



Drug- and Alcohol-Related Intoxication Deaths in Maryland, 2015

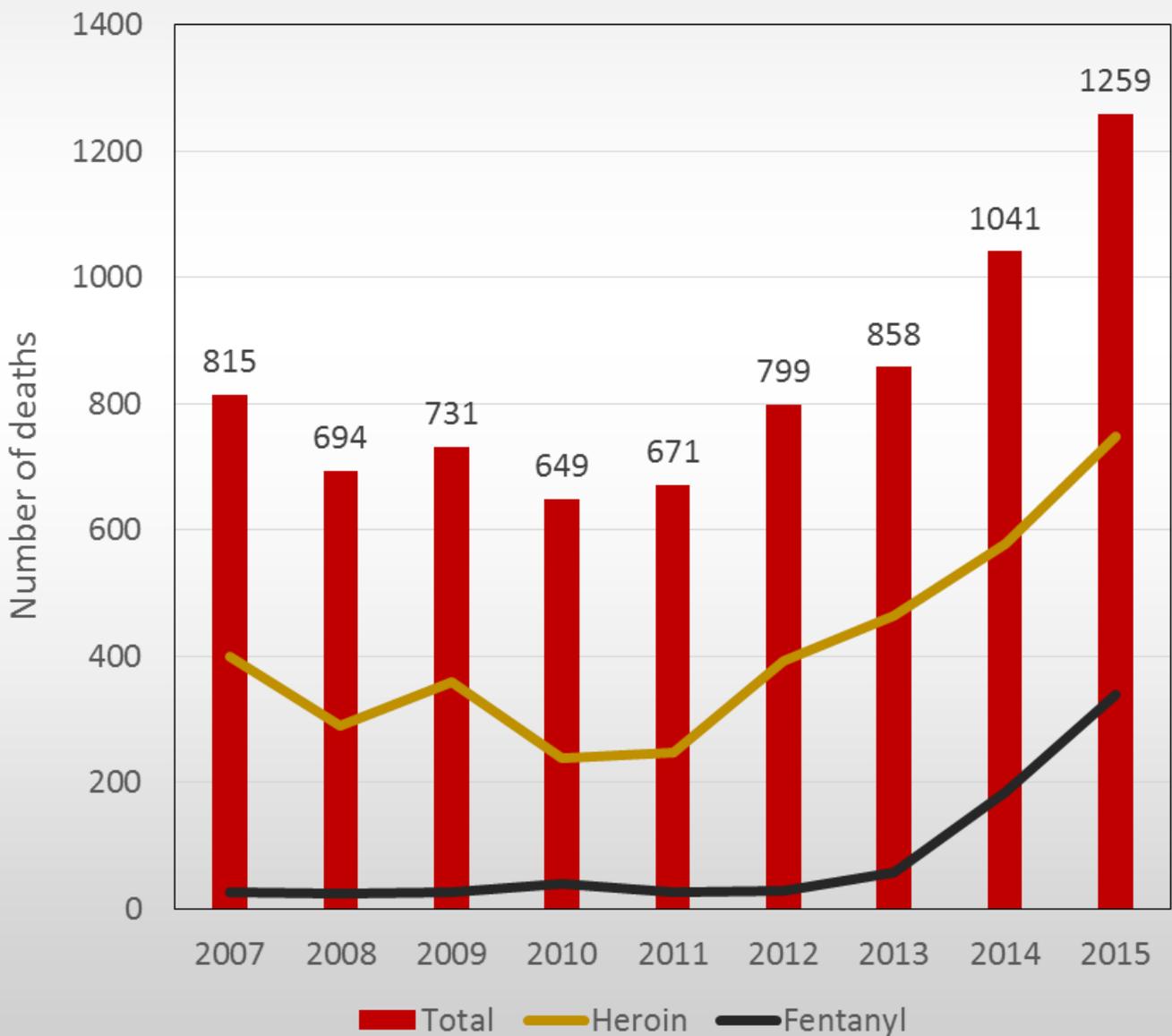


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METHODS

Introduction

The purpose of this report is to describe trends in the number of unintentional drug- and alcohol-related intoxication deaths occurring in Maryland during the period 2007-2015. Trends are examined by age at time of death, race/ethnicity, gender, place of death and substances related to death.

This report was prepared using drug and alcohol intoxication data housed in a registry developed and maintained by the Vital Statistics Administration (VSA) of the Maryland Department of Health and Mental Hygiene (DHMH). The methodology for reporting on drug-related intoxication deaths in Maryland was developed by VSA with assistance from the DHMH Behavioral Health Administration, the Office of the Chief Medical Examiner (OCME) and the Maryland Poison Control Center. Assistance was also provided by authors of a Baltimore City Health Department report on intoxication deaths.¹

Sources of data

The data included in this report were obtained mainly from OCME. Maryland law requires 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. In these instances, information compiled during an investigation is used to determine the cause or causes of death. Depending on the circumstances, an investigation may involve a combination of scene examination, review of witness reports, review of medical and police reports, autopsy, and toxicological analysis of autopsy specimens. Toxicological analysis is routinely performed when there is suspicion that a death was the result of drug or alcohol intoxication.

A small number of additional intoxication deaths that occurred among U.S. military personnel were investigated by federal investigators rather than by OCME. These cases were identified through death records maintained by VSA and information available on these cases was included in the registry.

Information on place of death and race/ethnicity was missing for a small number of records provided by OCME and was obtained through death certificate data. Death certificate data were also used to update demographic information on records that were amended after the records were filed with the Division of Vital Records.

¹ Office of Epidemiology and Planning, Baltimore City Health Department. Intoxication Deaths Associated with Drugs of Abuse or Alcohol. Baltimore City, Maryland: Baltimore City Health Department. January 2007.

Identification of drug-related intoxication deaths

For the purpose of this report, an intoxication death was defined as a death that was the result of 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. OCME provided all records to VSA for which the text of the cause of death included one or more of the following terms: poisoning, intoxication, toxicity, inhalation, ingestion, overdose, exposure, chemical, effects, or use. Any records provided by OCME that were not drug-related intoxication deaths, such as deaths due to smoke inhalation, carbon monoxide intoxication, cold exposure, and chronic use of alcohol or other drugs, were excluded in the registry. Also excluded from the registry were any deaths that were not accidental or of undetermined intent. A death is considered to be of undetermined intent if the medical examiner does not have sufficient evidence to definitively determine whether a death was natural, accidental, or the result of suicide or homicide. In the case of intoxication deaths, a substantial proportion of records with an “undetermined” manner of death are likely to have been unintentional.

Analyses

Trends in the number of drug- and alcohol-related intoxication deaths occurring in Maryland during the years 2007-2015 were analyzed by age group, race/ethnicity, gender, place of occurrence of death, and substances related to the death. Changes were examined for deaths related to the following substances:

1. Opioids
 - a. Heroin
 - b. Prescription opioids
 - c. Fentanyl (prescribed and illicit)
2. Cocaine
3. Benzodiazepines and related drugs
4. Alcohol

The number of deaths by place of occurrence was computed by jurisdiction and by region, categorized as follows:

Northwest Area	Baltimore Metro Area	National Capital Area	Southern Area	Eastern Shore Area
Garrett Co. Allegany Co. Washington Co. Frederick Co.	Baltimore City Baltimore Co. Anne Arundel Co. Carroll Co. Howard Co. Harford Co.	Montgomery Co. Prince George's Co.	Calvert Co. Charles Co. St. Mary's Co.	Cecil Co. Kent Co. Queen Anne's Co. Caroline Co. Talbot Co. Dorchester Co. Wicomico Co. Somerset Co. Worcester Co.

Trends in deaths for the period 2007-2015 are shown in Figures 1 through 30. Data on intoxication deaths related to a combination of substances are shown in Figures 31 and 32. Counts of the number of total deaths and deaths related to classes of substances or specific substances by place of occurrence are shown in Tables 1 through 9.

****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 in this report.****

Opioid-related deaths

Opioids include heroin and prescription opioid drugs such as oxycodone, hydrocodone, hydromorphone, methadone, fentanyl, tramadol and codeine. In this report, an opioid was considered to be associated with a death if a specific opioid drug was indicated in the cause of death. If the cause of death did not identify a specific drug (e.g., the cause of death indicated “Narcotic Intoxication”), OCME toxicology results were reviewed to determine whether the presence of any opioid drug was detected. If so, the cause of death was considered to be opioid-related, regardless of the level of the drug.

Since heroin is rapidly metabolized into morphine, the records of many deaths that are likely to be heroin-related do not list “heroin” as a cause of death, and therefore cannot be identified using only information listed in the cause of death. Therefore, a combination of information contained in the cause of death field, toxicology results, and scene investigation notes is used to identify heroin-related deaths. In this report, a death was considered to be heroin-related if:

1. “Heroin” was mentioned in the cause of death; or
2. The toxicology screen showed a positive result for 6-monacetylmorphine; or
3. The toxicology screen showed positive results for both morphine and quinine; or
4. The cause of death was nonspecific and the scene investigation notes indicated that heroin was likely to have been involved in the death; or
5. The death was associated with morphine through either cause of death information or toxicology results, unless information contained in the investigation notes did not support this assumption.

Prescription opioid-related deaths were defined as deaths that involve one or more prescription opioids, as identified through cause of death information when a specific drug was indicated and through toxicology results when the cause of death was nonspecific. Prescription opioids include buprenorphine, codeine, hydrocodone, hydromorphone, meperidine, methadone, morphine, oxycodone, pentazocine, propoxyphene, tramadol and prescribed fentanyl. Prescribed fentanyl is an opioid analgesic approved for patient use to manage severe or chronic pain. There is also a form of fentanyl that is produced illicitly in clandestine laboratories and mixed with (or substituted for) heroin or other illicit drugs. Although in some cases it was difficult to determine whether a prescribed or illicit form of

fenanyl was related to a death, the count of prescription opioid-related drugs in this report includes only fenanyl deaths in which a prescription form of the drug was clearly involved.

Benzodiazepine-related deaths

Benzodiazepines are a class of depressants that include drugs such as alprazolam, clonazepam, diazepam, and multiple related drugs. The category of benzodiazepine-related drugs in this report includes both benzodiazepines and related drugs, such as zolpidem, which have similar sedative effects.

NOTE:

This report, originally prepared in June 2016, was revised in September 2016 in order to update counts of 2015 deaths in certain age groups. All other aspects of the report remain unchanged.

SUMMARY OF TRENDS IN DEATHS—2007 TO 2015

Total alcohol and drug intoxication deaths

- The number of drug- and alcohol-related intoxication deaths occurring in Maryland increased in 2015 for the fifth year in a row, reaching an all-time high of 1259 deaths. This represented a 21% increase over the number of deaths (1041) in 2014. The number of intoxication deaths has nearly doubled in Maryland since 2010.
- Intoxication deaths have been increasing among all age groups since 2010. The increase has been most rapid among individuals 55 years of age and above.
- The number of deaths increased by 24% among Whites and by 17% among African Americans between 2014 and 2015. Although deaths have increased among both groups since 2010, the increase has been greatest among African Americans. Deaths among Hispanics remained at a low level.
- Deaths increased by 20% among men and by 22% among women between 2014 and 2015. Deaths more than doubled among men between 2010 and 2015, and increased by 64% among women.
- Although the number of deaths has been increasing in nearly all areas of the State, there are several small jurisdictions where the number of deaths has either remained stable, or declined.

Opioid-related deaths

- Eighty-six percent of all intoxication deaths that occurred in Maryland in 2015 were **opioid**-related. **Opioid**-related deaths include deaths related to **heroin**, **prescription opioids**, and nonpharmaceutical **fentanyl**.
- The number of **opioid**-related deaths increased by 23% between 2014 and 2015, and have more than doubled since 2010.
- Large increases in the number of **heroin** and **fentanyl**-related deaths were largely responsible for the overall rise in opioid-related deaths, but deaths from **prescription opioids** have been rising as well in recent years. Between 2014 and 2015 the number of **heroin**-related deaths increased by 29% (from 578 to 748), the number of **fentanyl**-related deaths nearly doubled (from 186 to 340), and the number of **prescription-opioid** related deaths increased by 6% (from 330 to 351).
- The number of **heroin**-related deaths in Maryland more than tripled between 2010 and 2015. Deaths have increased among all age groups, Whites and African Americans, men and women, and in all regions of the State.
- Twenty-nine percent of **heroin**-related deaths in 2015 occurred in combination with **fentanyl**, 24% in combination with **alcohol**, 20% in combination with **cocaine**, and 13% in combination with **prescription opioids**.
- The number of **prescription opioid**-related deaths has been rising since 2012, in large part as a result of an increase in **methadone**-related deaths. The number of **prescription opioid**-related deaths has been rising steadily among the 45-54 year age

group, and falling steadily among individuals below the age of 25. Deaths have been increasing among both Whites and African Americans in recent years.

- The number of **fentanyl**-related deaths began increasing in late 2013 as a result of overdoses involving nonpharmaceutical **fentanyl**, that is, nonprescription **fentanyl** produced in clandestine laboratories and mixed with, or substituted for, heroin or other illicit substances. **Fentanyl** is many times more potent than heroin, and greatly increases the risk of an overdose death. The number of deaths caused by fentanyl has increased 12-fold since 2012.
- **Fentanyl**-related deaths have increased substantially among all age groups, among Whites and African Americans, and among both men and women.
- While **fentanyl**-related deaths have been increasing in all regions of the State, the increase has been greatest in the Baltimore Metro area.
- Approximately 65% of **fentanyl**-related deaths in 2015 occurred in combination with **heroin**, and 20% in combination with **cocaine**.

Cocaine-related deaths

- The number of **cocaine**-related deaths, remained relatively stable between 2008 and 2013, and began rising in 2014. There were 221 deaths in 2015 compared with 198 in 2014, and 154 in 2013.
- The number of **cocaine**-related deaths has been increasing particularly rapidly in recent years among individuals ages 45-54 years, and among men.
- Sixty-six percent of **cocaine**-related deaths in 2015 occurred in combination with **heroin**, and 30% in combination with **fentanyl**.

Benzodiazepine-related deaths

- Although the number of **benzodiazepine**-related deaths fell from 103 in 2014 to 91 in 2015, deaths have generally been increasing in recent years.
- Approximately 60% of all **benzodiazepine**-related deaths in 2015 occurred in combination with **prescription opioids**, and 41% in combination with **heroin**.

Alcohol-related deaths

- The number of **alcohol**-related deaths has been rising steadily, increasing by 69% since 2010. The number of deaths increased from 270 in 2014 to 309 in 2015, a 13% rise.
- **Alcohol**-related deaths have been increasing most rapidly among older age groups, and among men. Deaths have been rising steadily among both Whites and African Americans.
- Approximately 58% of all **alcohol**-related deaths occurred in combination with **heroin**, and 21% in combination with **fentanyl**.

**TOTAL INTOXICATION
DEATHS**

Figure 1. Total Number of Drug- and Alcohol-Related Intoxication Deaths Occurring in Maryland, 2007-2015.

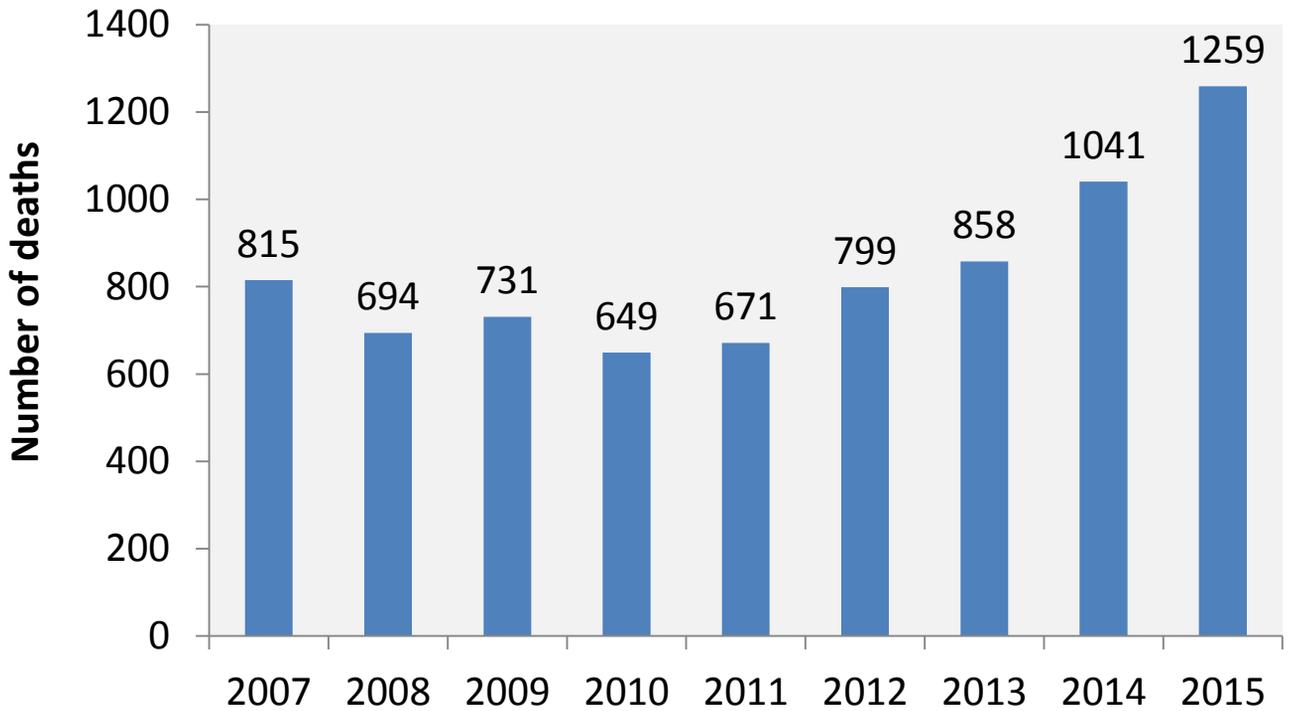


Figure 2. Total Number of Intoxication Deaths Occurring in Maryland by Place of Occurrence, 2015.

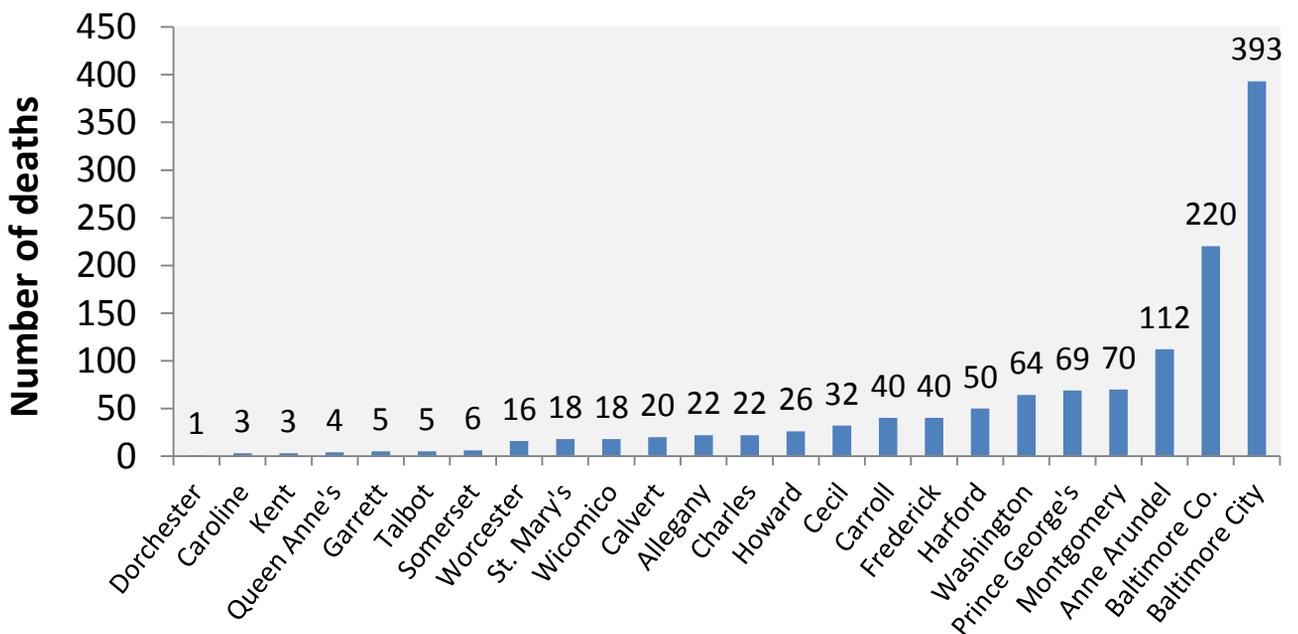
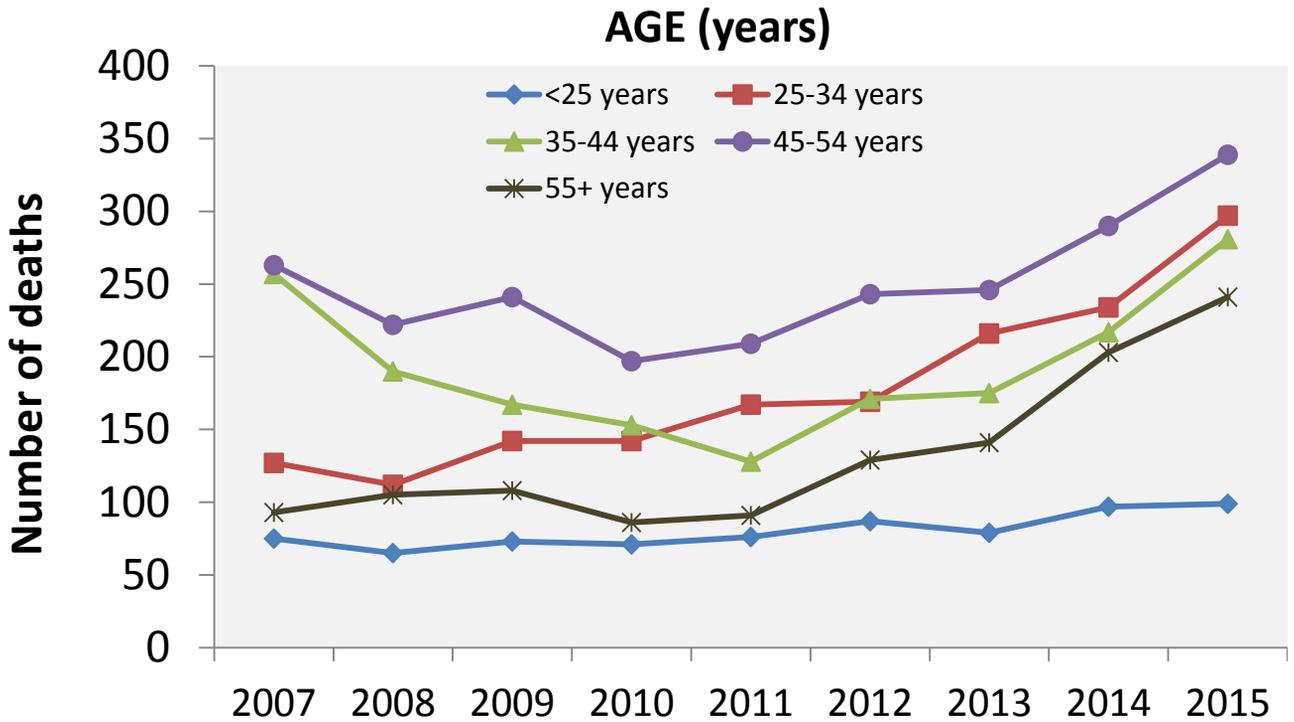


Figure 3. Total Number of Drug- and Alcohol-Related Intoxication Deaths Occurring in Maryland by Age Group,* Race/Ethnicity and Gender, 2007-2015.



*Counts of 2015 deaths in certain age groups were revised.

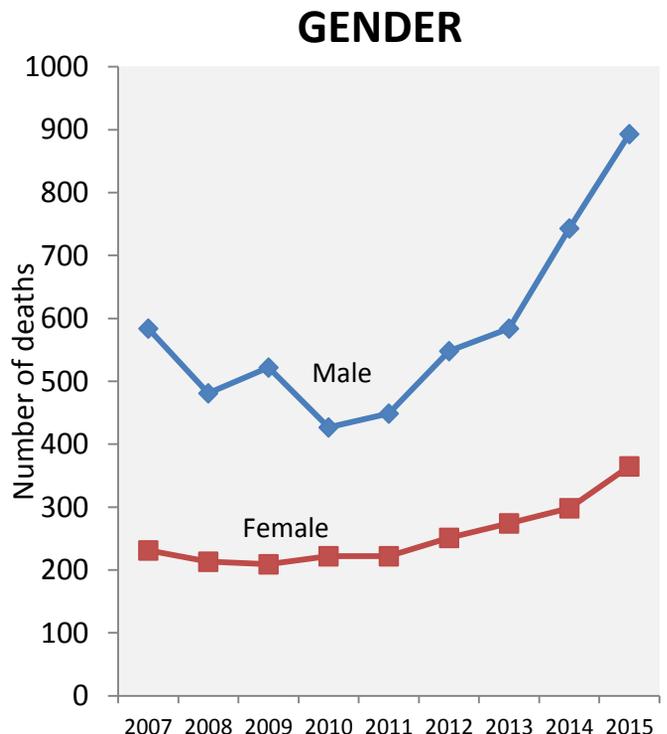
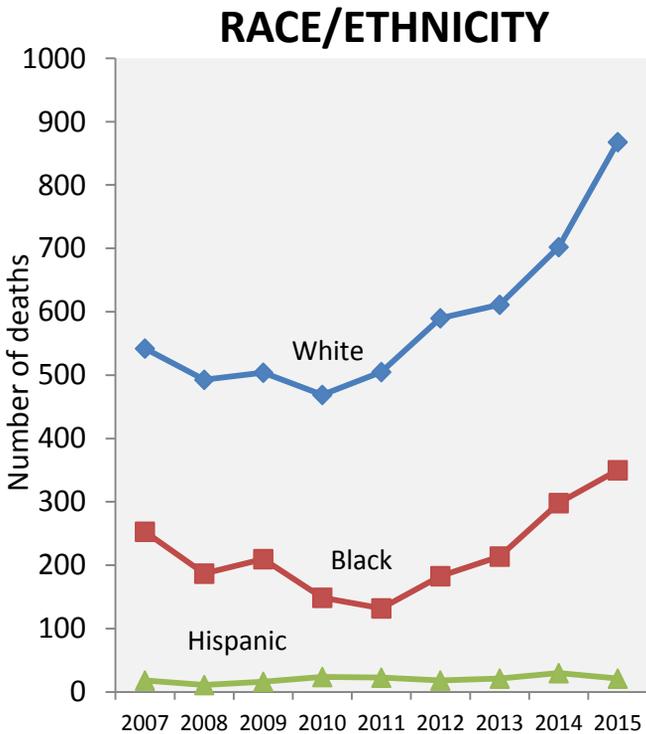
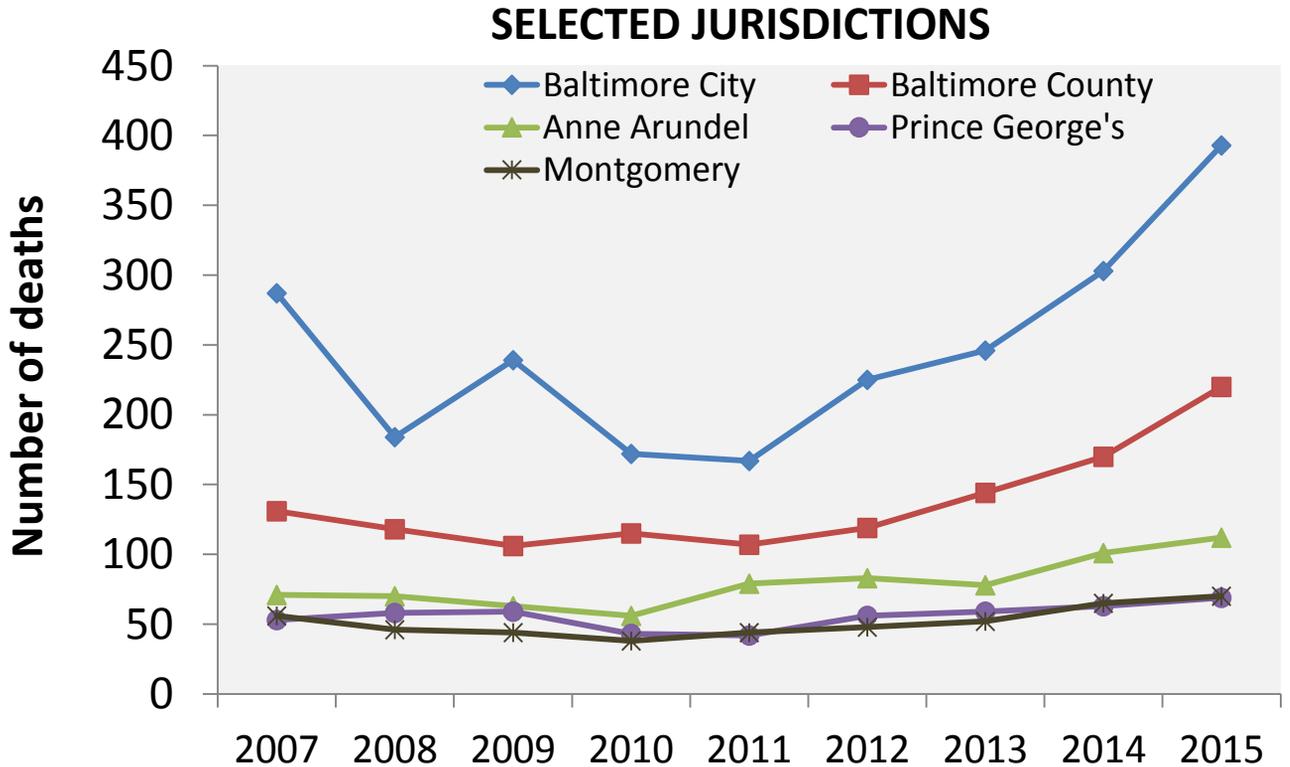
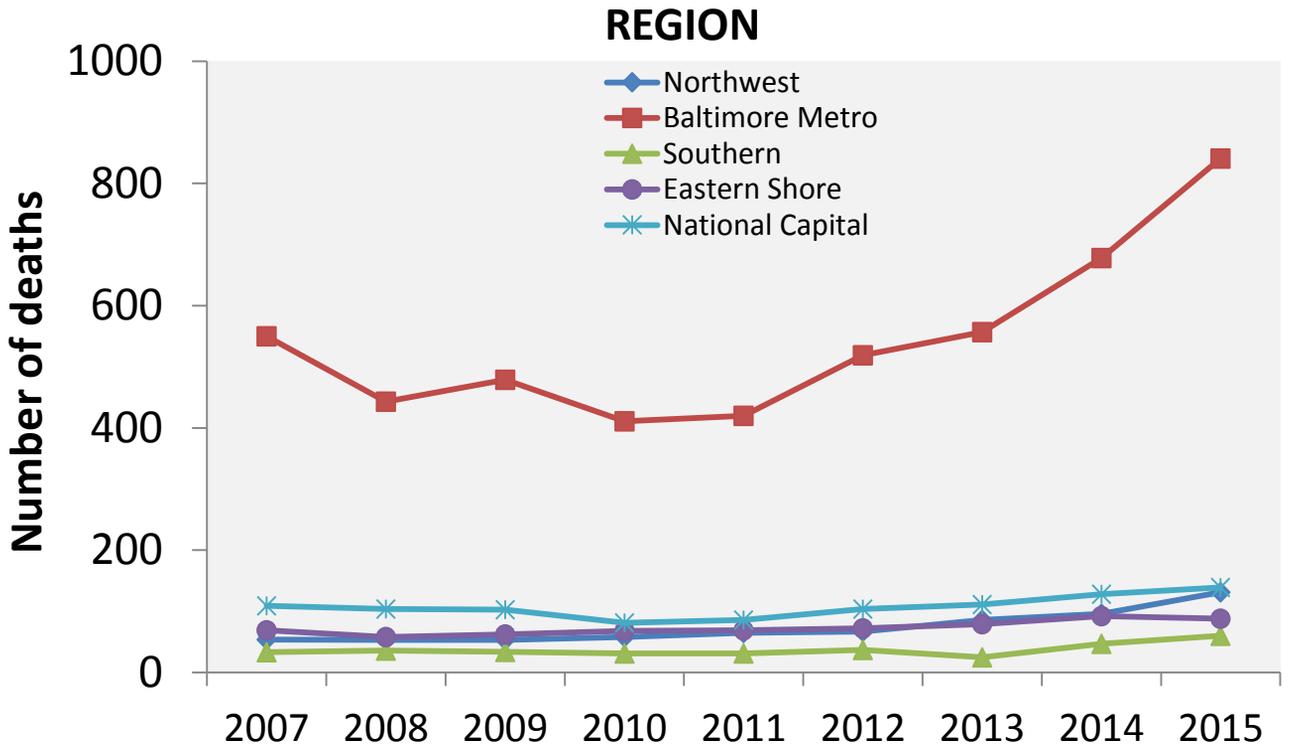
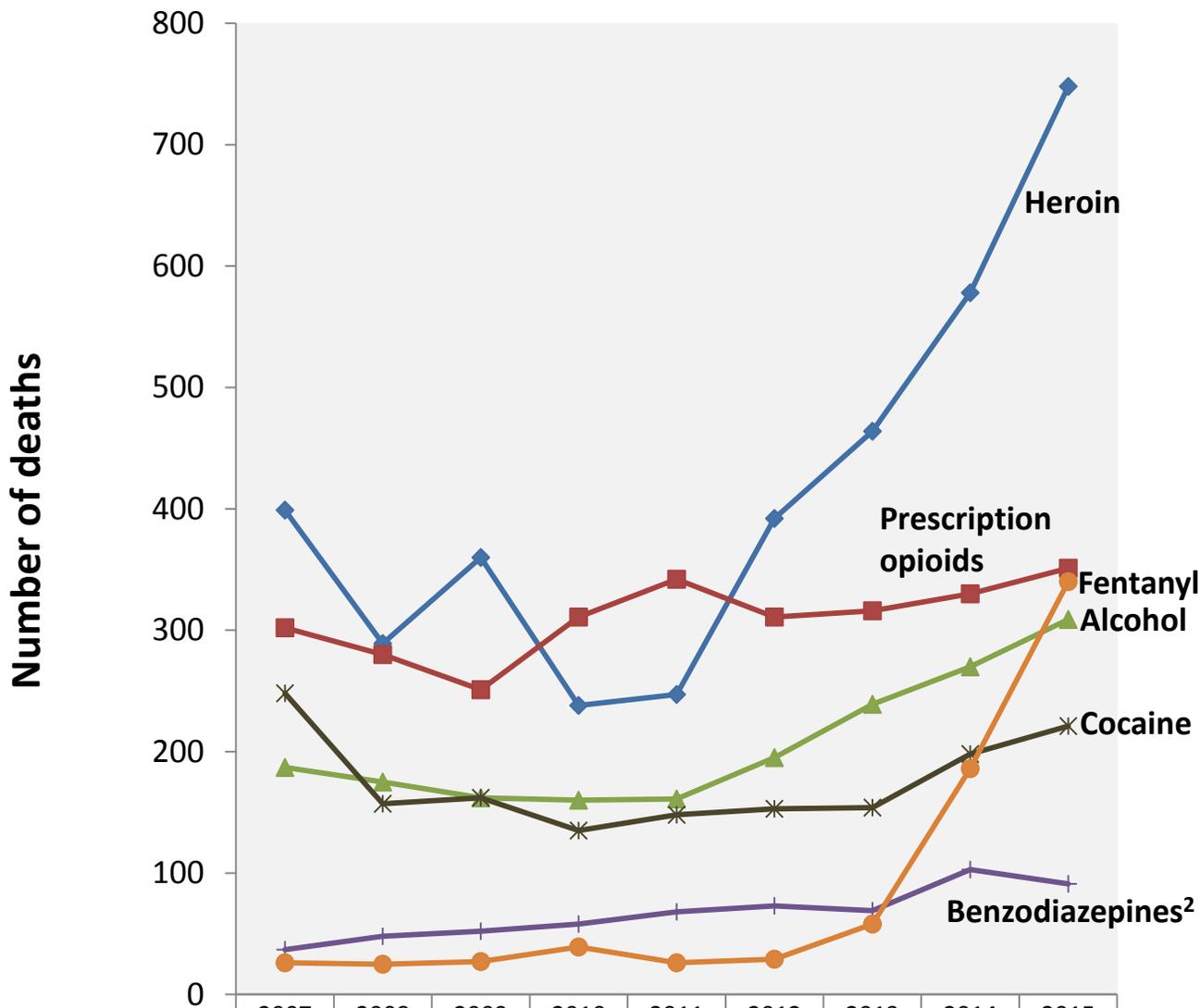


Figure 4. Total Number of Drug- and Alcohol-Related Intoxication Deaths by Place of Occurrence, Maryland, 2007-2015.



**DRUG- AND ALCOHOL-
RELATED INTOXICATION
DEATHS BY SUBSTANCE**

Figure 5. Total Number of Drug- and Alcohol-Related Intoxication Deaths by Selected Substances¹, Maryland, 2007-2015.



	2007	2008	2009	2010	2011	2012	2013	2014	2015
◆ Heroin	399	289	360	238	247	392	464	578	748
■ Prescription opioids	302	280	251	311	342	311	316	330	351
▲ Alcohol	187	175	162	160	161	195	239	270	309
+ Benzodiazepines	37	48	52	58	68	73	69	103	91
* Cocaine	248	157	162	135	148	153	154	198	221
● Fentanyl	26	25	27	39	26	29	58	186	340

¹Since 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.

²Includes deaths caused by benzodiazepines and related drugs with similar sedative effects.

OPIOID-RELATED DEATHS

Figure 6. Total Number of Opioid* and Non-Opioid-Related Deaths Occurring in Maryland, 2007-2015.

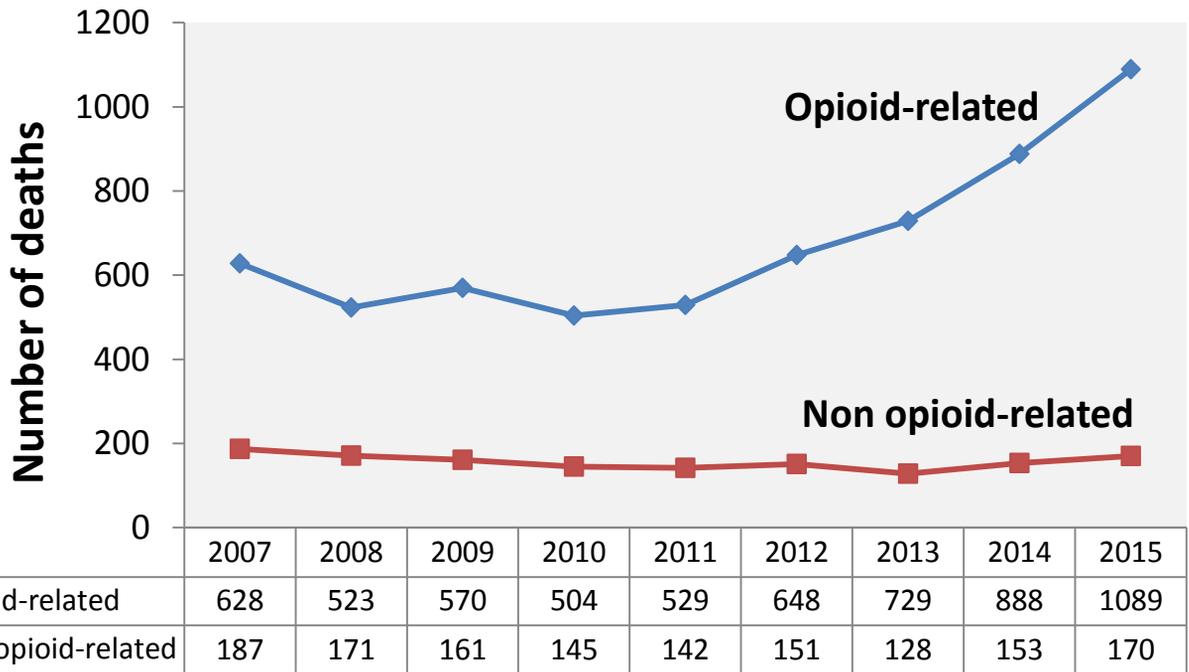
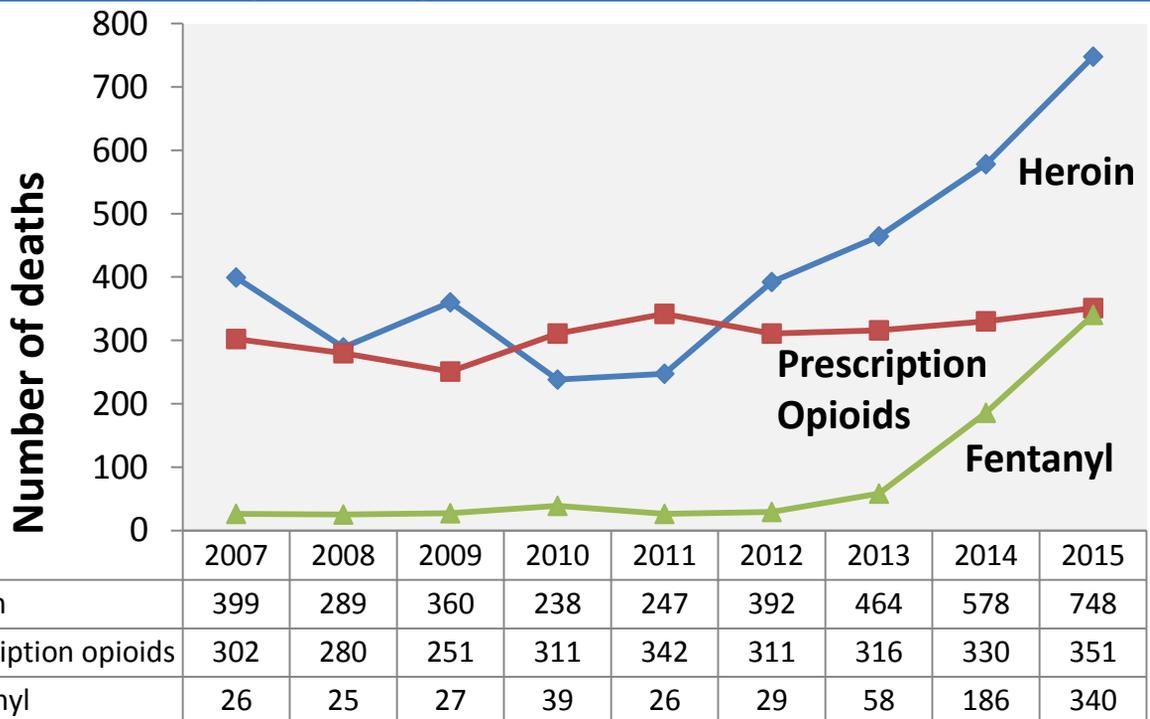


Figure 6. Number of Opioid-Related Deaths Occurring in Maryland by Substance, 2007-2015.



*Total opioids include heroin, prescription opioids, and illicit forms of fentanyl.

Figure 7. Number of Heroin-Related Deaths Occurring in Maryland, 2007-2015.

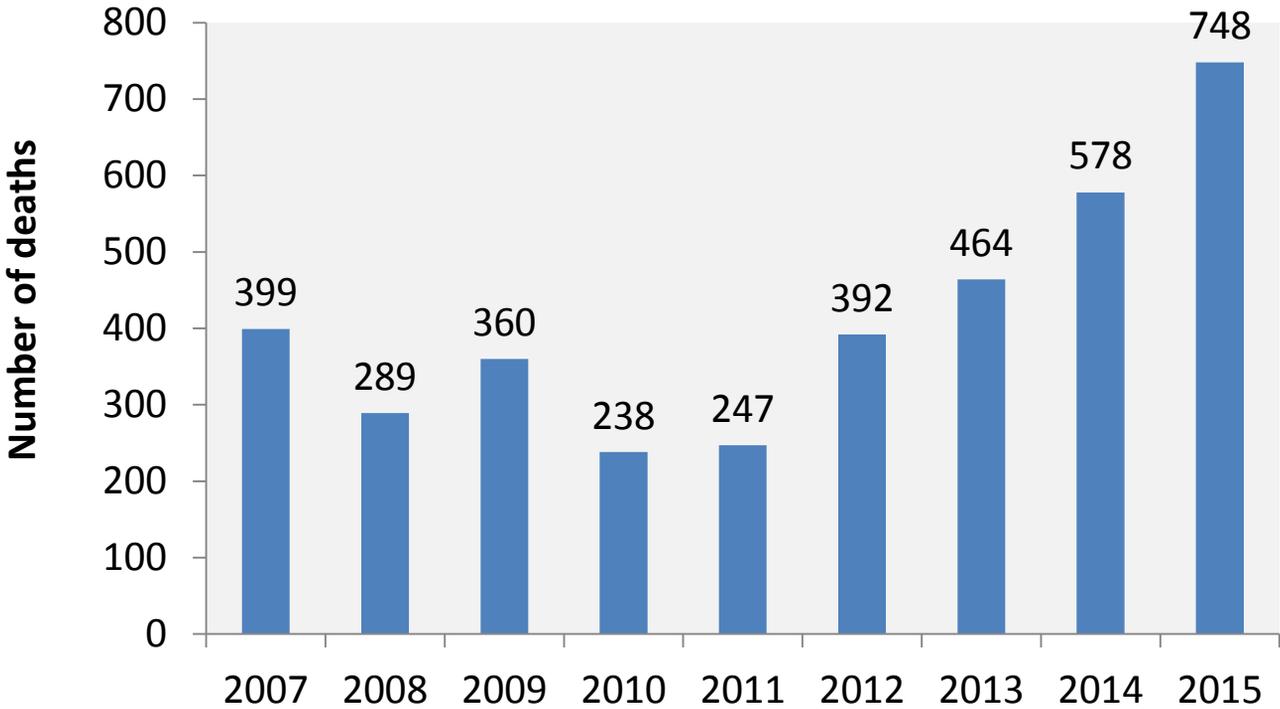


Figure 8. Number of Heroin-Related Deaths Occurring in Maryland by Place of Occurrence, 2015.

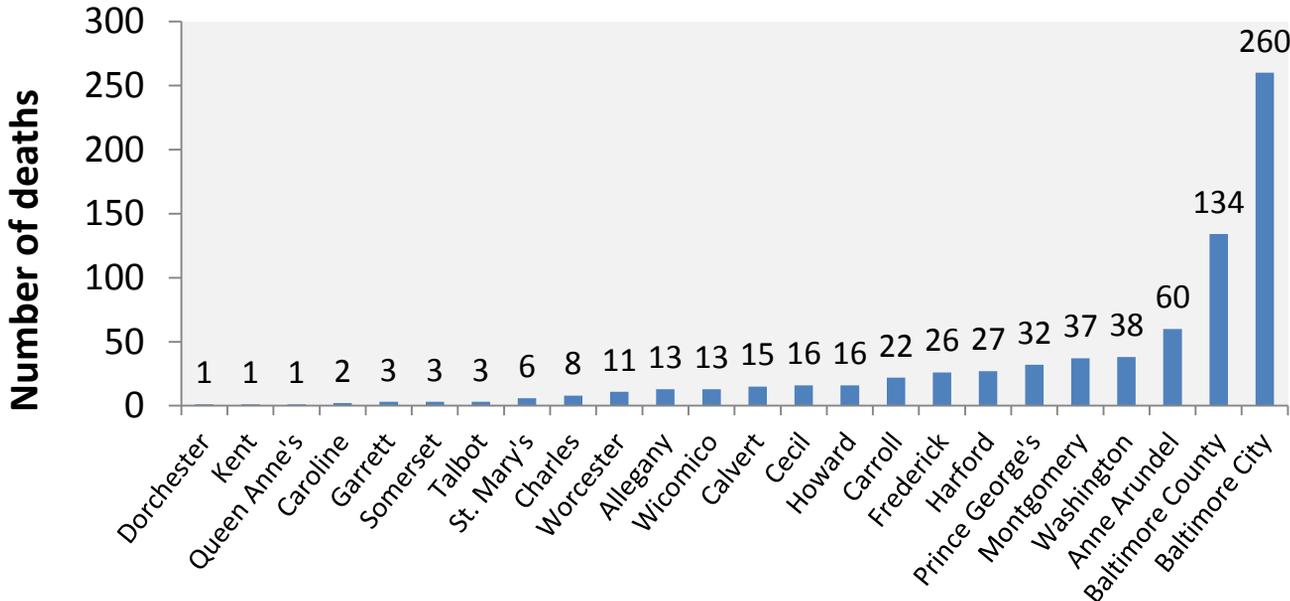
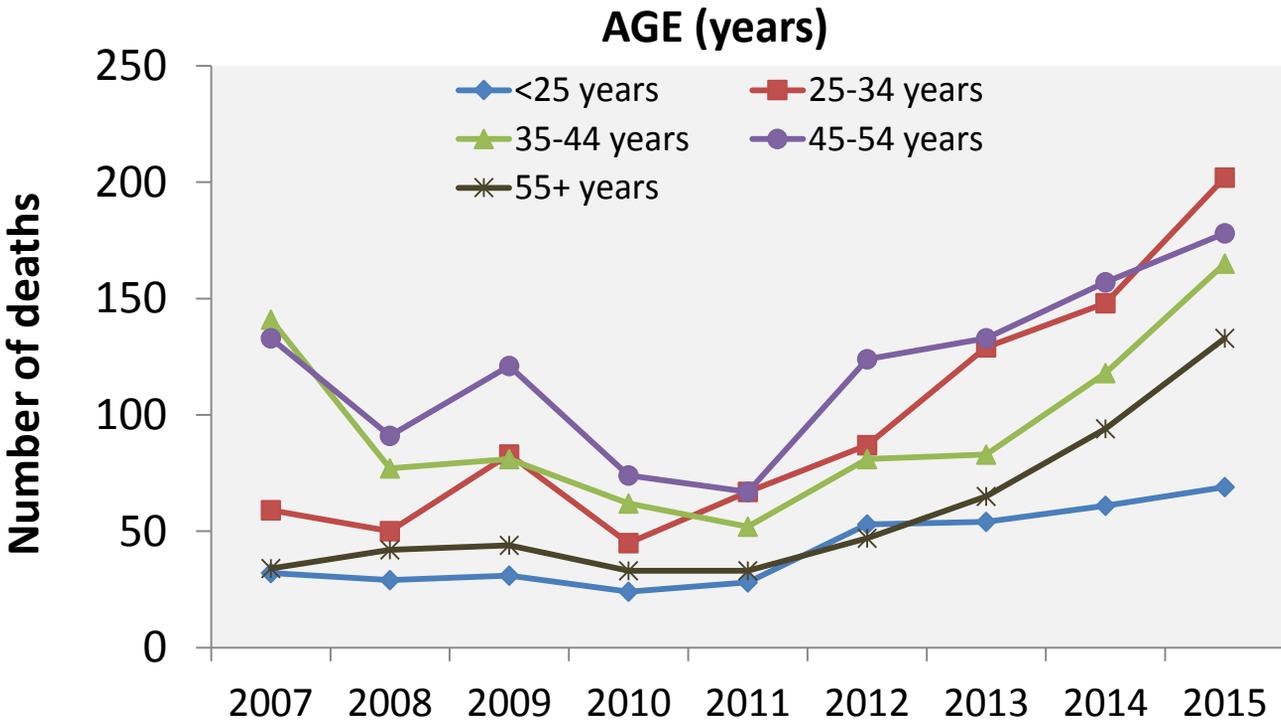


Figure 9. Number of Heroin-Related Deaths Occurring in Maryland by Age Group,* Race/Ethnicity and Gender, 2007-2015.



*Counts of 2015 deaths in certain age groups were revised.

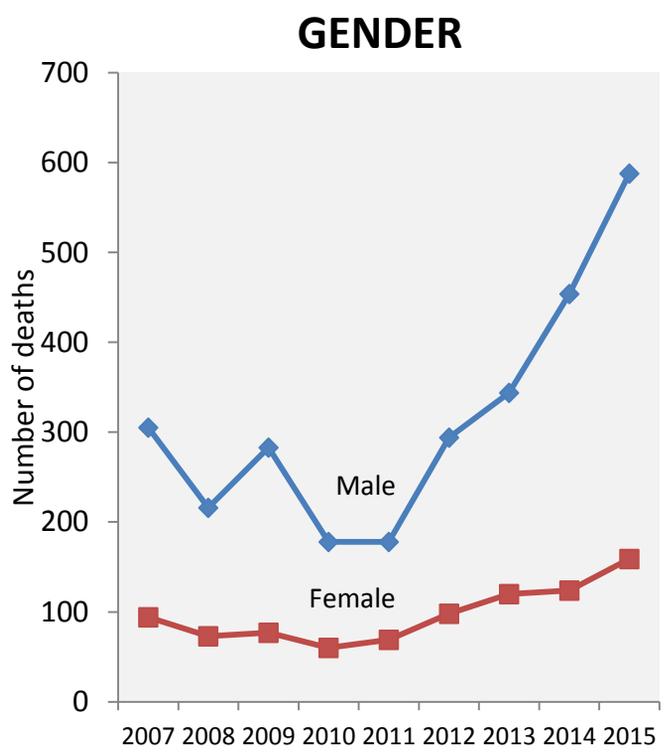
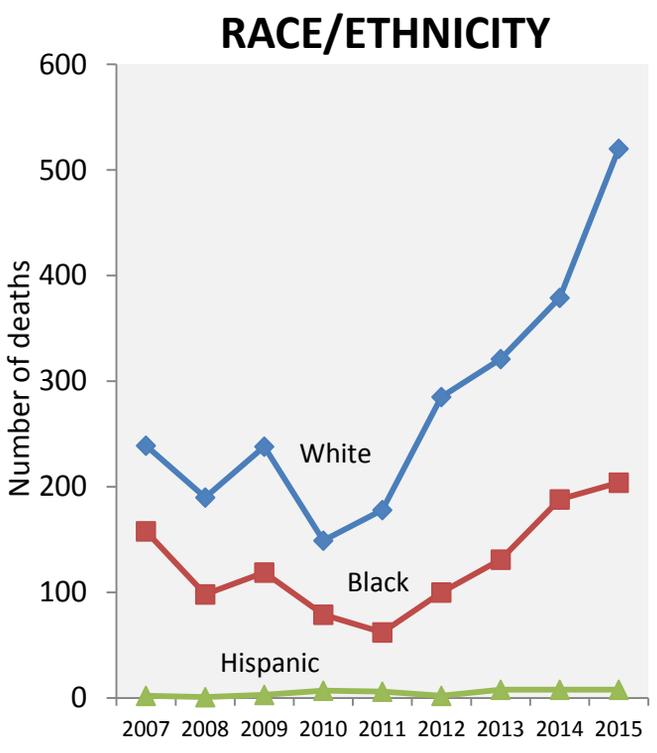


Figure 10. Number of Heroin-Related Deaths by Place of Occurrence, Maryland, 2007-2015.

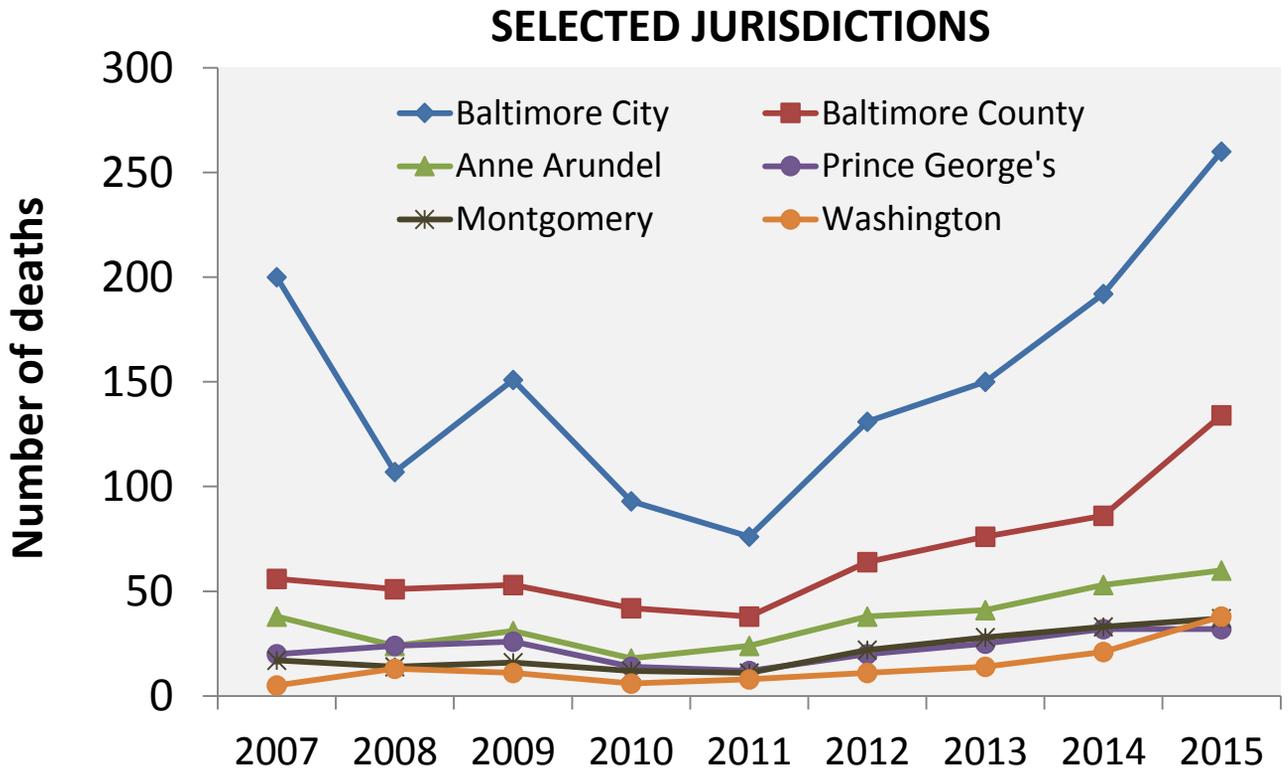
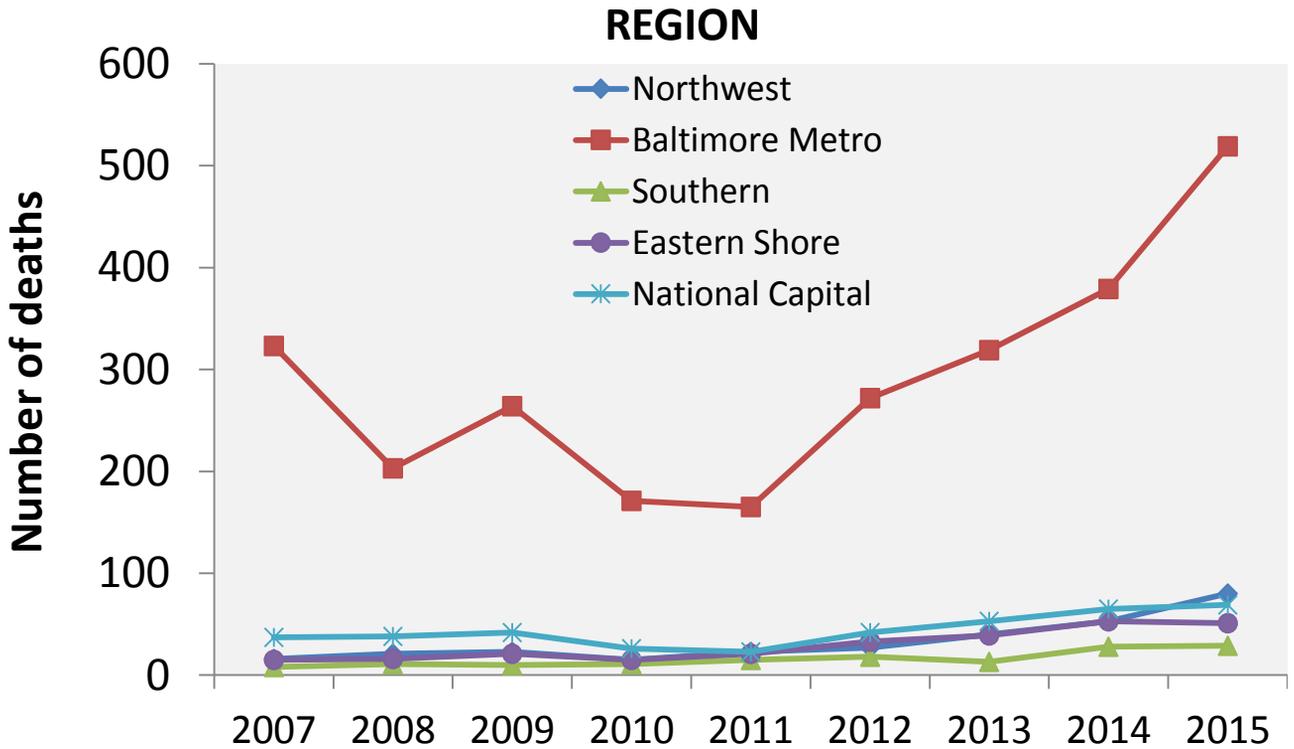
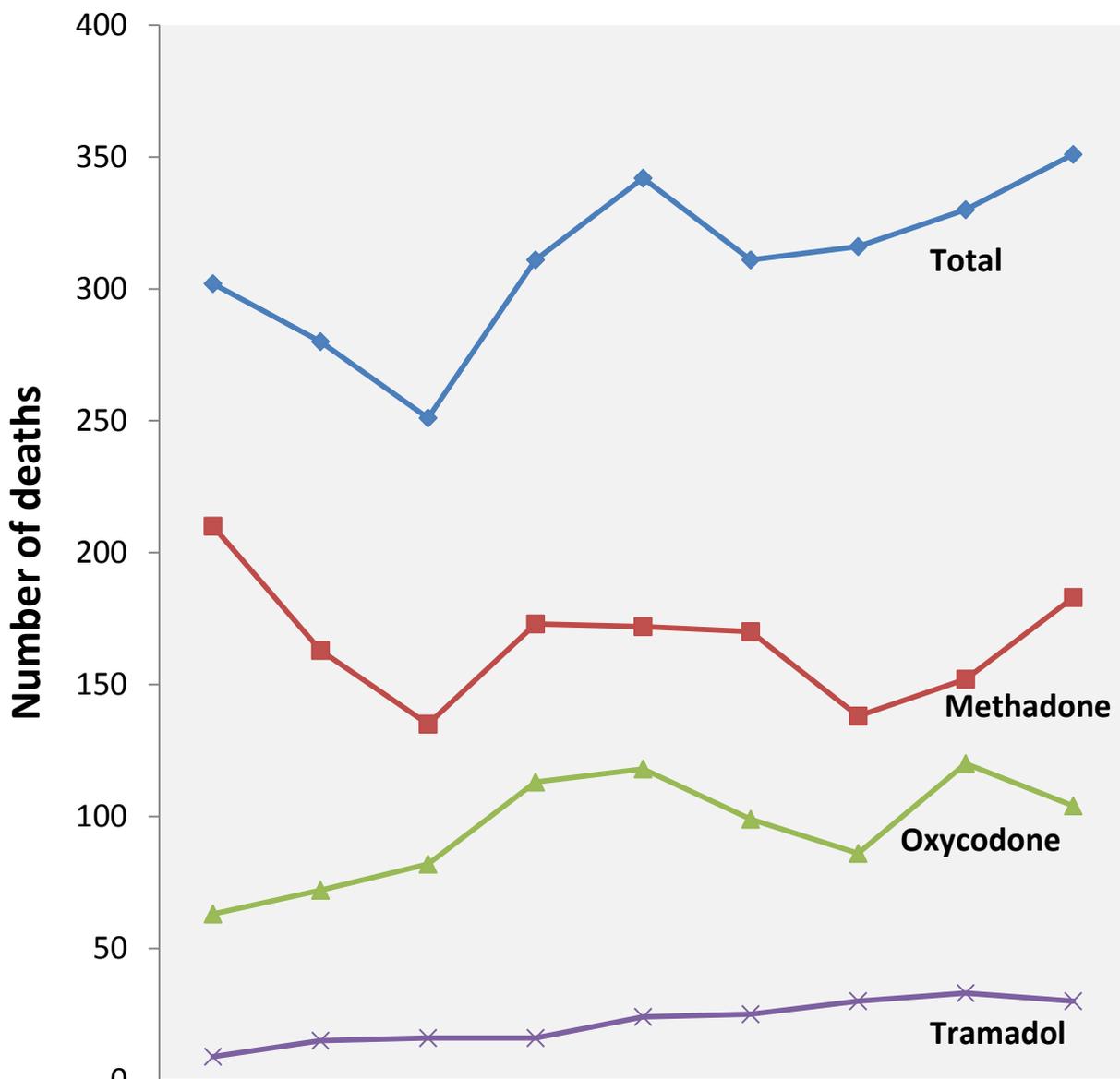


Figure 11. Number of Deaths Occurring in Maryland by Selected Prescription Opioids, 2007-2015.



	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	302	280	251	311	342	311	316	330	351
Methadone	210	163	135	173	172	170	138	152	183
Oxycodone	63	72	82	113	118	99	86	120	104
Tramadol	9	15	16	16	24	25	30	33	30

Figure 12. Number of Prescription Opioid-Related Deaths Occurring in Maryland, 2007-2015.

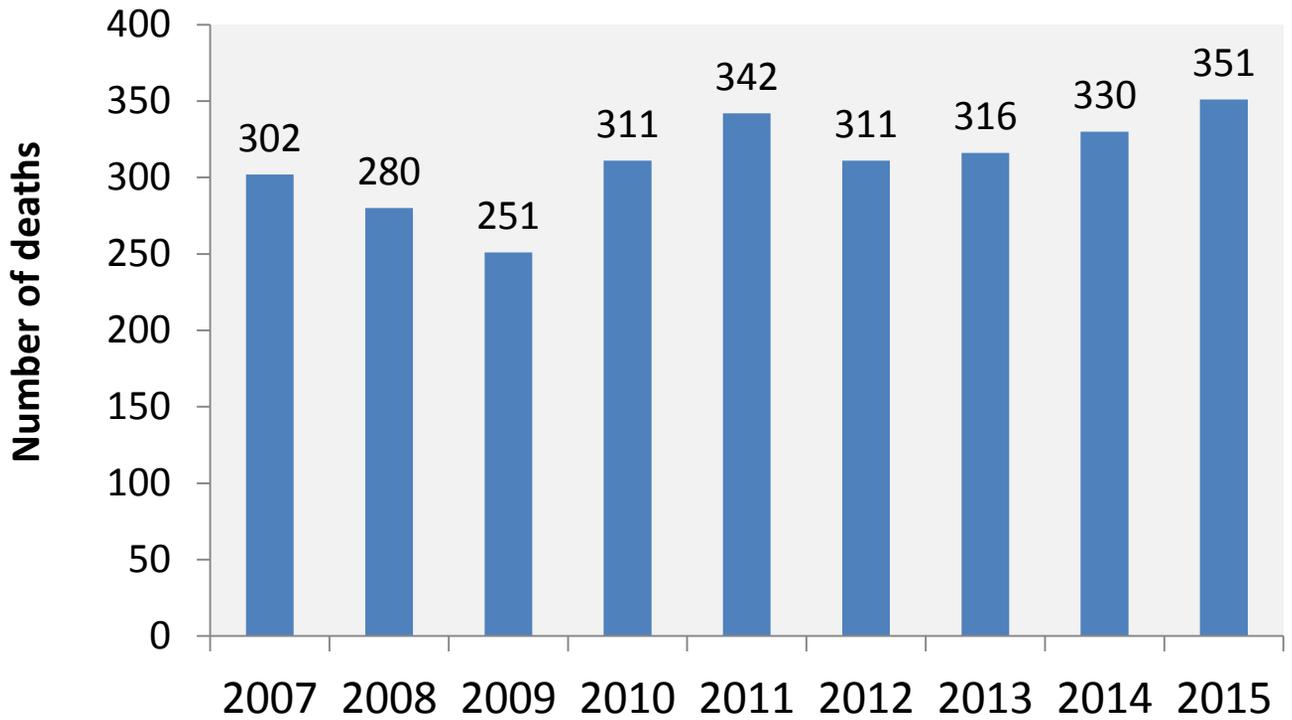


Figure 13. Number of Prescription Opioid-Related Deaths Occurring in Maryland by Place of Occurrence, 2015.

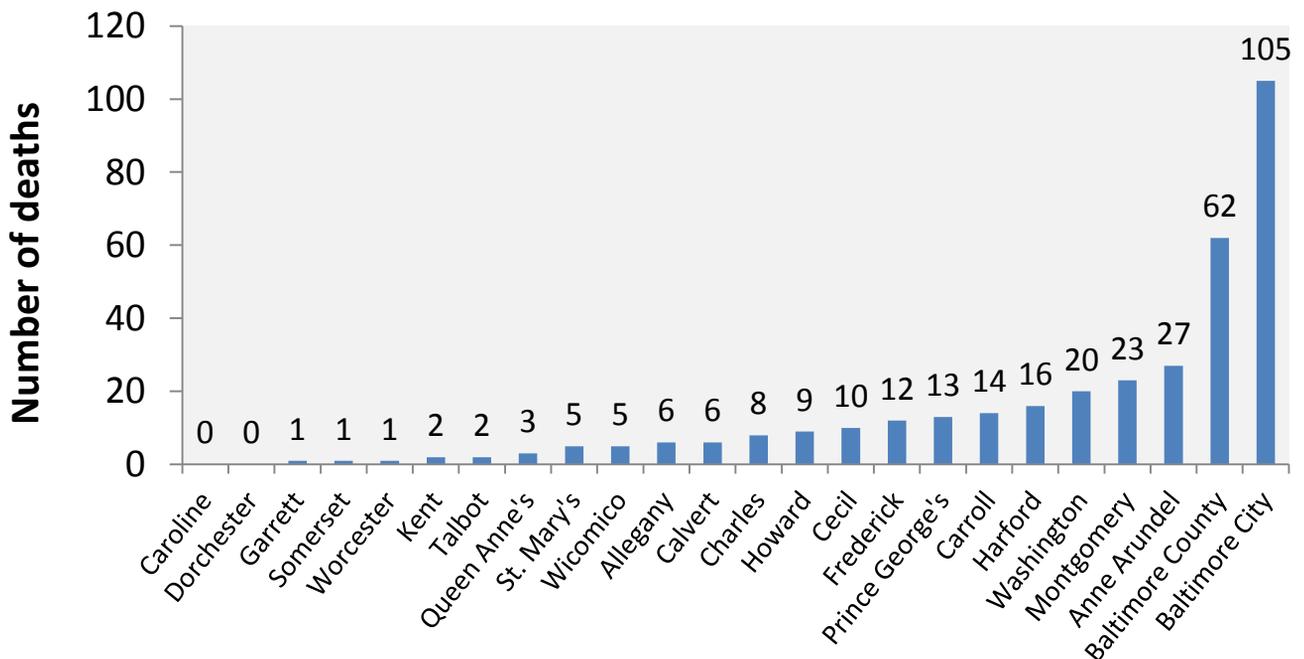
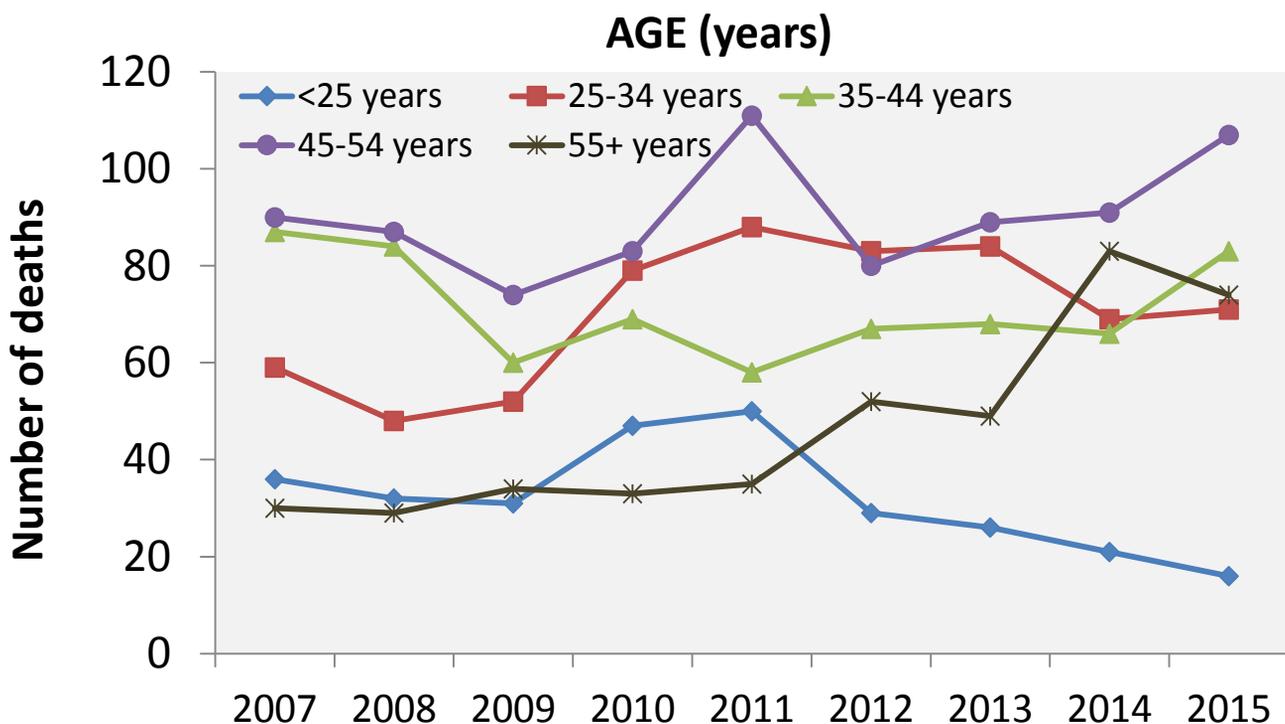


Figure 13. Number of Prescription Opioid-Related Deaths Occurring in Maryland by Age Group,* Race/Ethnicity and Gender, 2007-2015.



*Counts of 2015 deaths in certain age groups were revised.

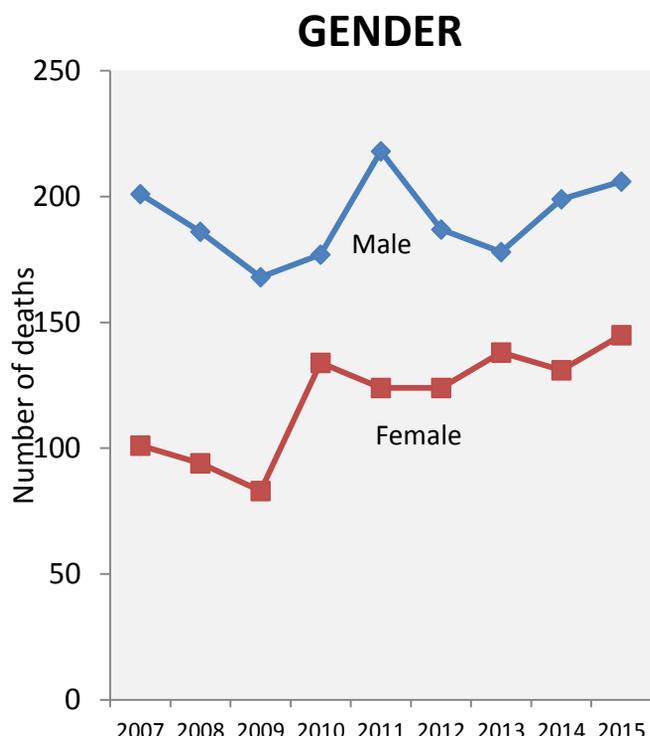
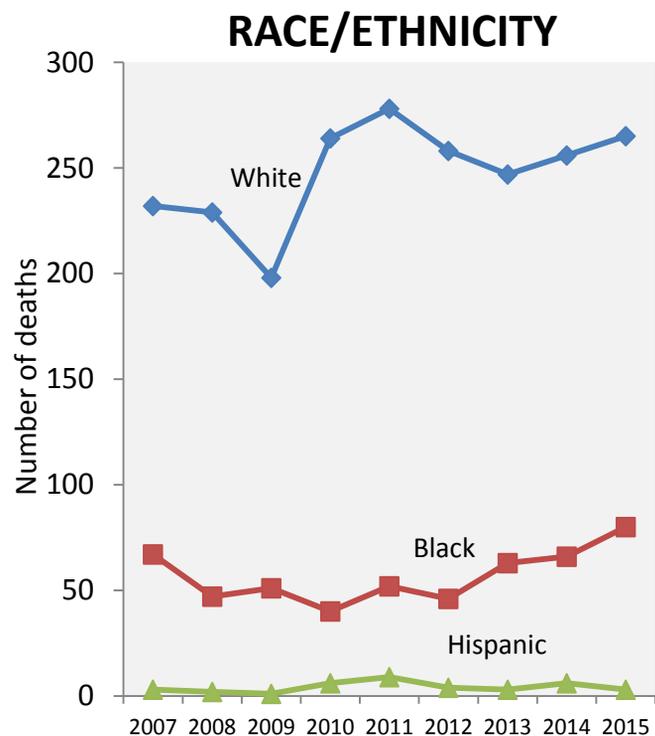


Figure 14. Number of Prescription Opioid-Related Deaths by Place of Occurrence, Maryland, 2007-2015.

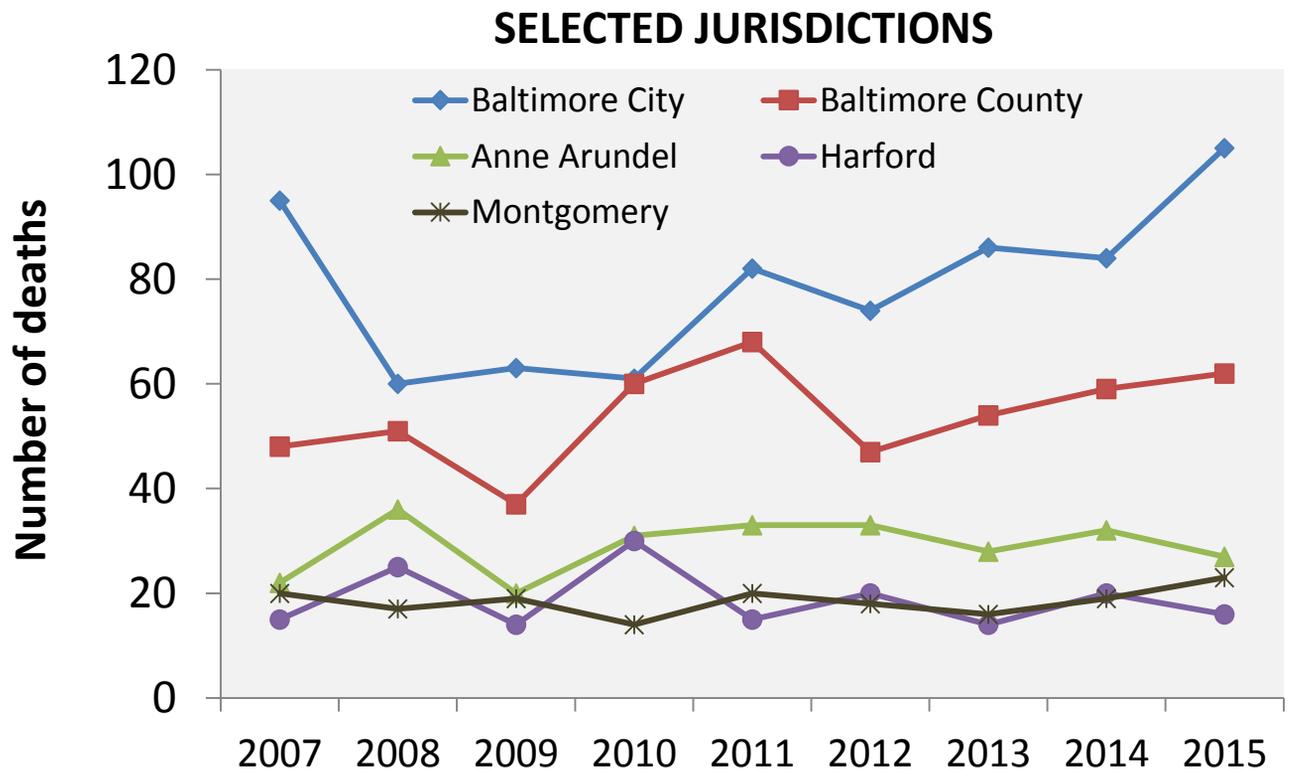
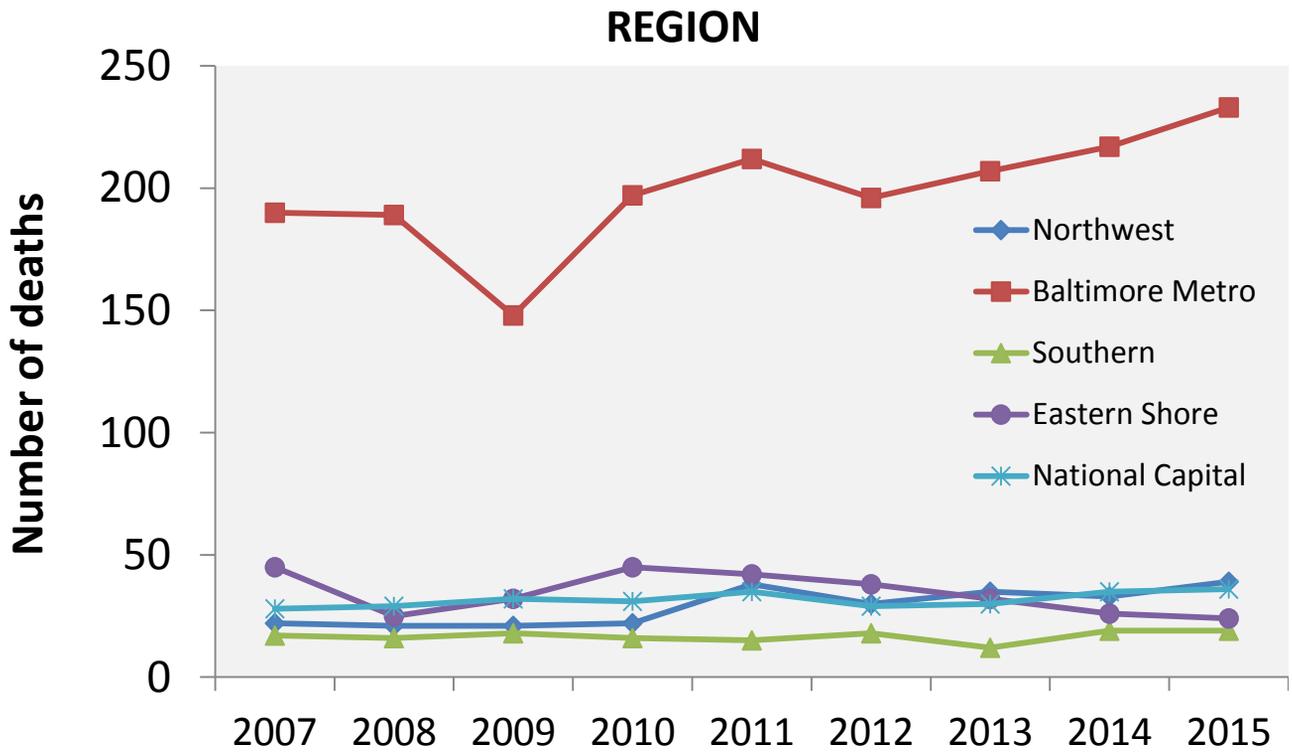


Figure 15. Number of Fentanyl-Related Deaths Occurring in Maryland, 2007-2015.

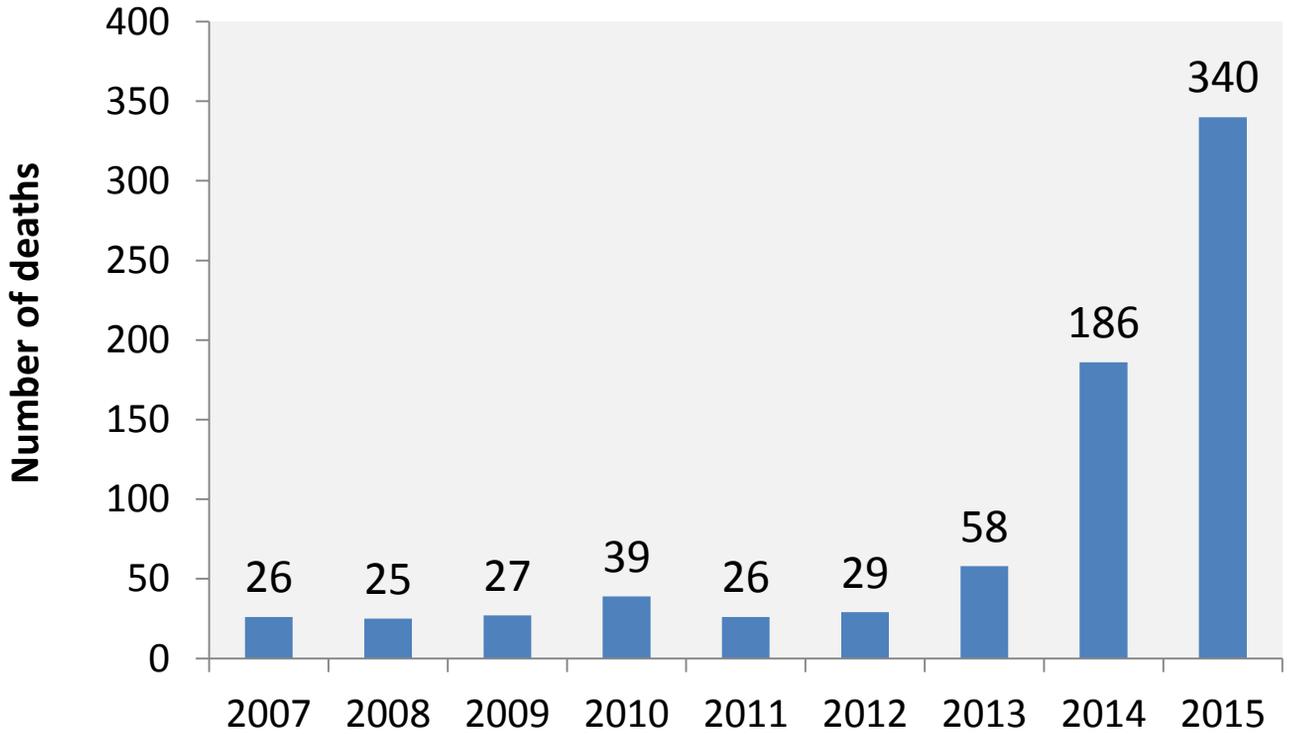


Figure 16. Number of Fentanyl-Related Deaths Occurring in Maryland by Place of Occurrence, 2015.

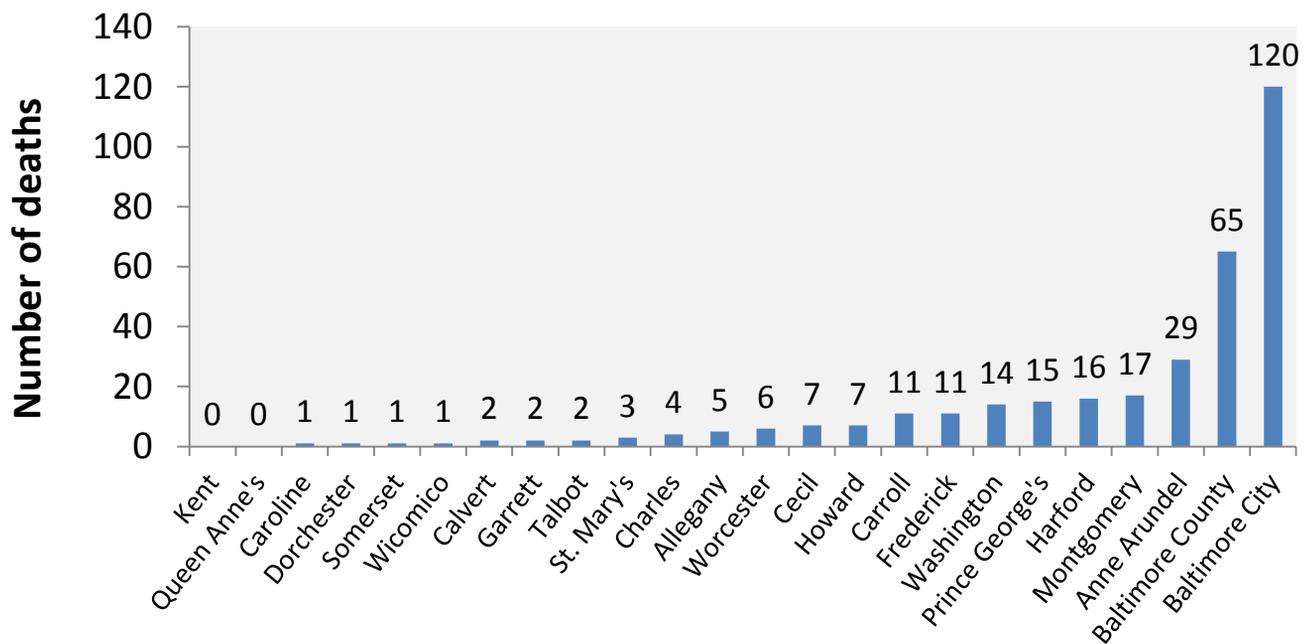
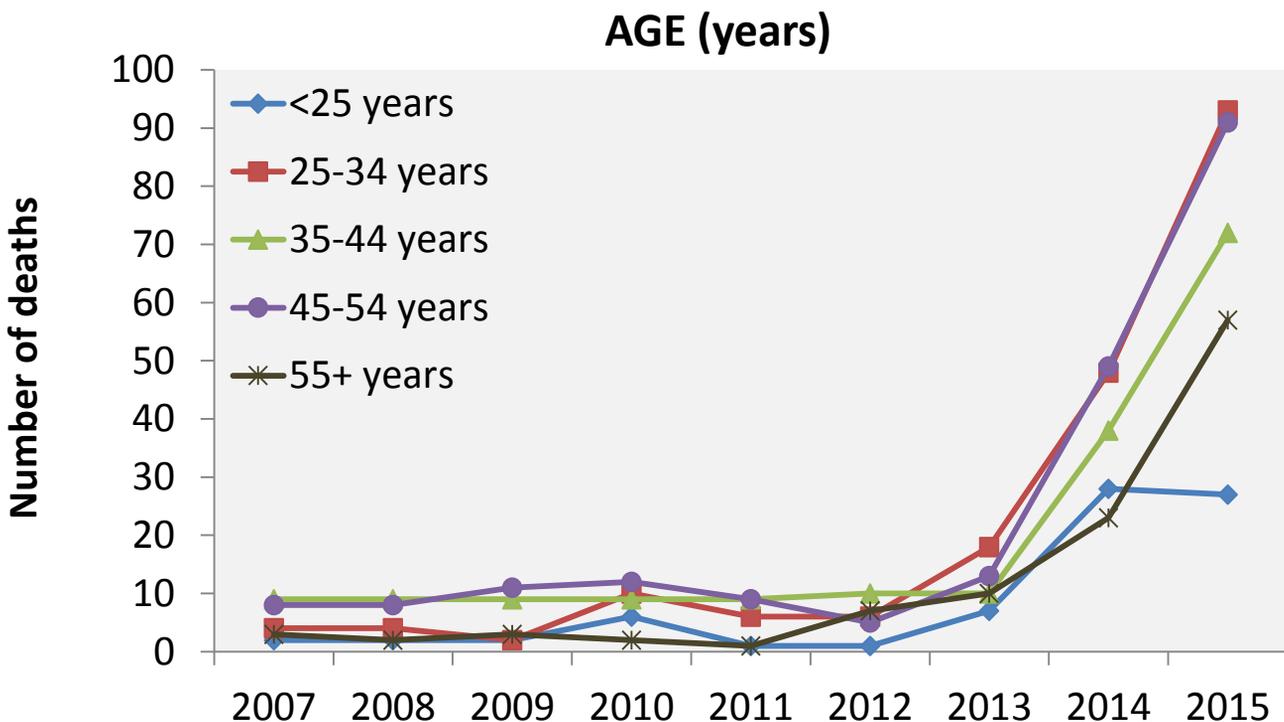


Figure 17. Number of Fentanyl-Related Deaths Occurring in Maryland by Age Group,* Race/Ethnicity and Gender, 2007-2015.



*Counts of 2015 deaths in certain age groups were revised.

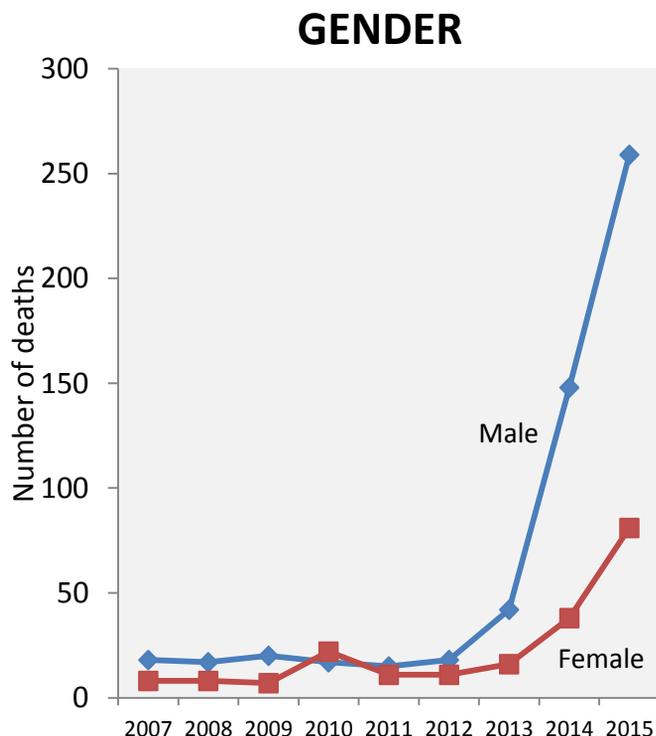
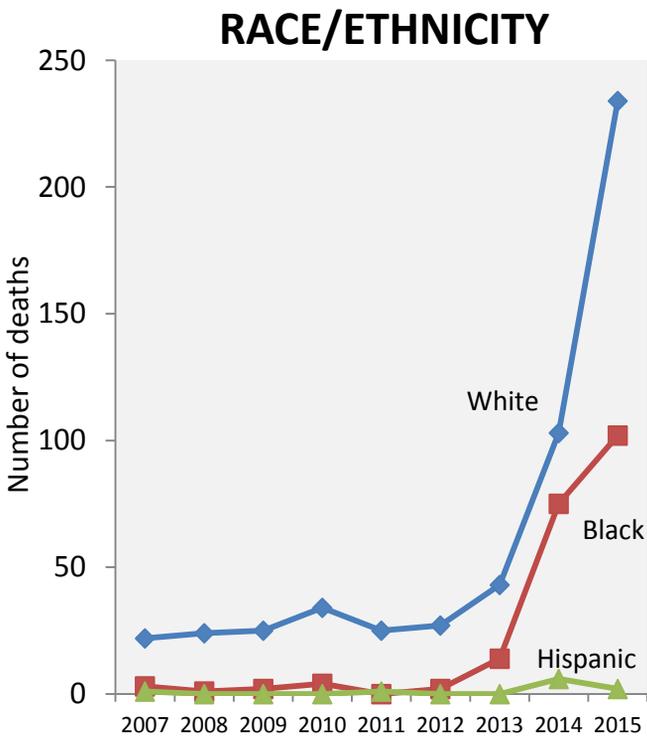
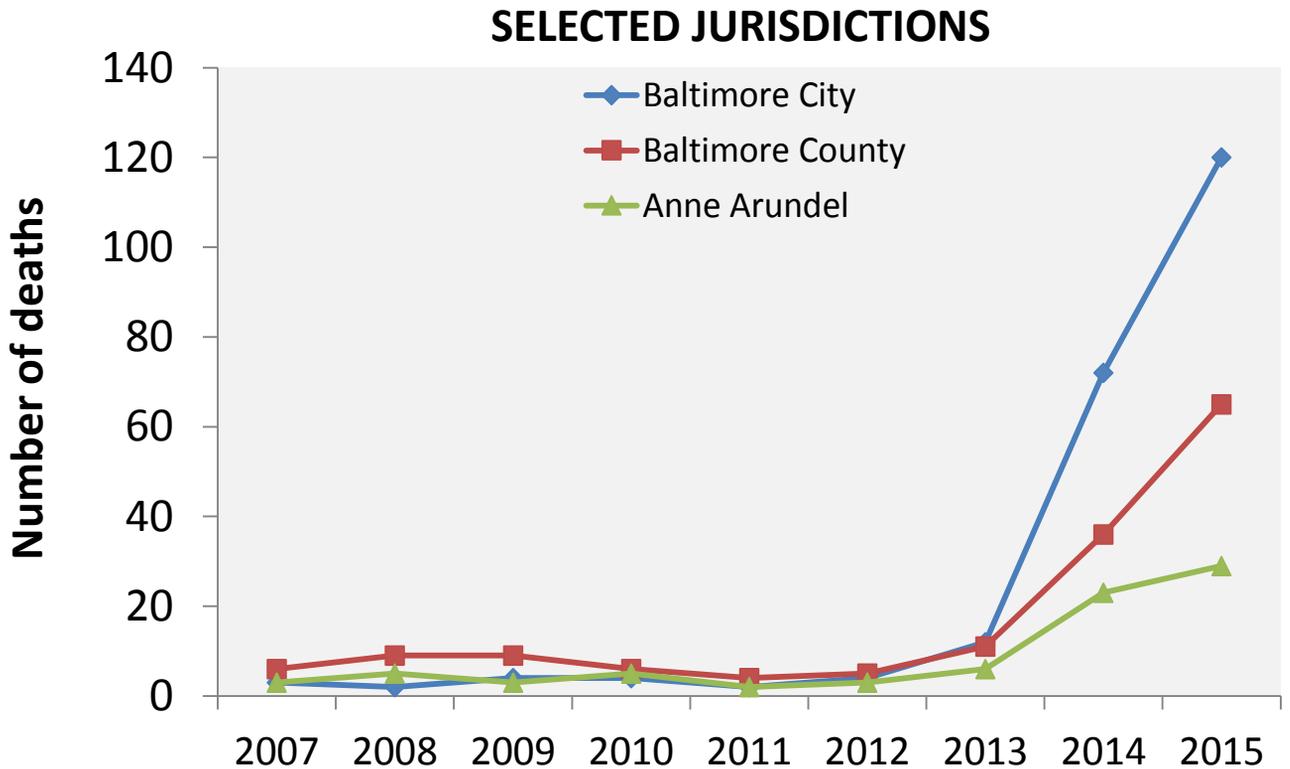
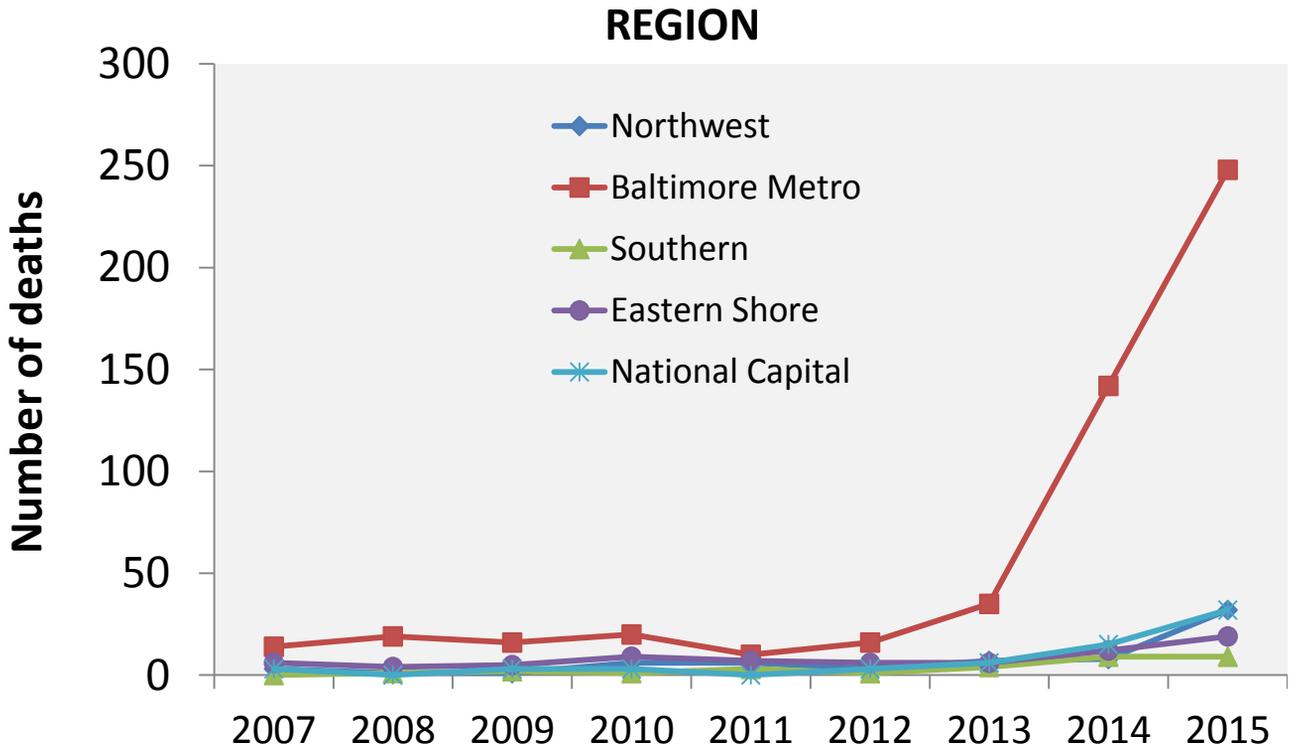


Figure 18. Number of Fentanyl-Related Deaths by Place of Occurrence, Maryland, 2007-2015.



COCAINE-RELATED DEATHS

Figure 19. Number of Cocaine-Related Deaths Occurring in Maryland, 2007-2015.

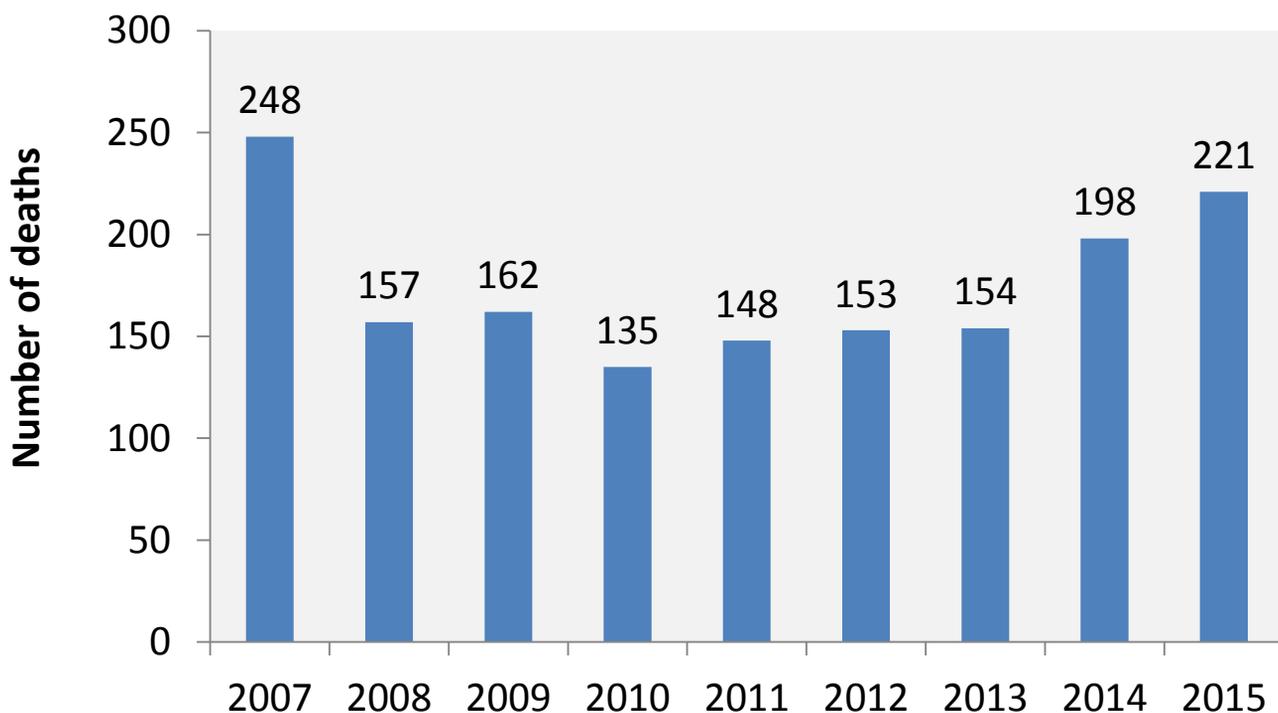


Figure 20. Number of Cocaine-Related Deaths Occurring in Maryland by Place of Occurrence, 2015.

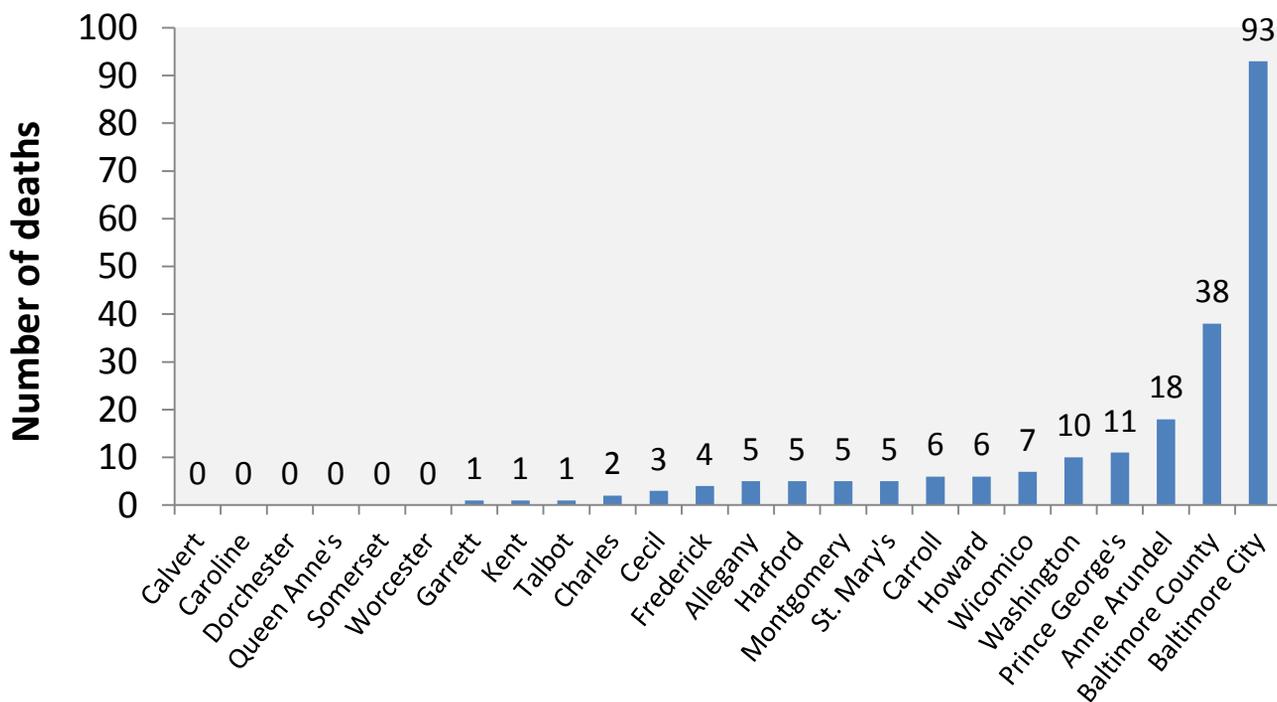
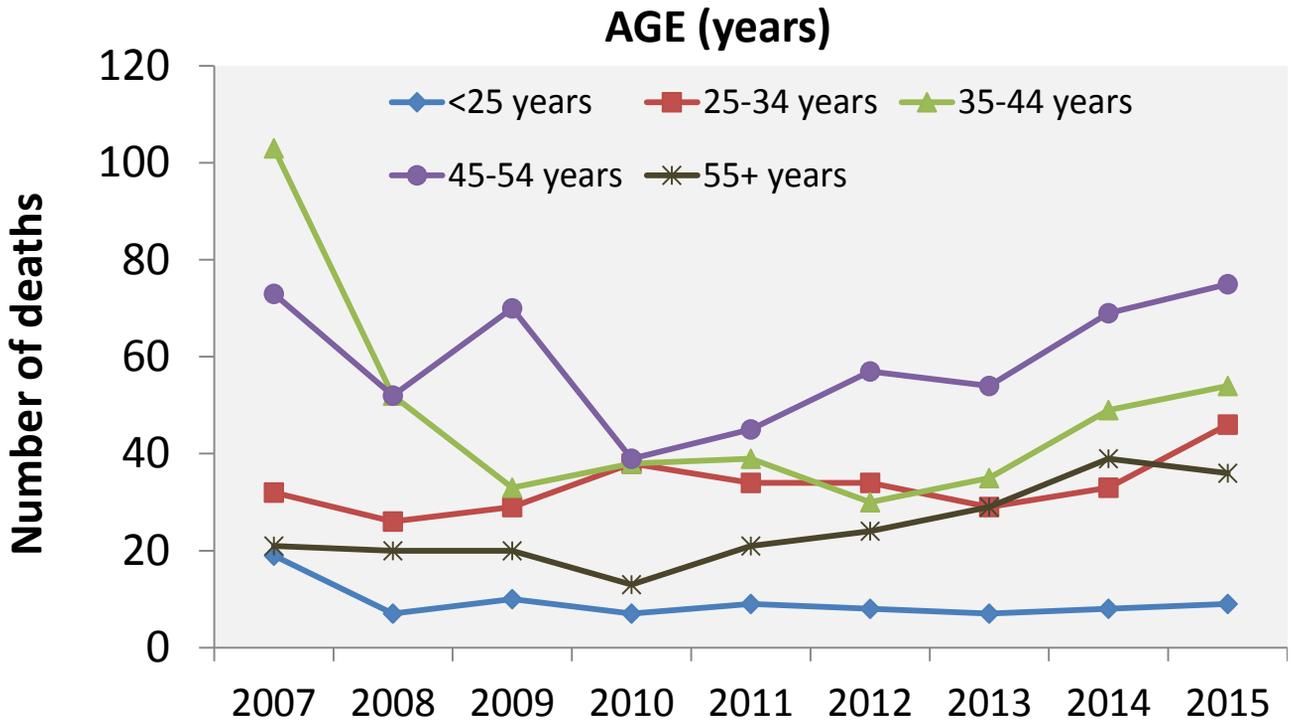


Figure 21. Number of Cocaine-Related Deaths Occurring in Maryland by Age Group,* Race/Ethnicity and Gender, 2007-2015.



*Counts of 2015 deaths in certain age groups were revised.

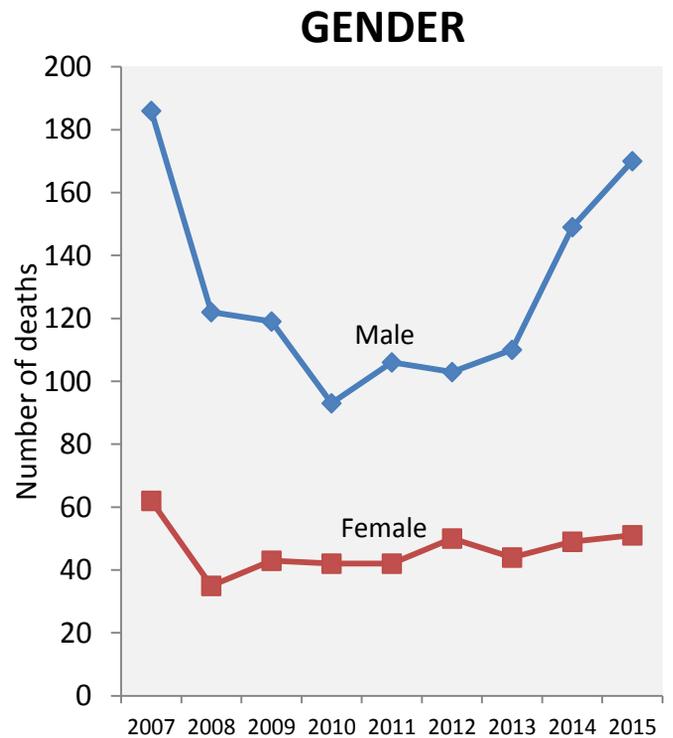
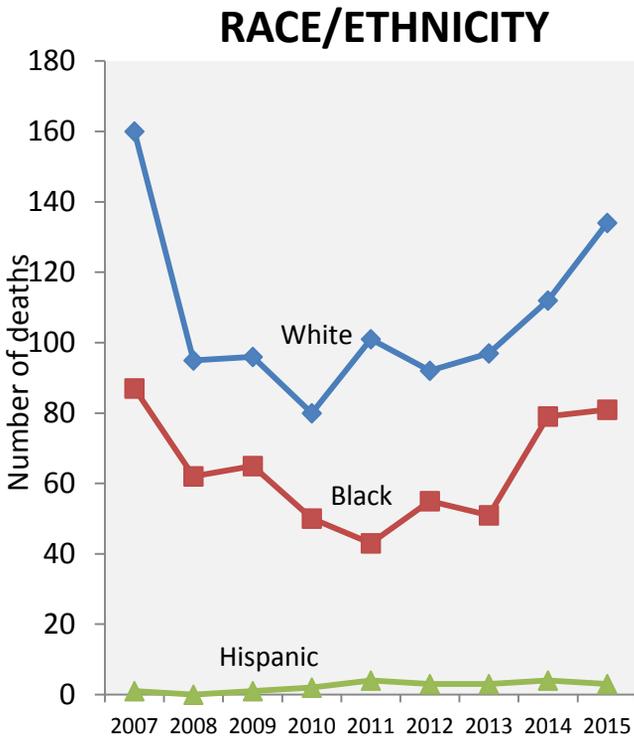
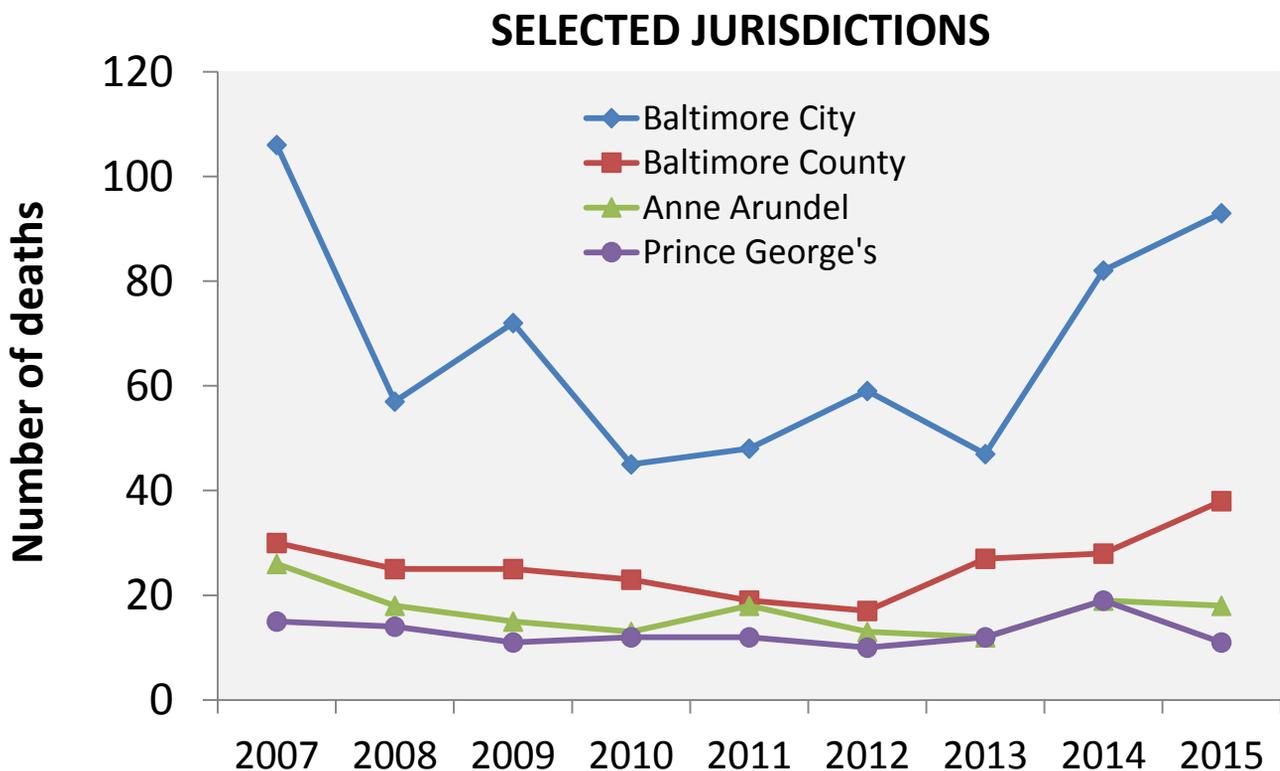
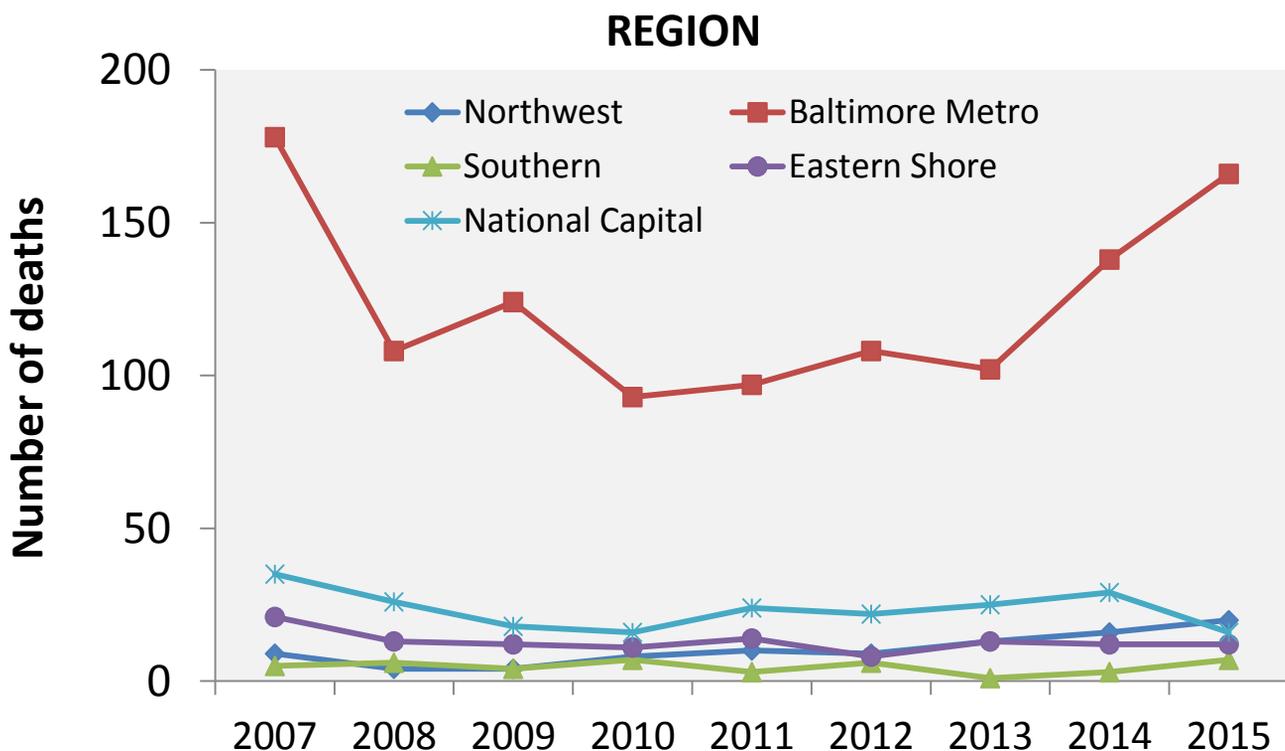


Figure 22. Number of Cocaine-Related Deaths by Place of Occurrence, Maryland, 2007-2015.



BENZODIAZEPINE- RELATED DEATHS

Figure 23. Number of Benzodiazepine-Related Deaths Occurring in Maryland, 2007-2015.

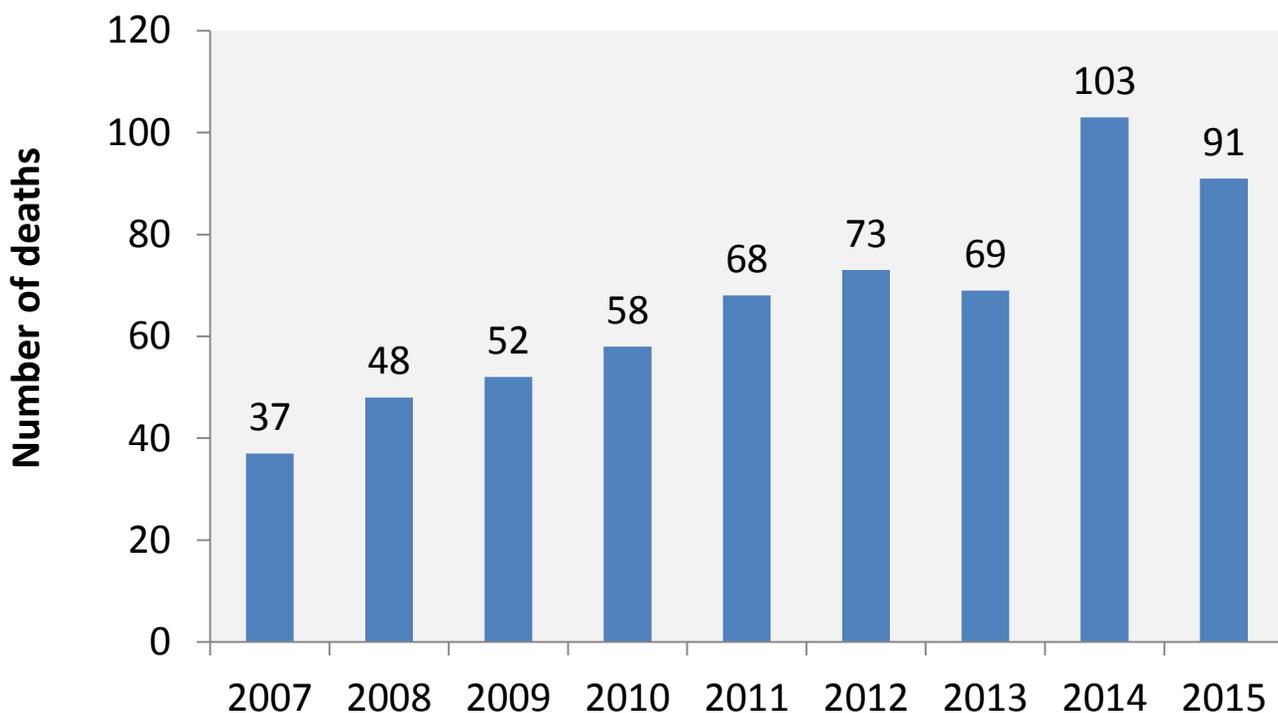


Figure 24. Number of Benzodiazepine-Related Deaths Occurring in Maryland by Place of Occurrence, 2015.

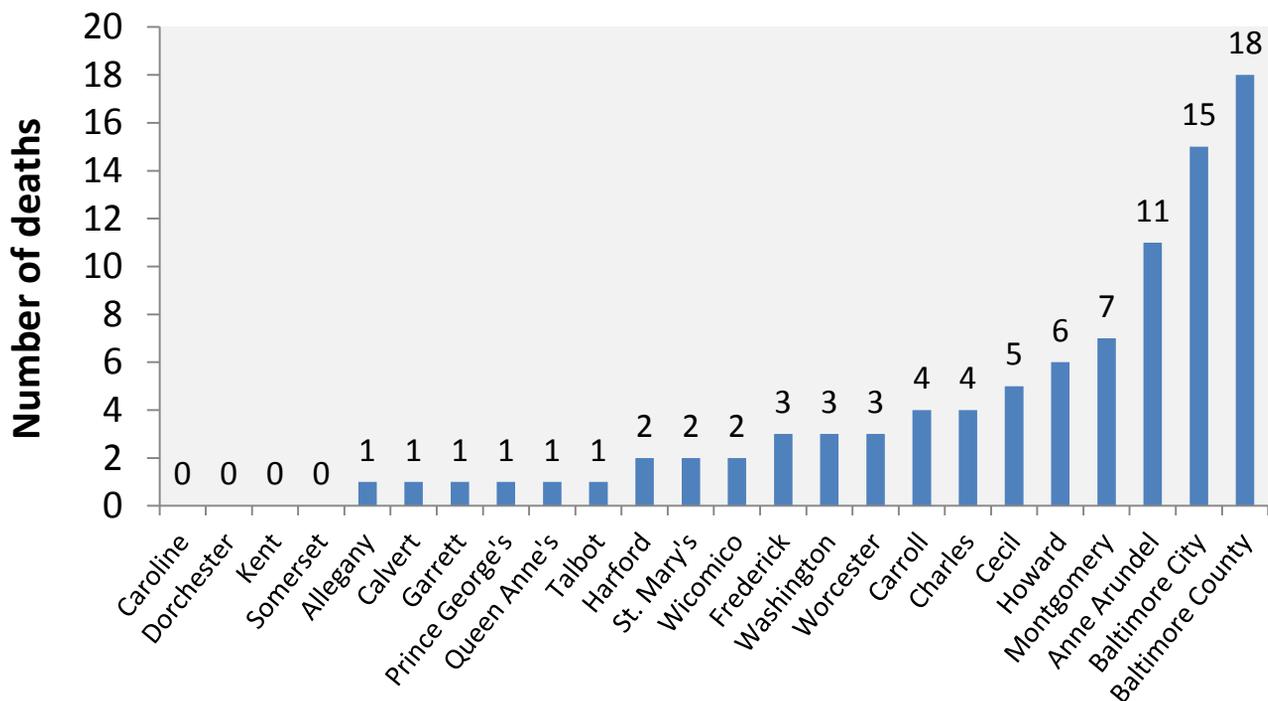
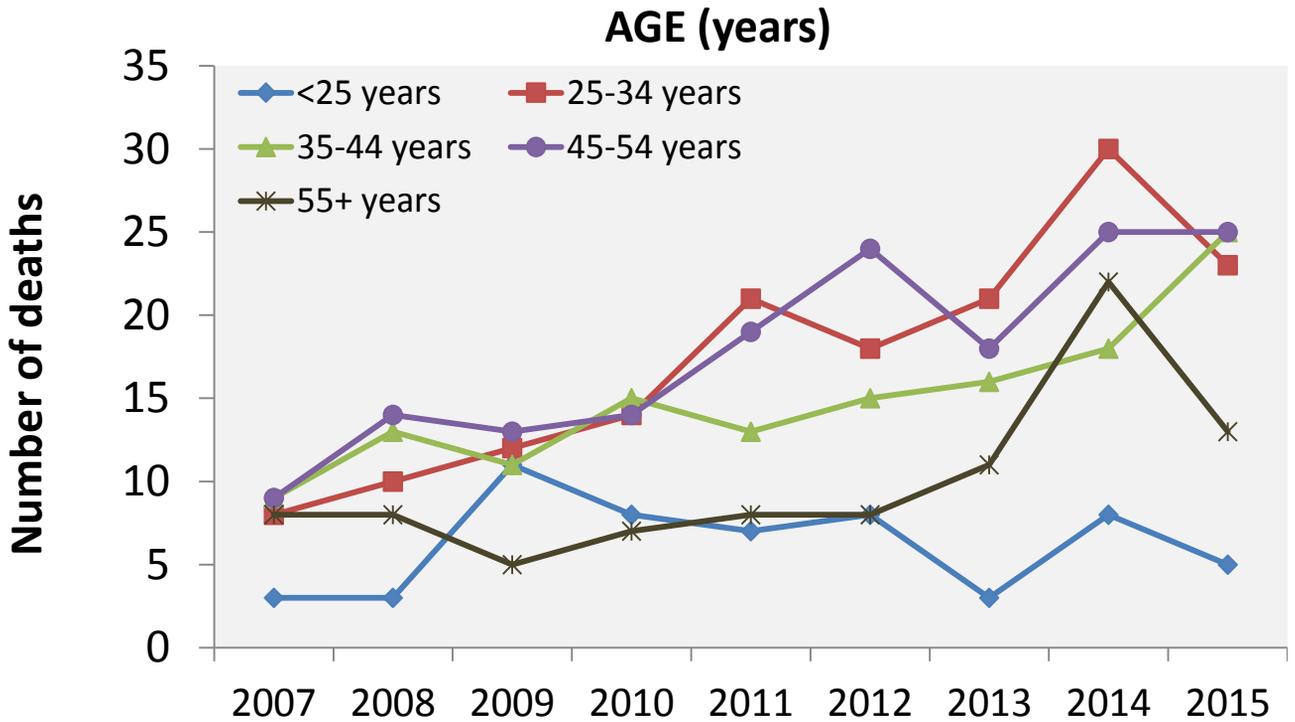


Figure 25. Number of Benzodiazepine-Related Deaths Occurring in Maryland by Age Group,* Race/Ethnicity and Gender, 2007-2015.



*Counts of 2015 deaths in certain age groups were revised.

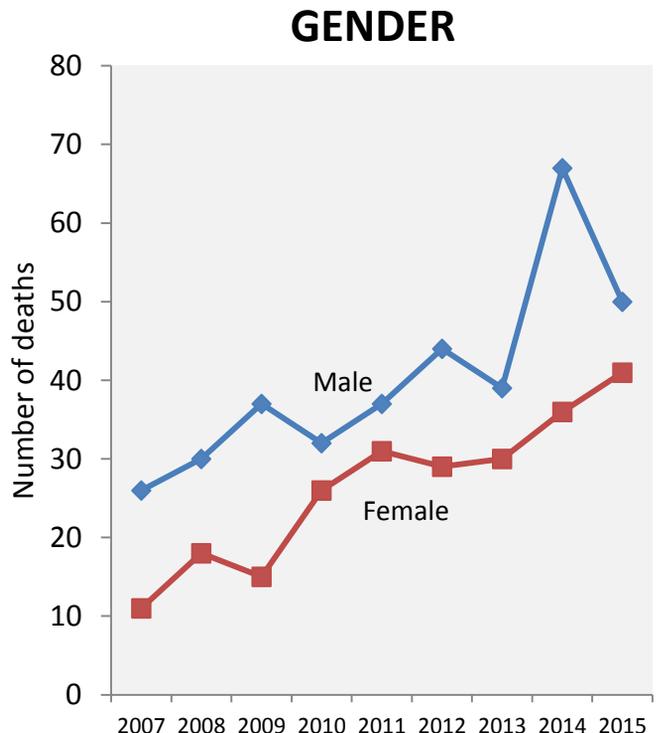
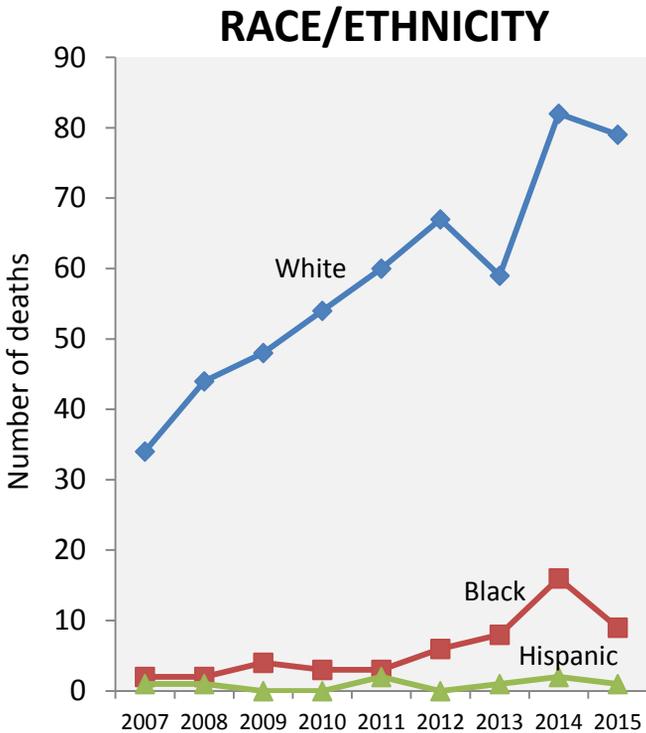
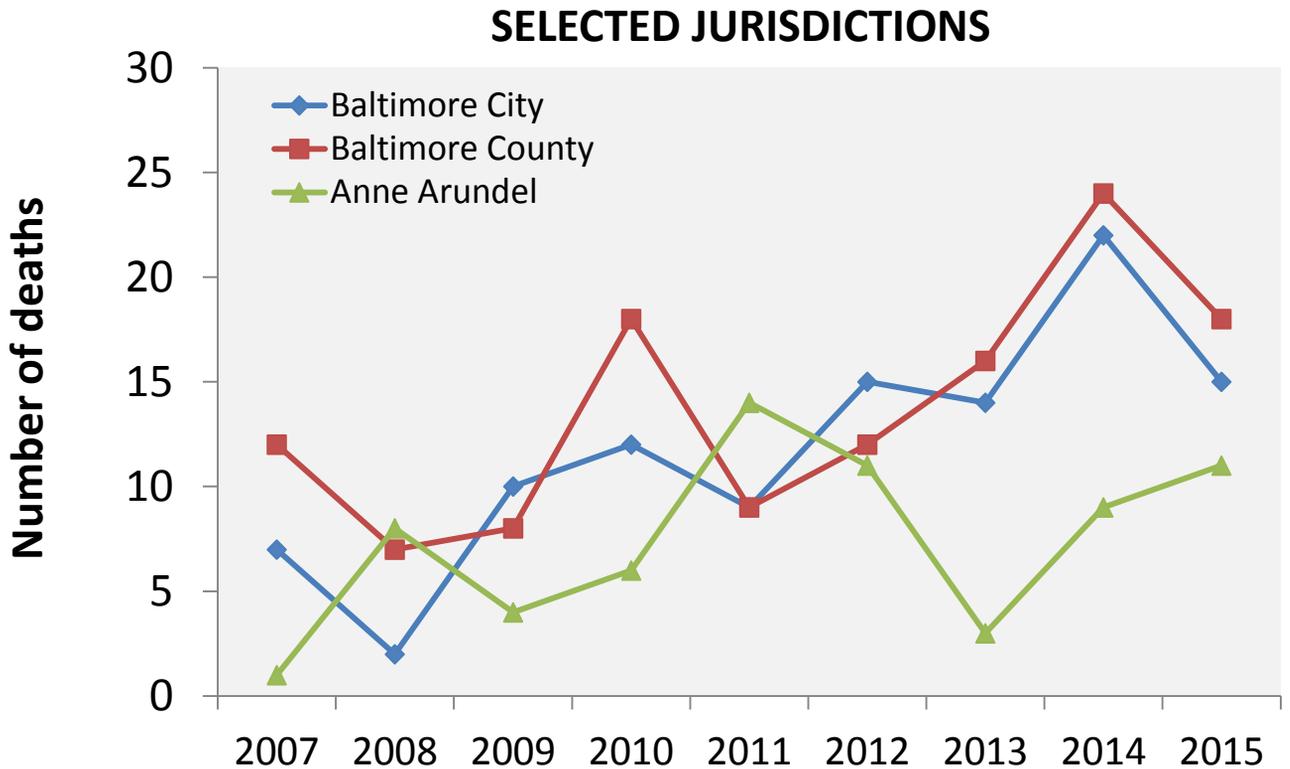
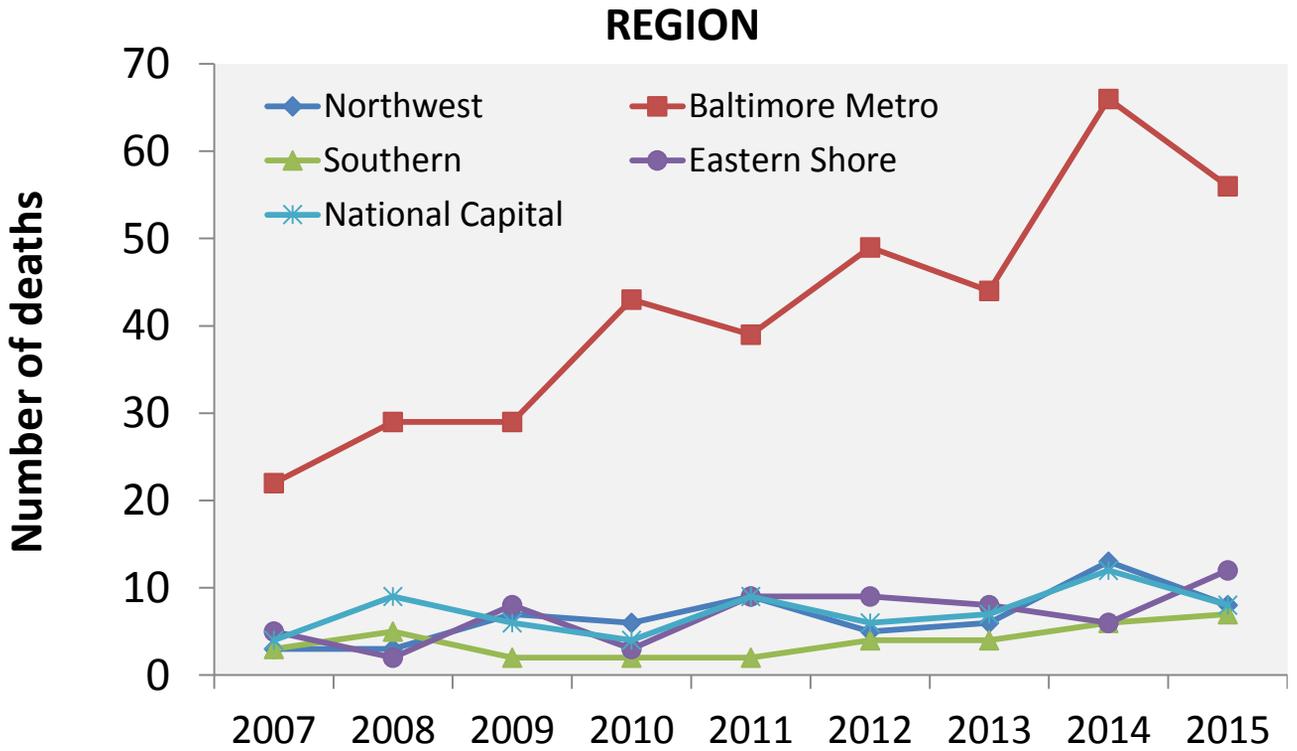


Figure 26. Number of Benzodiazepine-Related Deaths by Place of Occurrence, Maryland, 2007-2015.



ALCOHOL-RELATED DEATHS

Figure 27. Number of Alcohol-Related Deaths Occurring in Maryland, 2007-2015.

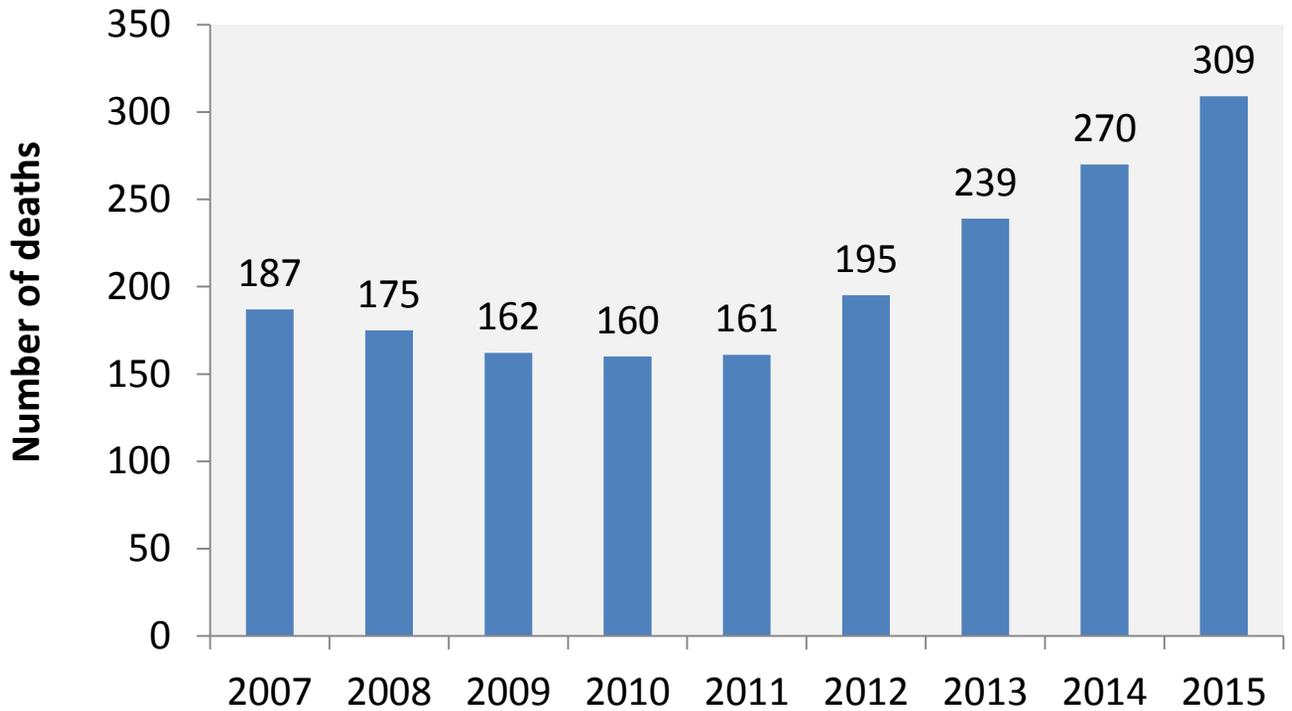


Figure 28. Number of Alcohol-Related Deaths Occurring in Maryland by Place of Occurrence, 2015.

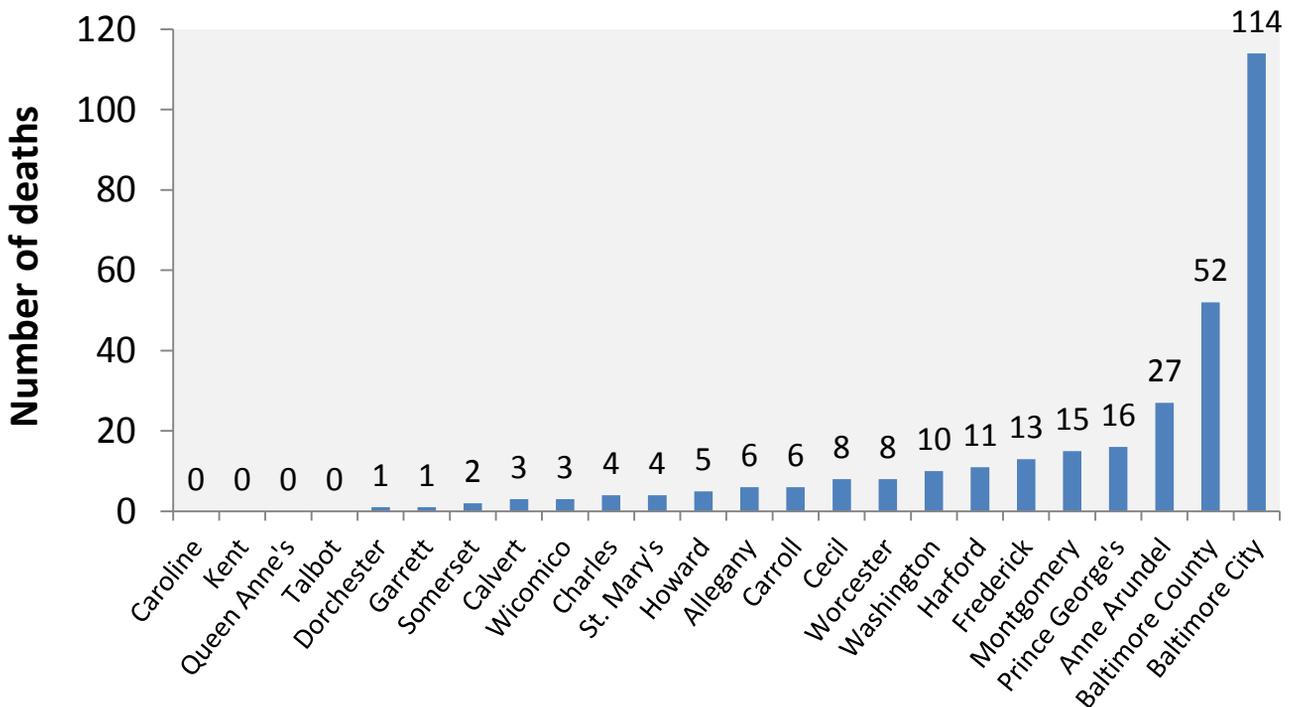
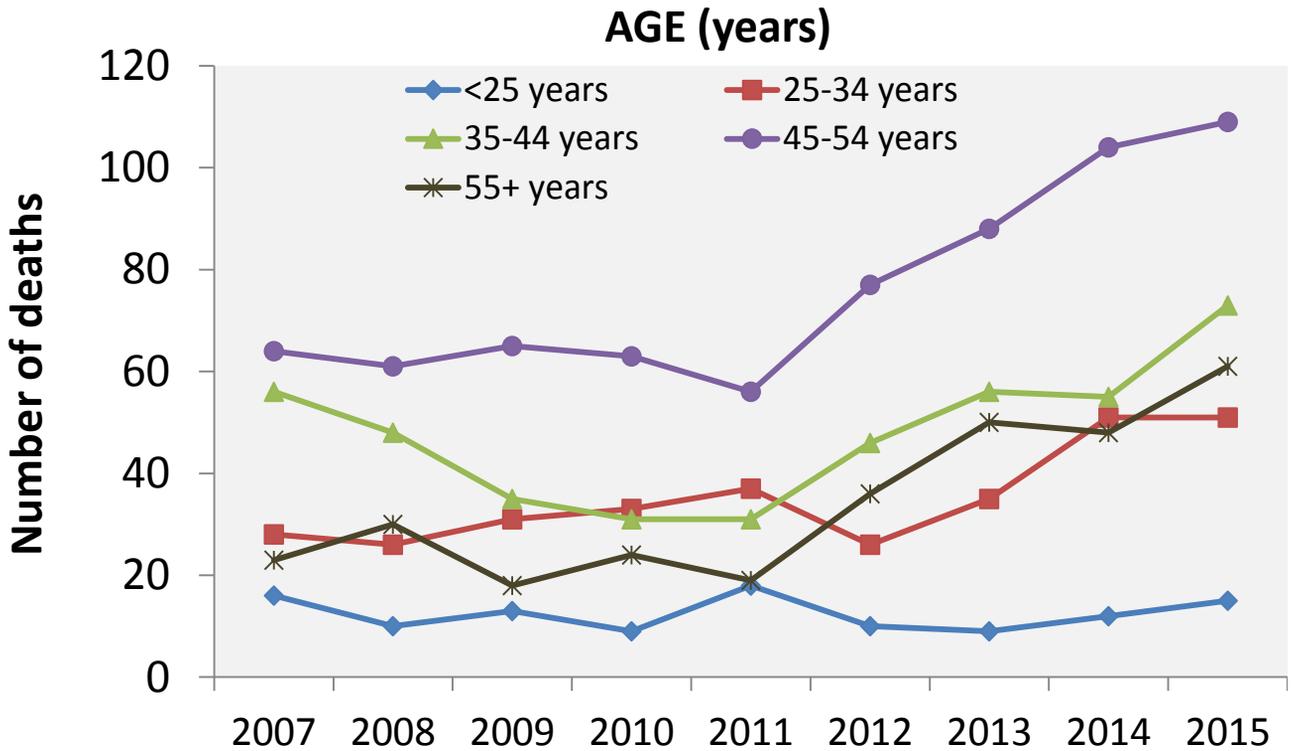


Figure 29. Number of Alcohol-Related Deaths Occurring in Maryland by Age Group,* Race/Ethnicity and Gender, 2007-2015.



*Counts of 2015 deaths in certain age groups were revised.

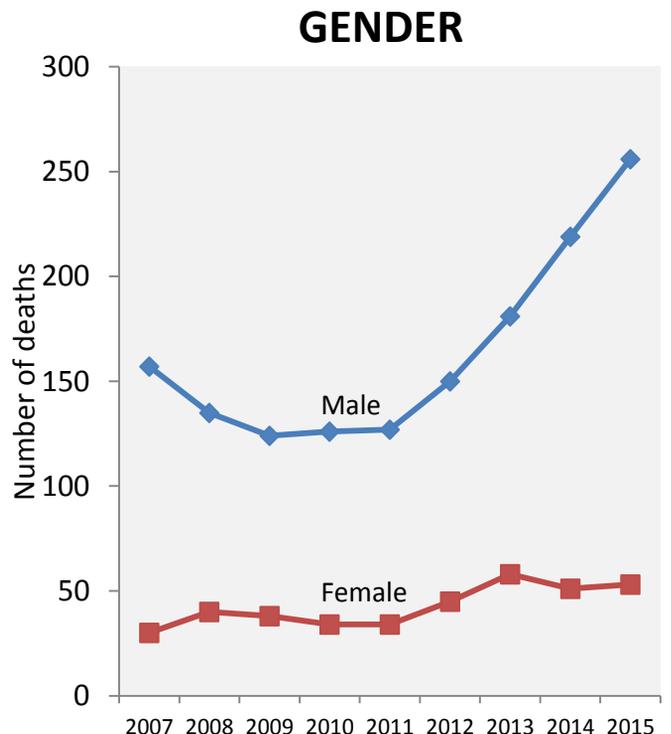
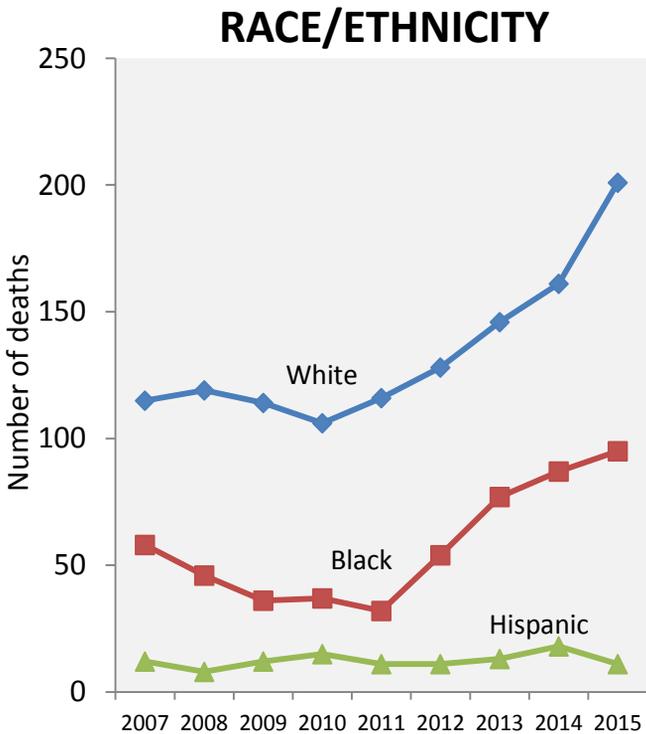
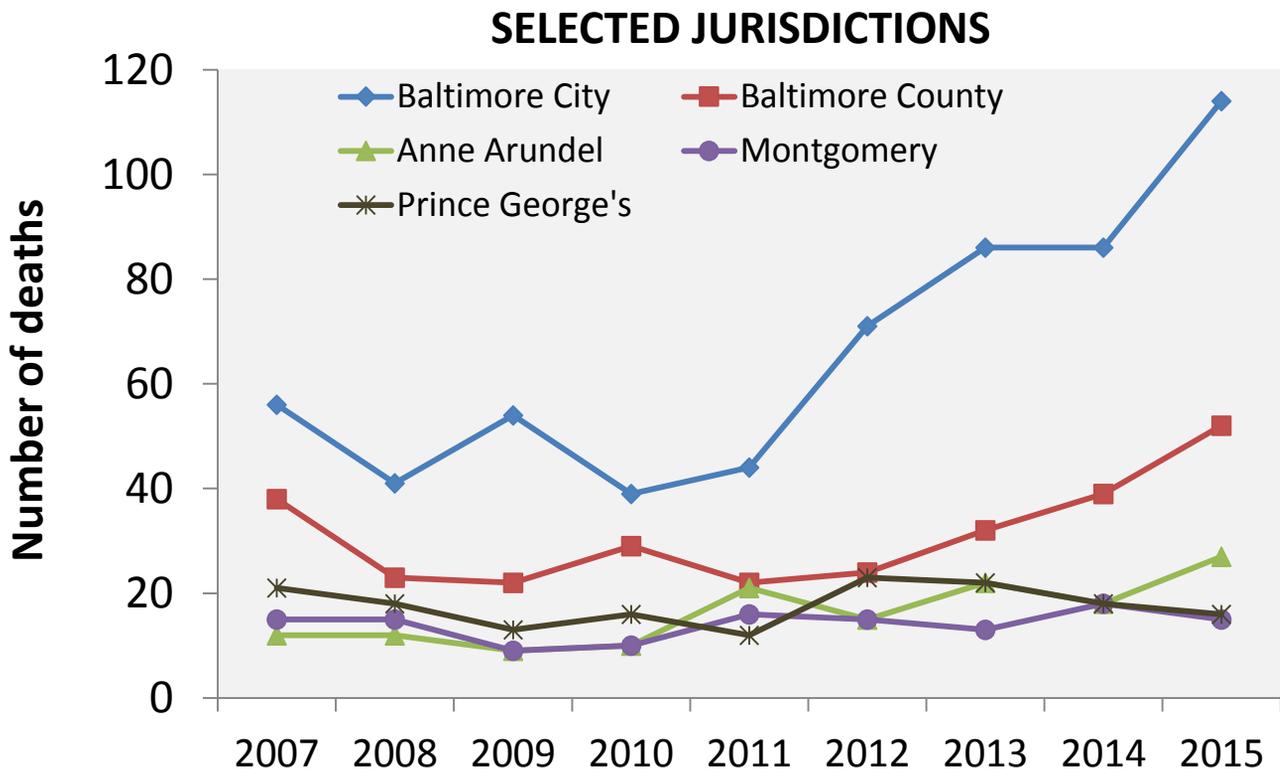
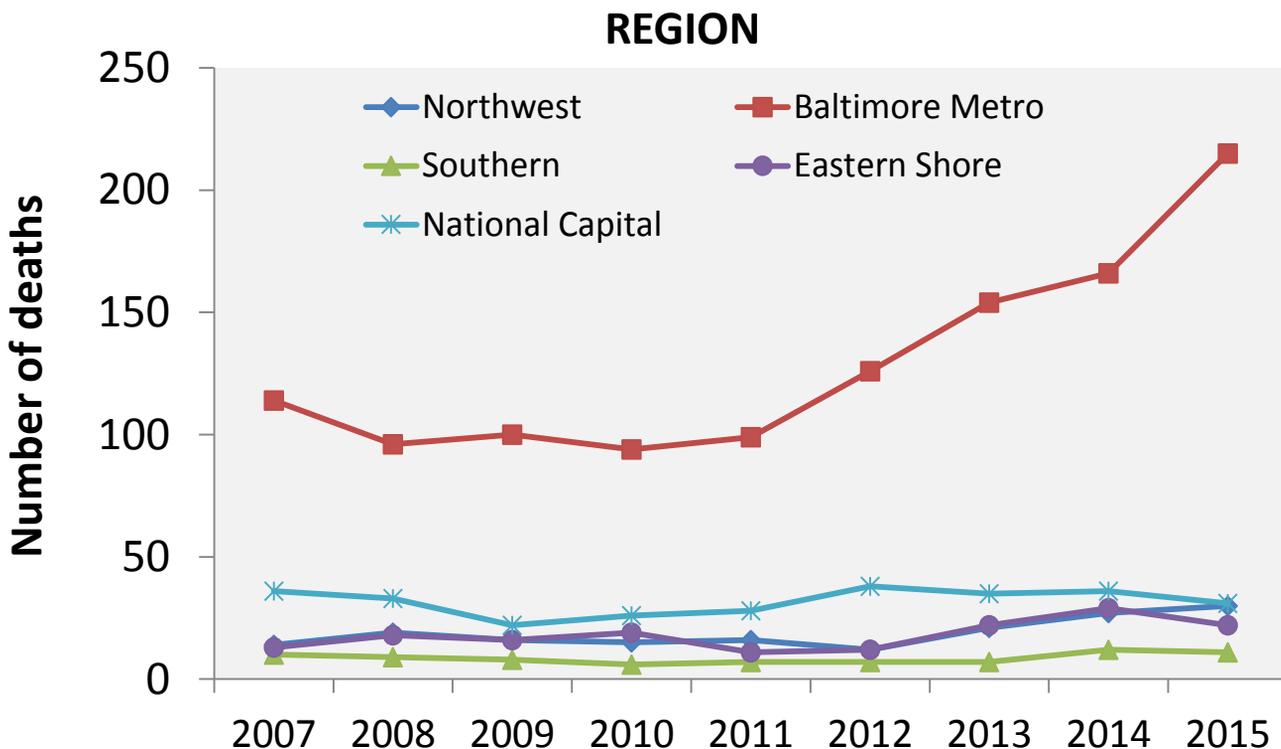


Figure 30. Number of Alcohol-Related Deaths by Place of Occurrence, Maryland, 2007-2015.



DRUG COMBINATIONS

Figure 31. Number of Drug- and Alcohol-Related Intoxication Deaths Involving Heroin and/or Fentanyl, 2015.

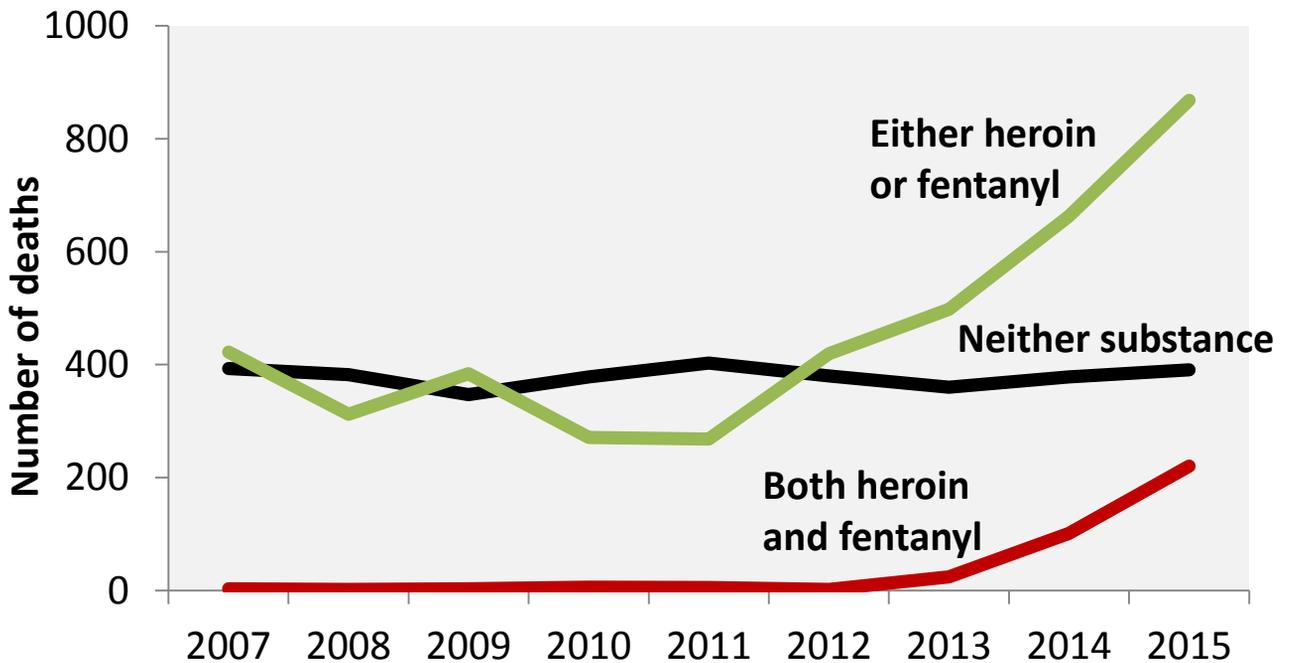
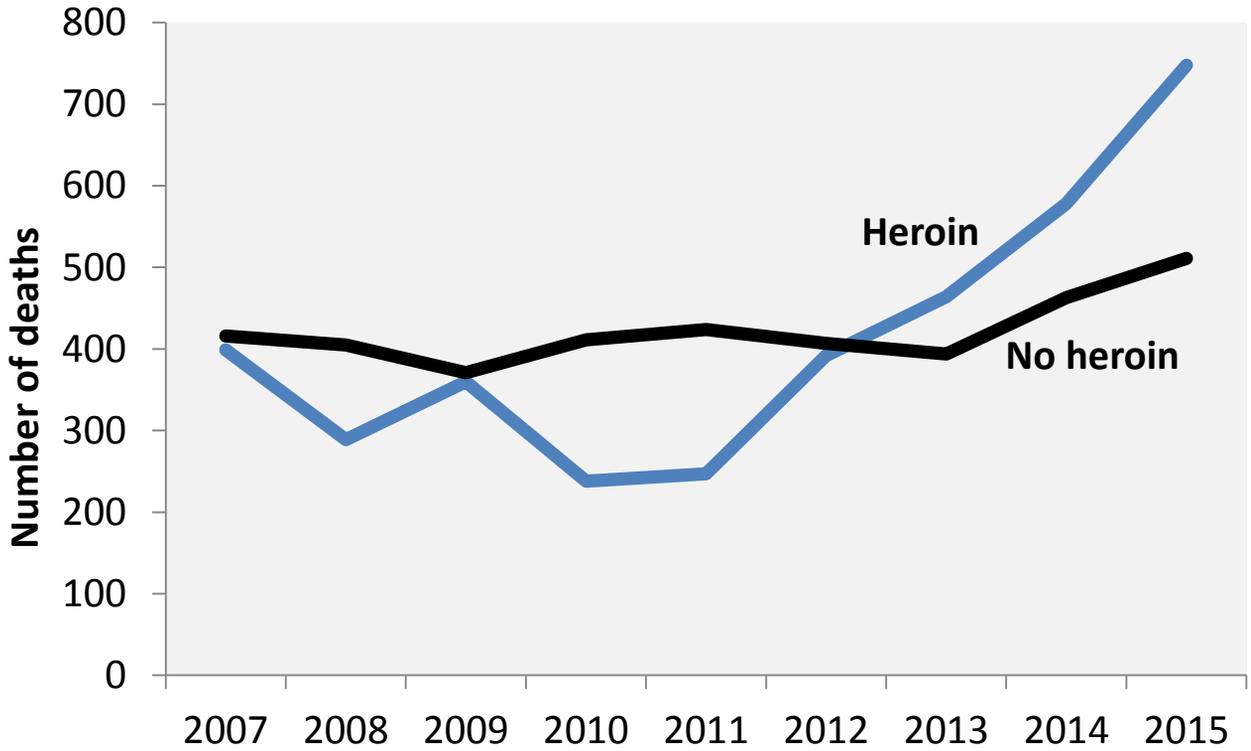


Figure 32 . Combinations of Substances Related to Unintentional Drug- and Alcohol-Relation Intoxication Deaths, Maryland, 2015.

		Number	Percent
Heroin			
	Total	748	
	In combination		
	With fentanyl	220	29.4
	With alcohol	180	24.1
	With cocaine	146	19.5
	With prescription opioids	99	13.2
	With benzodiazepines	37	4.9
Prescription opioids			
	Total	351	
	In combination		
	With heroin	99	28.2
	With benzodiazepines	55	15.7
	With alcohol	55	15.7
	With fentanyl	54	15.4
	With cocaine	31	8.8
Cocaine			
	Total	221	
	In combination		
	With heroin	146	66.1
	With fentanyl	67	30.3
	With alcohol	45	20.4
	With prescription opioids	31	14.0
	With benzodiazepines	6	2.7
Benzodiazepines			
	Total	91	
	In combination		
	With prescription opioids	55	60.4
	With heroin	37	40.7
	With fentanyl	16	17.6
	With alcohol	14	15.4
	With cocaine	6	6.6
Fentanyl			
	Total	340	
	In combination		
	With heroin	220	64.7
	With cocaine	67	19.7
	With alcohol	66	19.4
	With prescription opioids	54	15.9
	With benzodiazepines	16	4.7
Alcohol			
	Total	309	
	In combination		
	With heroin	180	58.3
	With fentanyl	66	21.4
	With prescription opioids	55	17.8
	With cocaine	45	14.6
	With benzodiazepines	14	4.5

TABLES

TABLE 1. TOTAL NUMBER OF DRUG AND ALCOHOL-RELATED INTOXICATION DEATHS BY PLACE OF OCCURRENCE, 2007-2015.^{1,2}

REGION AND POLITICAL SUBDIVISION	TOTAL INTOXICATION DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	815	694	731	649	671	799	858	1,041	1,259	7,517
NORTHWEST AREA	54	53	53	58	65	67	86	96	131	663
GARRETT	1	3	3	3	2	0	6	2	5	25
ALLEGANY	14	9	9	15	12	14	15	12	22	122
WASHINGTON	16	26	18	20	21	27	28	40	64	260
FREDERICK	23	15	23	20	30	26	37	42	40	256
BALTIMORE METRO AREA	550	443	479	411	420	519	557	678	841	4,898
BALTIMORE CITY	287	184	239	172	167	225	246	305	393	2,218
BALTIMORE COUNTY	131	118	106	115	107	119	144	170	220	1,230
ANNE ARUNDEL	71	70	63	56	79	83	78	101	112	713
CARROLL	14	17	22	15	8	29	24	38	40	207
HOWARD	16	19	16	10	21	24	29	21	26	182
HARFORD	31	35	33	43	38	39	36	43	50	348
NATIONAL CAPITAL AREA	109	104	103	81	86	104	111	128	139	965
MONTGOMERY	56	46	44	38	44	48	52	65	70	463
PRINCE GEORGE'S	53	58	59	43	42	56	59	63	69	502
SOUTHERN AREA	33	36	34	31	31	37	25	47	60	334
CALVERT	14	9	14	6	12	12	6	17	20	110
CHARLES	13	16	11	13	11	13	9	21	22	129
ST. MARY'S	6	11	9	12	8	12	10	9	18	95
EASTERN SHORE AREA	69	58	62	68	69	72	79	92	88	657
CECIL	25	10	24	24	28	25	26	29	32	223
KENT	3	4	2	5	2	0	4	6	3	29
QUEEN ANNE'S	4	5	4	4	5	2	8	10	4	46
CAROLINE	1	4	2	2	11	4	2	7	3	36
TALBOT	5	4	3	3	1	5	7	4	5	37
DORCHESTER	4	5	2	6	2	5	5	0	1	30
WICOMICO	9	13	12	13	11	21	17	20	18	134
SOMERSET	6	3	4	1	3	3	4	3	6	33
WORCESTER	12	10	9	10	6	7	6	13	16	89

¹ Includes deaths that were the result of recent ingestion or exposure to alcohol or another type of drug, including heroin, cocaine, prescription opioids, benzodiazepines, and other prescribed and unprescribed drugs.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.

TABLE 2. NUMBER OF HEROIN-RELATED INTOXICATION DEATHS BY PLACE OF OCCURRENCE, 2007-2015.^{1,2}

REGION AND POLITICAL SUBDIVISION	HEROIN-RELATED DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	399	289	360	238	247	392	464	578	748	3,715
NORTHWEST AREA	16	21	23	15	23	27	40	53	80	298
GARRETT	0	0	1	0	1	0	2	1	3	8
ALLEGANY	3	4	2	3	3	6	3	5	13	42
WASHINGTON	5	13	11	6	8	11	14	21	38	127
FREDERICK	8	4	9	6	11	10	21	26	26	121
BALTIMORE METRO AREA	323	203	264	171	165	272	319	379	519	2,615
BALTIMORE CITY	200	107	151	93	76	131	150	192	260	1,360
BALTIMORE COUNTY	56	51	53	42	38	64	76	86	134	600
ANNE ARUNDEL	38	24	31	18	24	38	41	53	60	327
CARROLL	9	5	7	3	2	13	14	16	22	91
HOWARD	8	8	7	3	10	12	16	9	16	89
HARFORD	12	8	15	12	15	14	22	23	27	148
NATIONAL CAPITAL AREA	37	38	42	26	23	42	53	65	69	395
MONTGOMERY	17	14	16	12	11	22	28	33	37	190
PRINCE GEORGE'S	20	24	26	14	12	20	25	32	32	205
SOUTHERN AREA	8	11	10	11	15	18	13	28	29	143
CALVERT	5	3	7	1	5	6	2	13	15	57
CHARLES	2	5	3	6	6	5	5	10	8	50
ST. MARY'S	1	3	0	4	4	7	6	5	6	36
EASTERN SHORE AREA	15	16	21	15	21	33	39	53	51	264
CECIL	8	4	12	4	8	11	11	15	16	89
KENT	1	1	0	0	1	0	0	2	1	6
QUEEN ANNE'S	0	1	3	2	2	2	5	7	1	23
CAROLINE	0	0	0	0	3	3	2	6	2	16
TALBOT	1	2	0	0	1	2	2	4	3	15
DORCHESTER	1	2	0	2	1	3	3	0	1	13
WICOMICO	1	3	3	5	3	9	11	12	13	60
SOMERSET	2	1	1	0	1	2	1	1	3	12
WORCESTER	1	2	2	2	1	1	4	6	11	30

¹ Includes deaths confirmed or suspected to be related to recent heroin use.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.

TABLE 3. NUMBER OF PRESCRIPTION OPIOID-RELATED INTOXICATION DEATHS BY PLACE OF OCCURRENCE, 2007-2015.^{1,2}

REGION AND POLITICAL SUBDIVISION	PRESCRIPTION OPIOID-RELATED DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	302	280	251	311	342	311	316	330	351	2,794
NORTHWEST AREA	22	21	21	22	38	30	35	33	39	261
GARRETT	0	2	2	1	1	0	2	2	1	11
ALLEGANY	9	5	6	8	5	5	8	6	6	58
WASHINGTON	7	10	4	7	11	9	11	16	20	95
FREDERICK	6	4	9	6	21	16	14	9	12	97
BALTIMORE METRO AREA	190	189	148	197	212	196	207	217	233	1,789
BALTIMORE CITY	95	60	63	61	82	74	86	84	105	710
BALTIMORE COUNTY	48	51	37	60	68	47	54	59	62	486
ANNE ARUNDEL	22	36	20	31	33	33	28	32	27	262
CARROLL	4	11	10	9	5	17	12	15	14	97
HOWARD	6	6	4	6	9	5	13	7	9	65
HARFORD	15	25	14	30	15	20	14	20	16	169
NATIONAL CAPITAL AREA	28	29	32	31	35	29	30	35	36	285
MONTGOMERY	20	17	19	14	20	18	16	19	23	166
PRINCE GEORGE'S	8	12	13	17	15	11	14	16	13	119
SOUTHERN AREA	17	16	18	16	15	18	12	19	19	150
CALVERT	8	3	4	3	7	6	3	7	6	47
CHARLES	6	6	7	4	5	7	5	9	8	57
ST. MARY'S	3	7	7	9	3	5	4	3	5	46
EASTERN SHORE AREA	45	25	32	45	42	38	32	26	24	309
CECIL	19	6	10	20	20	18	12	12	10	127
KENT	2	3	2	3	1	0	4	2	2	19
QUEEN ANNE'S	4	1	1	2	2	0	3	3	3	19
CAROLINE	0	2	1	2	5	1	0	1	0	12
TALBOT	2	1	2	2	0	1	4	0	2	14
DORCHESTER	2	1	1	4	1	3	3	0	0	15
WICOMICO	5	4	8	7	7	9	4	3	5	52
SOMERSET	4	3	1	1	3	2	2	1	1	18
WORCESTER	7	4	6	4	3	4	0	4	1	33

¹ Includes deaths that were related to recent ingestion of one or more prescription opioids.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.

TABLE 4. NUMBER OF OXYCODONE-RELATED INTOXICATION DEATHS BY PLACE OF OCCURRENCE, 2007-2015.^{1,2}

REGION AND POLITICAL SUBDIVISION	OXYCODONE-RELATED DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	63	72	82	113	118	99	86	120	104	857
NORTHWEST AREA	4	7	9	7	11	13	12	10	11	84
GARRETT	0	1	0	0	0	0	1	0	0	2
ALLEGANY	3	0	1	2	0	2	3	3	2	16
WASHINGTON	0	4	3	2	5	2	5	5	6	32
FREDERICK	1	2	5	3	6	9	3	2	3	34
BALTIMORE METRO AREA	31	44	34	59	63	51	44	69	56	451
BALTIMORE CITY	7	6	10	5	15	15	11	20	18	107
BALTIMORE COUNTY	8	14	14	21	22	12	14	22	16	143
ANNE ARUNDEL	5	9	4	9	14	11	9	10	12	83
CARROLL	2	3	3	6	3	6	3	4	3	33
HOWARD	3	2	0	4	2	2	4	4	4	25
HARFORD	6	10	3	14	7	5	3	9	3	60
NATIONAL CAPITAL AREA	10	10	14	15	14	11	13	17	16	120
MONTGOMERY	7	8	10	7	9	8	7	11	8	75
PRINCE GEORGE'S	3	2	4	8	5	3	6	6	8	45
SOUTHERN AREA	9	7	11	7	10	10	6	11	13	84
CALVERT	3	1	2	2	4	5	3	3	3	26
CHARLES	5	3	4	2	4	3	1	5	8	35
ST. MARY'S	1	3	5	3	2	2	2	3	2	23
EASTERN SHORE AREA	9	4	14	25	20	14	11	13	8	118
CECIL	3	0	3	13	9	4	6	6	3	47
KENT	0	0	1	2	0	0	1	0	1	5
QUEEN ANNE'S	1	0	1	1	1	0	1	1	2	8
CAROLINE	0	0	1	1	0	0	0	0	0	2
TALBOT	0	0	0	1	0	1	1	0	0	3
DORCHESTER	1	0	0	2	1	1	0	0	0	5
WICOMICO	1	2	4	2	5	5	1	2	1	23
SOMERSET	0	0	1	1	2	1	1	1	0	7
WORCESTER	3	2	3	2	2	2	0	3	1	18

¹ Includes deaths that were related to recent ingestion of oxycodone.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.

TABLE 5. NUMBER OF METHADONE-RELATED INTOXICATION DEATHS BY PLACE OF OCCURRENCE, 2007-2015.^{1,2}

REGION AND POLITICAL SUBDIVISION	METHADONE-RELATED DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	210	163	135	173	172	170	138	152	183	1,496
NORTHWEST AREA	15	9	7	8	14	14	8	20	14	109
GARRETT	0	0	1	1	0	0	1	1	0	4
ALLEGANY	3	4	2	3	4	1	1	3	2	23
WASHINGTON	6	4	0	3	5	4	3	10	6	41
FREDERICK	6	1	4	1	5	9	3	6	6	41
BALTIMORE METRO AREA	141	118	97	128	128	122	110	112	145	1,101
BALTIMORE CITY	80	47	50	53	65	54	57	54	78	538
BALTIMORE COUNTY	34	29	18	37	32	28	29	31	34	272
ANNE ARUNDEL	15	19	13	17	17	15	6	14	9	125
CARROLL	1	7	4	2	2	12	7	5	9	49
HOWARD	2	1	4	2	5	1	5	2	5	27
HARFORD	9	15	8	17	7	12	6	6	10	90
NATIONAL CAPITAL AREA	11	16	12	12	13	13	7	6	9	99
MONTGOMERY	8	8	7	5	6	7	3	5	6	55
PRINCE GEORGE'S	3	8	5	7	7	6	4	1	3	44
SOUTHERN AREA	9	7	7	7	3	5	2	7	6	53
CALVERT	5	0	2	1	2	2	0	2	3	17
CHARLES	2	4	2	1	0	1	1	4	2	17
ST. MARY'S	2	3	3	5	1	2	1	1	1	19
EASTERN SHORE AREA	34	13	12	18	14	16	11	7	9	134
CECIL	16	3	6	9	9	10	4	4	3	64
KENT	2	2	1	2	1	0	2	1	1	12
QUEEN ANNE'S	2	1	1	1	1	0	1	0	1	8
CAROLINE	0	0	0	1	1	1	0	1	0	4
TALBOT	2	0	2	1	0	1	2	0	1	9
DORCHESTER	1	1	0	0	0	1	0	0	0	3
WICOMICO	3	2	1	3	1	1	2	0	2	15
SOMERSET	3	2	0	0	1	0	0	0	1	7
WORCESTER	5	2	1	1	0	2	0	1	0	12

¹ Includes deaths that were related to recent ingestion of methadone.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.

TABLE 6. NUMBER OF FENTANYL-RELATED INTOXICATION DEATHS BY PLACE OF OCCURRENCE, 2007-2015.^{1,2}

REGION AND POLITICAL SUBDIVISION	FENTANYL-RELATED DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	26	25	27	39	26	29	58	186	340	756
NORTHWEST AREA	3	1	1	6	6	3	7	8	32	67
GARRETT	0	1	0	0	1	0	0	0	2	4
ALLEGANY	3	0	1	2	1	1	1	1	5	15
WASHINGTON	0	0	0	2	1	1	4	1	14	23
FREDERICK	0	0	0	2	3	1	2	6	11	25
BALTIMORE METRO AREA	14	19	16	20	10	16	35	142	248	520
BALTIMORE CITY	3	2	4	4	2	4	12	72	120	223
BALTIMORE COUNTY	6	9	9	6	4	5	11	36	65	151
ANNE ARUNDEL	3	5	3	5	2	3	6	23	29	79
CARROLL	0	2	0	2	0	1	2	4	11	22
HOWARD	1	0	0	0	0	2	3	5	7	18
HARFORD	1	1	0	3	2	1	1	2	16	27
NATIONAL CAPITAL AREA	3	0	3	3	0	3	6	15	32	65
MONTGOMERY	2	0	1	1	0	2	0	8	17	31
PRINCE GEORGE'S	1	0	2	2	0	1	6	7	15	34
SOUTHERN AREA	0	1	2	1	3	1	4	9	9	30
CALVERT	0	1	1	0	1	0	0	5	2	10
CHARLES	0	0	0	0	1	1	3	1	4	10
ST. MARY'S	0	0	1	1	1	0	1	3	3	10
EASTERN SHORE AREA	6	4	5	9	7	6	6	12	19	74
CECIL	2	1	0	2	2	0	0	1	7	15
KENT	0	0	0	0	0	0	0	1	0	1
QUEEN ANNE'S	1	0	0	0	0	0	1	1	0	3
CAROLINE	0	0	0	1	4	0	0	0	1	6
TALBOT	1	1	0	1	0	1	0	2	2	8
DORCHESTER	0	0	0	2	0	0	2	0	1	5
WICOMICO	1	1	3	1	1	4	1	7	1	20
SOMERSET	1	1	0	1	0	0	2	0	1	6
WORCESTER	0	0	2	1	0	1	0	0	6	10

¹ Includes deaths that were related to recent ingestion or exposure to pharmaceutical or nonpharmaceutical fentanyl.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.

TABLE 7. NUMBER OF COCAINE-RELATED INTOXICATION DEATHS BY PLACE OF OCCURRENCE, 2007-2015.^{1,2}

REGION AND POLITICAL SUBDIVISION	COCAINE-RELATED DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	248	157	162	135	148	153	154	198	221	1,576
NORTHWEST AREA	9	4	4	8	10	9	13	16	20	93
GARRETT	0	0	0	1	0	0	0	0	1	2
ALLEGANY	2	1	1	1	0	2	2	2	5	16
WASHINGTON	3	1	0	3	3	5	6	6	10	37
FREDERICK	4	2	3	3	7	2	5	8	4	38
BALTIMORE METRO AREA	178	108	124	93	97	108	102	138	166	1,114
BALTIMORE CITY	106	57	72	45	48	59	47	82	93	609
BALTIMORE COUNTY	30	25	25	23	19	17	27	28	38	232
ANNE ARUNDEL	26	18	15	13	18	13	12	19	18	152
CARROLL	2	2	3	6	3	7	7	2	6	38
HOWARD	6	1	4	1	5	7	5	3	6	38
HARFORD	8	5	5	5	4	5	4	4	5	45
NATIONAL CAPITAL AREA	35	26	18	16	24	22	25	29	16	211
MONTGOMERY	20	12	7	4	12	12	13	10	5	95
PRINCE GEORGE'S	15	14	11	12	12	10	12	19	11	116
SOUTHERN AREA	5	6	4	7	3	6	1	3	7	42
CALVERT	1	2	1	3	2	3	0	2	0	14
CHARLES	3	3	2	2	1	1	0	0	2	14
ST. MARY'S	1	1	1	2	0	2	1	1	5	14
EASTERN SHORE AREA	21	13	12	11	14	8	13	12	12	116
CECIL	5	3	4	3	7	2	5	4	3	36
KENT	1	2	0	1	0	0	0	1	1	6
QUEEN ANNE'S	3	0	2	0	1	0	0	0	0	6
CAROLINE	0	0	1	0	1	1	0	1	0	4
TALBOT	4	0	1	0	0	0	3	0	1	9
DORCHESTER	1	1	0	1	1	1	1	0	0	6
WICOMICO	2	5	2	3	3	4	3	4	7	33
SOMERSET	1	0	1	1	0	0	0	0	0	3
WORCESTER	4	2	1	2	1	0	1	2	0	13

¹ Includes deaths that were related to recent use of cocaine.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.

**TABLE 8. NUMBER OF BENZODIAZEPINE-RELATED INTOXICATION DEATHS BY COUNTY OF OCCURRENCE,
2007-2015.^{1,2}**

REGION AND POLITICAL SUBDIVISION	BENZODIAZEPINE- RELATED DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	37	48	52	58	68	73	69	103	91	599
NORTHWEST AREA	3	3	7	6	9	5	6	13	8	60
GARRETT	0	0	1	0	0	0	1	0	1	3
ALLEGANY	1	0	1	3	1	0	1	3	1	11
WASHINGTON	1	2	2	2	4	3	2	5	3	24
FREDERICK	1	1	3	1	4	2	2	5	3	22
BALTIMORE METRO AREA	22	29	29	43	39	49	44	66	56	377
BALTIMORE CITY	7	2	10	12	9	15	14	22	15	106
BALTIMORE COUNTY	12	7	8	18	9	12	16	24	18	124
ANNE ARUNDEL	1	8	4	6	14	11	3	9	11	67
CARROLL	0	4	3	3	0	1	3	3	4	21
HOWARD	1	2	2	2	4	2	5	0	6	24
HARFORD	1	6	2	2	3	8	3	8	2	35
NATIONAL CAPITAL AREA	4	9	6	4	9	6	7	12	8	65
MONTGOMERY	1	5	4	4	6	4	4	10	7	45
PRINCE GEORGE'S	3	4	2	0	3	2	3	2	1	20
SOUTHERN AREA	3	5	2	2	2	4	4	6	7	35
CALVERT	1	1	1	1	1	1	1	3	1	11
CHARLES	1	3	1	0	0	2	1	2	4	14
ST. MARY'S	1	1	0	1	1	1	2	1	2	10
EASTERN SHORE AREA	5	2	8	3	9	9	8	6	12	62
CECIL	4	0	3	2	6	7	3	3	5	33
KENT	0	0	0	0	0	0	0	0	0	0
QUEEN ANNE'S	0	0	0	1	1	0	0	0	1	3
CAROLINE	0	0	0	0	0	0	0	0	0	0
TALBOT	0	1	0	0	0	0	3	0	1	5
DORCHESTER	0	0	1	0	0	1	1	0	0	3
WICOMICO	0	0	0	0	1	0	0	1	2	4
SOMERSET	1	0	1	0	0	1	1	0	0	4
WORCESTER	0	1	3	0	1	0	0	2	3	10

¹ Includes deaths that were related to recent ingestion of a benzodiazepine or related drug with sedative effects.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.

TABLE 9. NUMBER OF ALCOHOL-RELATED INTOXICATION DEATHS BY PLACE OF OCCURRENCE, 2007-2015.^{1,2}

REGION AND POLITICAL SUBDIVISION	ALCOHOL-RELATED DEATHS									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
MARYLAND	187	175	162	160	161	195	239	270	309	1,858
NORTHWEST AREA	14	19	16	15	16	12	21	27	30	170
GARRETT	1	2	1	1	1	0	2	1	1	10
ALLEGANY	5	0	3	4	2	4	2	3	6	29
WASHINGTON	3	10	4	5	4	3	6	11	10	56
FREDERICK	5	7	8	5	9	5	11	12	13	75
BALTIMORE METRO AREA	114	96	100	94	99	126	154	166	215	1,164
BALTIMORE CITY	56	41	54	39	44	71	86	86	114	591
BALTIMORE COUNTY	38	23	22	29	22	24	32	39	52	281
ANNE ARUNDEL	12	12	9	10	21	15	22	18	27	146
CARROLL	3	4	5	4	4	4	4	9	6	43
HOWARD	2	7	5	3	4	6	6	6	5	44
HARFORD	3	9	5	9	4	6	4	8	11	59
NATIONAL CAPITAL AREA	36	33	22	26	28	38	35	36	31	285
MONTGOMERY	15	15	9	10	16	15	13	18	15	126
PRINCE GEORGE'S	21	18	13	16	12	23	22	18	16	159
SOUTHERN AREA	10	9	8	6	7	7	7	12	11	77
CALVERT	3	3	4	0	2	2	1	4	3	22
CHARLES	5	5	1	4	3	2	4	5	4	33
ST. MARY'S	2	1	3	2	2	3	2	3	4	22
EASTERN SHORE AREA	13	18	16	19	11	12	22	29	22	162
CECIL	5	4	7	6	3	6	9	5	8	53
KENT	0	0	0	1	0	0	1	1	0	3
QUEEN ANNE'S	1	2	0	1	3	0	1	7	0	15
CAROLINE	1	0	1	0	1	0	1	2	0	6
TALBOT	0	3	0	0	0	2	2	0	0	7
DORCHESTER	2	0	0	1	0	1	0	0	1	5
WICOMICO	1	6	3	4	2	2	6	7	3	34
SOMERSET	0	0	1	0	1	1	1	2	2	8
WORCESTER	3	3	4	6	1	0	1	5	8	31

¹ Includes deaths that were related to recent ingestion of alcohol.

² Includes only deaths for which the manner of death was classified as accidental or undetermined.