DRUG AND ALCOHOL INTOXICATION DEATHS OF ANNE ARUNDEL COUNTY RESIDENTS 2007–2012

MAY 2014
# Table of Contents

I. Introduction ............................................................................................................... 2

II. Summary .................................................................................................................... 3

III. Charts

A. Total Drug Intoxication Deaths ............................................................................... 5
B. Opioid-Related Deaths ............................................................................................. 9
C. Heroin-Related Deaths ............................................................................................. 11
D. Prescription Opioid-Related Deaths ....................................................................... 14
   i. Oxycodone ........................................................................................................... 18
   ii. Methadone ......................................................................................................... 21
   iii. Fentanyl ............................................................................................................. 24
   iv. Tramadol ............................................................................................................ 27
E. Alcohol-Related Deaths .......................................................................................... 30
F. Cocaine-Related Deaths ......................................................................................... 33
G. Benzodiazepine-Related Deaths .......................................................................... 36

IV. Community Resources ......................................................................................... 39

V. Acknowledgements ................................................................................................ 42
INTRODUCTION

Every day in the United States, 105 people die as a result of drug overdoses. Drug overdose was the leading cause of injury death in 2010. Drug overdose death rates have been rising steadily since 1992, Source: U.S. Centers for Disease Control and Prevention. The number of drug overdose deaths has increased in Maryland and Anne Arundel County in the last few years too, Source: Alcohol and Drug Abuse Administration, Maryland Department of Health and Mental Hygiene (DHMH). This report describes trends in unintentional drug and alcohol intoxication deaths of Anne Arundel County residents from 2007 to 2012. Trends are examined by age at the time of death, race/ethnicity, gender and the substances related to death.

This report was developed to better understand and describe the nature and magnitude of alcohol and drug intoxication deaths in Anne Arundel County. The report should be used to help form programmatic and policy decisions and to provide documentation of need for funding applications.

Data Source and Limitations

The source of data for this report is de-identified alcohol and drug related overdose death data provided by the Maryland DHMH Alcohol and Drug Abuse Administration. ADAA obtains data for overdose deaths occurring in Maryland from the Office of the Chief Medical Examiner (OCME). Maryland law requires the OCME to investigate all deaths occurring in the state that result from violence, suicide, casualty, or take place in a suspicious, unexpected or unusual manner.

A death is classified as a drug-related intoxication death if it was the result of a recent ingestion or exposure to alcohol or another type of drug, including heroin, cocaine, phencyclidine (PCP), prescription opioids, benzodiazepines, methamphetamines and other prescribed and unprescribed drugs. Deaths due to chronic use of alcohol and other drugs are excluded. Motor vehicle deaths involving alcohol or others drug are also excluded. Since an intoxication death may involve more than one substance, counts of deaths related to specific substances do not sum to the total number of deaths.

This report includes deaths in which the decedent’s reported residence was Anne Arundel County, irrespective of the place within Maryland where the overdose death occurred. This report does not include information on deaths of Anne Arundel County residents if drug and alcohol intoxication deaths occurred in locations other than Maryland.
SUMMARY

**Total Drug and Alcohol Intoxication Deaths**
A total of 423 drug and alcohol intoxication deaths occurred in Anne Arundel County during the six years spanning 2007 and 2012. From 2007 to 2010, the number of total deaths declined by 15.7% from 70 to 59. This trend changed the following year, 2011, when there was a 47.4% increase with 87 deaths documented. Then, in 2012, there was an 11.5% reduction to 77 deaths.

The age group of Anne Arundel County residents experiencing the largest number of deaths attributable to drug and alcohol intoxication during 2007 and 2012 was among individuals age 45-55, which comprises 27.4% (116 deaths) of the total deaths. This age group is followed closely by individuals age 25-34, comprising 26.2% (111 deaths) of the total deaths.

When examining total deaths by race and ethnicity, 90% (381 deaths) occurred in Whites, followed by 7.6% (32 deaths) in African Americans or Blacks, 1.7% (7 deaths) in Hispanics, and 0.7% (3 deaths) in Asians. By gender, 71% (301 deaths) of deaths occurred in males and 29% (122 deaths) in females.

**Heroin-Related Deaths**
There were a total of 184 heroin-related deaths, between 2007 and 2012, which represents 43.4% of all deaths attributable to drug and alcohol intoxication. The age group with the largest number of deaths was individuals age 25-34, comprising 32% (59 deaths) of deaths. This age group is followed by individuals age 35-44 (26.2% or 48 deaths), individuals age 45-54 (22.8% or 42 deaths), individuals under the age of 25 (12.5% or 23 deaths) and individuals over the age of 55 (6.5% or 12 deaths). Most of the heroin-related deaths occurred among White individuals (90%).

**Prescription Opioid-Related Deaths**
Prescription opioids are a class of pharmaceutical analgesics (pain relievers) that include oxycodone, hydrocodone, morphine, methadone, codeine, tramadol and many other drugs. There were a total of 162 prescription opioid-related deaths between 2007 and 2012, which represents 38.3% of all deaths attributable to drug and alcohol intoxication. The highest number of deaths occurred in 2011 (39 deaths). The largest age group is among individuals age 25-34, comprising 29.6% (48 deaths). This age group is followed by individuals age 45-54 (25.9% or 42 deaths). A total of 95% of all deaths occurred among White individuals.

Over half (56%, 98 deaths) of prescription opiate-related deaths were due to methadone, followed by oxycodone (30%, 52 deaths), fentanyl (11%, 9 deaths) and tramadol (3%, 6 deaths).
**Alcohol-Related Deaths**
A total of 87 alcohol-related overdose deaths occurred in Anne Arundel County from 2007 to 2012, representing 20.6% of total drug and alcohol intoxication deaths. From 2007 to 2010, the number of alcohol-related overdose deaths each year remained stable (12, 12, 10, and 11 annual deaths respectively). This trend changed the following year, 2011, when there was a 109% increase with 23 deaths documented. Then, in 2012, there was a 17% reduction to 19 deaths. These numbers only include deaths attributable to acute overdose intoxication and do not include deaths due to chronic alcoholism or alcohol-involved motor vehicle accidents.

The age group of Anne Arundel County residents experiencing the largest number of alcohol overdose deaths between 2007 and 2012 was individuals age 45-54, comprising 42.5% of the total or 37 deaths. This age group is followed by individuals age 35-44 (23% or 20 deaths), individuals age 25-34 (14.9% or 13 deaths), individuals over the age of 55 (11.5% or 10 deaths) and individuals under the age of 25 (8 % or 7 deaths).

When examining deaths by race and ethnicity, 94.3% (82 deaths) of the total alcohol overdose deaths were among Whites, followed by 2.3% (2 deaths) in African Americans or Blacks, 2.3% (2 deaths) in Hispanics, and 1.1% (1 death) in Asians. By gender, 72.4% (63 deaths) of deaths occurred in males and 27.6% (24 deaths) in females.

**Cocaine-Related Deaths**
There were a total of 111 cocaine-related deaths between 2007 and 2012, representing 26.2% of the total drug and alcohol intoxication deaths. The highest number of deaths occurred in 2007 (33 deaths). There was a 63.6% reduction in the number of cocaine-related deaths from 2007 to 2012 (12 deaths in 2012). White individuals comprised 87.4% of all deaths (97 deaths). Males accounted for 77.5% (86 deaths) of deaths, and females accounted for 22.5% (25 deaths) of deaths.

**Benzodiazepine-related Deaths**
Benzodiazepines are a class of depressants that include drugs such as alprazolam, clonazepam and diazepam. There were a total of 41 benzodiazepine-related deaths between 2007 and 2012, representing 9.6% of the total drug and alcohol intoxication deaths. The age group with largest number of benzodiazepine-related deaths was individuals age 25-34, comprising 34.1% or 14 deaths. Males accounted for 61% (25 deaths) of deaths and females accounted for 39% (16 deaths) of deaths. White individuals comprised 95.1% (39 deaths) of all benzodiazepine-related deaths.
TOTAL INTOXICATION DEATHS
Drug and Alcohol Intoxication Deaths of Anne Arundel County Residents, 2007-2012
(Total Number of Deaths = 423)

<table>
<thead>
<tr>
<th>Year</th>
<th>Heroin</th>
<th>Prescription Opioids</th>
<th>Alcohol</th>
<th>Cocaine</th>
<th>Benzodiazepines</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>42</td>
<td>19</td>
<td>12</td>
<td>33</td>
<td>1</td>
</tr>
<tr>
<td>2008</td>
<td>22</td>
<td>30</td>
<td>12</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>2009</td>
<td>32</td>
<td>20</td>
<td>10</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>2010</td>
<td>23</td>
<td>29</td>
<td>11</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>2011</td>
<td>29</td>
<td>39</td>
<td>23</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>2012</td>
<td>36</td>
<td>25</td>
<td>19</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>
Total Number of Intoxication Deaths of Anne Arundel County Residents, 2007-2012

Total Deaths = 423

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>70</td>
</tr>
<tr>
<td>2008</td>
<td>66</td>
</tr>
<tr>
<td>2009</td>
<td>64</td>
</tr>
<tr>
<td>2010</td>
<td>59</td>
</tr>
<tr>
<td>2011</td>
<td>87</td>
</tr>
<tr>
<td>2012</td>
<td>77</td>
</tr>
</tbody>
</table>

Total Number of Intoxication Deaths of Anne Arundel County Residents by Age, 2007-2012

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25</td>
<td>44</td>
</tr>
<tr>
<td>25-34</td>
<td>111</td>
</tr>
<tr>
<td>35-44</td>
<td>102</td>
</tr>
<tr>
<td>45-54</td>
<td>116</td>
</tr>
<tr>
<td>55+</td>
<td>50</td>
</tr>
</tbody>
</table>
Total Number of Intoxication Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

- White: 381 deaths
- African American: 32 deaths
- Asian: 3 deaths
- Hispanic: 7 deaths

Total Number and Percent of Intoxication Deaths of Anne Arundel County Residents by Gender, 2007-2012

- Male: 301, 71%
- Female: 122, 29%
OPIOID-RELATED DEATHS
Number of Opioid-Related Deaths of Anne Arundel County Residents by Substance, 2007-2012

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>42</td>
<td>22</td>
<td>32</td>
<td>23</td>
<td>29</td>
<td>36</td>
</tr>
<tr>
<td>Prescription Opioids</td>
<td>19</td>
<td>30</td>
<td>20</td>
<td>29</td>
<td>39</td>
<td>25</td>
</tr>
</tbody>
</table>
HEROIN-RELATED DEATHS
Number of Heroin-Related Deaths of Anne Arundel County Residents, 2007-2012

Number of Heroin-Related Deaths of Anne Arundel County Residents by Age, 2007-2012
Number of Heroin-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

- White: 165 deaths
- African American: 16 deaths
- Hispanic: 3 deaths

Number of Heroin-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012

- Male: 149 deaths (81%)
- Female: 35 deaths (19%)
PRESCRIPTION OPIOID-RELATED DEATHS
Number of Prescription Opioid-Related Deaths of Anne Arundel County Residents, 2007-2012

Year:
- 2007: 19 deaths
- 2008: 30 deaths
- 2009: 20 deaths
- 2010: 29 deaths
- 2011: 39 deaths
- 2012: 25 deaths

Number of Prescription Opioid-Related Deaths of Anne Arundel County Residents by Age, 2007-2012

Age Group:
- <25: 21 deaths
- 25-34: 48 deaths
- 35-44: 36 deaths
- 45-54: 42 deaths
- 55+: 15 deaths
Number of Prescription Opioid-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

- White: 154 (66%)
- African American: 4
- Asian: 1
- Hispanic: 3

Number of Prescription Opioid-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012

- Male: 107 (66%)
- Female: 55 (34%)
Number of Deaths of Anne Arundel County Residents by Prescription Opioids, 2007-2012

Number of deaths

Number of Deaths of Anne Arundel County Residents by Selected Prescription Opioids, 2007-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Methadone</th>
<th>Oxycodone</th>
<th>Tramadol</th>
<th>Fentanyl</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>22</td>
<td>13</td>
<td>6</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2008</td>
<td>30</td>
<td>18</td>
<td>8</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>2009</td>
<td>21</td>
<td>14</td>
<td>4</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2010</td>
<td>33</td>
<td>18</td>
<td>9</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>2011</td>
<td>42</td>
<td>23</td>
<td>15</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>2012</td>
<td>27</td>
<td>12</td>
<td>10</td>
<td></td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>
OXYCODONE-RELATED DEATHS
Number of Oxycodone-Related Deaths of Anne Arundel County Residents, 2007-2012

Number of Oxycodone-Related Deaths of Anne Arundel County Residents by Age Group, 2007-2012
Number of Oxycodone-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

Number of deaths

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Number of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>50</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2</td>
</tr>
</tbody>
</table>

Number of Oxycodone-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012

- Male, 33, 63%
- Female, 19, 37%
METHADONE-RELATED DEATHS
Number of Methadone-Related Deaths of Anne Arundel County Residents, 2007-2012

Year

2007 2008 2009 2010 2011 2012

Number of deaths

13 18 14 18 23 12

Number of Methadone-Related Deaths of Anne Arundel County Residents by Age, 2007-2012

Age Group

<25 25-34 35-44 45-54 55+

Number of deaths

13 34 23 22 6
Number of Methadone-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

Number of Methadone-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012
FENTANYL-RELATED DEATHS
Number of Fentanyl-Related Deaths of Anne Arundel County Residents, 2007-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>3</td>
</tr>
<tr>
<td>2008</td>
<td>4</td>
</tr>
<tr>
<td>2009</td>
<td>3</td>
</tr>
<tr>
<td>2010</td>
<td>4</td>
</tr>
<tr>
<td>2011</td>
<td>2</td>
</tr>
<tr>
<td>2012</td>
<td>3</td>
</tr>
</tbody>
</table>

Number of Fentanyl-Related Deaths of Anne Arundel County Residents by Age, 2007-2012

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25</td>
<td>3</td>
</tr>
<tr>
<td>25-34</td>
<td>4</td>
</tr>
<tr>
<td>35-44</td>
<td>4</td>
</tr>
<tr>
<td>45-54</td>
<td>5</td>
</tr>
<tr>
<td>55+</td>
<td>3</td>
</tr>
</tbody>
</table>
Number of Fentanyl-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

Number of deaths

White: 17
African American: 2

Number of Fentanyl-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012

Male: 13, 68%
Female: 6, 32%
TRAMADOL-RELATED DEATHS
Number of Tramadol-Related Deaths of Anne Arundel County Residents, 2007-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2</td>
</tr>
<tr>
<td>2011</td>
<td>2</td>
</tr>
<tr>
<td>2012</td>
<td>2</td>
</tr>
</tbody>
</table>

Number of Tramadol-Related Deaths of Anne Arundel County Residents by Age, 2007-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25</td>
<td>1</td>
</tr>
<tr>
<td>25-34</td>
<td>1</td>
</tr>
<tr>
<td>35-44</td>
<td>3</td>
</tr>
<tr>
<td>45-54</td>
<td>1</td>
</tr>
</tbody>
</table>
Number of Tramadol-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012

Male, 4, 67%
Female, 2, 33%

Number of Tramadol-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

Number of deaths

White, 6

6
ALCOHOL-RELATED DEATHS
Number of Alcohol-Related Deaths of Anne Arundel County Residents, 2007-2012

Year | Number of deaths
--- | ---
2007 | 12
2008 | 12
2009 | 10
2010 | 11
2011 | 23
2012 | 19

Number of Alcohol-Related Deaths of Anne Arundel County Residents by Age, 2007-2012

Age Group | Number of deaths
--- | ---
<25 | 7
25-34 | 13
35-44 | 20
45-54 | 37
55+ | 10
Number of Alcohol-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

- **White**: 82 deaths
- **African American**: 2 deaths
- **Hispanic**: 2 deaths

Number of Alcohol-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012

- **Male**: 63 deaths, 72%
- **Female**: 24 deaths, 28%
COCAINES-RELATED DEATHS
Number of Cocaine-Related Deaths of Anne Arundel County Residents, 2007-2012

Number of deaths

Year

2007 2008 2009 2010 2011 2012

Number of Cocaine-Related Deaths of Anne Arundel County Residents by Age, 2007-2012

Number of deaths

Age Group

<25 25-34 35-44 45-54 55+

9 34 29 28 11
Number of Cocaine-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

- White: 97 deaths
- African American: 13 deaths

Number of Cocaine-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012

- Male: 86 deaths, 77%
- Female: 25 deaths, 23%
BENZODIAZEPINE-RELATED DEATHS
Number of Benzodiazepine-Related Deaths of Anne Arundel County Residents, 2007-2012

Year

Number of deaths

2007 2008 2009 2010 2011 2012

<25 25-34 35-44 45-54 55+

Number of Benzodiazepine-Related Deaths of Anne Arundel County Residents by Age, 2007-2012

Age Group

Number of deaths

<25 25-34 35-44 45-54 55+
Number of Benzodiazepine-Related Deaths of Anne Arundel County Residents by Race/Ethnicity, 2007-2012

- White: 39
- African American: 1
- Asian: 1

Number of Benzodiazepine-Related Deaths of Anne Arundel County Residents by Gender, 2007-2012

- Male: 25, 61%
- Female: 16, 39%
COMMUNITY RESOURCES
COMMUNITY RESOURCES

Heroin is a highly addictive opioid drug and its use has ramifications that extend far beyond the individual user. The medical and social consequences, such as hepatitis, HIV/AIDS, fetal effects, crime, violence and the disruption to family, workplace and education, have a devastating impact on society. The overdose may be fatal and can cause further disruptions to family and friends.

Prescription opioid medications, such as OxyContin, Vicodin and Demerol, are often prescribed to manage pain. They can be misused and can lead to addiction with the same medical, social and perhaps fatal consequences.

The symptoms of opioid drug withdrawal are not medically dangerous, but they can be agonizing and intolerable, contributing to continued drug abuse. In general, how severe opioid drug withdrawal symptoms are, and how long they last, depends on how long the person has been abusing opioids and the amount being taken.

In the detoxification “detox” process, medicines like methadone or buprenorphine can be used to prevent opiate withdrawal symptoms. After drug withdrawal is complete, the person is no longer physically dependent on the drug; however, psychological dependence can continue. Some people with drug addiction may relapse in response to stress or other powerful triggers.

Alcohol overdose can vary in severity from blurred speech to a coma or death. Blood alcohol levels can continue to increase even once a person loses consciousness as the alcohol already in the digestive system continues to enter the bloodstream and circulate through the body. Alcohol overdose occurs when enough alcohol enters a system that it begins to shut down portions of the brain controlling life support functions: breathing, heart rate and temperature.

Like many other chronic diseases, addiction can be treated. Some best practices in addiction treatment are:

- active treatment (right dose for the right person at the right time), including stabilization and early recovery treatment;
- management of comorbidities (such as mental illness); and
- continuing engagement in recovery activities.
Medications are available to treat opiate and alcohol addiction while reducing drug cravings and withdrawal symptoms, ultimately improving the odds of achieving abstinence. There are now a variety of medications that can be tailored to a person’s recovery needs while taking into account co-occurring health conditions. Medication combined with psychosocial intervention and behavioral therapy is particularly effective, offering hope to individuals who suffer from addiction and those around them. Local community resources are available to provide assistance.

**Local Resources for Substance Abuse Treatment:**

- **Community Treatment Referral Line:** 410-222-0117

- **Network of Care Online Community Resources:** [www.networkofcare.org](http://www.networkofcare.org)

- **Maryland Community Services Locator:** [http://www.mdcsl.org/search.html](http://www.mdcsl.org/search.html)

**Support Groups for those seeking recovery and their families:**

- **Alcoholics Anonymous:** [www.alcoholics-anonymous.org](http://www.alcoholics-anonymous.org)

- **Al-Anon & Alateen (for family members):** [www.al-anon.alateen.org](http://www.al-anon.alateen.org)

Acknowledgements

Compiled by:
Bikash Singh, M.P.H.

Editorial Assistance provided by:
Jinlene Chan, M.D., M.P.H.
Laurie Fetterman, M.S.W.
Elin Jones, M.S.
Sandra O’Neill, M.S., L.C.P.C.
Joseph Pate
William Rufenacht, M.A., L.C.A.D.C.
Antigone Vickery, M.P.H.

Cover Design by:
Charles Dowd

Anne Arundel County Department of Health
Office of Assessment, Planning and Response
3 Harry S. Truman Parkway
Annapolis, MD 21401
410-222-7280
www.aahealth.org

The services and facilities of the Anne Arundel County Department of Health are available to all without regard to race, color, religion, political affiliation or opinion, national origin, age, gender identity, sexual orientation or disability.