Pennsylvania State Coroners Association

Report on Overdose Death Statistics 2016

"To the living we owe respect, but to the dead we owe only the truth." Voltaire

"And I looked, and behold a pale horse: and his name that sat upon him was Death"
Revelations Chapter 6 Verse 8

This report in the following pages provides statistics on deaths where drugs caused or contributed to the death of an individual. In reviewing the numbers on these pages we must be mindful that each number represents a history of an individual with hopes and dreams and families and friends. It is hoped that these numbers can assist in developing policies that will help abate this terrible scourge of drug related deaths.

Data Collection

Of the cases investigated by the State's Coroners and Medical Examiners, toxicology results determined that the drugs listed below were present at the time of death. It is important to note that each death is a single case, while each time a drug is detected represents an occurrence. The vast majority of the decedents had more than one drug occurrence.

A drug is indicated as the cause of death only when, after examining all evidence and the autopsy and/or toxicology results, the Coroner/Medical Examiner determines the drug is present or identifiable in the deceased and has played a causal or contributing role in the death. It is not uncommon for a decedent to have multiple drugs listed as a cause of death. This report is limited to deaths where the manner of death is accident, suicide, homicide or undetermined. The reported deaths herein do not include natural deaths, where there may be a significant number of drugs in the person's system, but the drugs are not determined to be the cause of death. But, if the drugs were determined to have a underlying impact on a death, which is otherwise due to medical complications, it is included in this report even though it has been determined to be a natural death.

Data and demographics may be missing or flawed from certain counties which will alter the outcome of various totals to a certain degree.

The Coroners and Medical Examiners who took time out of their busy schedules serving the people of their counties in determining the cause and manner of death of those who have died as a result of violent acts, unintentional or intentional, are gratefully acknowledged. Without their assistance this report would not have been possible.

Any perceived opinions in this Report are those of the compiler of the Report and do not necessarily reflect the opinions of the Pennsylvania State Coroners Association, nor any individual Coroner or Medical Examiner in the State of Pennsylvania.

Susan M. Shanaman, Attorney
PSCA Solicitor/Legislative Liaison

Report Summary

The CDC has stated that our country is in the midst of an overdose epidemic. The President has declared this crisi an epidemic. Drug overdoses are now the leading cause of unintentional injury death in the United States, exceeding the number of deaths from motor vehicle crashes and gunshots combined.

The New York Times quoted Dr. Hamilton Wright of Ohio stating "Of all the nations of the world, America consumes the most opium in one form or another. The habit has this Nation in its grip to an astonishing extent. … The drug habit has spread throughout America until it threatens us with a very serious disaster." What is astonishing about these comments is not that they were said, but when they were said. These remarks were made in 1911 by the first appointed US Drug Czar (appointed by President Theodore Roosevelt).

Drug related deaths have continued to increase. In 2014 that number reached at least 2,489 individuals. The year 2014 showed an average increase of about 20% over the prior year for many counties. The data for 2015 showed 3,505 deaths. And in 2016 the data indicates 4,884 drug related deaths. And, if preliminary data from 2017 is any indication, the number of deaths will continue to increase.

Thirteen (13) people die every day in Pennsylvania from drug related causes. Not known are the number of persons who overdose but survive.

The slight majority of deaths are found in the age group 25 – 34 years old. The typical decedent is white, male, aged 25 – 34 and single. Males represent approximately 70% of the deaths with females making up the remaining 30%. The racial breakdown of the deaths is consistent with the racial make-up of the State with whites making up about 77%, blacks at 12%, Hispanics at 4% and others at 7%.

Opioids, both prescription painkillers and heroin are still found in most of the deaths. However cocaine is seeing a recurrence across Pennsylvania. And the drug fentanyl with its synthetic versions have outstripped all other drugs in Pennsylvania overdose deaths. Fentanyl is found frequently with heroin or cocaine.

The fentanyls found were fentanyl, acetyl fentanyl, furanyl fentanyl, 3-methyl fentanyl, U-47700, 4-fluoroisobutyrfentanyl, carfentanil,sufentanil, 4-methoxy-butyryl fentanyl, acryl fentanyl and fluorobutyryl fentanyl.

The most frequently found drugs in the overdose deaths were heroin, fentanyl, oxycodone, ethanol, cocaine, alprazolam, diazepam, clonazepam, diphenhydramine and levamisole.

This report is based upon a review of toxicology results and does not include any review of a decedent's prescription history, evidence at the scene (which may be collected by coroners or law enforcement based upon county protocol), autopsy results, investigatory reports or interviews with next of kin, friends or witnesses.

Glossary of Drugs

Amphetamines – A group of synthetic psychoactive drugs called central nervous system (CNS) stimulants. The collective group of amphetamines includes amphetamine, dextroamphetamine, and methamphetamine. Methamphetamine is also known as “meth,” “crank,” “speed” and “tina.”
Benzodiazepines – A family of sedative-hypnotic drugs indicated for the treatment of stress, anxiety, seizures and alcohol withdrawal. Benzodiazepines are often referred to as “minor tranquilizers.” Xanax (Alprazolam) and Valium (Diazepam) are the most commonly prescribed drugs in this drug class.
Buprenorphine – A semi-synthetic opioid known as Buprenex, Suboxone, and Subutex indicated for the treatment of opioid addiction and moderate to severe pain.
Cathinones - a family of drugs containing one or more synthetic chemicals related to cathinone, an amphetamine-like stimulant found naturally in the Khat plant. They are 'cousins' of the amphetamine family of drugs, which includes amphetamine, methamphetamine and MDMA (ecstasy). It often goes by the street name of “Molly.”
Cannabinoids – A series of compounds found in the marijuana plant, the most psychoactive of which is THC, a strong, illicit hallucinogen. Street names for this drug are often associated with a geographic area from which it came but also include generic names like “ganja,” “MJ,” “ragweed,” “reefer” and “grass.”
Carisoprodol – Muscle relaxant indicated for the treatment of pain, muscle spasms and limited mobility. It is often abused in conjunction with analgesics for enhanced euphoric effect. It is marketed as Soma.
Cocaine – An illicit stimulant. Powdered cocaine goes by many street names including “C,” “blow,” “snow,” and “nose candy,” while freebase cocaine is mostly commonly known as “crack.”
Ethanol – ethyl alcohol.
Fentanyl – Synthetic narcotic analgesic (pain killer) used in the Durgesic transdermal patch. Also available in a solid “lollypop” sold under the brand name Actiq.
Flunitrazepam (Rohypnol) – Commonly referred to as a “date rape” drug. It is a sedative-hypnotic drug in the Benzodiazepine class. It often goes by the street name “roofies”.
Gamma-Hydroxybutyric Acid (GHB) – A depressant, also known as a “date rape” drug. GHB often goes by the street name “easy lay,” “scoop,” “liquid X,” “Georgia home boy” and “grievous bodily harm.”
Heroin – An illicit narcotic derivative. It is a semi-synthetic product of opium. Heroin also has multiple street names including “H,” “hombre” and “smack,”and others too numerous to mention.
Hydrocodone – A narcotic analgesic (pain killer). Vicodin and Lortab are two common drugs containing hydrocodone.
Hydromorphone – A narcotic analgesic (pain killer) used to treat moderate to severe pain. Marketed under the trade name Dilaudid, it is two to eight times more potent than morphine. Commonly used by abusers as a substitute for heroin.
Ketamine – An animal tranquilizer and a chemical relative of PCP. Street names for this drug include “special K,” “vitamin K” and “cat valium.”
Levamisole-A drug originally developed for use in treating cancer but discontinued for human use due to its negative effects on the human body. Generally found in the Philadelphia area as a cutting agent for cocaine.
Meperidine – A synthetic narcotic analgesic (pain killer) sold under the trade name Demerol, it is used for pre-anesthesia and the relief of moderate to severe pain.
Methadone – A synthetic narcotic analgesic (pain killer) commonly associated with Heroin detoxification and maintenance programs but it is also prescribed to treat severe pain. It has been increasingly prescribed in place of oxycodone for pain management. Dolophine is one form of methadone.
Hallucinogenic Phenethylamines/Piperazine – Includes such drugs as MDMA (Ecstasy, a hallucinogen), MDA (a psychedelic), MDEA (a psychedelic hallucinogenic) and Piperazine derivatives. Ecstasy has

multiple street names including “E,” “XTC,” “love drug,” and “clarity.” MDMA is often also known by a large variety of embossed logos on the pills such as “Mitsubishis” and “Killer Bees.”

Hallucinogenic Tryptamines – Natural tryptamines are commonly available in preparations of dried or brewed mushrooms, while tryptamine derivatives are sold in capsule, tablet, powder, or liquid forms. Street names include “Foxy-Methoxy”, “alpha-O”, and “5-MEO.”

Morphine – A narcotic analgesic (pain killer) used to treat moderate to severe pain. MS (Morphine Sulfate), Kadian, and MS-Contin are the tablet forms; Roxanol is the liquid form.

Nitrous Oxide (N2O) – Also known as "laughing gas," this is an inhalant (gas) that produces light anesthesia and analgesia. “Whippets” are a common form of nitrous oxide.

Oxycodone – A narcotic analgesic (pain killer). OxyContin is one form of this drug and goes by the street name “OC.” Percocet, Percodan, Roxicet, Tylox, and Roxicodone also contain Oxycodone.

Oxymorphone – A narcotic analgesic (pain killer), that is often prescribed as Opana, Numorphan and Numorphone.

Phencyclidine (PCP) – An illicit dissociative anesthetic/hallucinogen. Common street names for this drug include “angel dust,” “ace,” “DOA” and “wack.”

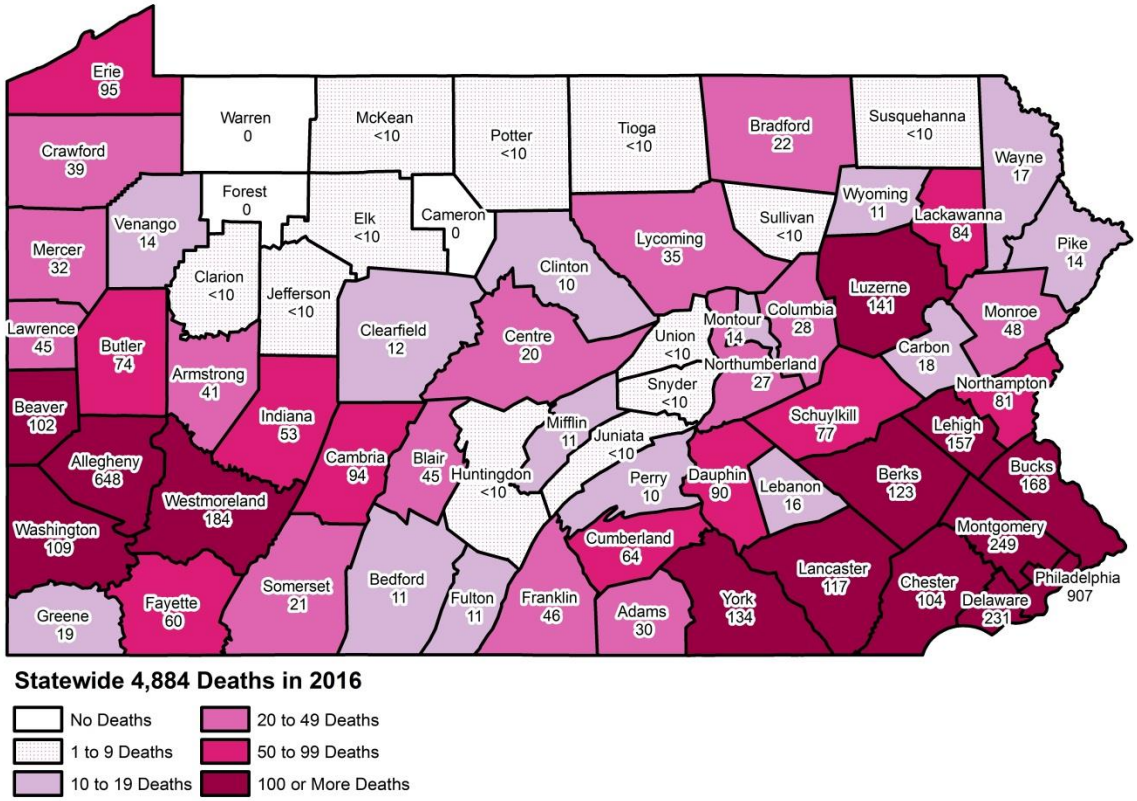
Synthetic Cannabinoids – Synthetic cannabinoids are man-made chemicals that are applied (often sprayed) onto plant material to mimic the effect of delta-9-tetrahydrocannabinol (THC), the psychoactive ingredient in the naturally grown marijuana plant (cannabis sativa). Synthetic cannabinoids, commonly known as “synthetic marijuana”, “Spice” or “K2”, are often sold in retail outlets as “herbal incense” or “potpourri”, and are labeled “not for human consumption.”

Sympathomimetic Amines – A group of stimulants including phentermine (an appetite suppressant) and other sympathomimetic amines not tracked elsewhere in this report.

Tramadol – A synthetic narcotic analgesic sold under the trade name Ultram and Ultracet. Indications include the treatment of moderate to severe pain. It is a chemical analogue to Codeine. Not currently a scheduled drug.

Zolpidem – A prescription medication used for the short-term treatment of insomnia; it is commonly known as Ambien.

2016 Drug Related Deaths



There are included a minor number of suicides through the means of overdosing and undetermined deaths for which the toxicology clearly showed the presence of drugs, but was not finally determinative of the manner of death

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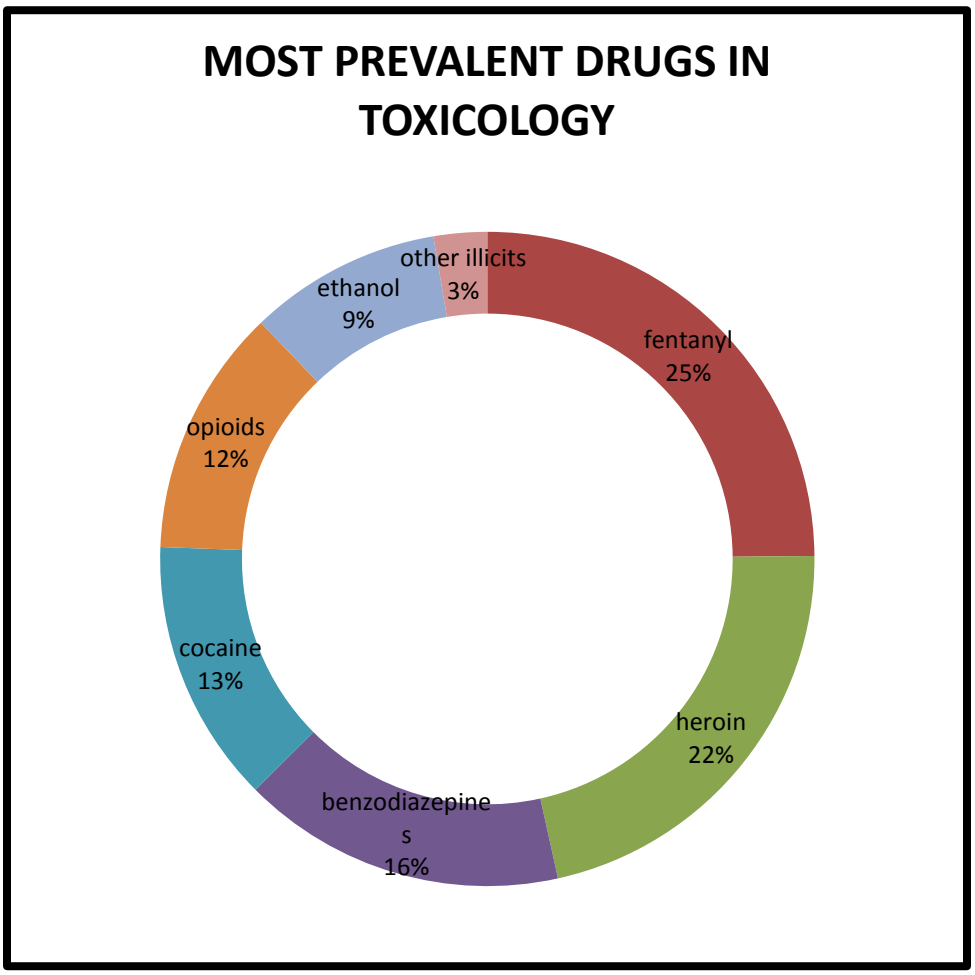
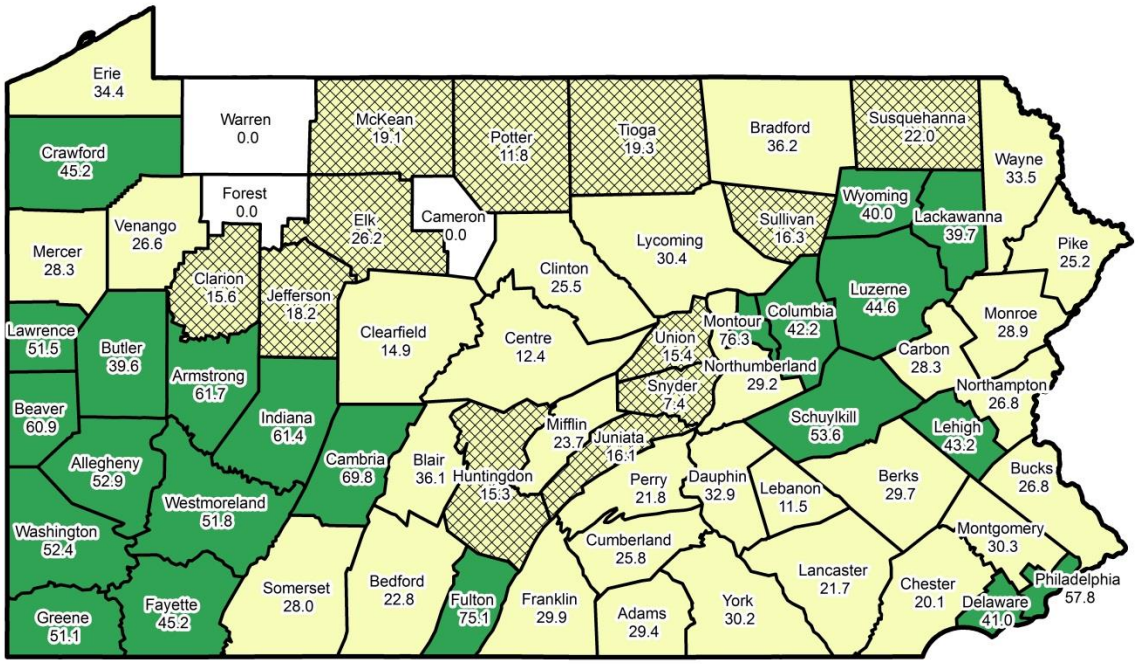

MOST PREVALENT DRUGS IN TOXICOLOGY
other illicits 3%
ethanol 9%
fentanyl 25%
opioids 12%
cocaine 13%
heroin 22%
benzodiazepines 16%



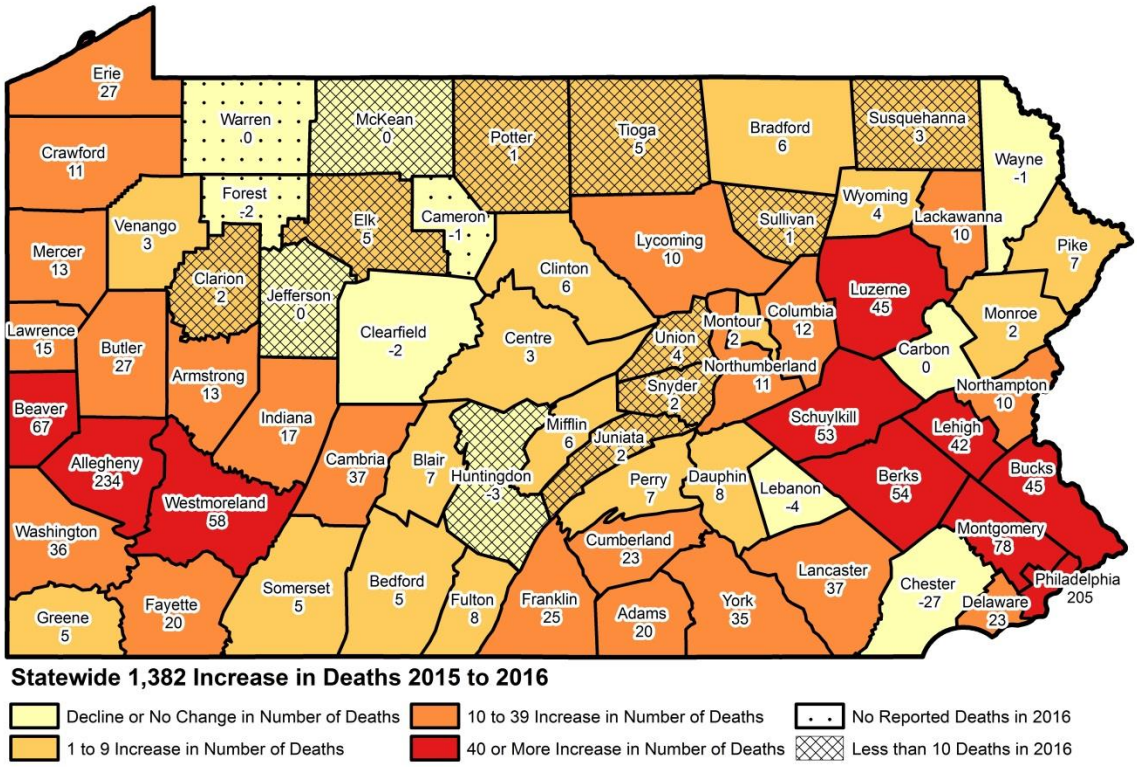
Statewide Rate = 38.2 Deaths Per 100,000 Population

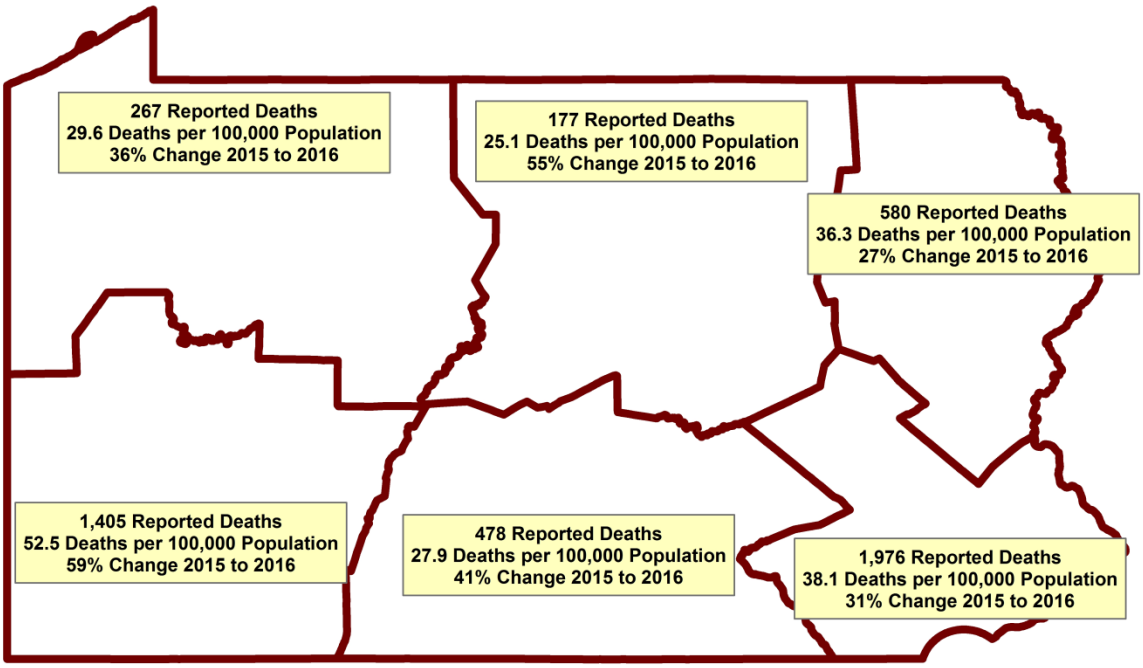
At or Below Statewide Rate

Above Statewide Rate

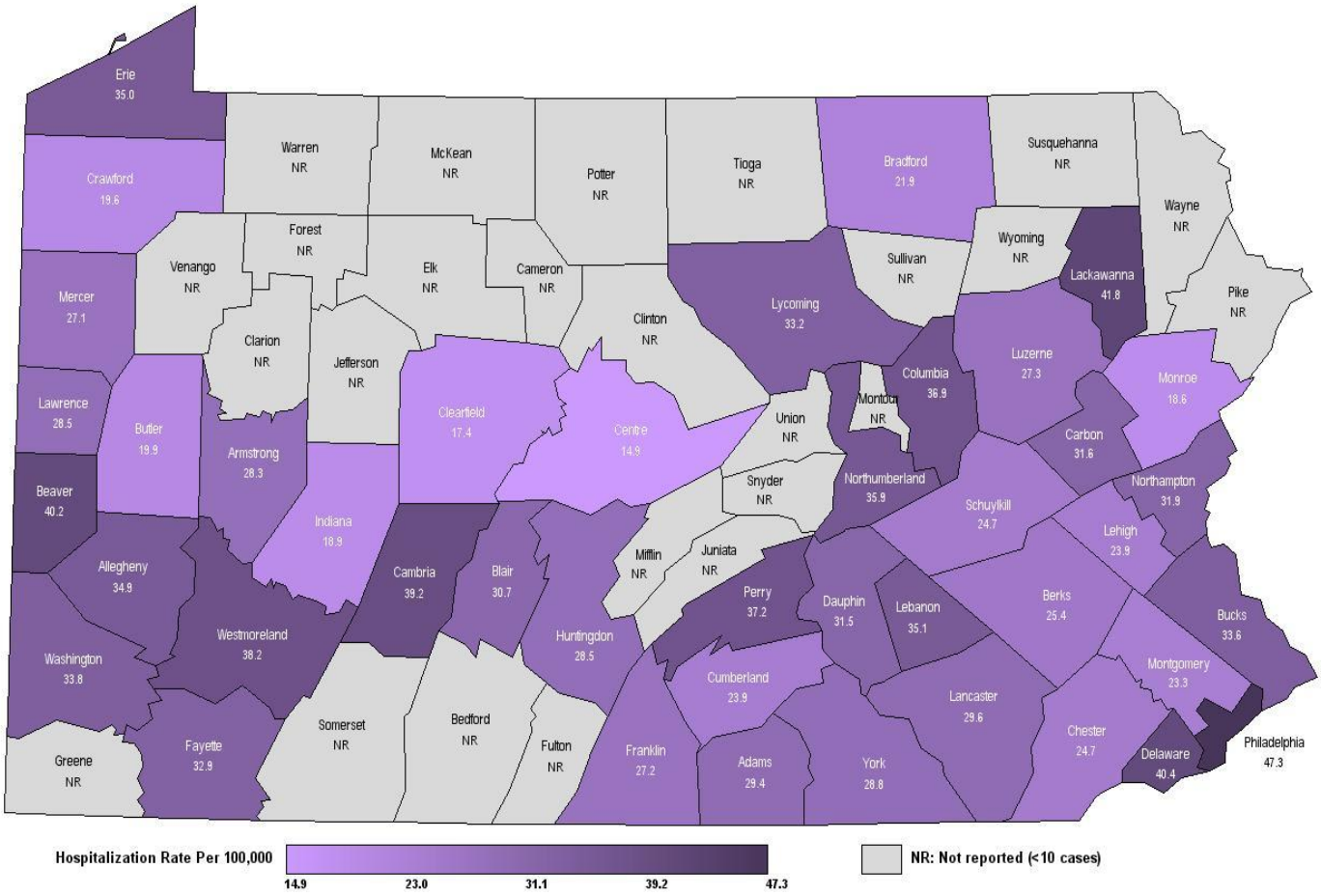
No Reported Deaths

Less than 10 Deaths


Erie 27
Warren 0
McKean 0
Potter 1
Tioga 5
Bradford 6
Susquehanna 3
Wayne -1
Crawford 11
Forest -2
Elk 5
Cameron -1
Wyoming 4
Lackawanna 10
Pike 7
Venango 3
Sullivan 1
Lycoming 10
Mercer 13
Clarion 2
Jefferson 0
Clinton 6
Luzerne 45
Monroe 2
Lawrence 15
Butler 27
Clearfield -2
Centre 3
Montour 2
Columbia 12
Union 4
Carbon 0
Armstrong 13
Northumberland 11
Snyder 2
Northampton 10
Beaver 67
Indiana 17
Mifflin 6
Juniata 2
Schuylkill 53
Lehigh 42
Allegheny 234
Cambria 37
Blair 7
Huntingdon -3
Perry 7
Dauphin 8
Lebanon -4
Berks 54
Bucks 45
Westmoreland 58
Washington 36
Cumberland 23
Montgomery 78
Lancaster 37
Chester -27
Philadelphia 205
Somerset 5
Bedford 5
Fayette 20
Fulton 8
Franklin 25
Adams 20
York 35
Delaware 23
Greene 5
Statewide 1,382 Increase in Deaths 2015 to 2016
Decline or No Change in Number of Deaths
1 to 9 Increase in Number of Deaths
10 to 39 Increase in Number of Deaths
40 or More Increase in Number of Deaths
No Reported Deaths in 2016
Less than 10 Deaths in 2016



NUMBER OF DEATHS PER 100,000 BY REGION



Source: Pennsylvania Health Care Cost Containment County (PHC4)

Number of Hospiltalizations for Opioid Overdoses per 100,000 Residents, 2016

Population-based Rates. Overall, there were 31.1 hospital admissions statewide for opioid overdose per 100,000 Pennsylvania residents (combining hospital admission rates for both heroin and pain medication overdose as shown in the map above). Higher rates for some counties might be dependent on larger numbers of residents with high risk characteristics (e.g., factors related to income, race/ethnicity and gender). County rates were not adjusted for these population differences so that important effects of these patient characteristics were not masked by such adjustment.

Heroin Overdose. Statewide, there were 14.4 admissions for heroin overdose per 100,000 residents. Lower income residents had a higher rate at 21.8. The rates for white (non-Hispanic), Hispanic, and black (non- Hispanic) residents were 14.6, 13.3 and 12.2, respectively. The rate was 20.8 for males and 8.3 for females.

Pain Medication Overdose. Statewide, there were 16.8 admissions for overdose of pain medication per 100,000 residents. Lower income residents had a higher rate at 22.8. The rates for black (non-Hispanic), white (non-Hispanic), and Hispanic residents were 19.8, 17.4 and 7.5, respectively. The rate was 15.5 for males and 17.9 for females.

Hospitalizations for Opioid Overdose by County, 2016

	Hospitalization Rate per 100,000 Residents*	**Total Number of Hospitalizations**	**Number of Hospitalizations for Heroin**	**Number of Hospitalizations for Pain Medicine**
Statewide	31.1	3,299	1,524	1,775
Adams	29.4	25	NR	NR
Allegheny	34.9	362	179	183
Armstrong	28.3	16	NR	NR
Beaver	40.2	57	36	21
Bedford	NR	NR	NR	NR
Berks	25.4	86	53	33
Blair	30.7	32	NR	NR
Bradford	21.9	11	NR	NR
Bucks	33.6	175	94	81
Butler	19.9	31	18	13
Cambria	39.2	45	17	28
Cameron	NR	NR	NR	NR
Carbon	31.6	17	NR	NR
Centre	14.9	21	NR	NR
Chester	24.7	103	48	55
Clarion	NR	NR	NR	NR
Clearfield	17.4	12	NR	NR
Clinton	NR	NR	NR	NR
Columbia	36.9	21	NR	NR
Crawford	19.6	14	NR	NR
Cumberland	23.9	49	19	30
Dauphin	31.5	70	36	34
Delaware	40.4	186	98	88
Elk	NR	NR	NR	NR
Erie	35.0	80	34	46
Fayette	32.9	37	14	23
Forest	NR	NR	NR	NR
Franklin	27.2	34	17	17
Fulton	NR	NR	NR	NR
Greene	NR	NR	NR	NR
Huntingdon	28.5	11	NR	NR
Indiana	18.9	14	NR	NR
Jefferson	NR	NR	NR	NR
Juniata	NR	NR	NR	NR
Lackawanna	41.8	74	13	61
Lancaster	29.6	127	61	66
Lawrence	28.5	21	10	11
Lebanon	35.1	39	19	20
Lehigh	23.9	70	34	36
Luzerne	27.3	73	32	41
Lycoming	33.2	32	10	22
McKean	NR	NR	NR	NR
Mercer	27.1	26	11	15
Mifflin	NR	NR	NR	NR
Monroe	18.6	26	11	15
Montgomery	23.3	157	81	76
Montour	NR	NR	NR	NR
Northampton	31.9	80	37	43
Northumberland	35.9	28	NR	NR

Perry	37.2	14	NR	NR
Philadelphia	47.3	603	297	306
Pike	NR	NR	NR	NR
Potter	NR	NR	NR	NR
Schuylkill	24.7	30	11	19
Snyder	NR	NR	NR	NR
Somerset	NR	NR	NR	NR
Sullivan	NR	NR	NR	NR
Susquehanna	NR	NR	NR	NR
Tioga	NR	NR	NR	NR
Union	NR	NR	NR	NR
Venango	NR	NR	NR	NR
Warren	NR	NR	NR	NR
Washington	33.8	59	35	24
Wayne	NR	NR	NR	NR
Westmoreland	38.2	116	46	70
Wyoming	NR	NR	NR	NR
York	28.8	104	56	48
Juniata	NR	NR	NR	NR
Lackawanna	41.8	74	13	61
Lancaster	29.6	127	61	66
Lawrence	28.5	21	10	11
Lebanon	35.1	39	19	20
Lehigh	23.9	70	34	36
Luzerne	27.3	73	32	41
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Somerset	NR	NR	NR	NR
Sullivan	NR	NR	NR	NR
Susquehanna	NR	NR	NR	NR
Tioga	NR	NR	NR	NR
Union	NR	NR	NR	NR
Venango	NR	NR	NR	NR
Warren	NR	NR	NR	NR
Washington	33.8	59	35	24
Wayne	NR	NR	NR	NR
Westmoreland	38.2	116	46	70
Wyoming	NR	NR	NR	NR
York	28.8	104	56	48

** Hospitalization rate per 100,000 residents is based on the total number of hospitalizations for heroin and pain medicine combined.*
NR: Not Reported. Fewer than 10 hospitalizations for heroin and pain medication individually or combined.

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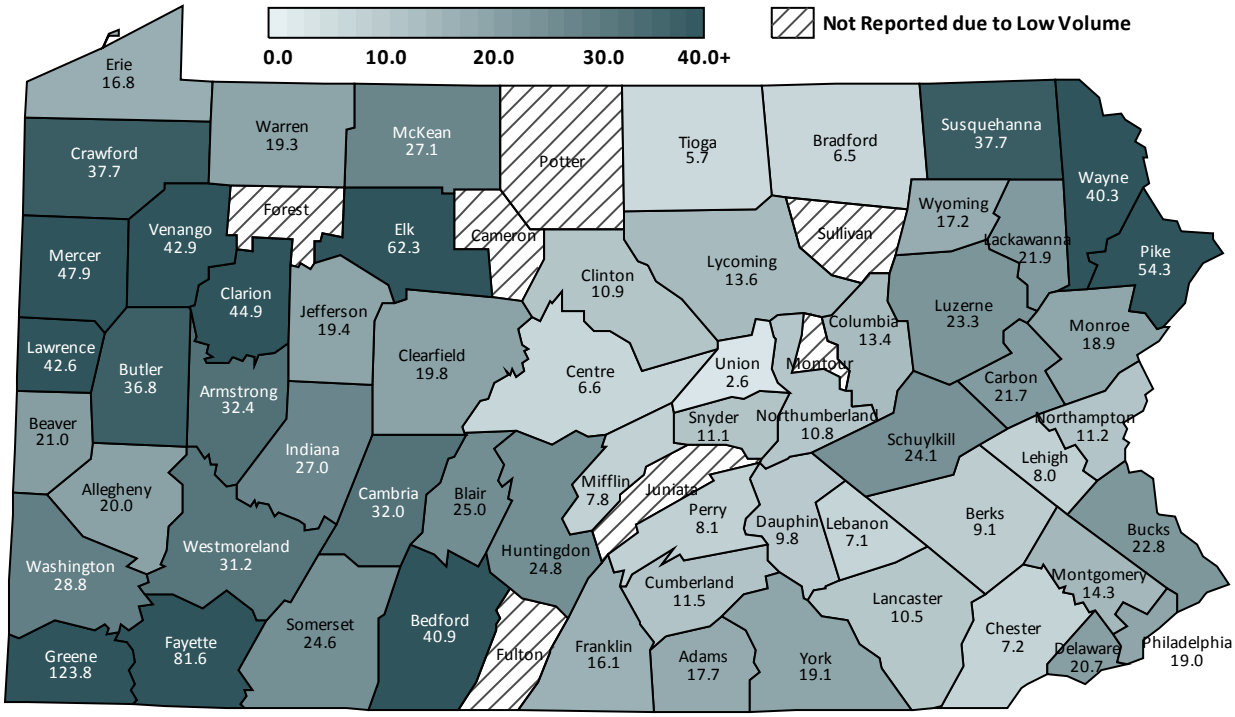
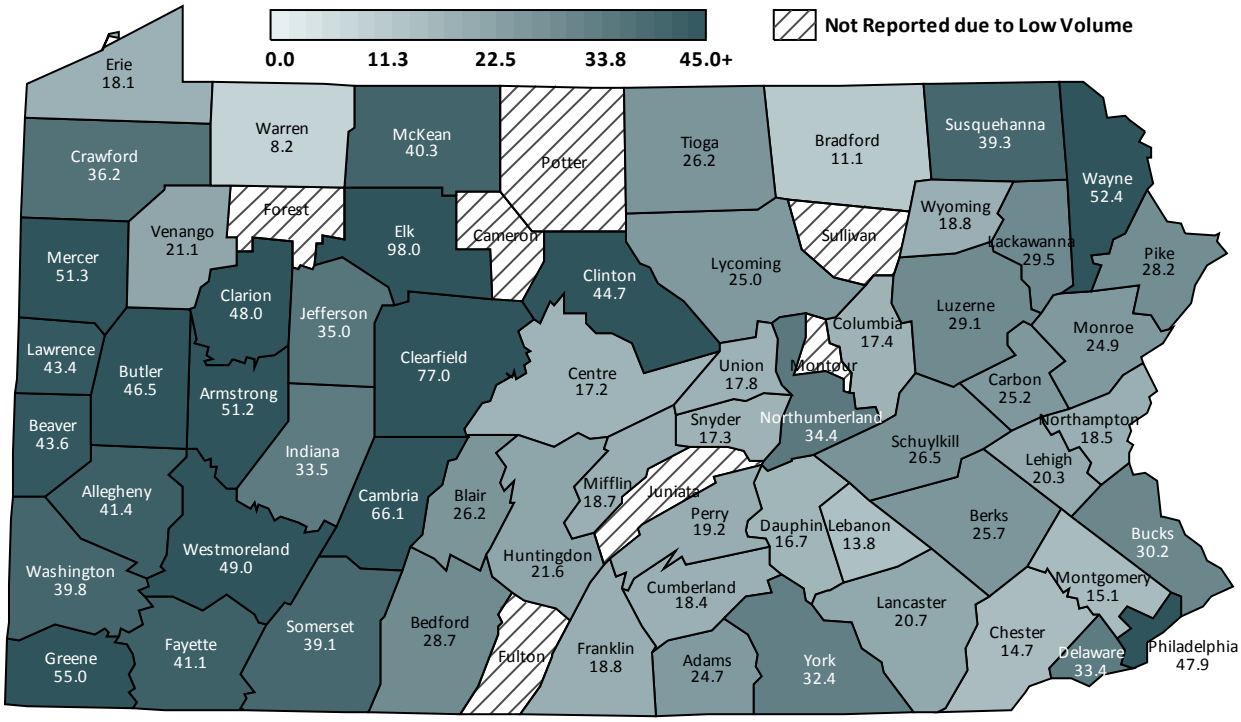
Substance-related Rate per 1,000 Neonatal Stays in FFY 2015



Source: Pennsylvania Health Care Cost Containment County (PHC4)

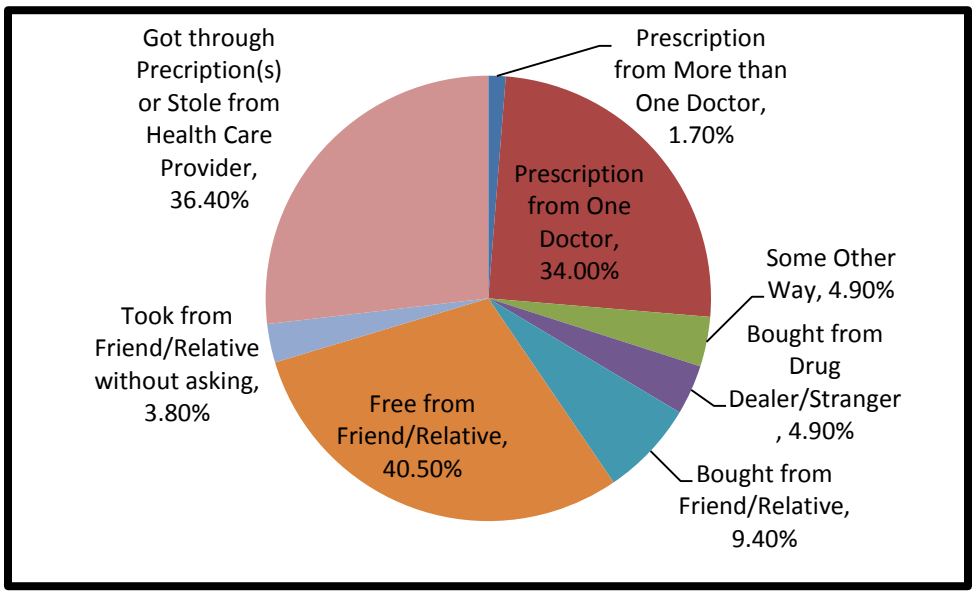
According to the PHC4 Research Brief "Neonatal and Maternal Hospitalizations Related to Substance Use" the rate of neonatal hospital stays related to substance use increased by 250%, from 5.6 to 19.5 per 1,000 neonatal stays. Neonatal drug withdrawal, or neonatal abstinence syndrome (NAS), was present in about 82.0% of the FFY 2015 neonatal drug-related stays. Between FFY 2000 and FFY 2015, the rate of NAS increased from 1.6 to 16.0 per 1,000 neonatal stays – an increase of 870%. These neonatal stays added to overall cost of care by an estimated $20.3 million for FFY 2015.

Substance-related Rate per 1,000 Maternal Stays in FFY 2015



Source: Pennsylvania Health Care Cost Containment County (PHC4)

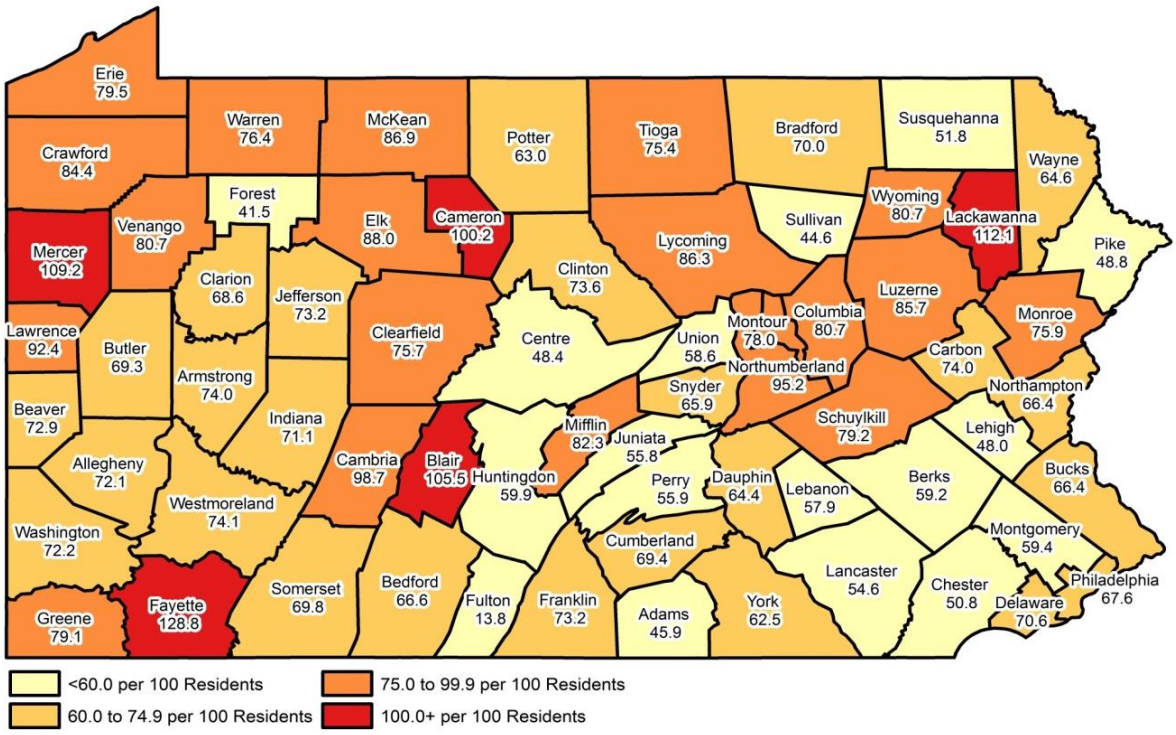
According to the PHC4 Research Brief "Neonatal and Maternal Hospitalizations Related to Substance Use" between FFY 2000 and FFY 2015 the rate of maternal hospital stays related to substance use by 119%, from 14.8 to 32.4 per 1,000 maternal stays. Of the maternal stays involving opioid drugs, e.g. heroin, between FFY 2000 and FFY 2015, these stays increased from 2.8 to 16.8 per 1,000 – an increase of 510%. Additional cost of care is estimated at $1.8 million.



Source Where Pain Relievers Were Obtained for Most Recent Misuse among People Aged 12 or Older Who Misused Prescription Pain Relievers in the Past Year: Percentages 2015

SAMHSA NSDUH Data Review September 2016

2016 Opioid Prescribing per 100 persons for Pennsylvania Counties



- Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention
- Page last updated: July 31, 2017

More needs to be done. Drug deaths represent approximately 10 percent of the drug abuse issue. Until hospitals, EMS, poison control centers, 911 call centers, law enforcement and all who prescribe and administer Narcan report on drug overdoses where the person survives, and on the judicial results of those who sell drugs, we are doing nothing more than establishing a drug policy which deals with drug use **“one grave at a time.”**

Therefore this year, besides providing overall statistics on drug deaths by county, this report with permission is including data on number of prescritions written by county, number of emergency department visits for overdoses, and the number of cases involving babies born with NAS.

Make no mistake, the epidemic of drug overdoses that is killing is at a faster rate than the HIV epidemic at its peak. Until we start thinking of this as a mass disaster in society, we will continue to lose the war on drugs. We must disrupt or dismantle not only the supply of illegal drugs, but we must disrupt the supporting financial infrastructure of supplying illegal drugs.

“The world is a dangerous place to live; not because of the people who are evil, but because of the people who don't do anything about it.” Albert Einstein