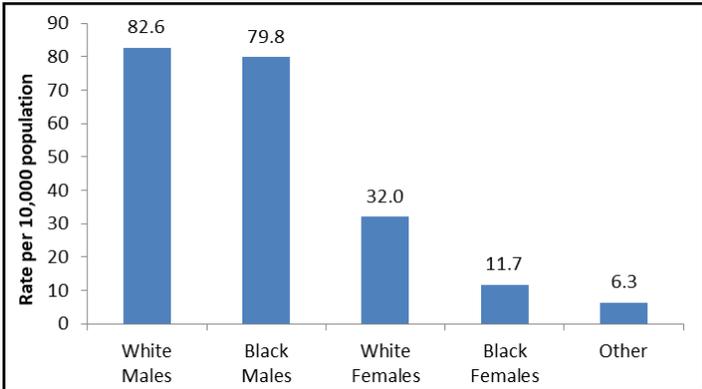


Opioid-Involved Overdoses, Anne Arundel County, 2015-2018

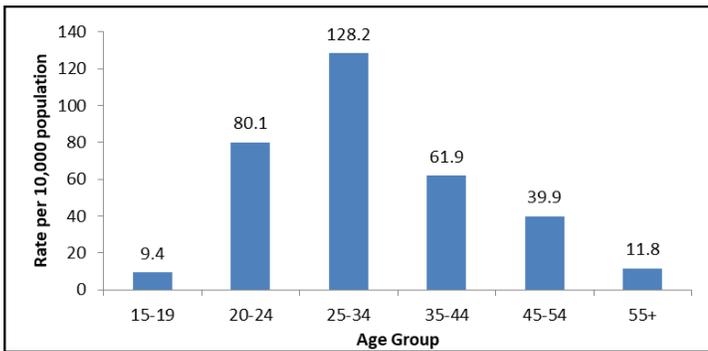
Demographics, Risk Factors, Impacts and Response

Demographics

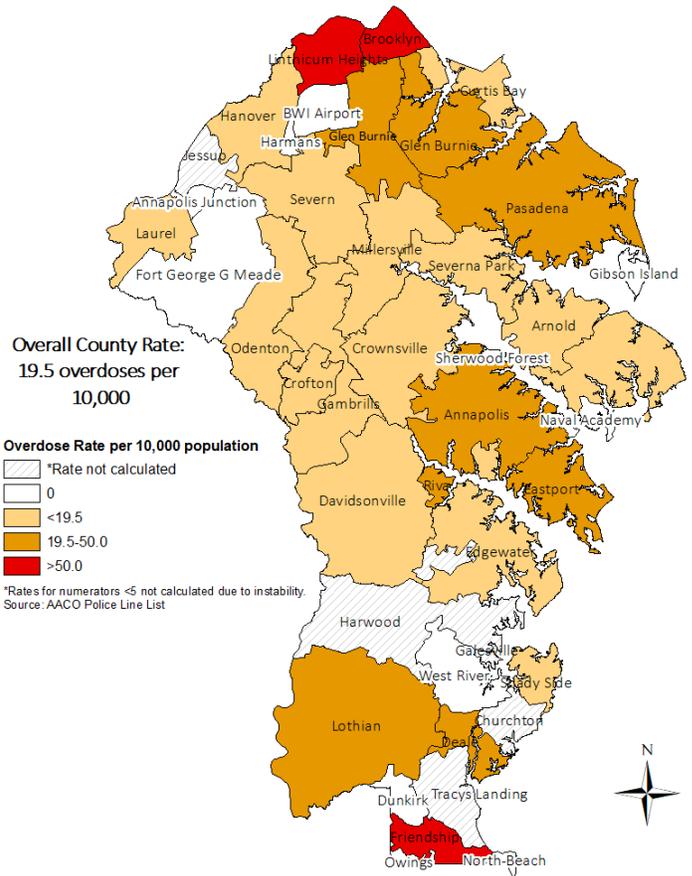
All Opioid-Involved Overdoses by Sex and Race, 2017-2018¹



All Opioid-Involved Overdoses by Age, 2017-2018¹



Overdoses Occurring in Anne Arundel County, 2018¹



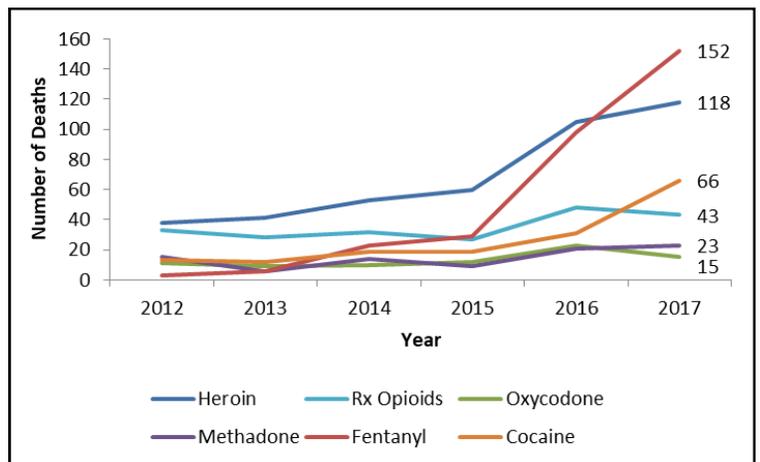
The majority of opioid overdoses in Anne Arundel County occur in males. Adults between the ages of 25-34 have the highest rate of overdose.

Linthicum Heights, Brooklyn Park and Friendship had the highest rate of overdoses (greater than 50 per 10,000 population) in the county in 2018.

Fentanyl-related intoxication deaths skyrocketed in 2015 and overtook heroin as the leading cause of opioid-involved intoxication deaths. Since 2015, fentanyl-related deaths have increased by more than 400 percent and by nearly 5,000 percent since 2012.

Cocaine-related deaths have increased by more than 200 percent since 2015 largely due to the involvement of fentanyl.

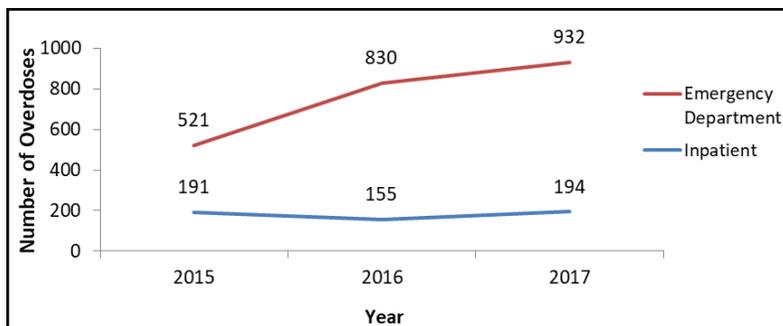
Substance Involved in Drug-Related Overdose Deaths, 2012-2017²



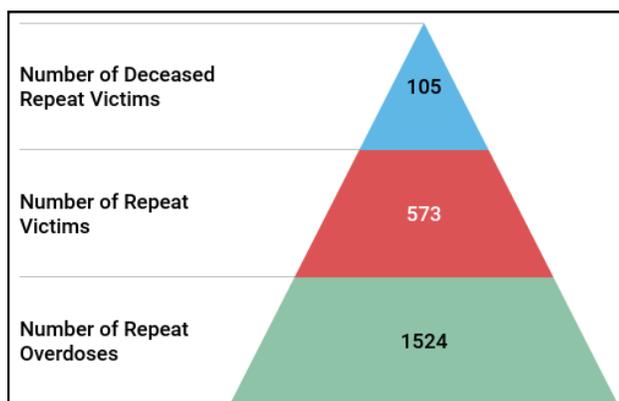
Risk Factors

The most immediate, life-threatening consequence of misusing opioids is an opioid overdose. Opioids affect the part of the brain that regulates breathing, and in high doses they can cause difficulty breathing and consequently death. Opioid-involved overdoses seen in the emergency department (ED) have increased by 79 percent since 2015. Opioid-involved overdoses resulting in inpatient stays remained relatively stable from 2015 to 2017.

Opioid-Involved Overdoses, Emergency Department and Inpatient Visits, 2015-2017^{3,4}



Repeat Overdoses, 2014-2018¹



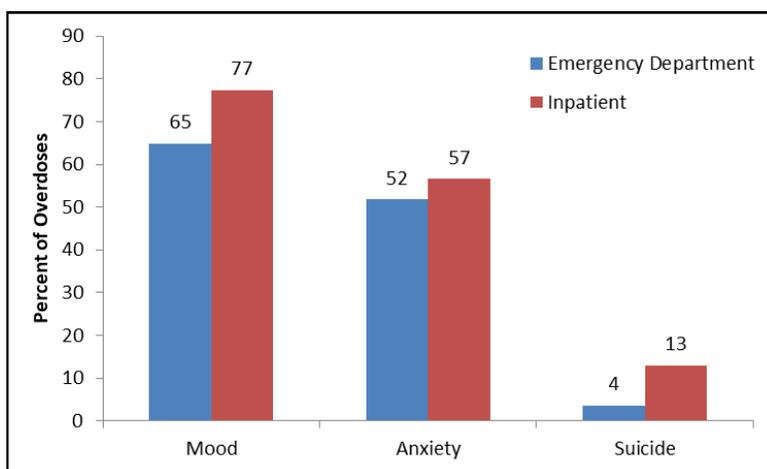
Once a person has suffered from one overdose, the individual's risk of overdosing another time increases. Between January 2014 and December 2018, 573 people had more than one overdose resulting in police involvement; 38 percent of them had more than two overdoses. In total, they overdosed 1,524 times and 18 percent of them died during this period.

Patients with co-occurring mental health conditions and substance use disorders are more likely to overdose on opioids and are more likely to be hospitalized.

Of patients seen in the ED with an opioid-involved overdose, 25 percent had a co-occurring mental health condition also listed in their diagnoses. Sixty percent of these patients had only one other mental health condition, 33 percent had two, and 7 percent had three or more.

Of patients with opioid-involved overdoses resulting in an inpatient stay, 59 percent had another mental condition also listed in their diagnoses. Twenty-six percent of these patients had one additional mental health condition, 21 percent had two, and 13 percent had three or more.

Percent of Opioid-Overdoses with a Co-Occurring Mental Health Disorder, Emergency Department and Inpatient Stays, 2017^{3,4}



*These conditions are not mutually exclusive and will not sum to 100%. Many patients have more than one of these disorders listed.

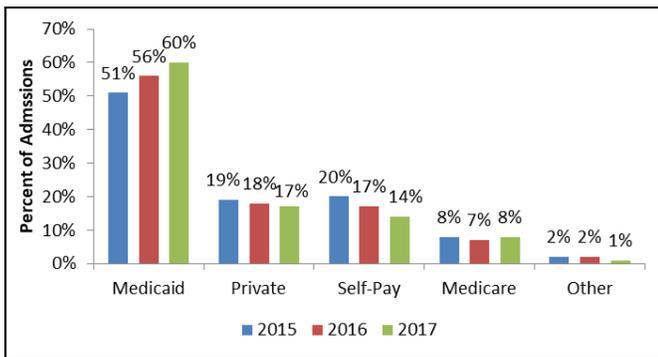
System-Level Impacts

Medicaid remains the largest primary payer of ED encounters for opioid-involved overdoses. The proportion of visits with Medicaid as the primary payer has increased steadily from 2015 to 2017 (51 to 60 percent). Most ED encounters for overdose occur at Baltimore Washington Medical Center (BWMC), followed by Anne Arundel Medical Center (AAMC), Harbor Hospital and other Maryland hospitals.

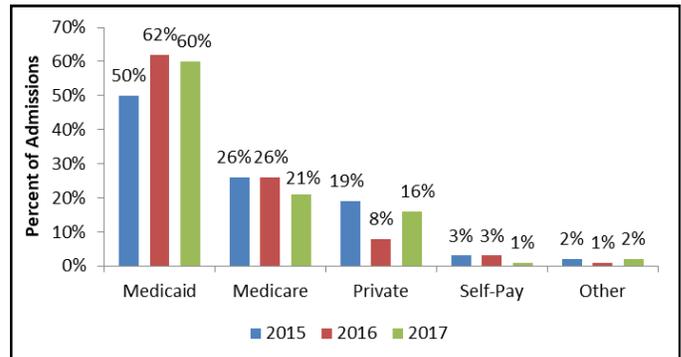
Medicaid remains the largest primary payer for opioid-involved overdoses requiring inpatient stays, but the proportion of visits covered by Medicaid has increased from 2015 to 2017 from 50 to 60 percent. Most patients are admitted to BWMC, followed by AAMC, Harbor and other Maryland hospitals.

While the total cost of opioid-involved overdoses has increased from 2015 to 2017 (\$334,000 vs. \$532,000), the mean charge per ED encounter decreased (\$641 vs. \$571). The total cost of opioid-involved overdoses (\$2.4 million vs. \$3.5 million) and the mean charge per inpatient stay (\$13,000 vs. \$18,000) have also increased. Given that Medicaid is the primary payer for about 60 percent of overdose patients opioid-involved overdoses have cost taxpayers more than \$2.4 million in hospital charges alone.

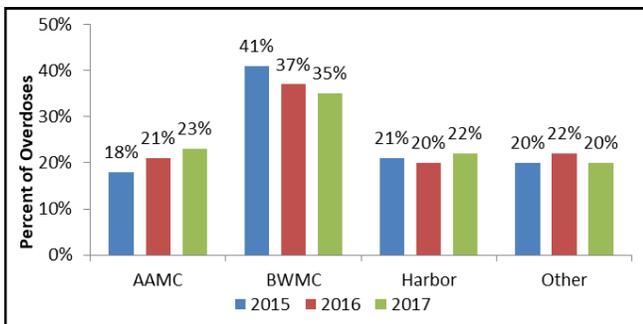
Emergency Department Opioid-Involved Overdoses by Payer, 2015-2017³



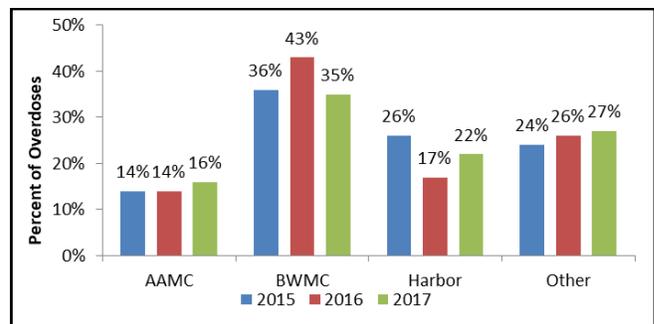
Inpatient Stays Opioid-Involved Overdoses by Payer, 2015-2017⁴



Emergency Department Opioid-Involved Overdoses by Hospital, 2015-2017³



Inpatient Stays Opioid-Involved Overdoses by Hospital, 2015-2017⁴



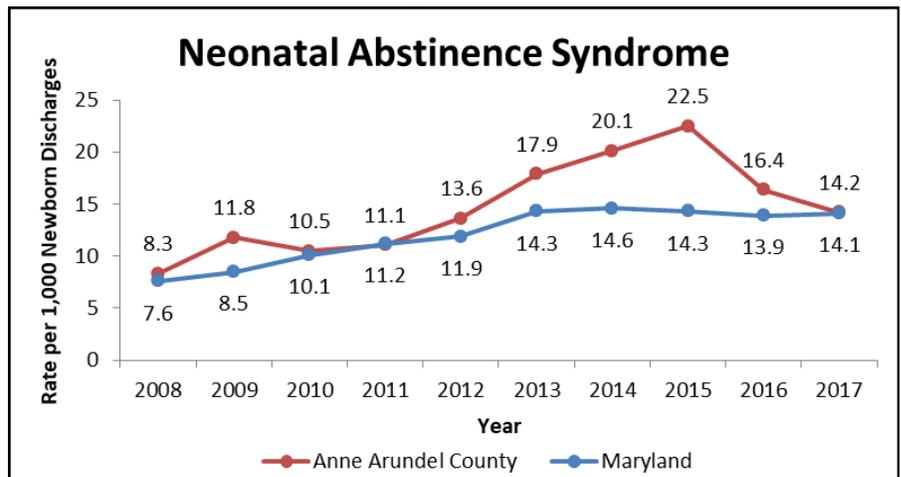
Charges for Opioid-Involved Overdoses, Emergency Department and Inpatient Stays, 2015-2017^{3,4}

Charges	2015	2016	2017
Mean Charge per ED Encounter	\$641	\$514	\$571
Mean Charge per Inpatient Stay	\$12,633	\$18,715	\$17,893
Total ED Charges	\$334,077	\$426,977	\$532,272
Total Inpatient Charges	\$2,412,839	\$2,900,798	\$3,471,310
Total Hospital Charges	\$2,746,916	\$3,327,775	\$4,003,582

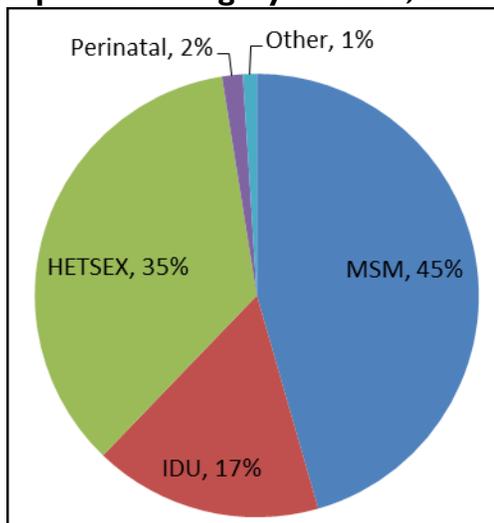
Indirect Adverse Health Outcomes from Opioid Use

Neonatal abstinence syndrome (NAS) is a group of conditions caused when an infant suffers withdrawal symptoms from opioids he or she was exposed to in the womb. In 2016, there were 106 babies (16.4 per 1,000 newborns) born with NAS in Anne Arundel County. In 2017, there were 91 babies (14.2 per 1,000 newborns) born with NAS; a 13 percent decrease. Babies with NAS often stay in the hospital longer and their stays can cost nearly three times that of babies without NAS.

Neonatal Abstinence Syndrome Rates, 2008-2017⁵



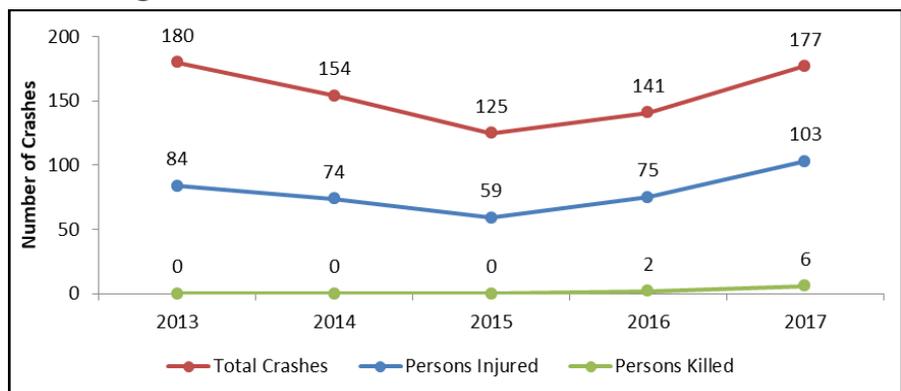
Exposure Category for HIV, 2017⁶



HETSEX= Heterosexual Contact
 MSM= Male-to-male Sexual Contact
 IDU= Injection Drug Use

Drugs can impair a person's ability to drive safely. Drug-related crashes occurring in Anne Arundel County began to increase in 2016 after reaching an all-time low in 2015. While the chart to the right shows all drug-related accidents and not specifically opioids, anecdotal evidence from Anne Arundel County Police (AACPD) shows the recent increase in crashes is likely due to people driving under the influence of opioids.

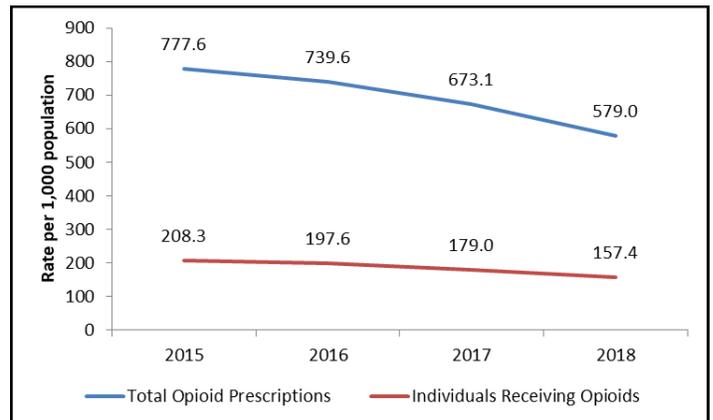
Drug-Related Motor Vehicle Accidents, 2015-2017⁷



Anne Arundel County Response

The Maryland Prescription Drug Monitoring Program (PDMP) monitors all prescription drugs that are classified as controlled dangerous substances (opioids, benzodiazepines or stimulant drugs). The goal of the PDMP is to identify and prevent prescription drug abuse through statewide tracking of patients who have received controlled drug prescriptions, the type of drug prescribed, the amount of drug prescribed, the name of the prescriber, and the date of the prescription. From 2015 to 2018, opioid prescribing decreased by about 25 percent in Anne Arundel County.

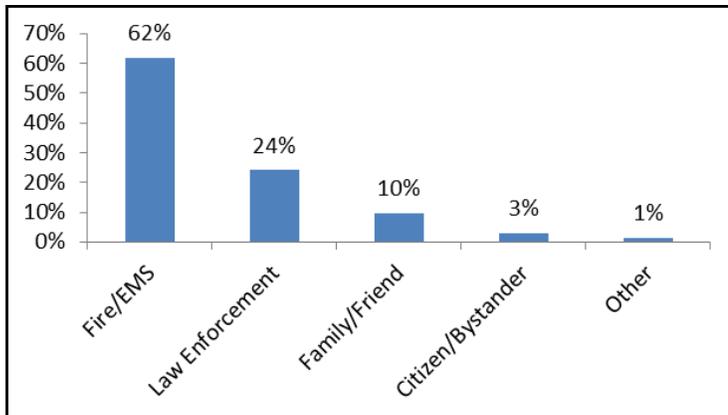
Opioid Prescribing Rates, 2015-2018⁸



DOH Naloxone Trainings, 2017-2018

Naloxone Trainings	2017	2018
Trainings	120	157
Participants	1,656	1,821
Kits Distributed	2,106	2,479

Naloxone Administrations, 2017-2018⁹



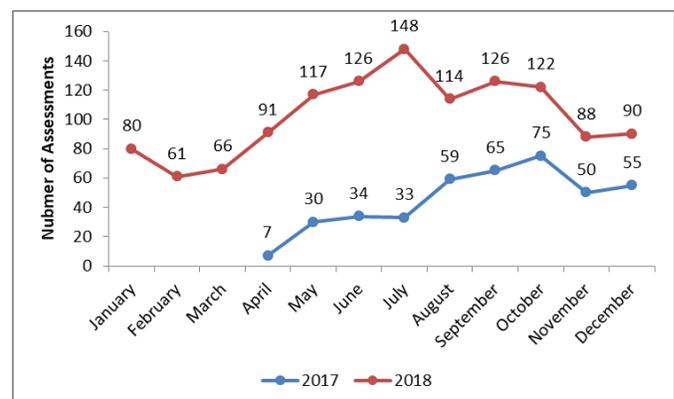
Naloxone (also called Narcan®) is a prescription medicine that can be used to reverse the effects of and restore breathing in a person suffering from an opioid overdose. The Anne Arundel County Department of Health (DOH) offers training sessions to educate the community on how and when to use naloxone. Since 2017, more than 4,500 naloxone kits have been distributed through these training sessions.

The Police Department and Emergency Medical Services (EMS) initiated a leave-behind program in which responders “leave behind” a naloxone kit at every overdose. From January to December 2017, AACPD responded to 1,097 overdoses. Naloxone was administered at 848 (77 percent) of these. During the same time period in 2018, AACPD responded to 1,083 overdoses, and naloxone was administered at 893 (82 percent) of these. The Fire Department and EMS administer the majority of the naloxone followed by police.

Safe Stations is a countywide program where persons seeking treatment for addiction can visit any police or fire station, at any time, to dispose of any drugs or paraphernalia and find assistance gaining access to care or treatment.

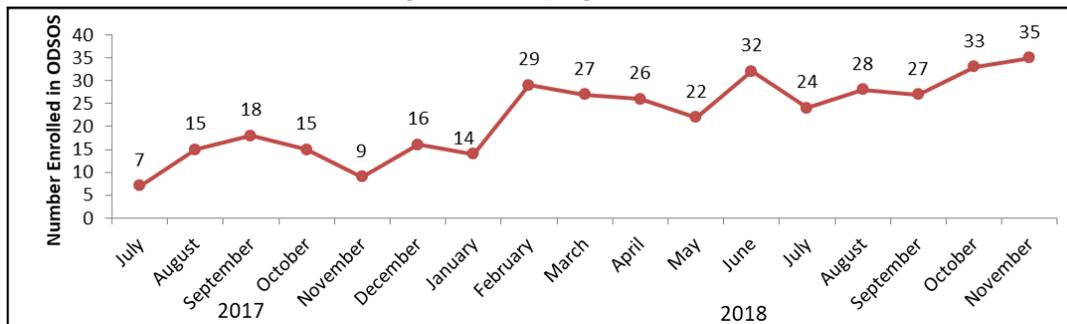
Between its inception on April 20, 2017 and December 2018, the Safe Stations program reported over 1,600 assessments and connected 73 percent of eligible assessments to treatment.

Safe Stations Assessments, 2017-2018¹⁰



Anne Arundel County Response (continued)

ODSOS Referrals by Month, July 2017-November 2018¹¹



The Overdose Survivors Outreach Services (ODSOS) program is a partnership between the Anne Arundel County DOH and two local hospitals: Anne Arundel Medical Center and University of Maryland Baltimore Washington Medical Center. The program offers support to overdose survivors and encourages survivors to access treatment through the use of peer support specialists.

Since July 2017, over 1,700 overdose survivors have been referred to ODSOS. As capacity for the program has increased, 377 of the people referred to ODSOS have been enrolled and 65 percent have been linked to treatment.

Road to Recovery¹²

The Road to Recovery (RTR) program is a collaboration between DOH and the Anne Arundel County Department of Detention Facilities. RTR provides methadone maintenance treatment to inmates who become incarcerated while on a methadone treatment program in the community or meet the eligibility requirements while incarcerated. Inmates receive daily medication, assessment and counseling. Upon release, they are referred to a DOH medication assisted treatment program or may return to their original treatment program. The RTR program at Ordinance Road Correctional Center transfers nearly 70 percent of their participants to community providers to continue treatment after release.

Substance Use Assessments and Referrals Program¹³

The Anne Arundel County DOH has a Substance Abuse Treatment Referral Line, 410-222-0117, for anyone seeking help with substance use. The line is open Monday to Friday from 8 a.m. to 5 p.m. On average, the Substance Use Assessments and Referrals program has connected 85 percent of eligible calls with treatment.

MORR Program¹⁴

With grant funds from the Maryland Opioid Rapid Response (MORR) Initiative, Anne Arundel County was able to expand crisis treatment and care services for individuals needing immediate treatment. Crisis beds help get people into care more quickly and can keep them from continuing to use drugs. This can prevent their admission to the hospital thus lessening the burden on the health care system.

Since funding for MORR began in December 2017, over 1,110 people have been placed in a MORR bed and 63 percent of them have been admitted to substance use treatment.

DOH Prevention and Education Program¹⁵

The Anne Arundel County Behavioral Health Bureau's Prevention and Education Services works with the community to reduce drug and alcohol abuse among young people. While treatment of existing drug use is crucial, preventing use in the first place is preferable. There are several DOH programs focused on reducing drug use in the community, including Not My Child, the Opioid Misuse Prevention Taskforce and the Strengthening Families Program. From July 2018 to December 2018, over 1,000 community members attended at least one of these prevention programs.

Opioid-Involved Overdoses, Anne Arundel County, 2015-2018

Demographics, Risk Factors, Impacts and Response

Compiled by:

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Epidemiologist

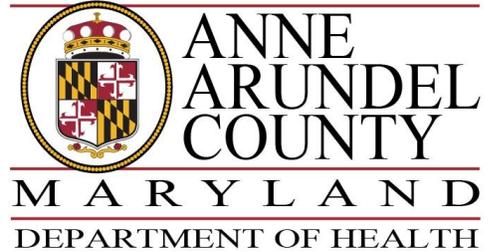
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Public Information Office

Data Sources (in title of charts):

1. Anne Arundel County Police Line List, January 2017– December 2018.
2. Maryland Department of Health, Behavioral Health Administration, Overdose Data and Reports, Drug and Alcohol-Related Intoxication Deaths in Maryland, 2017.
3. Maryland Health Services Cost Review Commission (HSCRC) Outpatient Hospital Discharge Files, 2015-2017. Values under 11 are suppressed.
4. Maryland HSCRC Inpatient Hospital Discharge Files, 2015-2017. Values under 11 are suppressed.
5. Maryland Department of Health, Substance Exposed Newborns Trends, 2008-2017.
6. Maryland Department of Health, Center for HIV Surveillance, Epidemiology, and Evaluation, Anne Arundel County HIV Fact Sheet, 2016.
7. Maryland Motor Vehicle Administration, Maryland Department of Transportation Highway Safety Office, Anne Arundel County Driver Drug-Involved Crash Summary.
8. Maryland Department of Health, CRISP Opioid Indicators Dashboards, Prescription Drug Monitoring Program.
9. Anne Arundel County Department of Health, Naloxone Training Program Data.
10. Anne Arundel County Crisis Response, Safe Stations Program Data.
11. Anne Arundel County Department of Health, Behavioral Health Bureau, Overdose Survivors Outreach Services Program Data.
12. Anne Arundel County Department of Health, Behavioral Health Bureau, Road to Recovery Program Data.
13. Anne Arundel County Department of Health, Behavioral Health Bureau, Assessments and Referrals Data.
14. Anne Arundel County Department of Health, Behavioral Health Bureau, MORR Bed Program Data.
15. Anne Arundel County Department of Health, Behavioral Health Bureau, Prevention and Education Program Data.

Definitions:

Opioid-Involved Overdose:

Emergency department visit or inpatient stay where either the primary diagnosis or any of the subsequent secondary diagnoses were listed as the following ICD-9 or ICD-10 codes:

- 965.01/T40.1X1/T40.1X4/E850.0 Poisoning by heroin, accidental, unintentional or undetermined.
- 965.02/T40.3X1/T40.3X4/E850.1 Poisoning by methadone, accidental, unintentional or undetermined.
- 965.00/965.09/ T40.0X1/T40.0X4 /T40.2X1/T40.2X4/E850.2 Poisoning by other opiates (including opium), accidental, unintentional or undetermined.
- T40.4X1/T40.4X4 Poisoning by other synthetic narcotics, unintentional or undetermined.