

2018

Macomb County Medical Examiner Annual Report



Daniel J. Spitz, M.D.
Chief Medical Examiner
6/19/2019

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William J. Ridella, MPH, MBA
Director/Health Officer

Daniel J. Spitz, M.D.
Chief Medical Examiner

June 19, 2019

To the Macomb County Executive, Macomb County Board of Commissioners, and the Citizens of Macomb County:

The Medical Examiner's duty is to investigate deaths to determine the cause and manner of death for cases that fall under the Medical Examiner's jurisdiction. Deaths included in this report reflect both resident and non-resident deaths.

In 2018, the Medical Examiner's Office investigated more deaths than in any previous year. The number of Medical Examiner cases increased 12.5% from 2017, which amounted to a total of 3061 investigations. Forensic examinations decreased by 3.5% when compared to 2017, resulting in 692 examinations. Cremation permits issued increased from 4,276 in 2017 to 4,336 in 2017, a 1.4% increase. Hospice deaths also increased to a total of 2,466 cases.

In 2018 (compared to 2017) there was a 16.9% increase in the number of deaths due to natural disease, a 5.0% decrease in the total number of accidental deaths, and a 13.3% increase in the number of suicides.

Drug-related deaths remain a significant problem and hit an all-time high in 2018 (388). Although deaths related to heroin and fentanyl/fentanyl analogs continue to be a major concern in Macomb County there was a 22% decrease in heroin-related deaths (heroin alone or heroin in combination with other drugs) and a slight decrease (0.5%) in fentanyl-related deaths (deaths due to fentanyl alone or fentanyl in combination with other drugs) when compared to 2017. The increase in total drug-related deaths was due to an increase in cocaine-related deaths as well deaths due to other non-opioid drugs such as alcohol, methamphetamines and inhalants.

We would like to thank the Macomb County Executive and the Board of Commissioners for their continued support, which enables the Medical Examiner staff to provide this valuable and necessary service to the citizens of Macomb County.

We are pleased to present you with the Macomb County Medical Examiner's 2018 Annual Report.

Respectfully Submitted,

Daniel J. Spitz, M.D.
Chief Medical Examiner

William J. Ridella, M.P.H, M.B.A
Director/Health Officer

Organization of the Medical Examiner's Office

Macomb County Health Department

Director/Health Officer

William J. Ridella, M.P.H., M.B.A.

Medical Director

Kevin P. Lokar, M.D., M.P.H.

Deputy Health Officer

Krista Willette, R.N., M.S.A.

Medical Examiner's Office

Chief Medical Examiner

Daniel J. Spitz, M.D.

Deputy Medical Examiner

Mary E. Pietrangelo, M.D.

Manager of Operations

Patricia Roland, B.S.N., F-ABMDI

Forensic Investigations Specialist

Gretchen Terebesi, D-ABMDI

Morgue Specialist

Brittney Hella, M.S.

Jeff Novak

Veronica Stout

Forensic Investigator

Erick Acre

Anjanette Beaver

Kiara Brooks, D-ABMDI

Alan Gwyn

Kristina Krieger, D-ABMDI

Leanna Parrent

Jennifer Skridulis, D-ABMDI

Typist Clerk III

Denise Calhoun

Board Certification



The American Board of Medicolegal Death Investigators (ABMDI) sets quality and process standards for death investigators. Investigators who pass the certification requirements of the ABMDI are designated as Registered Diplomats (D-ABMDI). Investigators who meet further requirements and pass an additional test are designated as Certified Fellows (F-ABMDI).

Accreditation



The Macomb County Medical Examiner's Office is a fully accredited office of the [National Association of Medical Examiners \(NAME\)](#). NAME accredited offices represent the highest quality of death investigation systems demonstrated by the hard work, dedication, and leadership made by the staff of the Medical Examiner's Office.

The Macomb County Medical Examiner's Office is one of five NAME fully accredited Medical Examiner offices in Michigan.

Medical Examiner’s Location

Location:

43585 Elizabeth Road
Mount Clemens, Michigan 48043
Phone: (586) 469-5214, Fax: (586) 469-6636

Office Hours:

Monday through Friday,
except for official holidays
8:30 a.m. - 5:00 p.m.

Medical Examiner’s Facility

The Medical Examiner’s Office was built in 2007 and has over 6,000 square feet of space, which is divided into an office/administrative space and an autopsy suite. The autopsy suite has a walk-in cooler, four autopsy stations, digital X-ray equipment and a special dissection room for decomposed/infectious cases.

Mission Statement

The mission of the Macomb County Medical Examiner’s Office is to provide medicolegal investigations into all deaths requiring a public inquiry to determine and record the cause and manner of death for all decedents’ families and the legal and medical communities, in accordance with the highest level of professionalism, compassion and efficiency.

Laws Governing the Medical Examiner’s Office

Act 181 of 1953, MCL Section 52.201-52.216, requires every county in Michigan to appoint a county Medical Examiner - a physician licensed by the State of Michigan, to carry out the duties and functions specified in the Act, including “being in charge of the office of the county medical examiner and promulgating rules relative to the conduct of his office.”

The primary role of a county Medical Examiner is to determine and certify the cause of death and the manner of death in cases where death has occurred violently, accidentally, unexpectedly, or without medical attendance, and to ascertain the identity of the decedent in order to notify the next of kin. The cause of death is the disease or injury responsible for initiating the events that directly lead to a death. The manner of death is how the cause of death came into being. The county Medical Examiner has broad powers and specific responsibilities to act under the aforementioned section of State law to carry out that mission.

2018 Budget

Revenues	Expenses
\$ 2,028,150	\$ 2,028,150

Activities of the Medical Examiner's Office

Macomb County residents are well served by the standards achieved through accreditation by the National Association of Medical Examiners (NAME), a national body that sets and certifies adherence to high standards for medical examiners. Accreditation from NAME shows that the office meets professional standards and provides assurance to the community that a Medical Examiner's office is committed to excellence.

- **Autopsy and Investigations:** As part of the duties of the Medical Examiner's Office, autopsy, and investigative reports are prepared and maintained on all cases. The work performed by the office includes, but is not limited to, death scene investigations as well as external examination of bodies, autopsies, and medical chart reviews conducted by forensic pathologists.
- **Legal Assistance:** The Macomb County Medical Examiner's Office fulfills legal obligations by testifying in criminal and civil proceedings relating to the cause and manner of death.
- **Public Health Emergencies:** Public health emergencies can take on many forms ranging from naturally occurring events (storms, floods, fires) to man-made events including delivery of weapons of mass destruction (bomb/blast, chemical, nuclear, or biological). In partnership with other county services, the Medical Examiner's Office developed the Macomb County Mass Fatality Plan, which addresses mortuary surge capacity events and methods to respond and mitigate such issues.
- **Macomb County Child Death Review Team:** As part of its greater role in promoting a safe and viable community, Medical Examiners serve on the Macomb County Child Death Review Team (MCCDRT). The MCCDRT is composed of various countywide agencies that review and discuss comprehensive information regarding specific child death cases. The team reviews the circumstances involved in the death and documents the investigative actions, services provided or needed, key risk factors with recommendations and/or actions taken by the MCCDRT team to improve coordination and effectiveness of child protection, investigation and legal processes. Since 2001, over 300 child death cases have been reviewed.
- **Education:** Teaching has always been an integral portion of the Medical Examiner's Office duties. Such academic endeavors include forensic pathology lectures and presentations at Wayne State University. Teaching rotations at the Medical Examiner facility include Wayne State University Forensic Investigation internship, Macomb Community College EMT and surgical tech students, Baker College EMT, and individual autopsy observations for law enforcement personnel, nurses and medical students. The Medical Examiner's Office is also involved in community projects: drinking and driving campaigns for local high schools, and lectures for community groups and health care providers.
- **Organ and Tissue Donation Referral:** The Medical Examiner's Office continues to collaborate with local organ and tissue procurement agencies to refer tissue and cornea donors.

Macomb County Demographics



Macomb County is located in southeastern Michigan and is one of three counties that comprise the Detroit Metropolitan area (one of the top 10 metro areas in the U.S.). Macomb County is the ninth smallest of Michigan’s 83 counties with 479 square miles, yet it ranks third in population with 871,375 residents (2017 U.S. Census Estimate), an increase in population of 3.6% since 2010 (841,126).

Among the County’s 27 municipalities are three of the ten largest cities in Michigan: Warren (3rd), Sterling Heights (4th), and Clinton Township (10th).

Census Summary Profile¹

	2010 Estimate 841,126 Population		2017 Estimate 871,375 Population		Population Growth	Percent Change
White	715,853	85.11%	702,784	80.99%	-1.83%	-4.84%
Black or African American	74,275	8.83%	103,697	11.95%	39.61%	35.33%
American Indian and Alaska Native	2,716	0.32%	2,829	0.33%	4.16%	0.97%
Asian	25,870	3.08%	35,972	4.15%	39.05%	34.79%
Native Hawaiian and Other Pacific Islander	195	0.02%	527	0.06%	170.26%	161.97%
Some other race	5,423	0.64%	7,713	0.89%	42.23%	37.87%
Two or More Races	16,794	2.00%	17,853	2.06%	6.31%	3.05%
Hispanic or Latino	19,276	2.29%	22,668	2.61%	17.60%	13.99%

¹ Source: U.S. Census Bureau, 2010 B020001, 2010 B03003, 2017 B02001, 2017 B03003. Estimates from the American Community Survey 1-Year Estimates.

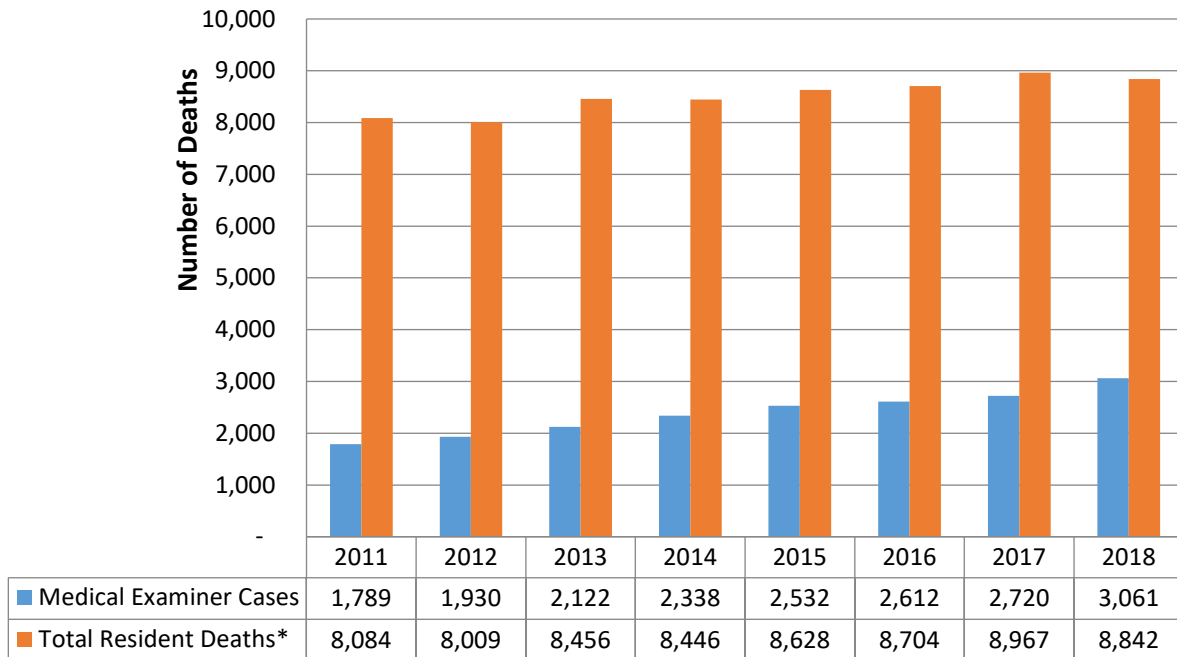
Overview of Cases for 2018

Macomb County Population (2017 estimate)	871,375
Resident Deaths in Macomb County (estimate)	8,842
Macomb County Medical Examiner Cases	3,061
Forensic Examinations	692

Local deaths (those that occur within the boundaries of Macomb County) that fall under the jurisdiction of the Medical Examiner are transported by a contract body transport company to the Macomb County Medical Examiner’s Office (MCMEO) for examination. Medical Examiner cases include both residents and non-residents of Macomb County. In most cases, a forensic investigator attends the death scene and performs an investigation and examination of the body. The Medical Examiner and investigative staff are on-call and available 24 hours/day, 365 days/year.

In 2018, the Macomb County Medical Examiner’s Office investigated 34.62% (3,061/8,842) of all deaths that occurred in the county. The graph below illustrates the number of deaths of Macomb residents, regardless of their location at the time of death².

Medical Examiner Cases and Resident Deaths, 2011-2018

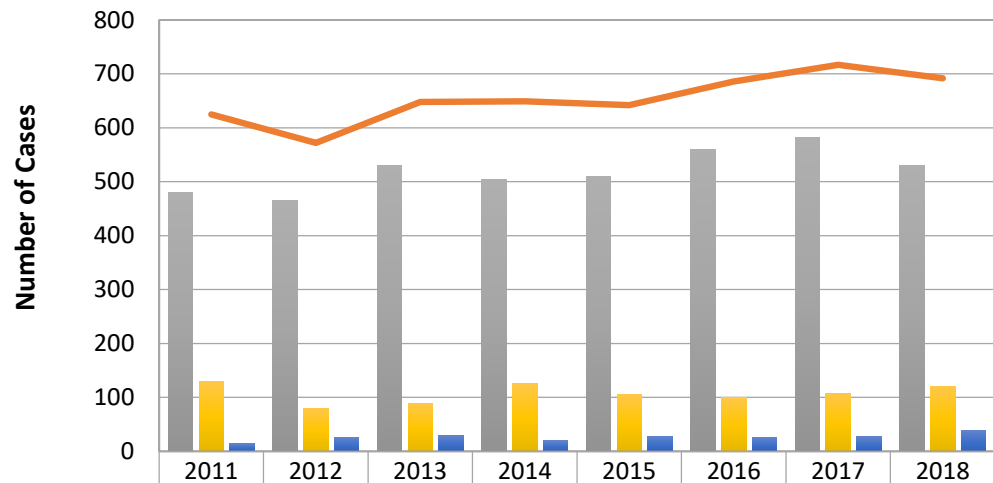


²/* The number of total 2018 resident deaths is provided by the Division for Vital Records & Health Statistics, of Michigan Department of Health & Human Services, and is a provisional number.

Forensic Examinations

The total number of forensic examinations includes complete autopsies, limited autopsies, and external examinations. In 2018, the Medical Examiner’s Office investigated 3,061 deaths, of which 692 were brought to the office for a forensic examination by a forensic pathologist. Of the 692 forensic examinations, 531 were complete autopsies, 121 were external examinations, and 39 were limited autopsies. There were 661 toxicology assessments performed.

Forensic Examinations 2011-2018



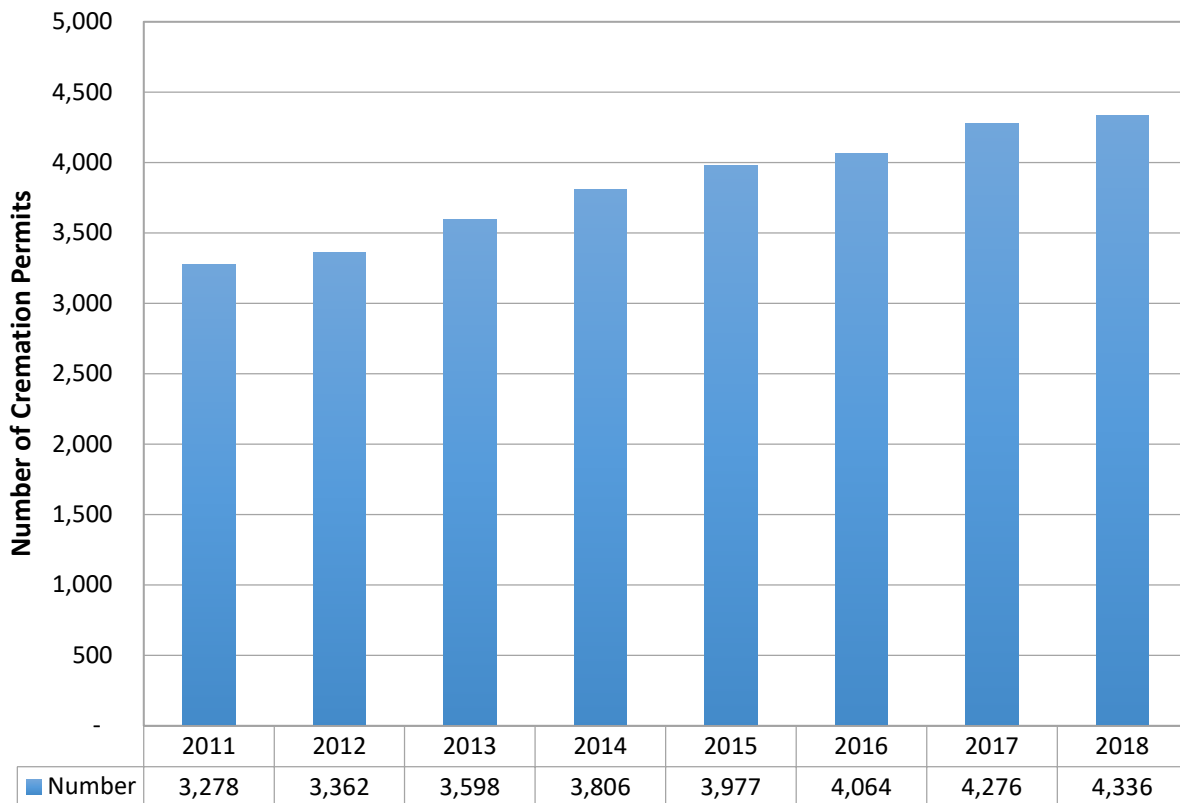
Complete Autopsies	480	466	531	504	509	560	582	531
External Examinations	130	80	88	125	105	100	108	121
Limited Autopsies	15	26	29	20	28	26	27	39
Total Forensic Examinations	625	572	648	649	642	686	717	692

Cremation Permits

In Macomb County, the Medical Examiner’s Office is required to sign cremation permit authorizations before a body is cremated. In order for a cremation permit to be issued, the death certificate is reviewed and in some cases a more detailed investigation is required prior to authorization.

Cremation permits issued in 2018 showed a 1.4% increase from 2017.

Cremation Permit Authorizations by Year, 2011-2018



Overview of Manner of Death³

Manner of death is one of the items that must be reported on the death certificate and is a classification of death based on the circumstances, autopsy findings, toxicology results, and all available information associated with the death investigation. There are five "manner" classifications: natural, accident, suicide, homicide and indeterminate:

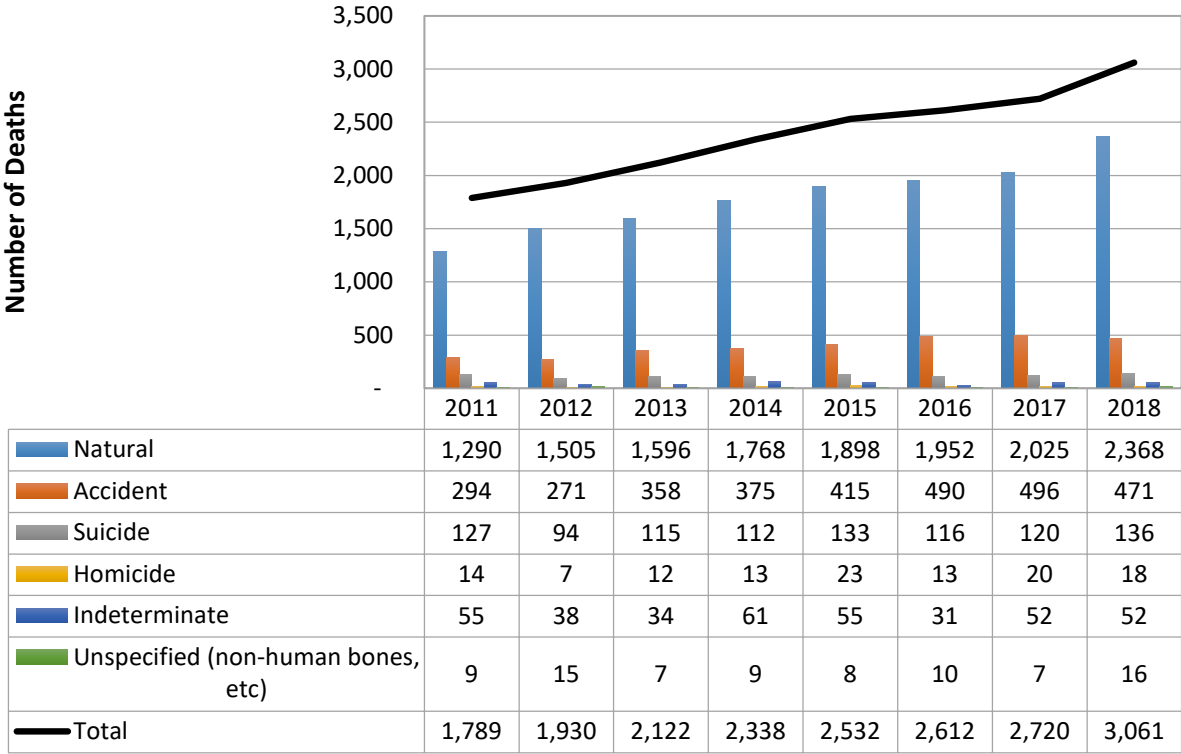
- **Natural deaths** are due solely to disease and/or the aging process.
- **Accident** applies when an injury or poisoning causes death and there is no evidence that injury or poisoning occurred with intent to harm or cause death. In essence, the fatal outcome was unintentional.
- **Suicide** results from an injury or poisoning as a result of an intentional, self-inflicted act.
- **Homicide** occurs when death results from a volitional act committed by another person.
- **Indeterminate** is a classification used when the information pointing to one manner of death is no more compelling than one or more other competing manners of death.

Cases by Manner of Death

Manner of Death	Number	Percent
Natural	2368	77.36%
Accident	471	15.39%
Suicide	136	4.44%
Homicide	18	0.59%
Indeterminate	52	1.70%
Unspecified (non-human bones, tissue, etc.)	16	0.52%
TOTAL	3061	100.00%

³ From this point on, the graphs and tables will only include cases examined by the Medical Examiner.

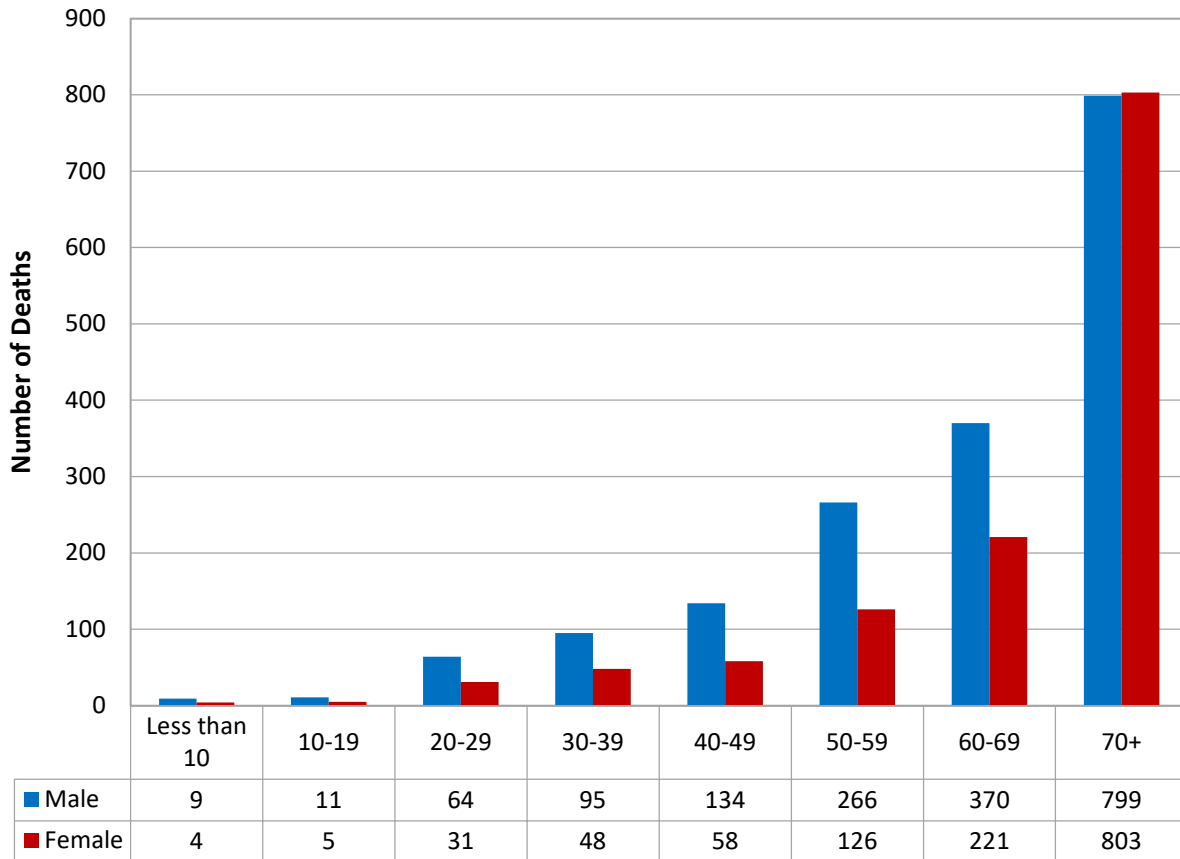
Cases by Manner of Death, 2011-2018



Cases by Age and Gender

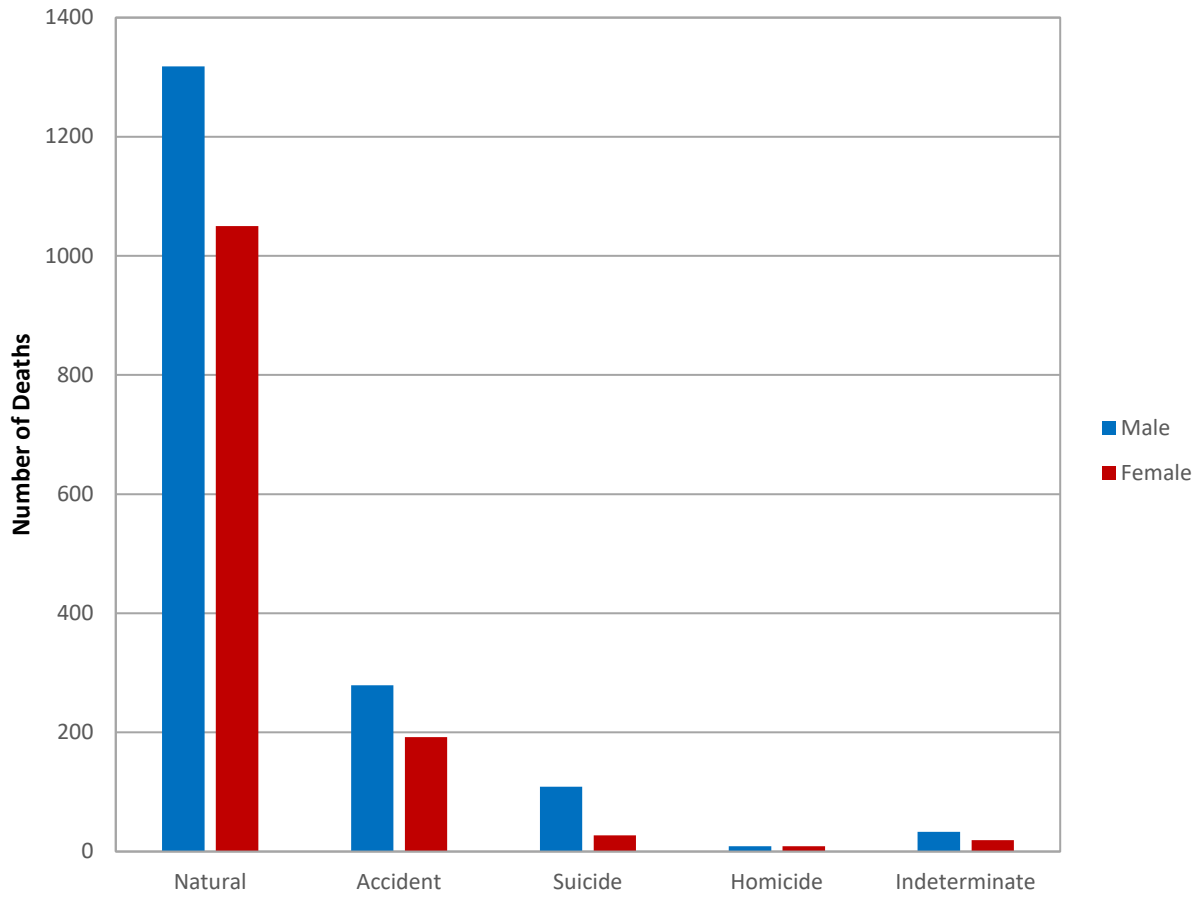
There were a total of 3,061 investigations performed in 2018; of these 1,748 (57.11%) were males, 1,297 (42.37%) were females, and 16 (0.52%) were other/bones (i.e., non-human bones, tissue, etc.).

Cases by Age and Gender, 2018



Age Group	Male	Female	Other	Bones	Total
0 – 19 Years	20	9	0	0	29
20 Years and Older	1,728	1,287	0	0	3,015
Unreported	0	1	1	15	17
TOTAL	1,748	1,297	1	15	3,061

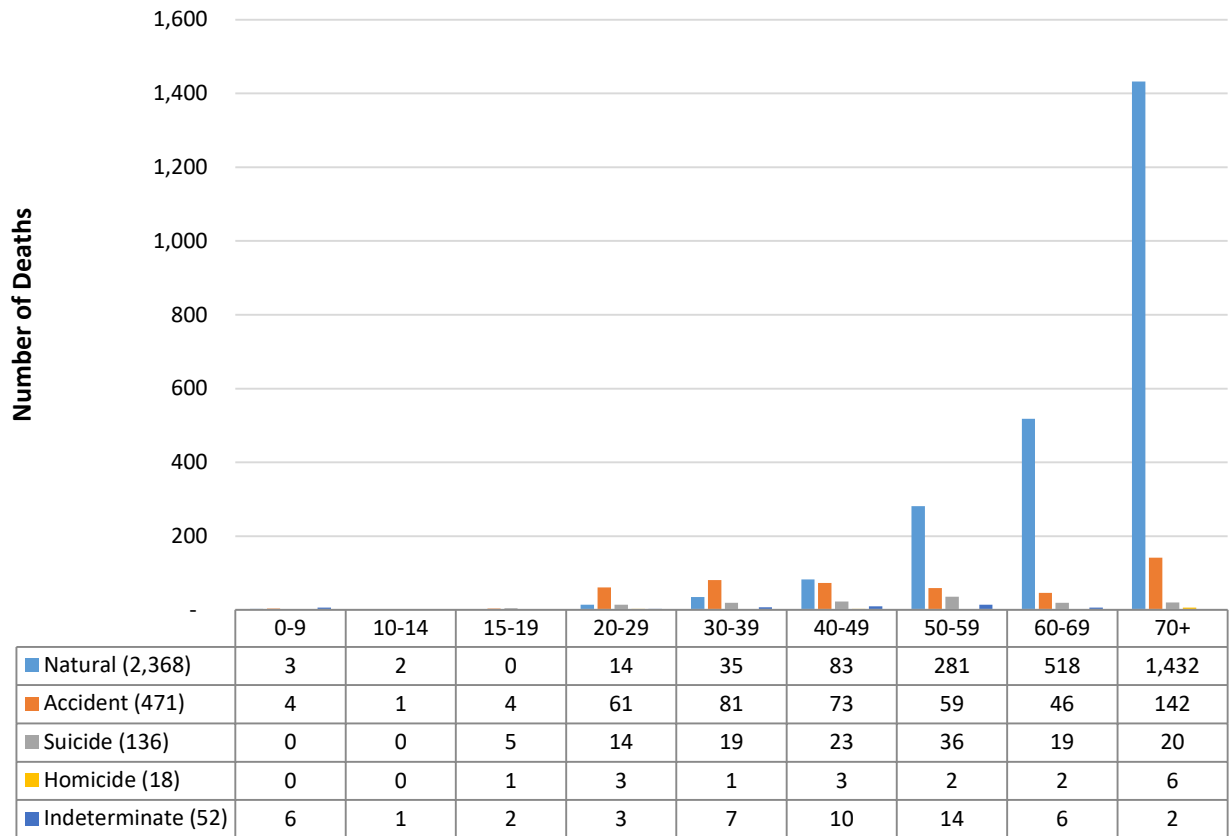
Cases by Manner of Death and Gender, 2018



⁴ From this point on, the graphs and tables will not include the 16 unspecified cases (bones/tissues) because they did not have a manner of death.

Cases by Manner of Death and Age

Cases by Manner of Death and Age, 2018



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	5	2	7
White	1,562	1,156	2,718
African American	164	129	293
American Indian	0	1	1
Asian Pacific	10	3	13
Multiracial	0	2	2
Other	7	3	10
Unknown	0	1	1
TOTAL	1,748	1,297	3045

Manner of Death – Natural

Cases by Age and Gender

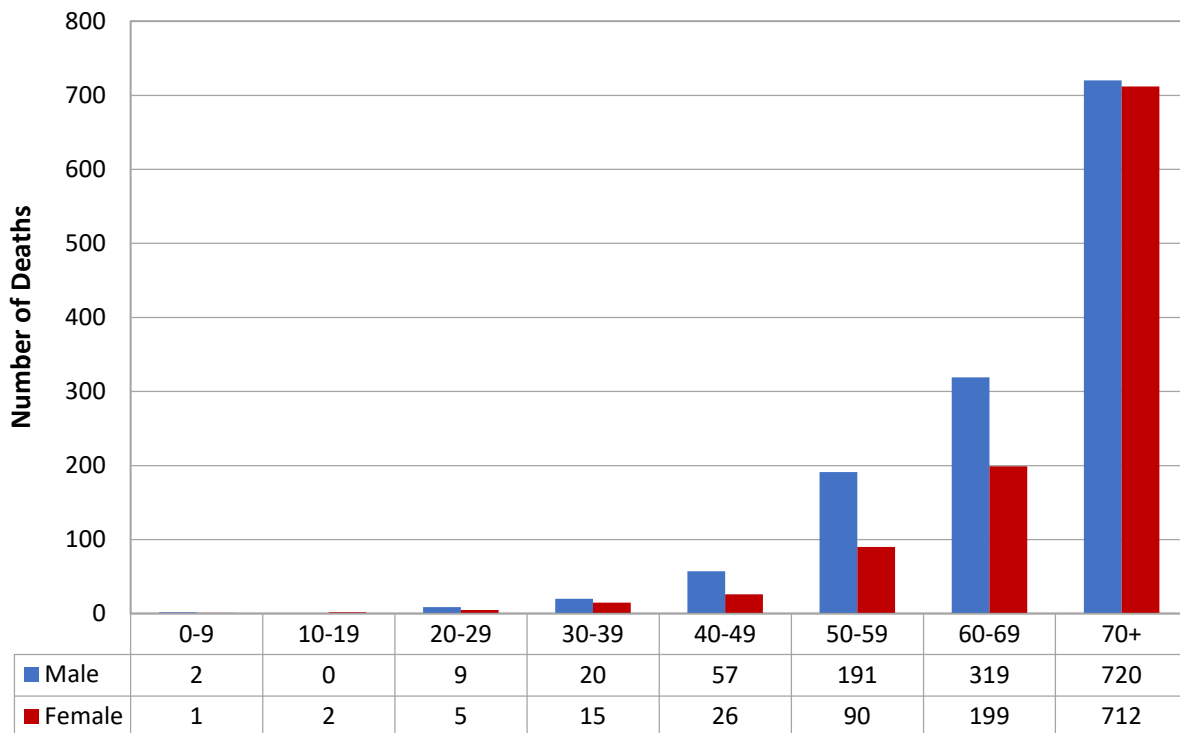
Natural deaths represented 77.36% (2,368/3,061) of all Medical Examiner cases.

Males accounted for 55.66% (1,318/2,368) of the natural deaths; females accounted for 44.34% (1,050/2,368) of the natural deaths.

The male 70+ age group accounted for 54.63% (720/1,318) of all male natural deaths, while the female 70+ age group accounted for 67.81% (712/1,050) of all female natural deaths.

The combined male/female 70+ age groups represented 60.47% (1,432/2,368) of the natural deaths.

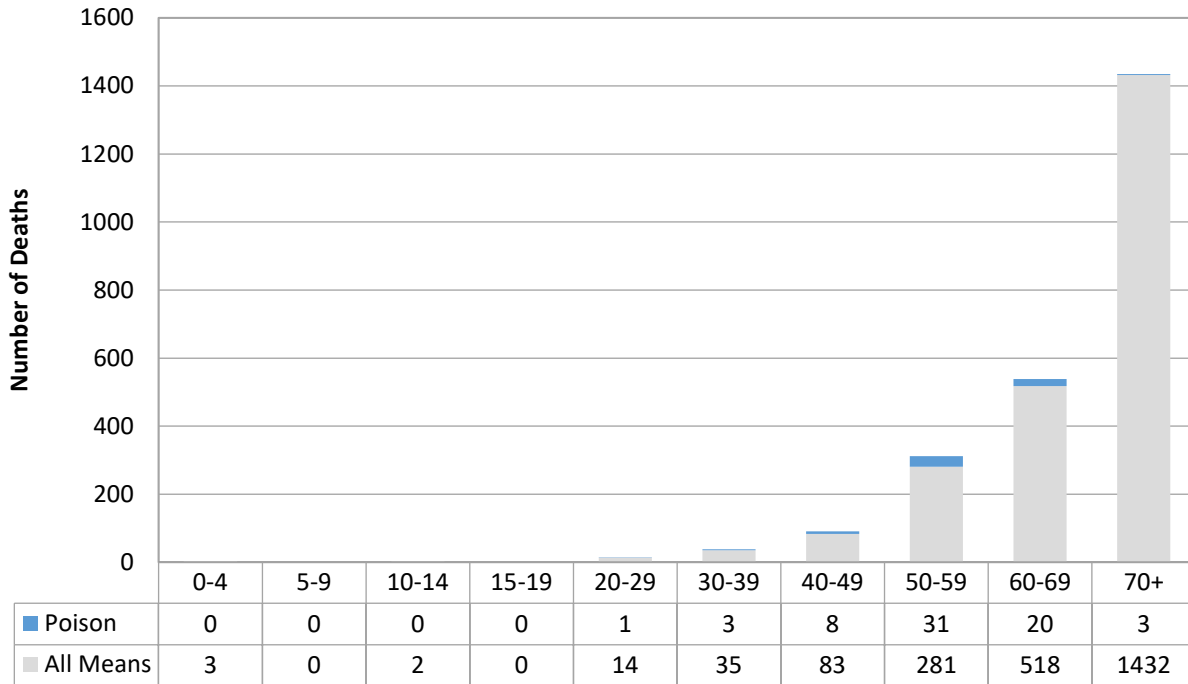
Number of Natural Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	2	3	5	0.21%
20 Years and Older	1,316	1,047	2,363	99.79%
TOTAL	1,318	1,050	2,368	100.00%

Cases by Age and Means⁵

Number of Natural Deaths, by Age and Means



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	3	1	4
White	1,180	930	2,110
African American	121	111	232
American Indian	0	1	1
Asian Pacific	7	3	10
Multiracial	0	1	1
Other	7	3	10
TOTAL	1,318	1,050	2,368

⁵ Some deaths may have multiple Means of Death recorded, and some may have no Means recorded.

Manner of Death – Accident

Accidental deaths represented 15.39% (471/3,061) of all Medical Examiner cases.

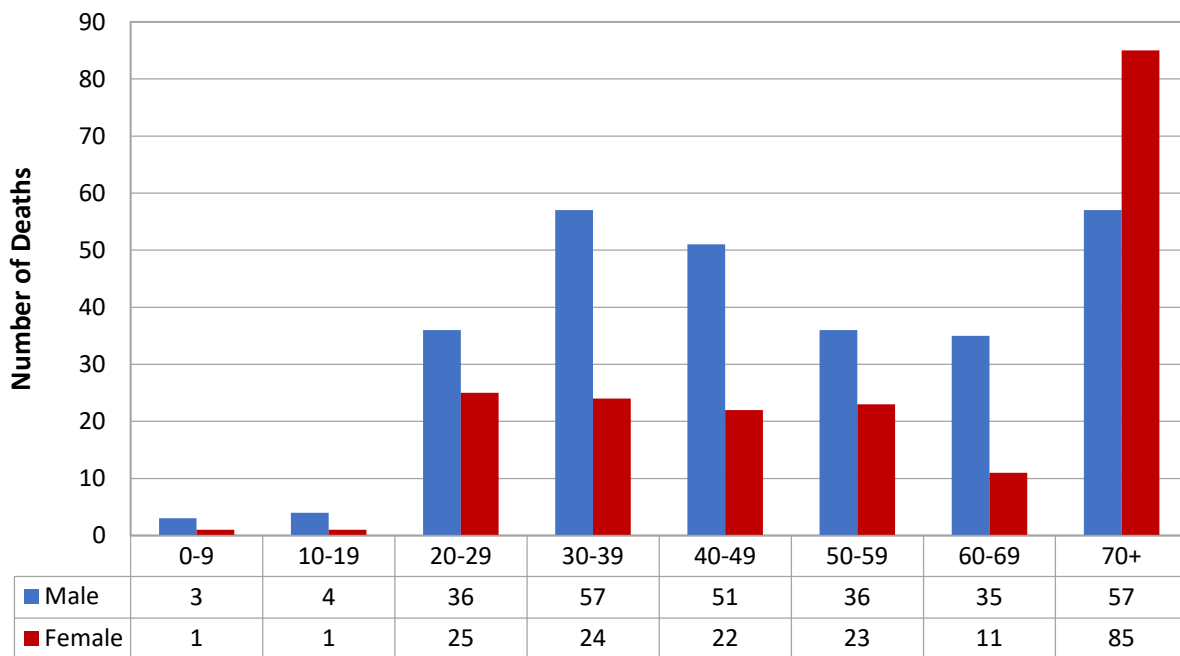
Males accounted for 59.24% (279/471) of the accidental deaths; females accounted for 40.76% (192/471) of the accidental deaths.

The male 70+ age group accounted for 20.43% (57/279) of all male accidental deaths, while the female 70+ age group accounted for 44.27% (85/192) of all female accidental deaths.

The combined male/female 70+ age groups represented 30.15% (142/471) of the accidental deaths.

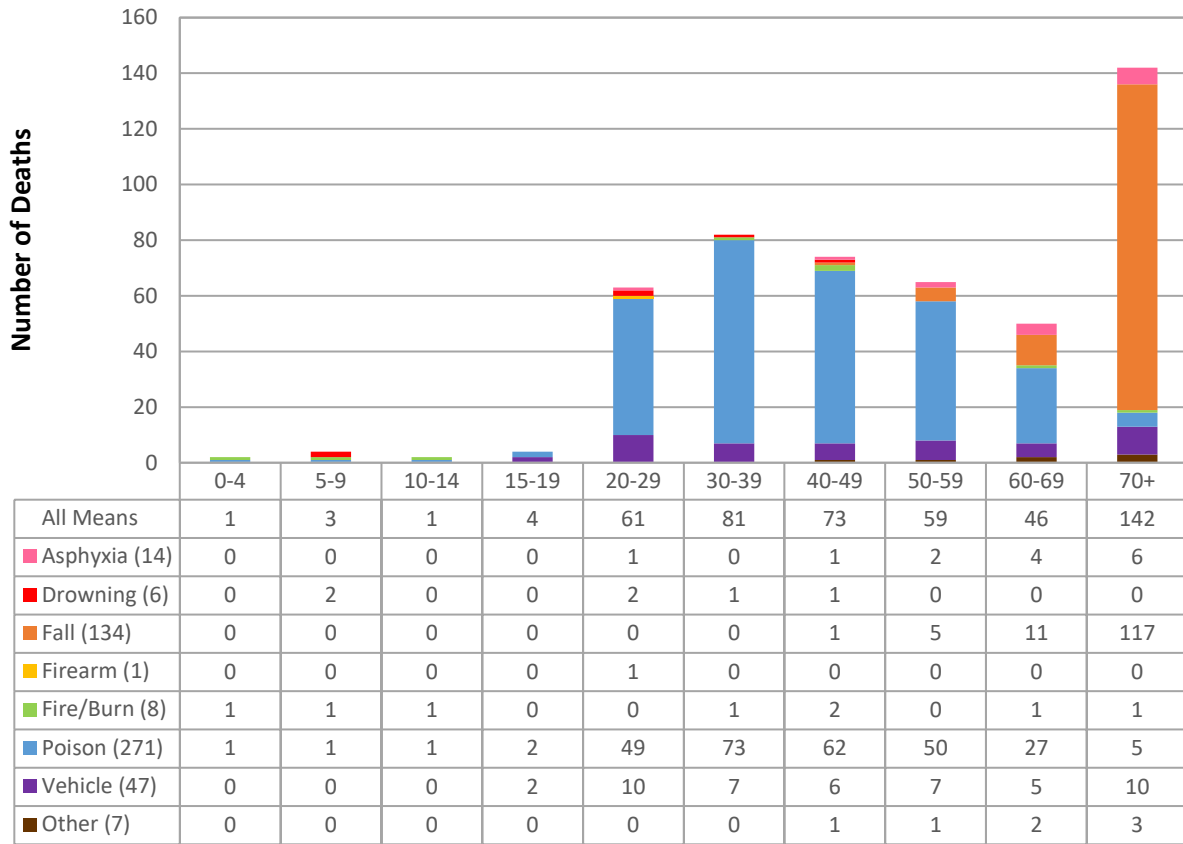
Cases by Age and Gender

Number of Accident Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	7	2	9	1.91%
20 Years and Older	272	190	462	98.09%
TOTAL	279	192	471	100.00%

Number of Accident Deaths, by Age and Means



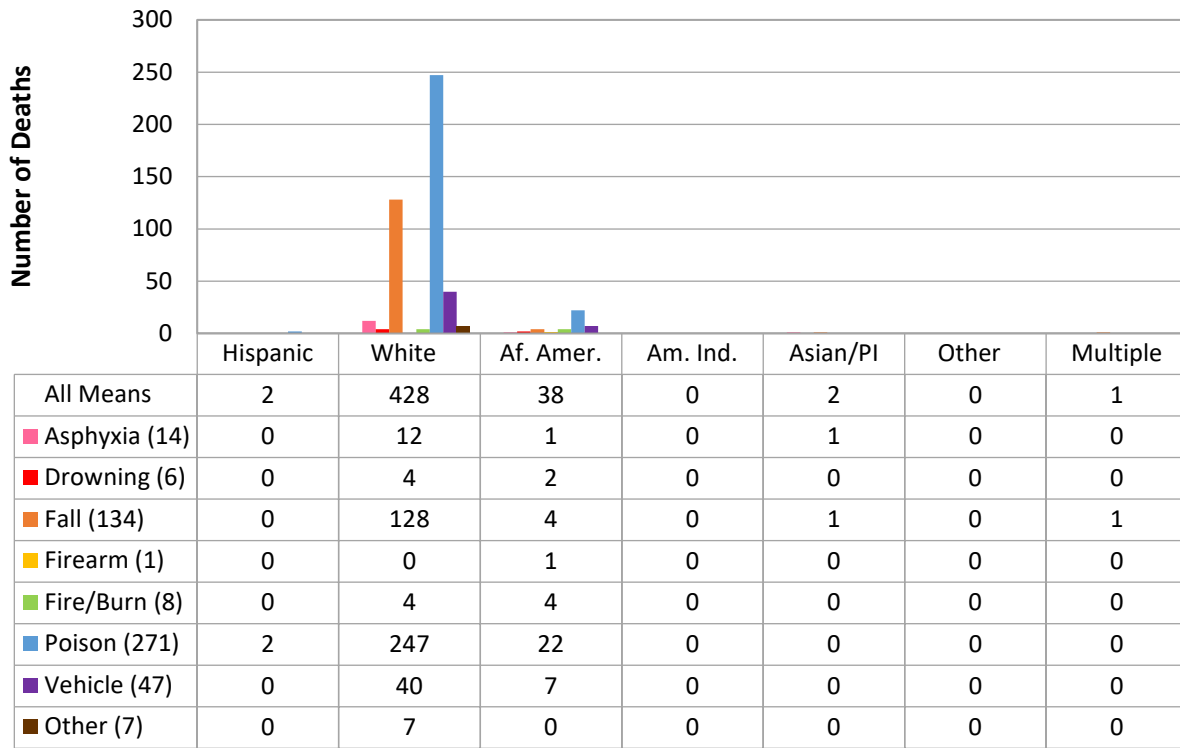
Accidental poisoning accounted for 57.54% (271/471) of all accidental death cases, with the 30-39 age group having the highest number of all accidental poisoning deaths (73).

Falls accounted for the second highest percentage of accidental deaths at 28.45% (134/471), with the majority of deaths occurring in the 70+ age group (117).

⁶ Some deaths may have multiple Means of Death recorded.

Cases by Race and Means⁷

Number of Accident Deaths, by Race and Means

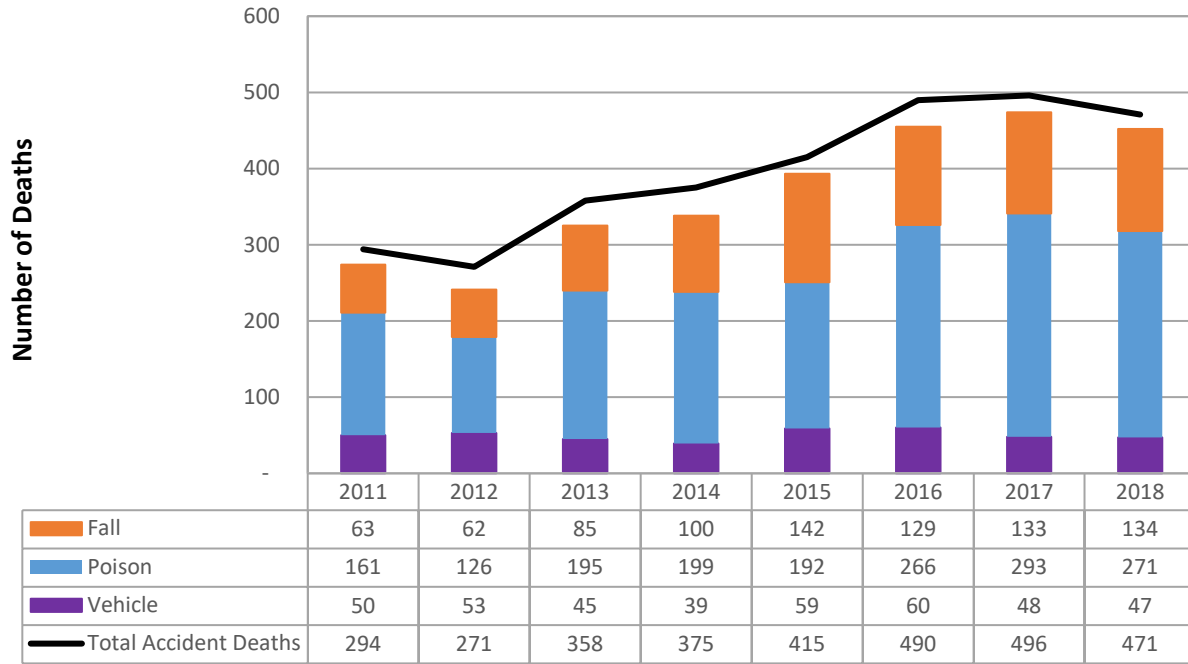


Cases by Race and Gender

Race	Male	Female	Total
Hispanic	2	0	2
White	247	181	428
African American	28	10	38
American Indian	0	0	0
Asian Pacific	2	0	2
Multiracial	0	1	1
Other	0	0	0
TOTAL	279	192	471

⁷ Some deaths may have multiple Means of Death recorded.

Leading Causes of Accident Deaths, by Year



Between 2011 and 2018, there was a 112.70% increase in the number of accident deaths by falls, and a 6.00% decrease in the number of vehicular deaths. There was a 68.32% increase in the number of accident deaths by poison.

⁸ This graph highlights the top three predominant means of death within the accident classification. The black line shows the total number of accidental deaths. There are other means of death not shown in this graph.

Manner of Death – Suicide

Suicide deaths represented 4.44% (136/3,061) of all Medical Examiner cases.

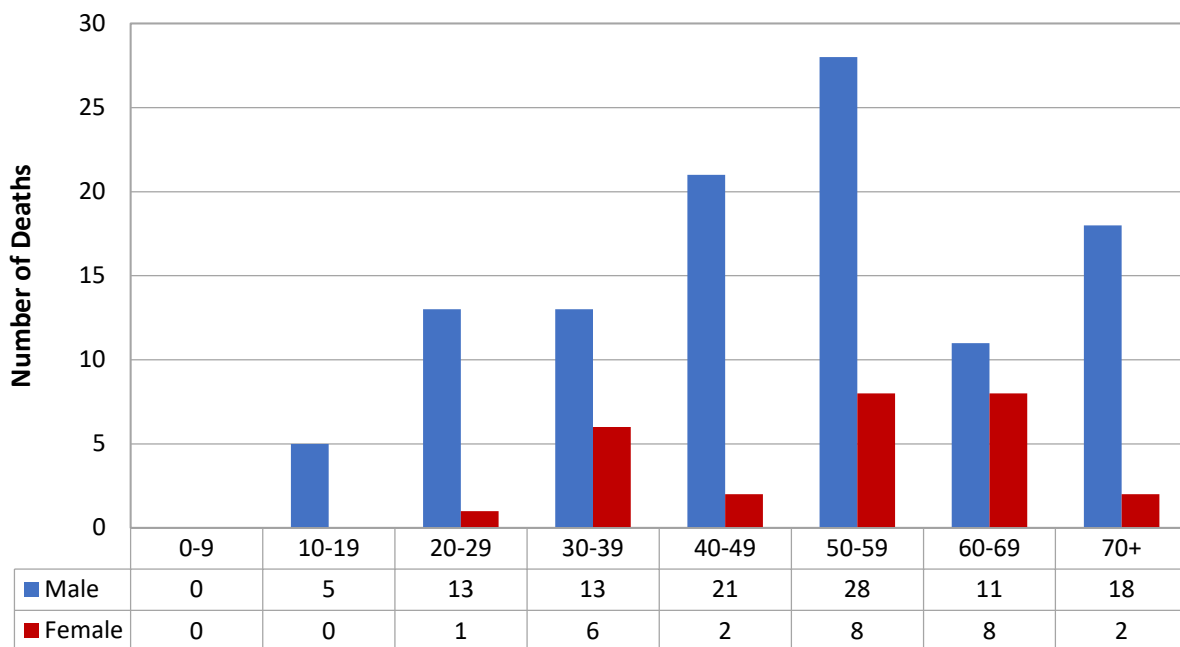
Males accounted for 80.15% (109/136) of the suicide deaths; females accounted for 19.85% (27/136) of the suicide deaths.

The male 50-59 age group accounted for 25.69% (28/109) of all male suicide deaths, while the female 50-59 age group accounted for 29.63% (8/27) of all female suicide deaths. The female 50-59 and 60-69 age groups both had the highest proportion (29.63%) of all female suicide deaths.

The combined male/female 50-59 age groups represented 26.47% (36/136) of the suicide deaths.

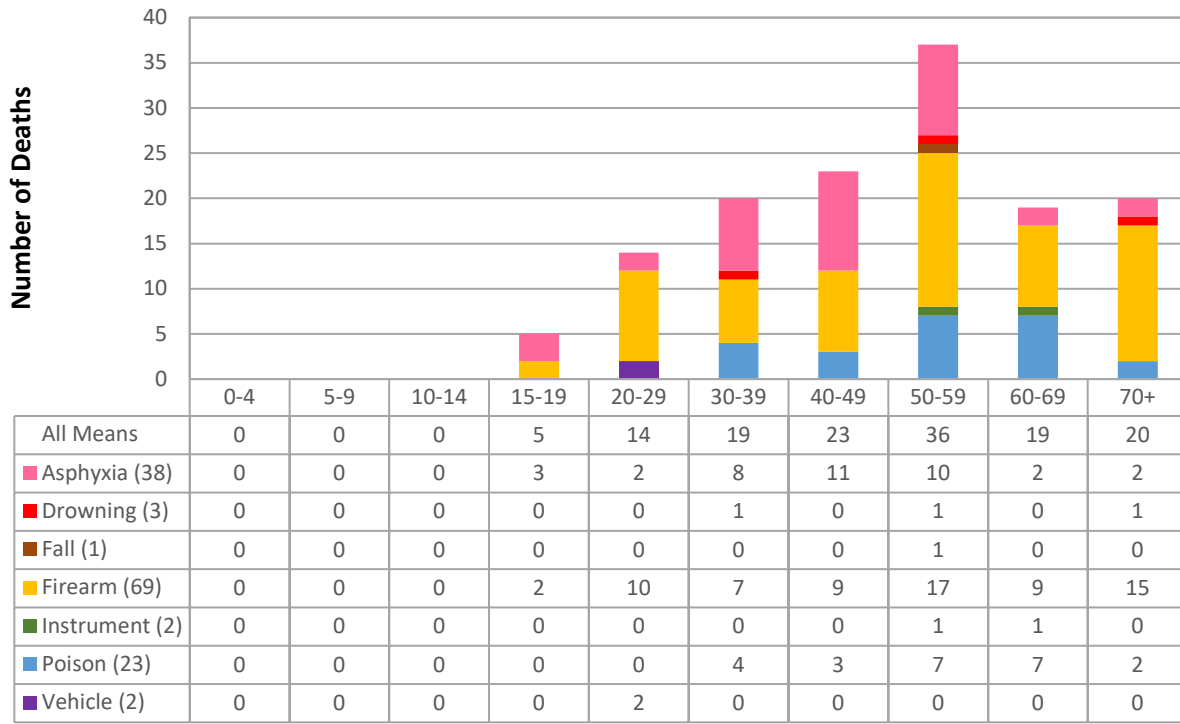
Cases by Age and Gender

Number of Suicide Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	5	0	5	3.68%
20 Years and Older	104	27	131	96.32%
TOTAL	109	27	136	100.00%

Number of Suicide Deaths, by Age and Means

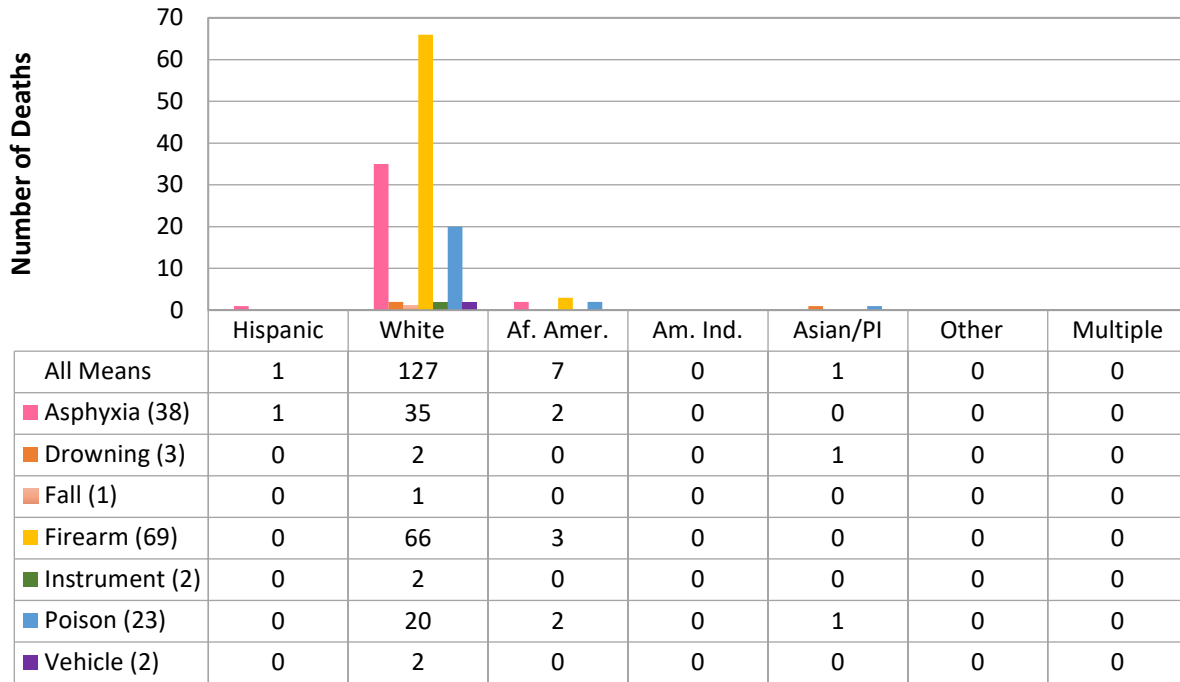


Firearm suicide cases accounted for 50.74% (69/136) of all suicide death cases, with the majority of deaths occurring in the 50-59 age group (17).

Asphyxia accounted for the second highest percentage of suicides at 27.94% (38/136), with the majority of deaths occurring in the 40-49 age group (11).

⁹ Some deaths may have multiple Means of Death recorded.

Number of Suicide Deaths, by Race and Means

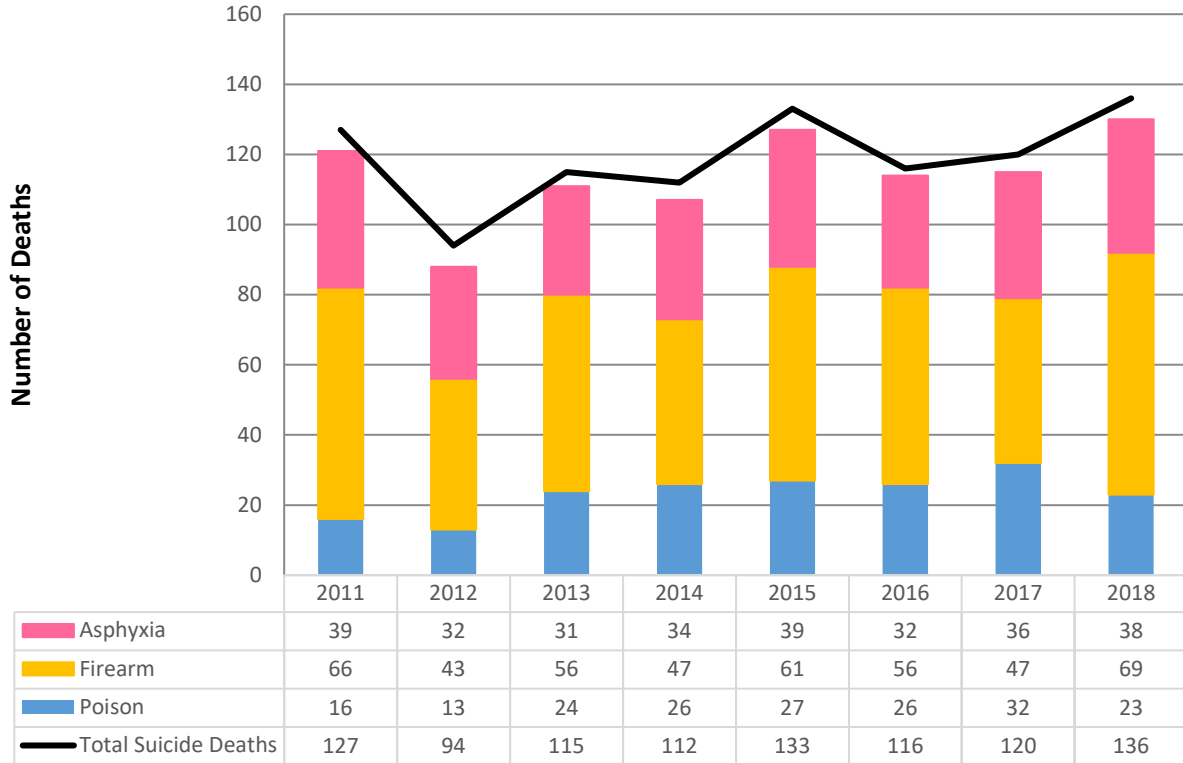


Cases by Race and Gender

Race	Male	Female	Total
Hispanic	0	1	1
White	103	24	127
African American	5	2	7
American Indian	0	0	0
Asian Pacific	1	0	1
Multiracial	0	0	0
Other	0	0	0
TOTAL	109	27	136

¹⁰ Some deaths may have multiple Means of Death recorded.

Leading Causes of Suicide Deaths, by Year



Between 2011 and 2018, there was a 4.55% increase in the number of suicide deaths by firearm, and a 2.56% decrease in the number of asphyxia deaths. There was a 43.75% increase in the number of suicide deaths by poison.

¹¹ This graph highlights the top three predominant means of death within the suicide classification. The black line shows the total number of suicidal deaths. There are other means of death not shown in this graph.

Manner of Death – Homicide

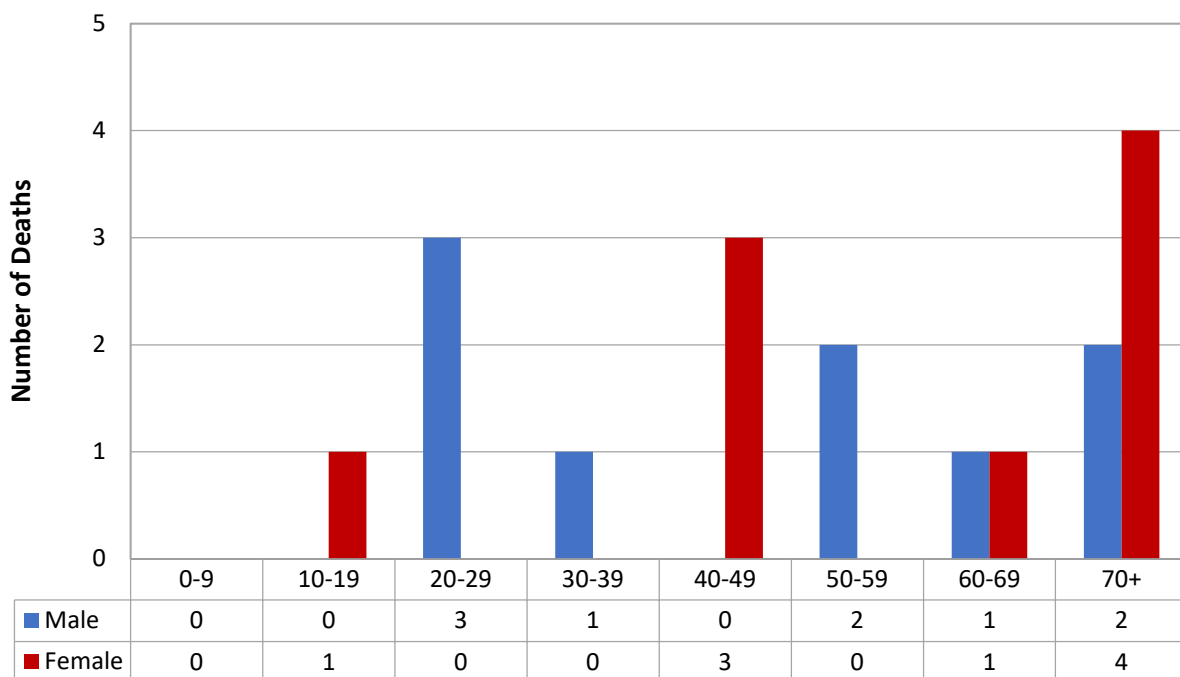
Homicide deaths represented 0.59% (18/3,061) of all Medical Examiner cases.

Males accounted for 50.00% (9/18) of the homicide deaths; females accounted for 50.00% (9/18) of the homicide deaths.

The male 20-29 age group accounted for 33.33% (3/9) of all male homicide deaths, while the female 70+ age group accounted for 44.44% of all female homicide deaths.

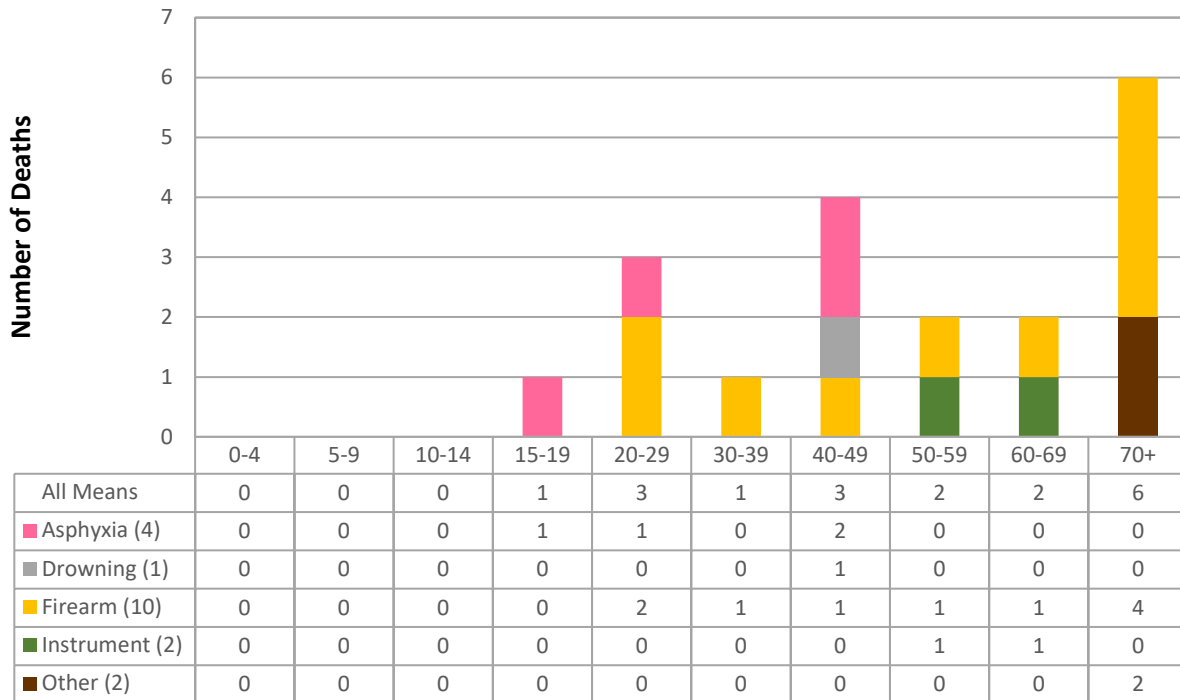
Cases by Age and Gender

Number of Homicide Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	0	1	1	5.56%
20 Years and Older	9	8	17	94.44%
TOTAL	9	9	18	100.00%

Number of Homicide Deaths, by Age and Means



Homicide by firearm accounted for 55.56% (10/18) of all homicide death cases, with the majority of deaths occurring in the 70+ age group (4).

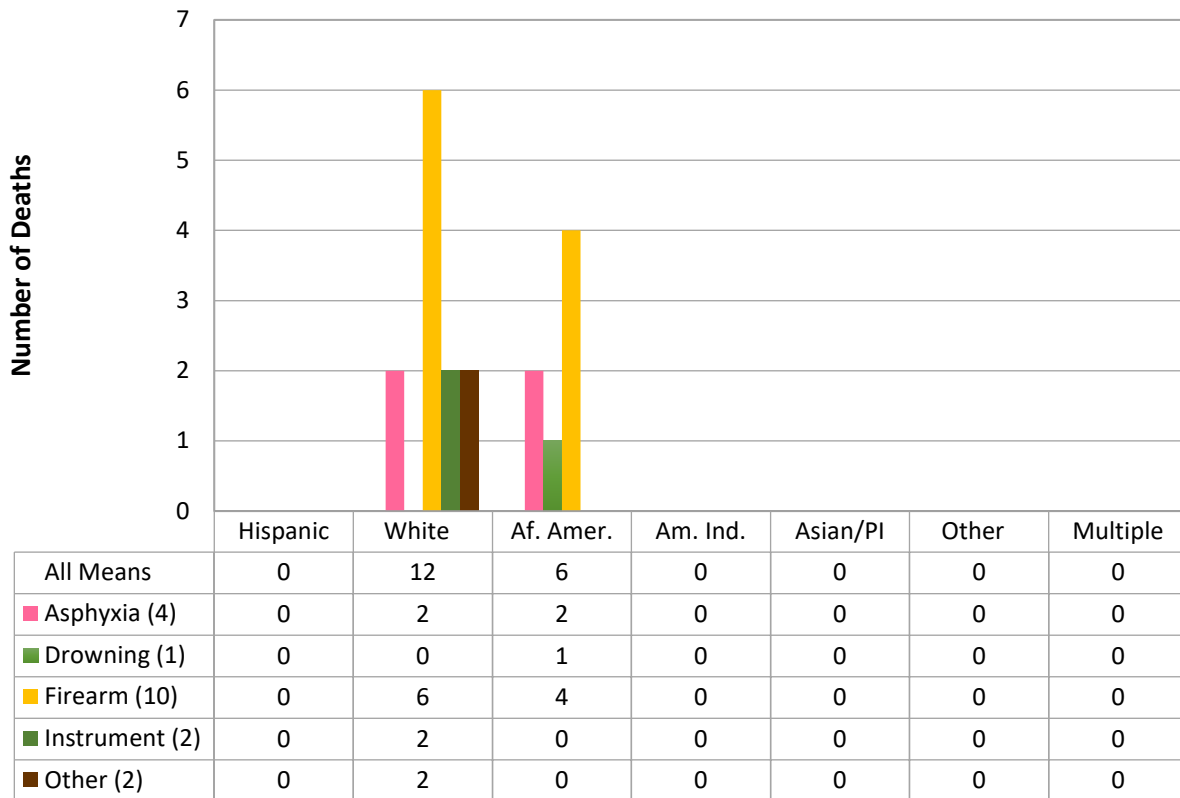
Asphyxia deaths accounted for the second highest percentage of homicides at 22.22% (4/18), with the majority of deaths occurring in the 40-49 age group (2).

¹² Some deaths may have multiple Means of Death recorded.

¹³ Per the Alcestis Medical Examiner and Coroner Data Management System regarding means of death: The instrument category can be a blunt, sharp or unknown object.

Cases by Race and Means^{14,15}

Number of Homicide Deaths, by Race and Means



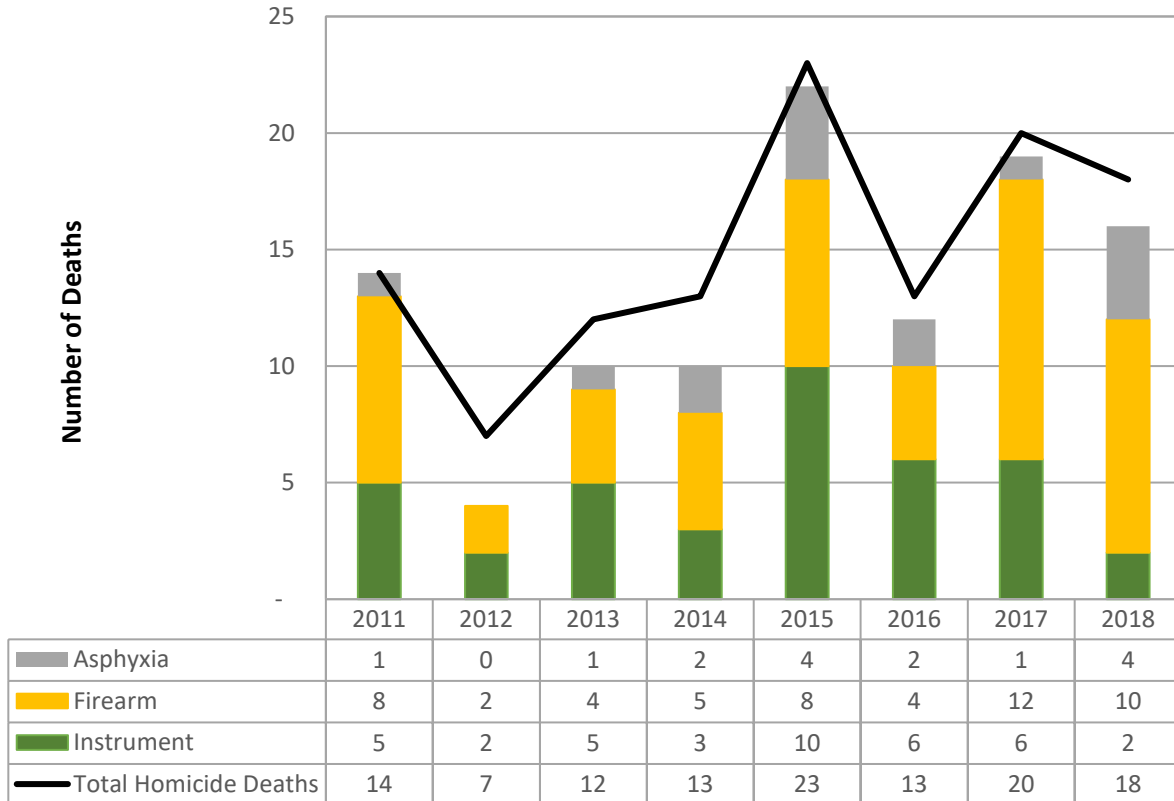
Cases by Race and Gender

Race	Male	Female	Total
Hispanic	0	0	0
White	5	7	12
African American	4	2	6
American Indian	0	0	0
Asian Pacific	0	0	0
Multiracial	0	0	0
Other	0	0	0
TOTAL	9	9	18

¹⁴ Some deaths may have multiple Means of Death recorded.

¹⁵ Per the Alcestis Medical Examiner and Coroner Data Management System regarding means of death: The instrument category can be a blunt, sharp or unknown object.

Leading Causes of Homicide Deaths, by Year



Between 2011 and 2018, there was a 25.00% increase in the number of homicide deaths by firearm, and a 60.00% decrease in the number of instrument deaths. There was a 300.00% increase in the number of homicide deaths by asphyxia.

¹⁶ This graph highlights the top three predominant means of death within the homicide classification. The black line shows the total number of homicidal deaths. There are other means of death not shown in this graph.

¹⁷ Per the Alcestis Medical Examiner and Coroner Data Management System regarding means of death: The instrument category can be a blunt, sharp or unknown object.

Manner of Death – Indeterminate

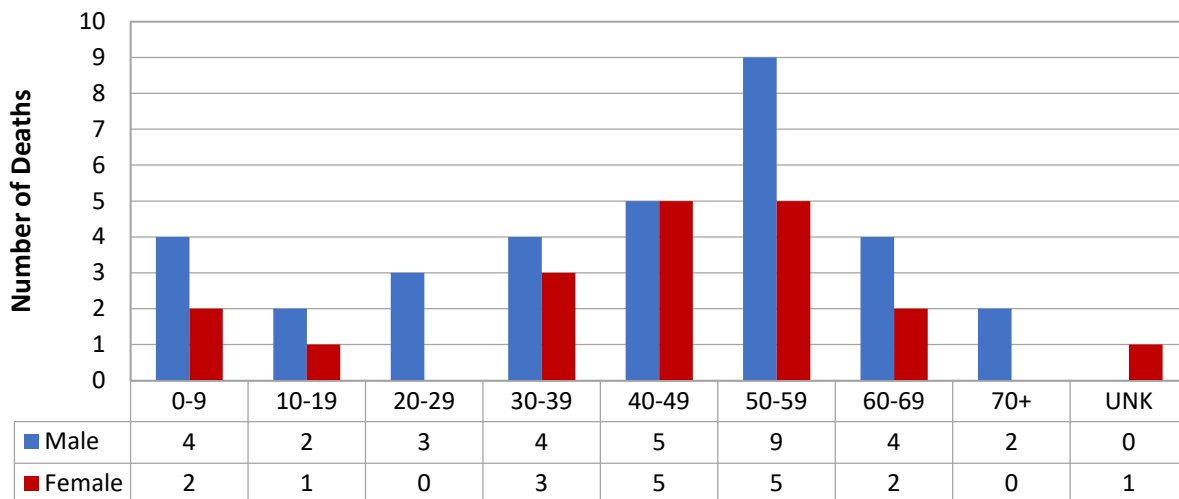
Indeterminate is a classification used when the information pointing to one manner of death is no more compelling than one or more other competing manners of death. Indeterminate deaths represented 1.70% (52/3,061) of all Medical Examiner cases.

Males accounted for 63.46% (33/52) of the indeterminate deaths; females accounted for 36.54% (19/52) of the indeterminate deaths.

The male 50-59 age group accounted for 27.27% (9/33) of all male indeterminate deaths, while the female 40-49 and 50-50 age groups each accounted for 26.31% (5/19) of all female indeterminate deaths.

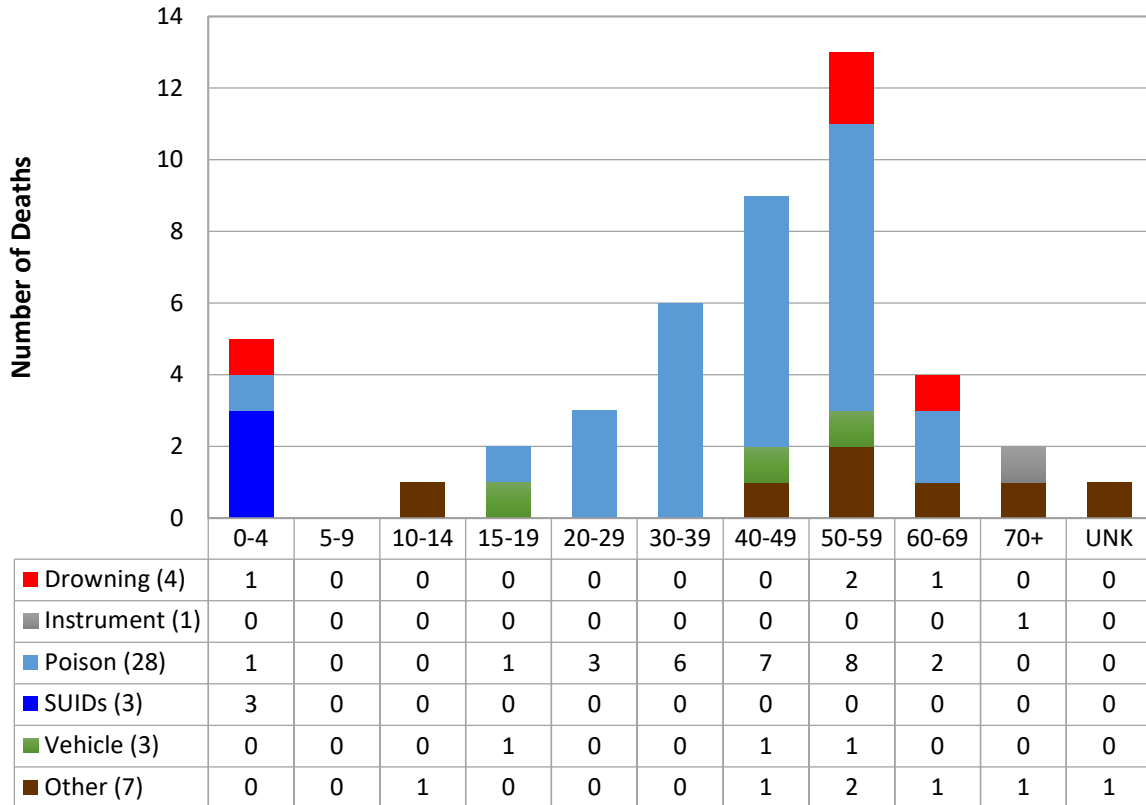
Cases by Age and Gender

Number of Indeterminate Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	5	2	7	13.46%
20 Years and Older	28	16	44	84.62%
Unreported	0	1	1	1.92%
TOTAL	33	19	52	100.00%

Number of Indeterminate Deaths, by Age and Means

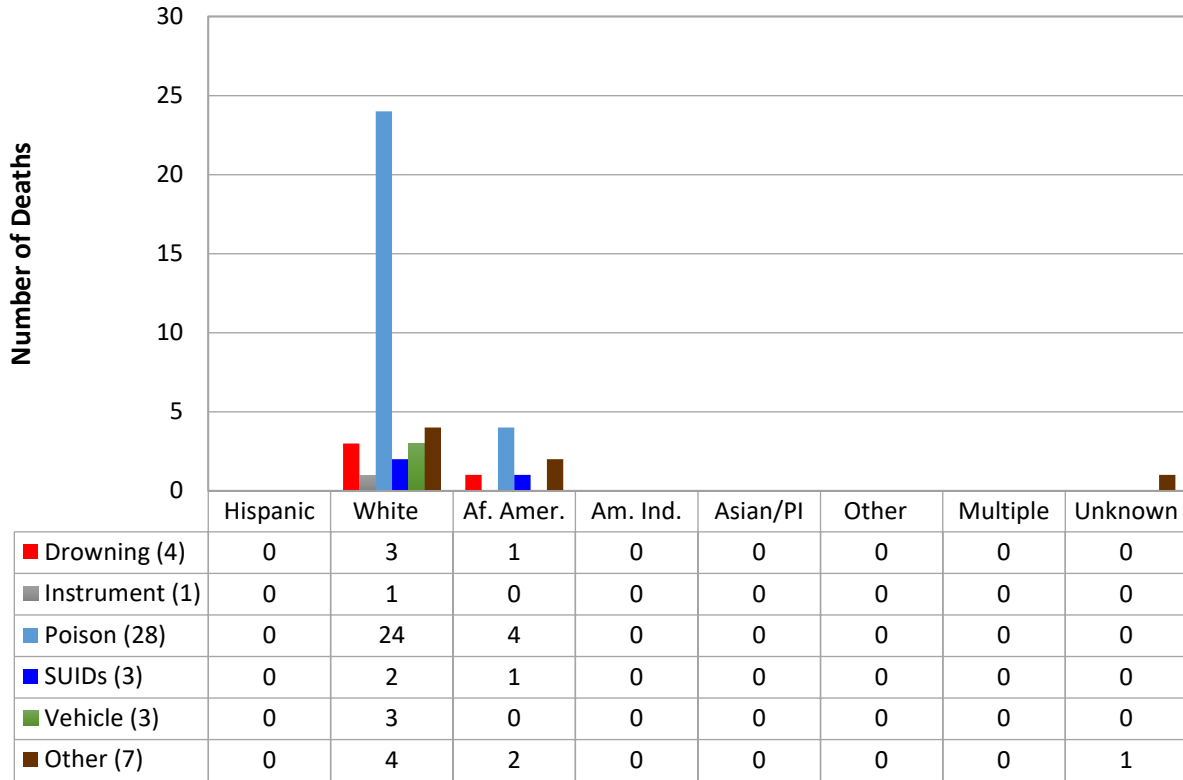


Poisoning cases accounted for 53.85% (28/52) of all indeterminate death cases, with the majority of deaths occurring in the 50-59 age group (8).

Other (miscellaneous) means accounted for the second highest percentage of indeterminate cases at 13.46% (7/52).

¹⁸ Some deaths may have multiple Means of Death recorded.

Number of Indeterminate Deaths, by Race and Means



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	0	0	0
White	27	14	41
African American	6	4	10
American Indian	0	0	0
Asian Pacific	0	0	0
Multiracial	0	0	0
Other	0	0	0
Unknown	0	1	0
TOTAL	0	19	52

¹⁹ Some deaths may have multiple Means of Death recorded.

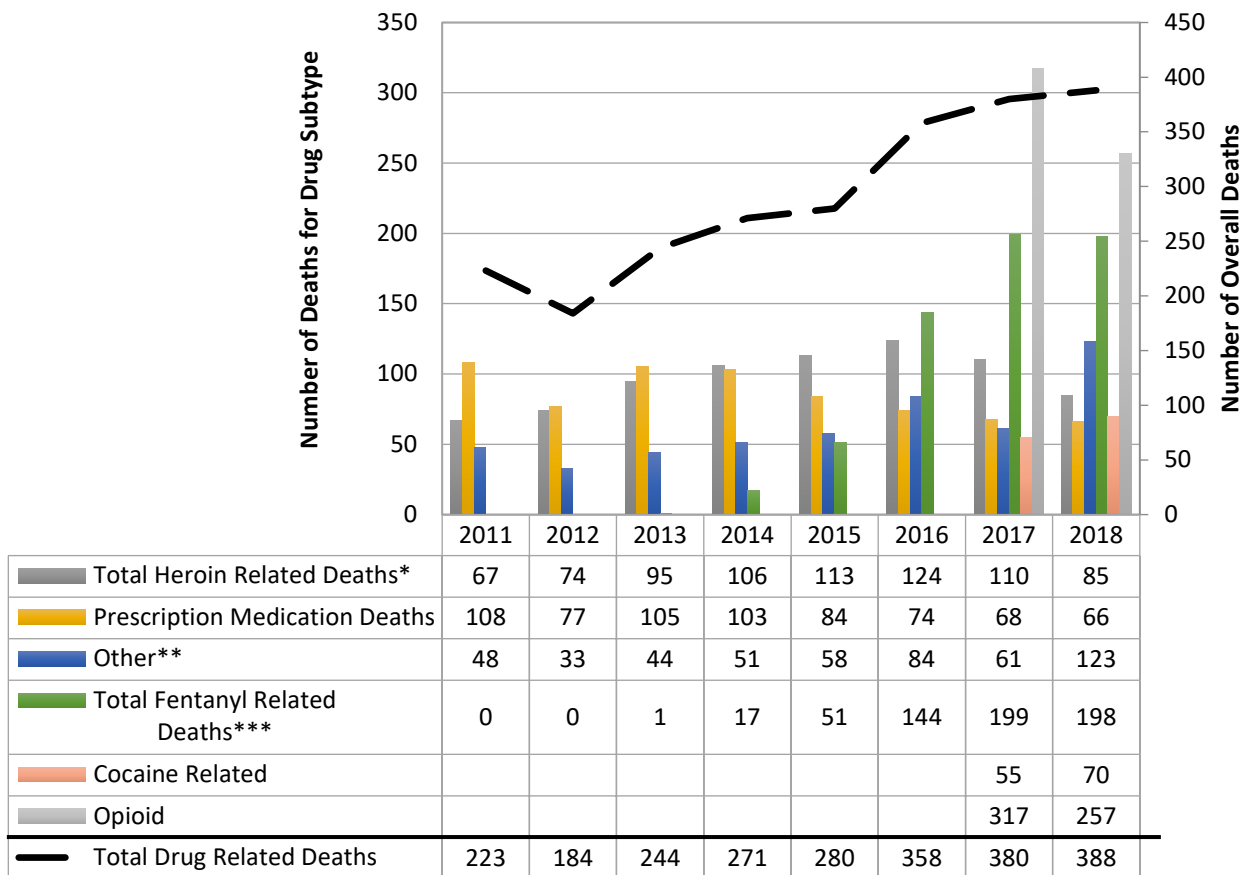
Drug-Related Deaths

Toxicology analysis using various body fluids and tissues continues to be a very important aspect of death investigations occurring under the Macomb County Medical Examiner’s jurisdiction.

There is concern with regard to the rise in the number of drug related deaths, particularly heroin and controlled prescription drug abuse deaths involving drugs like Methadone, Oxycodone, Fentanyl, Hydrocodone, Valium and Xanax which can be detected with toxicological analysis. Alcohol in combination with drugs can also be a contributory factor.

In 2018, total drug-related deaths increased by 2.11%, compared to 2017. Heroin-related deaths decreased by 22.73%²⁰, and fentanyl deaths (including heroin) decreased by 0.50%. Please note that total drug deaths is not a sum of the drug classifications.

Drug Related Deaths, 2011-2018



²⁰ * Total “heroin related deaths” are deaths due to either heroin alone or heroin in combination with other drugs or alcohol.

** The “other” category are deaths due to illicit drugs (excluding heroin), prescription drugs in combination with other drugs or alcohol (excluding heroin), and other ingested, injected or inhaled substances.

*** From 2011-2013 Fentanyl Deaths were included in Prescription Medication Deaths.