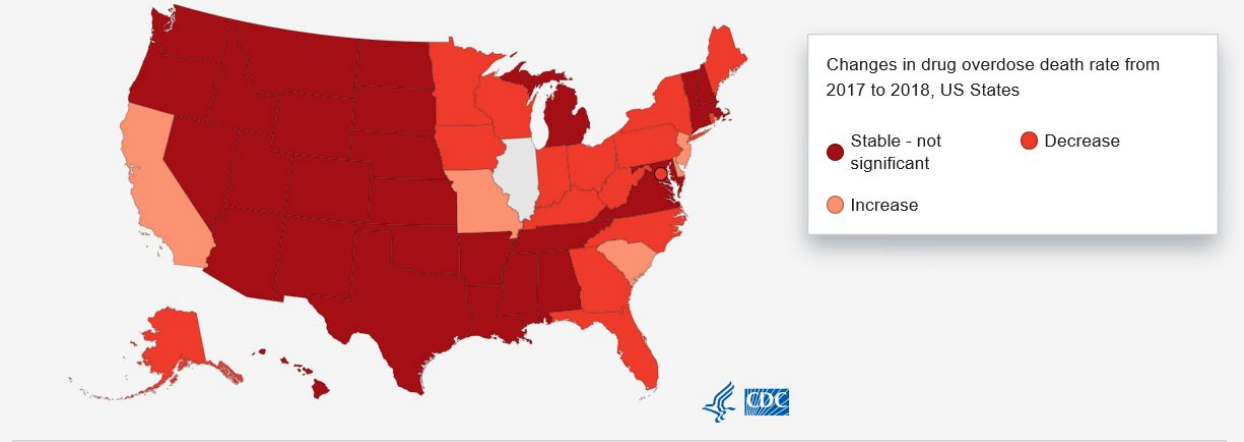
4.3.11 Opioid Addiction Response

Pennsylvania is in the midst of an unprecedented epidemic of drug abuse and drug-related overdose deaths impacting every corner of the state and all of its residents. In 2018, a total of 4,491 drug overdose-related deaths occurred in Pennsylvania (U.S. Drug Enforcement Administration [DEA] 2018). In 2018, Pennsylvania had the third highest rate of drug overdose deaths in the country (VandePol 2019). In 2018, 111 accidental drug and alcohol overdose-related deaths occurred within Chester County (Overdose Prevention Taskforce). In addition to the significant number of drug-overdose deaths, thousands more County residents are affected by addiction, either personally, or through family, friends, and loved ones.

The rates of drug overdose deaths are continuing to increase. In the United States in 2017, the age-adjusted rate of drug overdose deaths (44.3 per 100,000) was more than three times the rate in 1999 (Hedegaard et al. 2018). In Chester County, the annual drug overdose death rate per 100,000 people in 2018 was 21 (DEA 2018).

Significant increases in drug overdose death rates from 2017 to 2018 were seen in California, Virginia, Missouri, and Delaware. Death rates have been stable in the majority of the United States some states reporting a decrease, including Pennsylvania. (highlighted on Figure 4.3.11-1) (Centers for Disease Control and Prevention [CDC] 2019).

Figure 4.3.11-1. Statistically Significant Drug Overdose Death Rate Increase and Decrease from 2017 to 2018



Source: Centers for Disease Control and Prevention (CDC) 2019

In 2017, the U.S. Drug Enforcement Administration (DEA) Philadelphia Division and the University of Pittsburgh prepared a document titled, "Analysis of Overdose Deaths in Pennsylvania, 2016" to assist law enforcement's efforts to identify and combat drug suppliers, and ultimately drug-abuse and related overdoses (DEA Philadelphia Division 2017). The drugs included in the analysis (listed in Table 4.3.11-1) were selected based on (1) law enforcement intelligence regarding frequency of abuse and diversion, as well as (2) the most common drugs present in drug-related overdose deaths according to national public safety and public health sources.

For the purpose of this Hazard Mitigation Plan (HMP) update and as identified by the Steering Committee, the drugs included in Table 4.3.11-1 below will be discussed in further detail in this section. This section also describes the location and extent, range of magnitude, past occurrence, future occurrence, and vulnerability assessment for the opioid addiction hazard for the Chester County HMP.

Table 4.3.11-1. Drugs Included in Analysis of Drug-Related Overdose Deaths, Pennsylvania, 2017

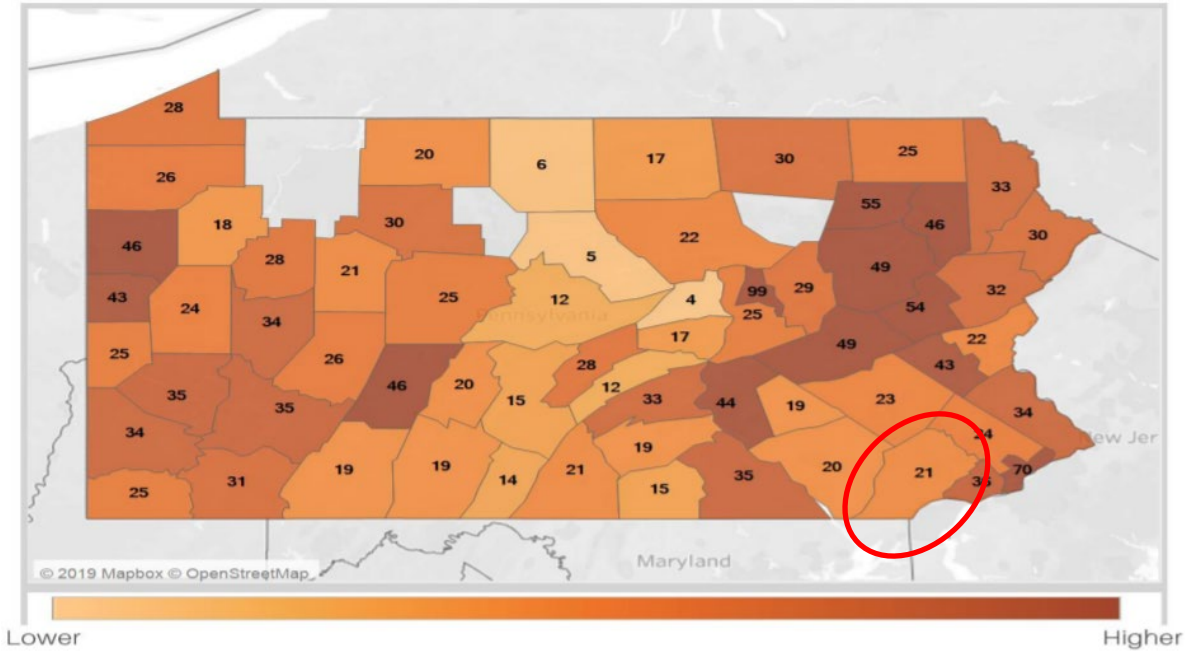
Drug Category	Substances Included in Analysis		
Benzodiazepines	Alprazolam Chlordiazepoxide Clonazepam Delorazepam	Diazepam Estazolam Flurazepam Lorazepam	Midazolam® Oxazepam Temazepam
Cocaine			
Fentanyl/Fentanyl-Related Substances (FRS)/Non-Prescription Synthetic Opioids (NPSO)	3-Methylfentanyl 4-Methoxy-Butyryl Fentanyl Acetyl Fentanyl Acryl Fentany	Carfentanil Fentanyl Fluorobutyrfentanyl Fluorofentanyl	Furanyl Fentanyl Para-Fluoro-Isobutyryl Fentanyl/FIBF Sufentanil U-47700
Heroin			
Other Illicit Drugs	Lysergic Acid Diethylamid (LSD) Methylenedioxy-amphetamine (MDA) 3,4-Methylenedioxymethamphetamine (MDMA)		Methamphetamine Phencyclidine (PCP)
Prescription Opioids	Hydrocodone Hydromorphone Meperidine	Morphine Oxycodone Oxymorphone	Tapentadol Tramadol

Source: DEA Philadelphia Field Division 2017

4.3.11.1 Location and Extent

The number of overdoses within Chester County have decreased between 2015 to 2019. The number of opioid overdoses peaked in 2017 with 153 overdoses. The number of reported opioid overdoses decreased from 2017 to 2018 from 153 to 118 overdoses. The number of opioid overdoses also decreased from 2018 to 2019 from 118 to 105 (Overdose Free PA 2020). In 2019, Chester County had a rate of 19.4 drug-related overdose deaths per 100,000 people.

Figure 4.3.11-2. Rate of Drug-Related Overdose Deaths per 100,000 people in Pennsylvania Counties, 2018



Source: Pennsylvania Coroner/Medical Examiner Data 2018
Note: The red oval indicates the location of Chester County.

Figure 4.3.11-3 shows the most commonly identified drug category in toxicology reports in Pennsylvania and indicates that the most frequently reported drug category in Pennsylvania was fentanyl, followed by heroin in 2017 and 2018.

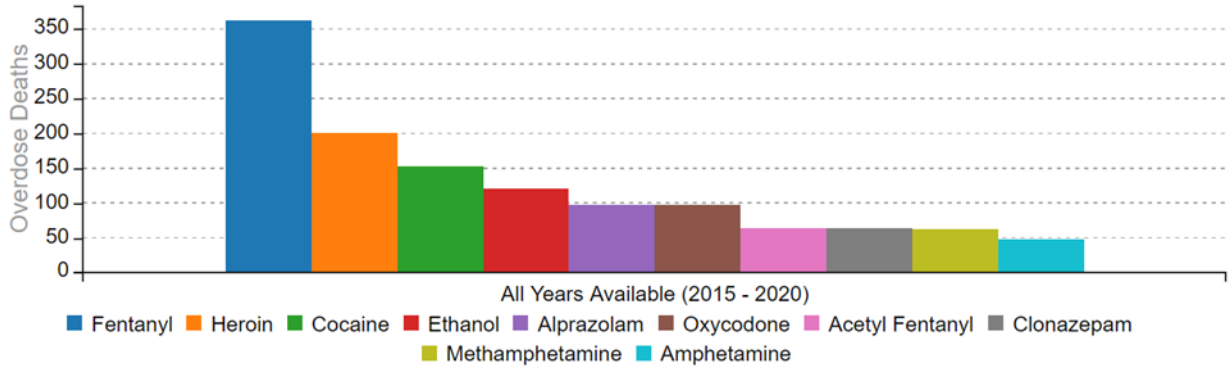
Figure 4.3.11-3. Frequently of Drug Categories in Drug-Related Overdose Deaths, Pennsylvania 2017-2018

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 2018

Figure 4.3.11-4 shows the top 10 drugs present in 2015-2020 drug-related overdose deaths for Chester County. The figure shows that fentanyl caused the highest amount of drug-related overdose deaths in the county, followed by heroin.

Figure 4.3.11-4. Top 10 Drugs Present in 2015-2020 Drug-Related Overdose Deaths, Chester County



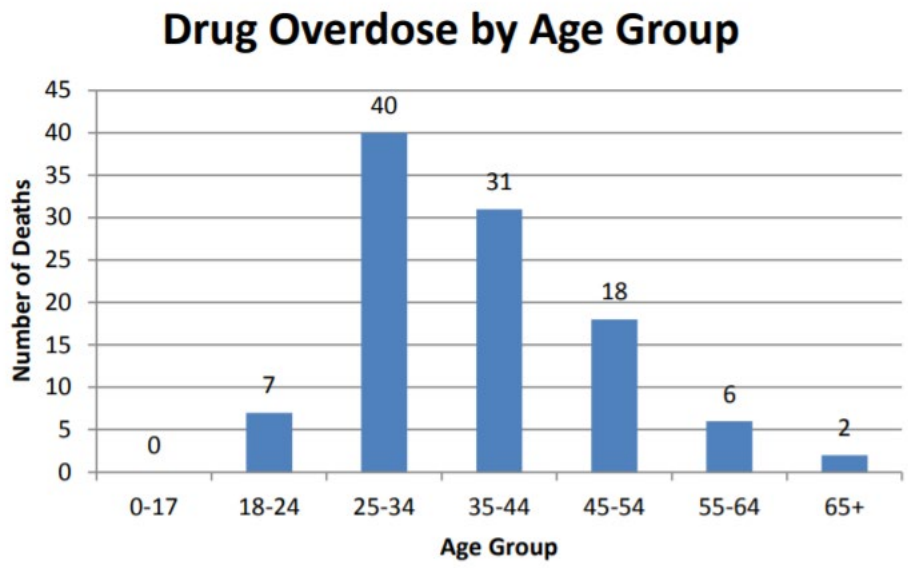
Source: Overdose Free PA 2020

4.3.11.2 Range of Magnitude

Age

The 2019 Chester County Coroner's Report indicated 105 opioid overdose deaths in 2019. The age group with the greatest overdoses was with ages 25-34, followed by ages 23-44. Males had a higher rate of overdose deaths, as shown in Figure 4.3.11-5 (Chester County 2019).

Figure 4.3.11-5. Age Distribution of Drug-Related Overdose Decedents, Pennsylvania, 2019



Source: Chester County Coroner's Report 2019

Figure 4.3.11-6 shows that fentanyl was the most present drug category of all age groups except for the 0-14 age categories. Aside from fentanyl, heroin and cocaine was more common in younger and middle age groups, and prescription opioids were more common in the 75+ age group.

Figure 4.3.11-6. Drug Presence by Age Group Among Drug-Related 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%	

0% 100%

Source: Pennsylvania Coroner/Medical Examiner Data 2018

Gender

In 2016, benzodiazepines were the most used drug amongst females and fentanyl was the most common drug among males in the county. In 2017 and 2018, fentanyl was the most common drug with both male and females in the county.

The three most prevalent drug categories in toxicology reports in Chester County in 2018 for male victims of drug overdose were (in order) fentanyl with 81 percent, heroin with 43 percent, and cocaine and benzodiazepines at 30 percent. The three most prevalent drug categories for females in 2018 were (in order) fentanyl with 59 percent, cocaine with 41 percent, and prescription opioids with 38 percent (as listed in Figure 4.3.11-7).

Figure 4.3.11-7. Drug Presence among Drug-Related Overdose Decedents by Gender 2016-2018 in Chester County, Pennsylvania

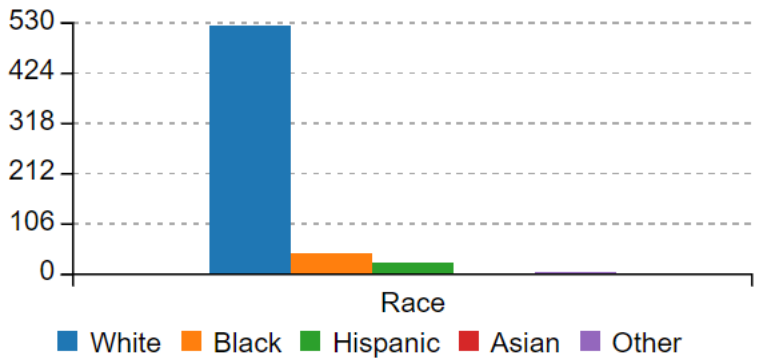
Drug Category	2016		2017		2018	
	Female	Male	Female	Male	Female	Male
Fentanyl	32%	47%	60%	78%	59%	81%
Heroin	18%	43%	25%	39%	28%	43%
Cocaine	18%	20%	20%	38%	41%	30%
Benzodiazepines	68%	41%	53%	27%	28%	30%
Rx Opioids	36%	33%	33%	14%	38%	25%
Ethanol	11%	13%	15%	18%	7%	27%
FRSs & NPSOs	4%	7%	25%	27%	31%	34%
Other Illicit Drugs	4%	10%	10%	22%	28%	18%

Source: Overdose Free PA 2018

Race and Ethnicity

In 2019, 526 decedents were identified as White (87 percent), 45 were identified as Black, 26 were identified as Hispanic, 6 were identified as Other Races, and less than 3 identified as Asian (shown in Figure 4.3.11-8). The racial breakdown for overdose deaths also coincides with the racial demographics in Chester County (Chester County 2018), as Whites comprise approximately 85.3 percent and Blacks comprise approximately 5.9 percent of the population. The ethnicity breakdown for overdose deaths also had a similar correlation as the percentage of the Hispanic population is 4.2 percent and Asian is 5.2 percent.

Figure 4.3.11-8. Race and Ethnicity of Drug-Related Overdose Decedents, Chester County 2019

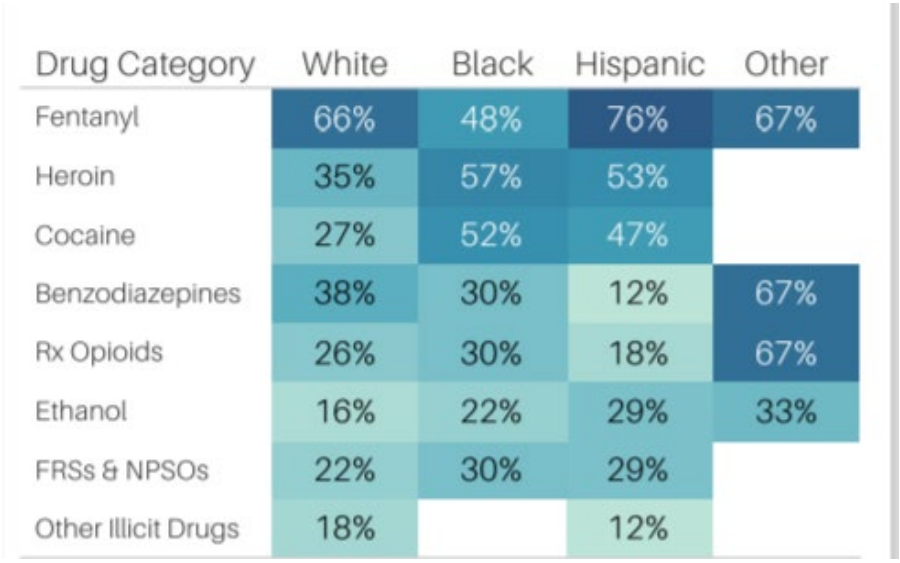


Source: Overdose Free PA 2019

Figure 4.3.11-9 shows the breakdown of drug presence by race and ethnicity in Chester County from 2016-2018. For race and ethnicity categories, the two most prevalent drug categories in toxicology reports were fentanyl and heroin. Fentanyl, benzodiazepines, and heroin were most prevalent in Whites; fentanyl, heroin, and cocaine was most prevalent in Blacks and Hispanics; and fentanyl, prescription opioids, and benzodiazepines were most

prevalent in Other Races. There was a lesser difference by race and ethnicity for ethanol, FRSs, and NPSOs, and drug-related deaths for other illicit drugs were only prevalent for White and Hispanics.

Figure 4.3.11-9. Drug Presence by Race and Ethnicity Among Drug-Related Overdose Decedents, Chester County, Pennsylvania, 2016-2018



Source: Overdose Free PA 2018

4.3.11.3 Past Occurrence

Deaths from drug overdose are an increasing public health burden in the United States. A total of 67,367 drug overdose-related deaths were reported in 2018 (National Institute on Drug Abuse, n.d.). Table 4.3.11-2 shows the annual accidental drug-related deaths in Chester County from 2014 to 2019. Drug related deaths in Chester County increased from 2014 to 2017, but in 2018 the number of drug related deaths started to decrease (as summarized in Table 4.3.11-2).

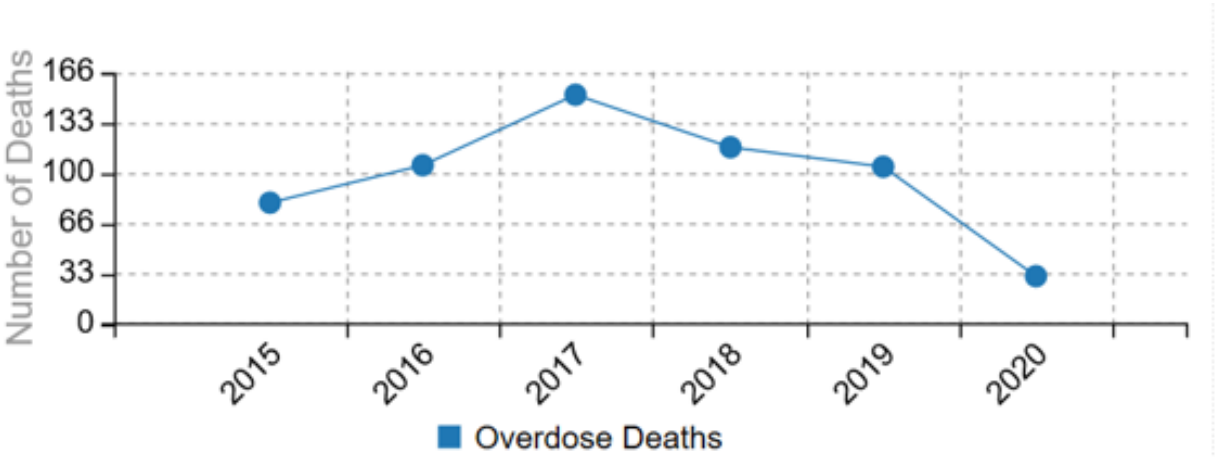
Table 4.3.11-2. Accidental Drug-Related Deaths, Chester County, Pennsylvania 2014-2019

Year	Drug-Related Deaths	Population
2014	62	512,784
2015	68	515,939
2016	98	516,312
2017	144	519,293
2018	112	522,046
2019	104	524,989

Source: Chester County PA Coroner's Office 2020

Figure 4.3.11-10 shows the changes in overdose death rates from 2015 to 2020 for Chester County, Pennsylvania.

Figure 4.3.11-10. Annual Drug-Related Deaths, Chester County, 2015-2020



Source: Overdose Free PA 2020

Pennsylvania Governor Wolf declared the heroin and opioid epidemic a statewide disaster emergency on January 10, 2018. He has signed six renewals of the proclamation since then. This first-ever public health disaster declaration is meant to enhance state response, increase access to treatment, and save lives. A command center at the Pennsylvania Emergency Management Agency (PEMA) tracks progress and enhances coordination of health and public safety agencies. The declaration specifies 13 key initiatives organized by three areas of focus. The three areas of focus are listed below, with the associated key initiatives described beneath each area:

1. Enhancing Coordination and Data Collection to Bolster State and Local Response

   - Establishes an Opioid Command Center located at PEMA, which will house the Unified Opioid Coordination Group that will meet weekly during the period of the disaster declaration to monitor implementation and progress of the initiatives in the declaration.

   - Expands Access to Prescription Drug Monitoring Program (PDMP) to Other Commonwealth Entities for Clinical Decision-Making Purposes to improve treatment outcomes and better monitor compliance among prescribers. Since 2016, 90,000 physicians have conducted more than 1 million searches on the PDMP.

   - Adds Overdoses and Neonatal Abstinence Syndrome (NAS) as Reportable Conditions in Title 28, Chapter 27 to the Pennsylvania Department of Health (DOH) to increase data collection and improve outcomes in both areas.

   - Authorizes Emergency Purchase Under Procurement Code for Hotline Contract with Current Vendor, giving the Pennsylvania Department of Drug and Alcohol Program (DDAP) further emergency purchase authorization to allow the department to enter into a contract with the current drug and alcohol hotline vendor for uninterrupted services. To date, the 24/7 helpline, 1-800-662-HELP, has received more than 18,000 calls to connect those suffering from substance use disorder with treatment.

2. Improving Tools for Families, First Responders, and Others to Save Lives

   - Enables emergency medical services providers to leave behind naloxone by amending the current standing order to include dispensing by first responders, including emergency medical technicians

(EMT). The existing naloxone standing order and funding for naloxone to first responders has allowed for more than 5,000 lives to be saved, helping connect sufferers to treatment for substance use disorder.

- Allows pharmacists to partner with other organizations to increase access to naloxone by waiving regulations to allow pharmacists to partner with other organizations, including prisons and treatment programs, to make naloxone available to at-risk individuals upon discharge from these facilities.

- Allows for the immediate temporary rescheduling of all fentanyl derivatives to align with the federal DEA schedule while working toward permanent rescheduling.

- Authorizes emergency purchasing under Section 516 of the Procurement Code to allow for an emergency contract to expand the advanced body scanner pilot program currently in place at Wernersville State Hospital that is used on re-entrants returning to the facility. This would prevent the program from lapsing.

3. Speeding Up and Expanding Access to Treatment

- Waive the face-to-face physician requirement for Narcotic Treatment Program (NTP) admissions to allow initial intake review by a certified registered nurse practitioner (CRNP) or physician assistant (PA) to expedite initial intakes and streamline coordination of care when an individual is most in need of immediate attention.

- Expand access to medication-assisted treatment (MAT) by waiving the regulatory provision to permit dosing at satellite facilities even while counseling remains at the base of the NTP. This allows more people to receive necessary treatments at the same location, increasing their access to care and chances for recovery.

- Waive annual licensing requirements for high-performing drug and alcohol treatment facilities to allow for bi-annual licensure process, which streamlines licensing functions and better allocates staff time. DDAP will request that facilities seek a waiver by filing exception requests to the annual licensing requirement.

- Waive the fee provided for in-statute for birth certificates for individuals who request a good-cause waiver by attesting that they are affected by opioid use disorder (OUD). This is of particular importance to individuals experiencing homelessness and other vulnerable populations who often cannot obtain copies of their birth certificates to access treatment and other benefits due to the financial requirements.

- Waive separate licensing requirements for hospitals and emergency departments to expand access to drug and alcohol treatment to allow physicians to administer short-term MAT consistent with DEA regulations without requiring separate notice to DDAP.

4.3.11.4 Future Occurrence

One of the most important components in reducing drug-related overdose deaths is to prevent initial drug use; as such, the impact of education and prevention strategies in use today will be shown in future years. The DEA Philadelphia Field Division will continue efforts, in conjunction with law enforcement and public health partners, to define and address the factors impacting availability and abuse of illicit drugs and diverted pharmaceuticals in Pennsylvania, which will ultimately impact the number of overdose deaths.

As evidenced by the upward trajectory of drug-related overdose deaths over the past several years throughout Chester County, Pennsylvania, and United States, the drug overdose hazard is likely to continue if something is not done. A crisis exists among law enforcement, public health entities, and educators to address drug availability, drug treatment, and drug education.

The identified hazards of concern for Chester County were ranked for relative risk in Section 4.4 of this plan. The probability of occurrence, or likelihood of the event, is one parameter used for ranking hazards. Based on historical records, the probability of occurrence for drug overdose events in Chester County is considered *highly likely*. Section 4.4 provides further information on PEMA's risk factor methodology and the risk factors used to determine each hazard's risk rank.

4.3.11.5 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed and potentially vulnerable to the identified hazard. The following sections evaluate and estimate the potential impact of drug overdose deaths on Chester County, including:

- Overview of vulnerability
- Impact on (1) life, health, and safety; (2) general building stock and critical facilities; (3) economy; (4) the environment; and (6) future growth and development
- Effects of climate change on vulnerability
- Further data collections that will assist understanding of this hazard over time

Overview of Vulnerability

This section is being added as an introductory representation, with hopes that future HMP updates will include more enhanced data for Chester County, as well as successful mitigation actions. At this time, available data support the need to create awareness and provide education to Chester County residents regarding this hazard of concern.

Impact on Life, Health, and Safety

The entire population of Chester County is vulnerable to opioid overdose. According to the 2014-2018 American Community Survey 5-Year Estimates, Chester County's population was 522,046. The rates of drug overdose deaths are continuing to increase. According to CDC, in 2017, Pennsylvania had one of the top 3 highest observed drug overdose death rates in the country. As discussed above, Chester County drug overdose death rate per 100,000 people was 22 in 2018 (DEA Philadelphia Field Division 2017). Chester County Department Emergency Services has reported an increase of methamphetamine and a surge in overdoses has impacted first responders due to responding to an increase of overdose calls.

Impact on General Building Stock and Critical Facilities

No structures are anticipated to be affected directly by drug overdose deaths.

Impact on the Economy

The impact the drug overdose hazard has on the economy and estimated dollar losses are difficult to measure and quantify.

Impact on the Environment

As discussed in the 2018 Pennsylvania State HMP, fentanyl and fentanyl-related substances are hazardous materials and should be treated as such. Contact with fentanyl can impact first responders and family and friends

of opioid users. Depending on the potency of the drug, it can take as little as the equivalent of a few grams to cause health complications (DEA 2017).

According to a recent study, environmental scientists at the Cary Institute of New York found traces of opioids and other drugs in streams, rivers, and lakes. These traces came from human urine and feces, and medications that have been flushed down the toilet. However, the ecological and environmental impacts are unknown. The U.S. Environmental Protection Agency (EPA) suggests while the risks of pharmaceuticals found in wastewater, ambient water, and drinking water is low, further research is needed (EPA 2014).

Future Growth and Development

Areas targeted for potential future growth and development in the next 5 to 10 years have been identified across Chester County (further discussed in Section 2.4 of this HMP). Any areas of growth could be potentially impacted by the drug overdose hazard because the entire county is exposed and potentially vulnerable.

Effect of Climate Change on Vulnerability

Climate change is not anticipated to affect vulnerability associated with drug overdose deaths.

Additional Data and Next Steps

For the HMP update, any additional information regarding localized concerns and past impacts will be collected and analyzed. These data will be developed to support future revisions to the plan. Future mitigation efforts could include building on existing state, county, and local efforts.