overdose Deaths per 100,000 People, Pennsylvania, 2017-2018.**

County	2018 Rate	2018 Rank	2017 Rate	2017 Rank	County	2018 Rate	2018 Rank	2017 Rate	2017 Rank
Montour	99	1	66	2	Beaver	25	35	49	10
Philadelphia	70	2	77	1	Greene	25	36	35	26
Wyoming	55	3	40	19	Susquehanna	25	37	15	55
Carbon	54	4	42	17	Butler	24	38	49	11
Luzerne	49	5	50	9	Montgomery	24	39	27	38
Schuylkill	49	6	27	39	Berks	23	40	27	40
Lackawanna	46	7	42	18	Lycoming	22	41	30	32
Cambria	46	8	65	3	Northampton	22	42	30	31
Mercer	46	9	36	25	Chester	21	43	28	37
Dauphin	44	10	35	27	Franklin	21	44	23	44
Lehigh	43	11	47	12	Jefferson	21	45	14	57
Lawrence	43	12	61	4	Blair	20	46	39	22
Delaware	36	13	46	14	Lancaster	20	47	30	30
Allegheny	35	14	60	5	McKean	20	48	19	50
York	35	15	39	23	Lebanon	19	49	21	49
Westmoreland	35	16	55	8	Somerset	19	50	39	21
Washington	34	17	47	13	Cumberland	19	51	30	33
Bucks	34	18	37	24	Bedford	19	52	39	20
Armstrong	34	19	59	6	Venango	18	53	8	61
Wayne	33	20	23	42	Snyder	17	54	7	62
Perry	33	21	22	48	Tioga	17	55	22	47
Monroe	32	22	34	28	Huntingdon	15	56	29	34
Fayette	31	23	57	7	Adams	15	57	19	51
Pike	30	24	23	43	Fulton	14	58	7	63
Elk	30	25	23	45	Juniata	12	59	8	60
Bradford	30	26	25	41	Centre	12	60	7	64
Columbia	29	27	23	46	Potter	6	61	18	52
Clarion	28	28	16	54	Clinton	5	62	10	59
Mifflin	28	29	28	35	Union	4	63	11	58
Erie	28	30	43	16	Cameron	0	64	0	66
Indiana	26	31	44	15	Forest	0	64	14	56
Crawford	26	32	28	36	Sullivan	0	64	16	53
Northumberland	25	33	34	29	Warren	0	64	0	66
Clearfield	25	34	6	65	Urban Counties				

**Source: Pennsylvania Coroner/Medical Examiner Data**

**(U) Figure 3: Frequency of Drug Categories in Overdose Deaths, Pennsylvania 2017-2018.**

Drug Category	Percent Reported Among 2018 Decedents	Percent Reported Among 2017 Decedents
Fentanyl	70%	67%
Heroin	35%	38%
Cocaine	33%	32%
Benzodiazepines	28%	31%
FRSs & NPSOs	23%	18%
Ethanol	18%	19%
Prescription Opioids	18%	20%
Other Illicit Drugs	14%	11%

**Source: Pennsylvania Coroner/Medical Examiner Data**

## DEMOGRAPHICS

### Age


The majority of drug-related overdose decedents were between 25 and 34 years old, representing 29 percent of all drug-related overdose deaths in 2018. This age group was disproportionately affected by overdose deaths in 2018, as it comprised only 15 percent of Pennsylvania's population according to 2010 Decennial Census data.<sup>5</sup> While the three most affected age groups, 25 to 34, 35 to 44, and 45 to 54, only accounted for 40 percent of Pennsylvania's population, they accounted for 75 percent of the overdose deaths in 2018.

Figure 4 displays the percentage of overdose deaths by age group and drug category. Fentanyl was the top drug category reported among all age groups in 2018; however, the younger population demographic was more associated with fentanyl use, as more than 75 percent of drug-related overdose decedents within the 15 to 24 and 25 to 34 age groups presented fentanyl in toxicology reports.

<sup>5</sup> US Census Bureau, Population Division. Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018. <https://www.census.gov/data/datasets/2018/demo/popest/counties-total.html>. Accessed June 25, 2019.



**(U) Figure 4: Drug Presence by Age Group in Overdose Decedents, Pennsylvania, 2018.**

Drug Category	0-14	15-24	25-34	35-44	45-54	55-64	65-74	75+
Fentanyl		77%	81%	73%	62%	53%	52%	47%
Heroin		37%	41%	36%	32%	26%	30%	13%
Cocaine		23%	29%	34%	39%	34%	36%	13%
Benzodiazepines	17%	23%	26%	29%	29%	30%	26%	
Prescription Opioids	17%	15%	12%	17%	20%	25%	21%	33%
Ethanol	17%	11%	15%	18%	20%	24%	28%	27%
FRSs & NPSOs		28%	26%	25%	20%	15%	12%	27%
Other Illicit Drugs	33%	15%	16%	16%	14%	12%	7%	
<div>0%  100%</div>								

**Source: Pennsylvania Coroner/Medical Examiner Data**

## Gender

In 2018, about 3,132 males died of drug-related overdoses (70 percent), compared to 1,359 females (30 percent). Males disproportionately experienced overdose deaths compared to females, because they comprise 49 percent of the Pennsylvania population, but accounted for 70 percent of the overdose deaths in 2018.

## Race

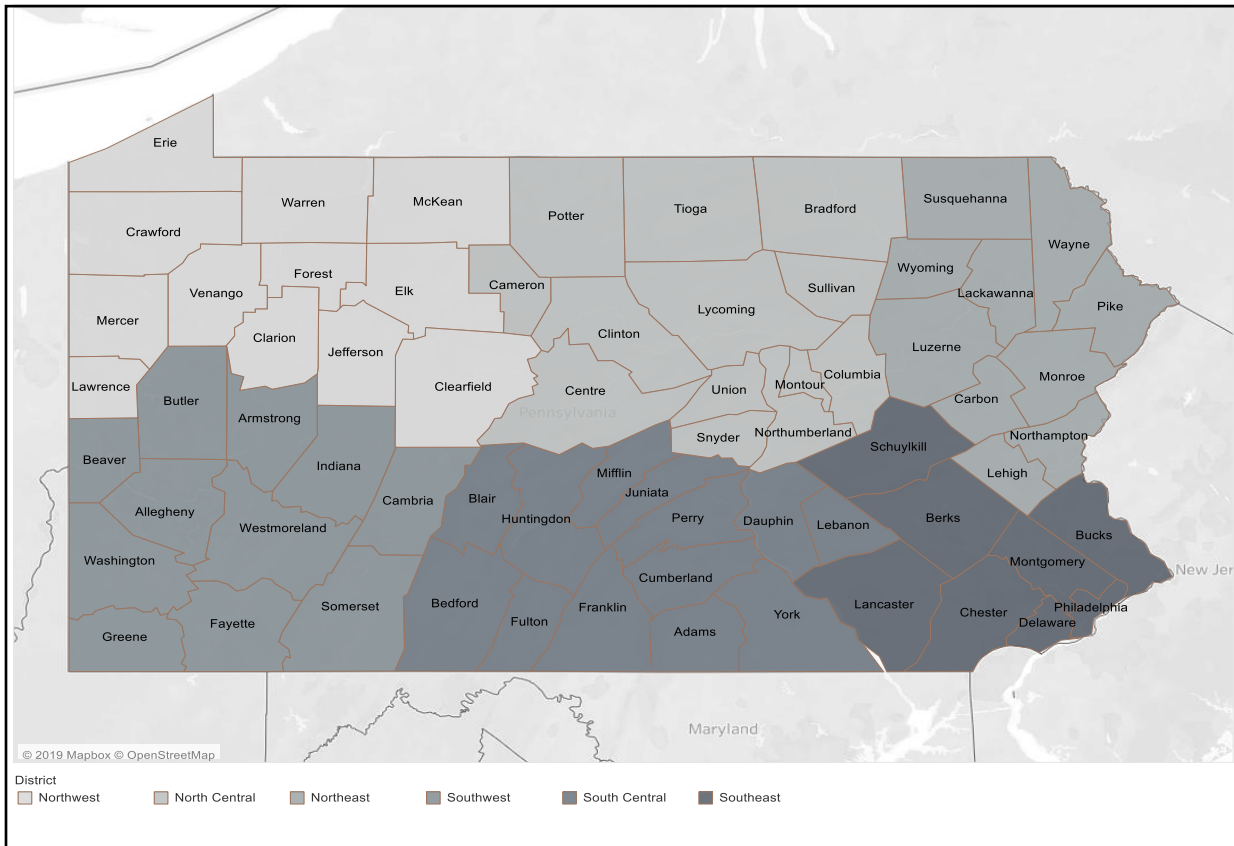
In 2018, 3,535 drug-related overdose decedents were identified as Non-Hispanic White (79 percent), 583 were identified as Non-Hispanic Black (13 percent), 134 were identified as Hispanic (3 percent), 134 were identified as Other Race (3 percent), and 105 were identified as “Unknown” (2 percent). The racial breakdown for overdose deaths is similar to the racial demographics in Pennsylvania, as Non-Hispanic Whites comprise approximately 78 percent, Non-Hispanic Blacks comprise approximately 12 percent, and Hispanics comprise approximately 7 percent of Pennsylvania’s population.

## Outlook

This report does not assess or explain the causes of increases or decreases in death rates regionally or across the Commonwealth, since the impact of myriad factors, including changes in demand, availability of naloxone, access to treatment, and previous mortality, must be considered. The decrease in the number of overdose deaths in Pennsylvania from 2017 to 2018 is a sign of incremental progress in combating the Commonwealth’s opioid epidemic. Evaluating the aforementioned factors to determine the possible causes of this decrease will allow stakeholders to draw meaningful conclusions on the success of existing or proposed interventions and strategies.

## Appendix

**Figure A1: Pennsylvania Health Districts Map**



**Source: Pennsylvania Department of Health**

*(U) This product was prepared by the DEA Intelligence Program - Philadelphia Field Division. Comments and questions may be addressed to the Indicator Programs Section at [DEA.IntelligenceProducts@usdoj.gov](mailto:DEA.IntelligenceProducts@usdoj.gov). For media/press inquiries call (202) 307-7977.*

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