

2016

Macomb County Medical Examiner Annual Report



Daniel J. Spitz, M.D.
Chief Medical Examiner
8/24/2017

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MACOMB COUNTY HEALTH DEPARTMENT
Medical Examiner's Office
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William J. Ridella, MPH, MBA
Director/Health Officer

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

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 2016, the Medical Examiner's Office investigated more deaths than in any previous year. The number of death investigations increased 3.2% from 2015, which amounted to a total of 2,612 investigations. Forensic examinations increased by 6.9% when compared to 2015, resulting in 686 examinations. Cremation permits issued increased from 3,977 in 2015 to 4,064 in 2016, a 2.2% increase. Hospice deaths also increased to a total of 2,234 cases.

In 2016 (compared to 2015) there was a 2.8% increase in the number of deaths due to natural disease, an 18.1% increase in the total number of accidental deaths, a 12.8% decrease in the number of suicides and a 43.5% decrease in the total number of homicides.

Drug-related deaths have been a significant problem over the past several years and hit an all-time high in 2016 (358 deaths). Abuse of prescription medications along with heroin and cocaine continue to be major concerns in Macomb County. In 2016, there were 124 deaths related to heroin (heroin alone or heroin in combinations with other drugs) compared to 113 heroin related deaths in 2015. Although deaths due to synthetic opiates occurred occasionally in previous years, such deaths were a frequent occurrence in 2016. The total number of fentanyl-related deaths (deaths due to fentanyl alone or fentanyl in combination with other drugs) that occurred in 2016 (144) increased over two times from 2015 (51).

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 2016 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

Amanda Coleman, B.A.

Brittney Hella, B.S.M.S.

Veronica Stout

Forensic Investigator

Erick Acre

Anjanette Beaver

Kiara Brooks

Kristen Marshall, B.S.N.

Leanna Parrent

Sean Monticciolo, D-ABMDI

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 an 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 six NAME 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 office/administrative space and the 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.

2016 Budget

Revenues	Expenses
\$ 1,805,369	\$ 1,805,369

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 manmade 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 864,840 residents (2015 U.S. Census Estimate), an increase in population of 2.8% 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 U.S. Census 841,126 Population		2015 Estimate 864,840 Population		Population Growth	Percent Change
White	715,853	85.11%	709,097	81.99%	-0.94%	-3.66%
Black or African American	74,275	8.83%	96,470	11.15%	+29.88%	+26.32%
American Indian and Alaska Native	2,716	0.32%	2,696	0.31%	-0.74%	-3.46%
Asian	25,870	3.08%	32,188	3.72%	+24.42%	+21.01%
Native Hawaiian and Other Pacific Islander	195	0.02%	175	0.02%	-10.26%	-12.72%
Some other race	5,423	0.64%	3,773	0.44%	-30.43%	-32.33%
Two or More Races	16,794	2.00%	20,441	2.36%	21.72%	18.38%
Hispanic or Latino	19,276	2.29%	21,865	2.53%	+13.43%	+10.32%

¹ Source: U.S. Census Bureau, 2010 B020001, 2010 B03003, 2016 B02001, 2016 B03003

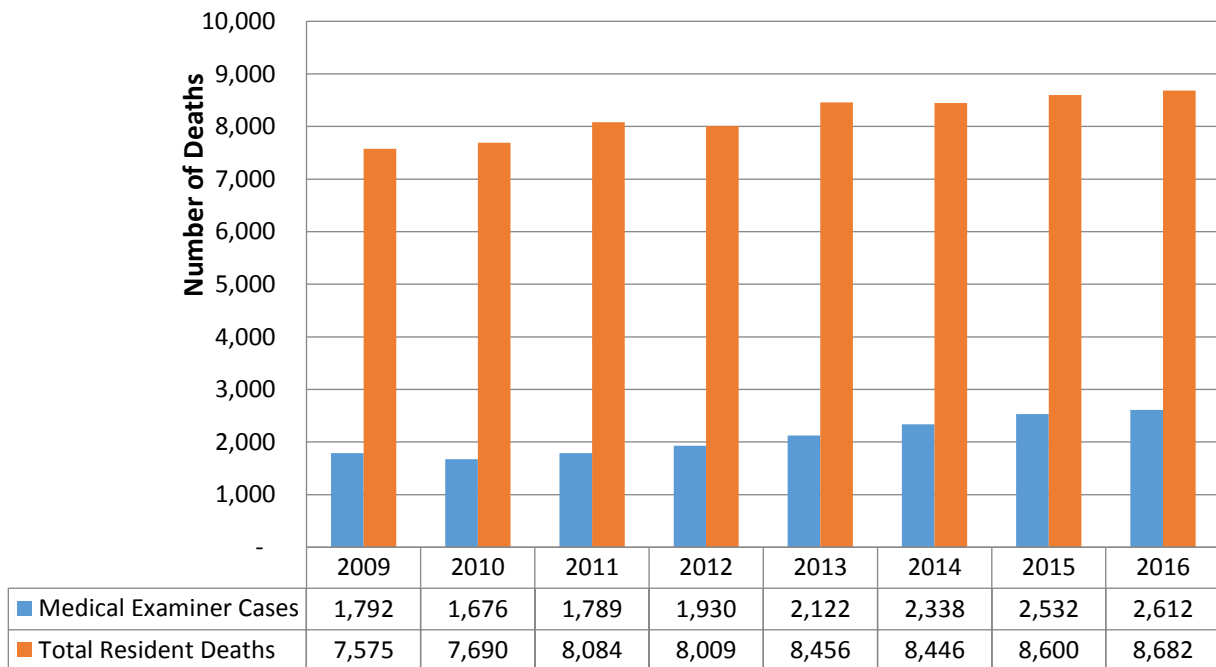
Overview of Cases for 2016

Macomb County Population (2015 estimate)	864,840
Resident Deaths in Macomb County	8,682
Macomb County Medical Examiner Cases	2,612
Forensic Examinations	686

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 2016, the Macomb County Medical Examiner’s Office investigated 30.1% (2,612/8,682) 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, 2009-2016

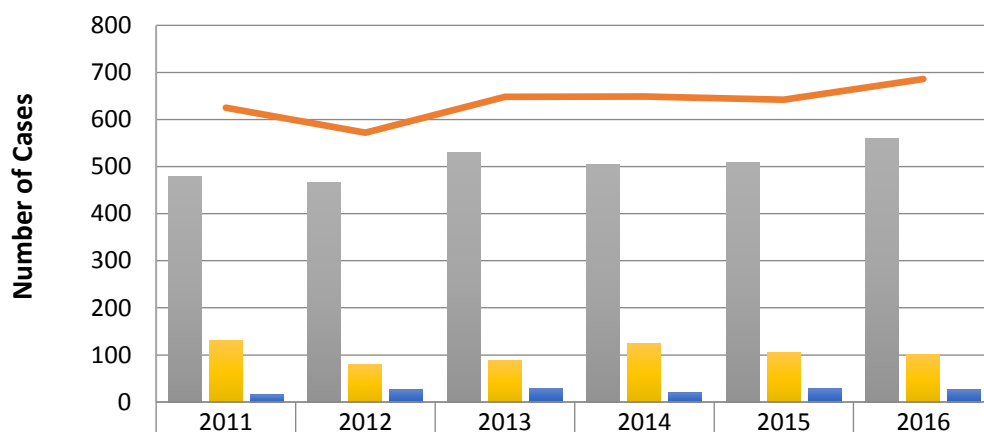


² As the Division for Vital Records & Health Statistics, of Michigan Department of Health & Human Services, have not finalized compiling the 2016 resident deaths, the number (8,682) is still considered provisional at this time.

Forensic Examinations

The total number of forensic examinations includes complete autopsies, limited autopsies and external examinations. In 2016, the Medical Examiner’s Office investigated 2,612 deaths, of which 686 were brought to the office for a forensic examination by a forensic pathologist. Of the 686 forensic examinations, 560 were complete autopsies, 100 were external examinations, and 26 were limited autopsies. There were 676 toxicology assessments performed.

Forensic Examinations 2011-2016



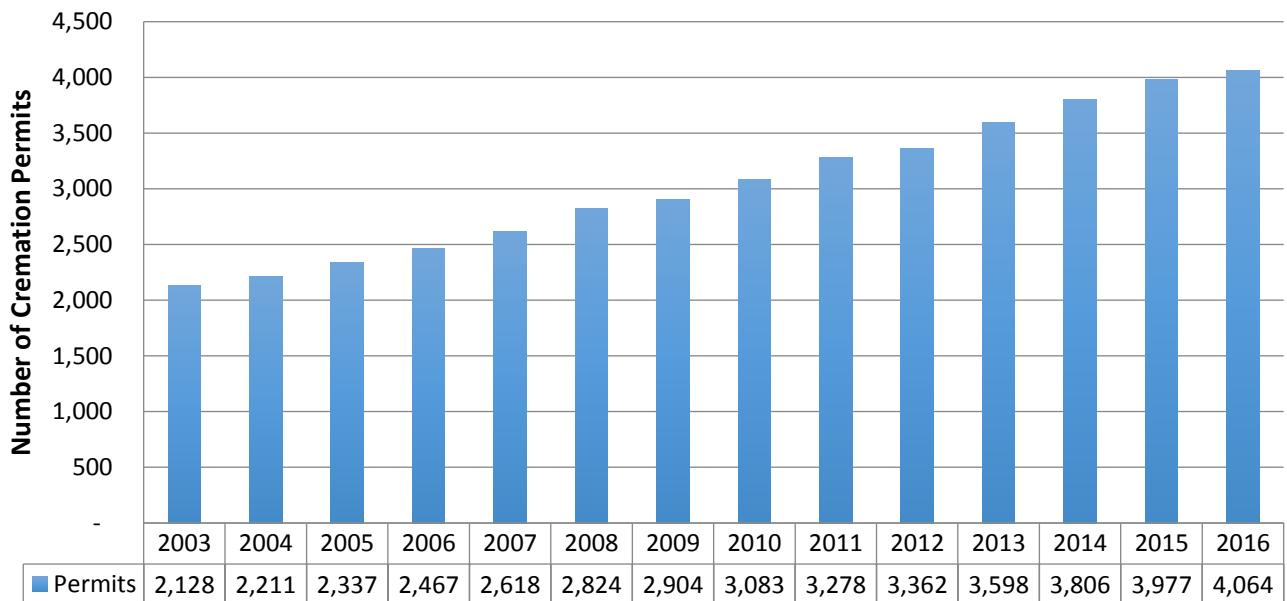
Complete Autopsies	480	466	531	504	509	560
External Examinations	130	80	88	125	105	100
Limited Autopsies	15	26	29	20	28	26
Total Forensic Examinations	625	572	648	649	642	686

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 2016 showed a 2.2% increase from 2015.

Cremation Permit Authorizations by Year, 2003-2016



Overview of Manner of Death

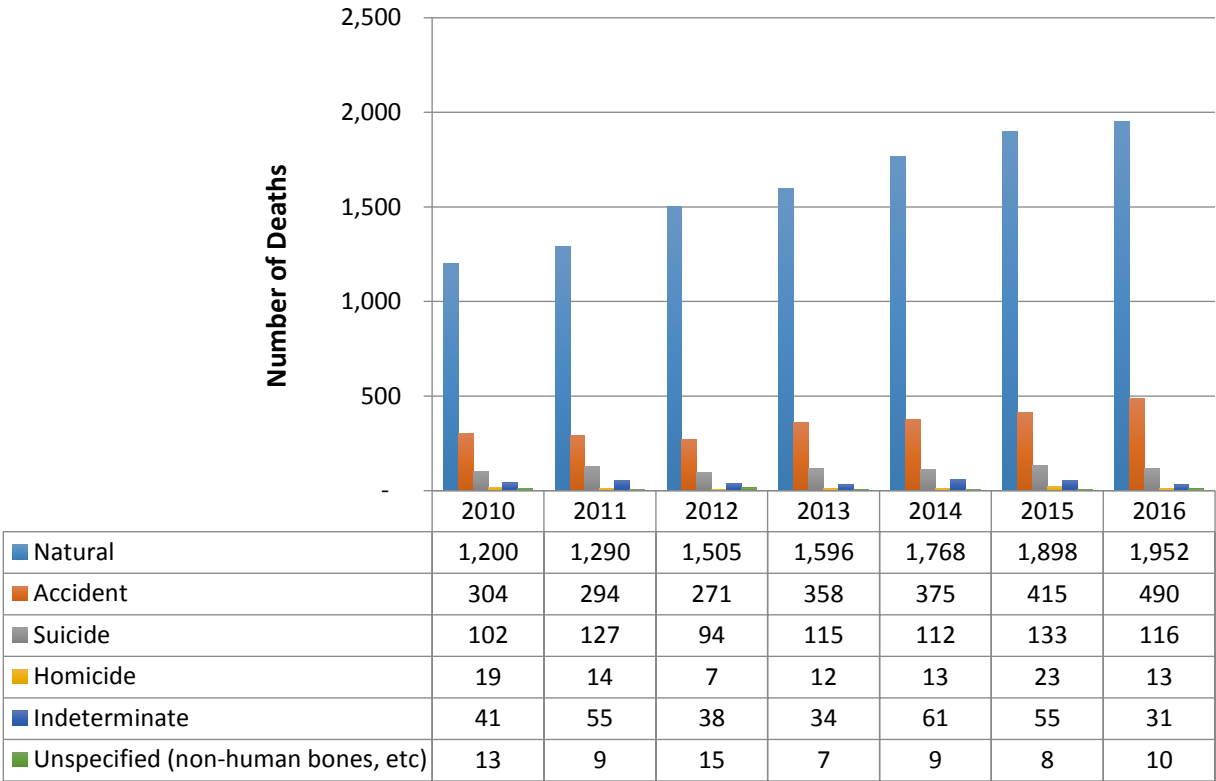
Manner of death is one of the items that must be reported on the death certificate and is a classification of death based on the circumstances, autopsy findings, toxicology results and all available information associated with the death investigation. There are five "manner" classifications: natural, 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	1,952	74.73%
Accident	490	18.76%
Suicide	116	4.44%
Homicide	13	0.50%
Indeterminate	31	1.19%
Unspecified (non-human bones, tissue, etc.)	10	0.38%
TOTAL	2,612	100.00%

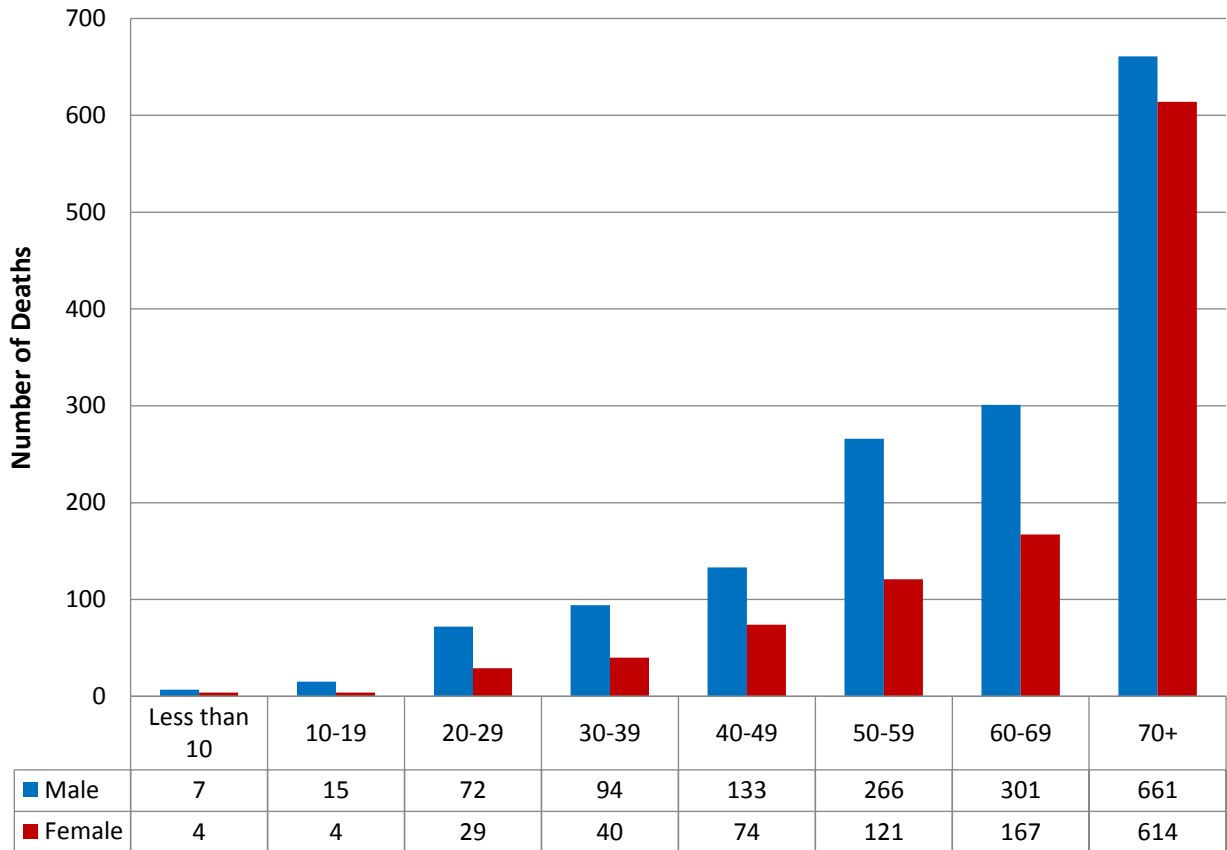
Medical Examiner Cases by Manner of Death, 2010-2016



Cases by Age and Gender

There were a total of 2,612 investigations performed in 2016; of these 1,549 (59.3%) were males, 1,053 (40.3%) were females, and 10 (0.40%) were unknown tissue/non-human bones³.

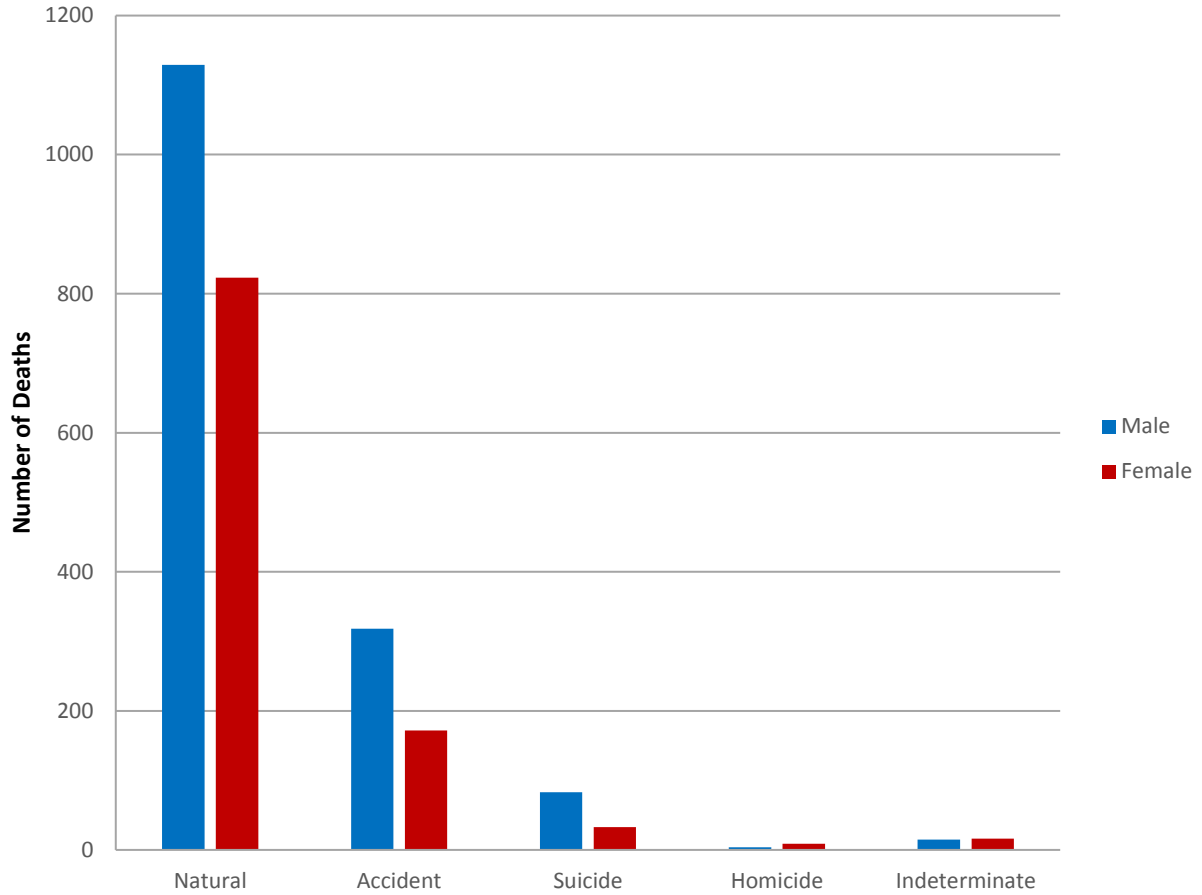
Medical Examiner Deaths by Age and Gender, 2016



Age Group	Male	Female	Bones	Total
0 – 19 Years	22	8	0	30
20 Years and Older	1,527	1,045	0	2,572
Unreported	0	0	10	10
TOTAL	1,549	1,053	10	2,612

³ One of these was a white, female stillborn. It was classified as a tissue due to the lack of birth certificate.

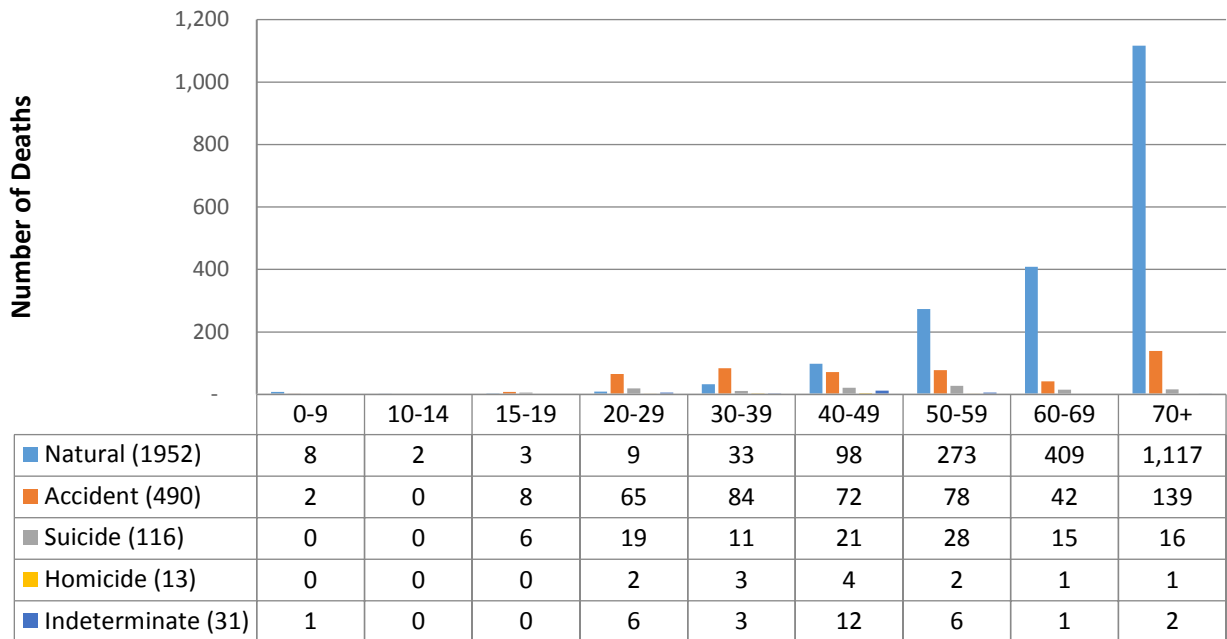
Manner of Death by Manner and Gender, 2016



⁴ From this point on, the graphs and tables will not include the 10 unspecified cases (bones/tissues) because they did not have a manner of death.

Cases by Age and Manner of Death

Manner of Death by Age



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	5	4	9
White	1,386	943	2,329
African American	121	92	213
American Indian	3	3	6
Asian Pacific	11	3	14
Multiracial	11	5	16
Other	12	3	15
TOTAL	1,549	1,053	2,602⁵

⁵ 10 cases were unspecified (e.g., non-human bones, tissues) and did not have a gender or race assigned.

Manner of Death – Natural

Cases by Age and Gender

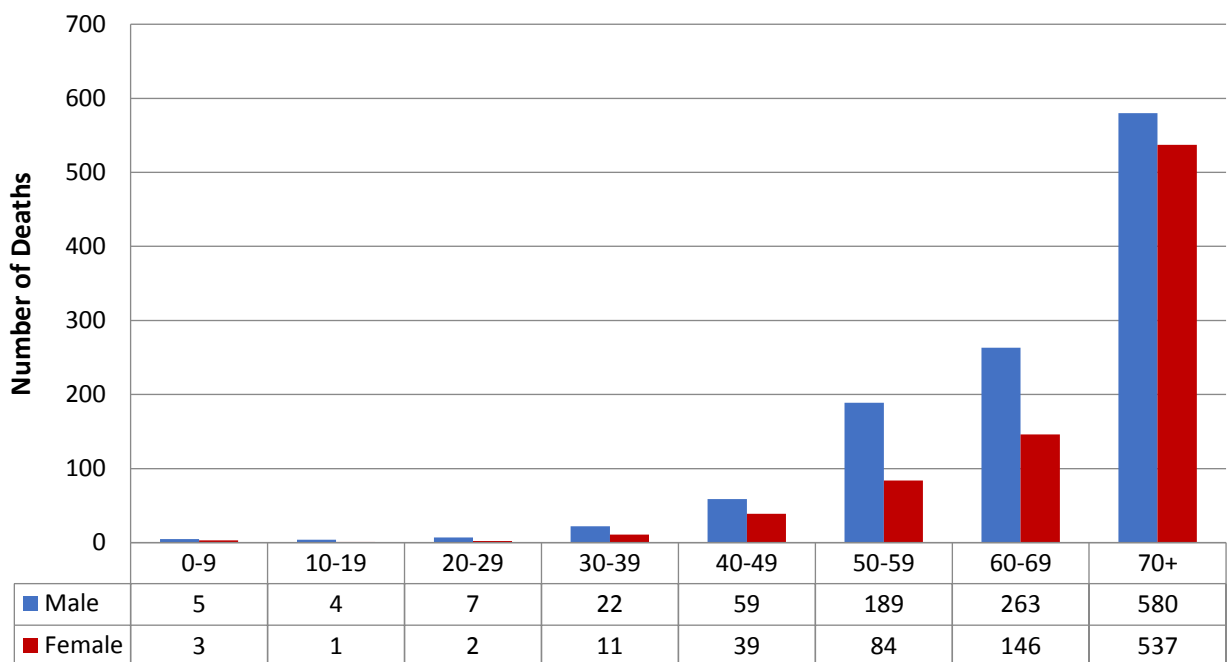
Natural deaths represented 74.7% (1,952/2,612) of all Medical Examiner cases.

Males accounted for 57.8% (1,129/1,952) of the natural deaths; females accounted for 42.2% (823/1,952) of the natural deaths.

The male 70+ age group accounted for 51.4% (580/1,129) of all male natural deaths, while the female 70+ age group accounted for 65.21% (537/823) of all female natural deaths.

The combined male/female 70+ age groups represented 57.2% (1,117/1,952) of the natural deaths.

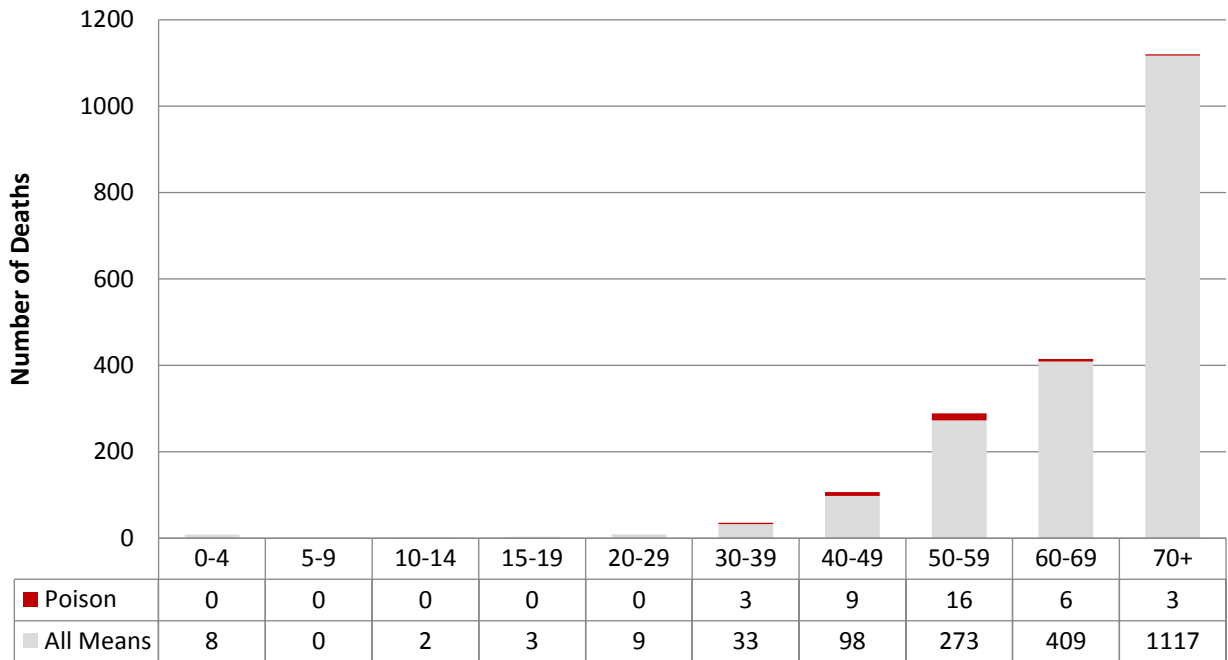
Number of Natural Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	9	4	13	0.67%
20 Years and Older	1,120	819	1,939	99.33%
TOTAL	1,129	823	1,952	100.00%

Cases by Age and Means⁶

Number of Natural Deaths, by Age and Means



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	4	3	7
White	1,006	730	1,736
African American	93	79	172
American Indian	2	1	3
Asian Pacific	6	3	9
Multiracial	8	3	11
Other	10	4	14
TOTAL	1,129	823	1,952

⁶ Some deaths may have multiple Means of Death recorded, and some may have no Means recorded.

Manner of Death – Accident

Accidental deaths represented 18.8% (490/2,612) of all Medical Examiner cases.

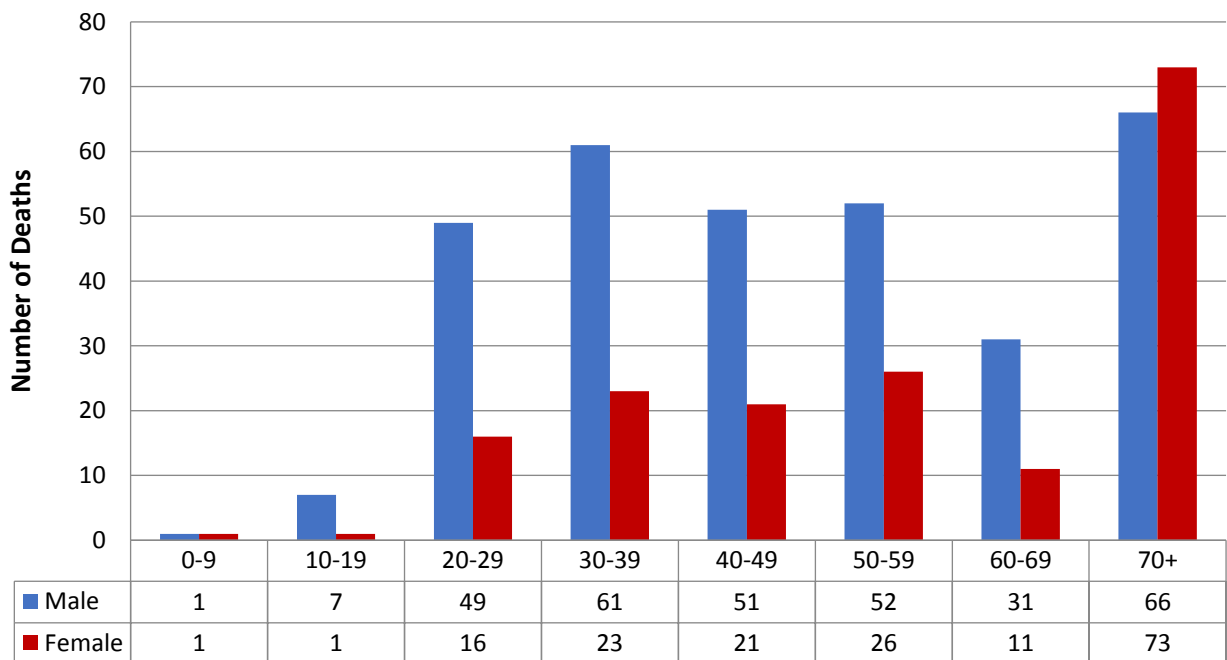
Males accounted for 64.9% (318/490) of the accidental deaths; females accounted for 35.1% (172/490) of the accidental deaths.

The male 70+ age group accounted for 20.8% (66/318) of all male accidental deaths, while the female 70+ age group accounted for 42.4% (73/172) of all female accidental deaths.

The combined male/female 70+ age groups represented 28.4% (139/490) of the accidental deaths.

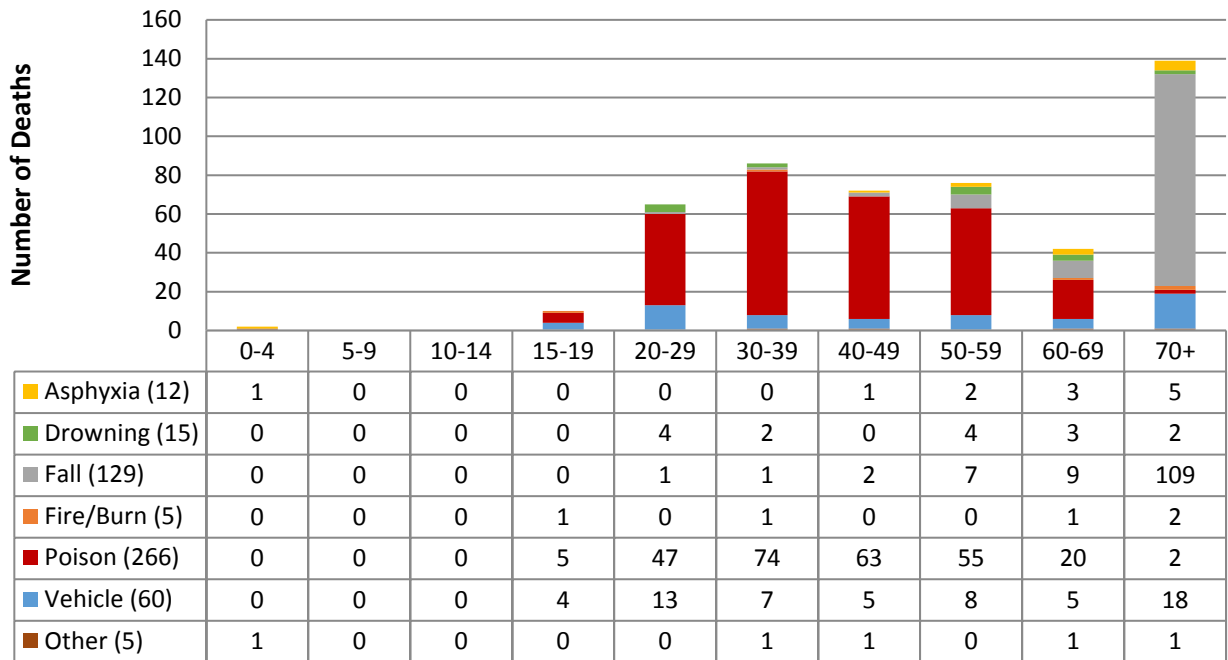
Cases by Age and Gender

Number of Accident Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	8	2	10	2.04%
20 Years and Older	310	170	480	97.96%
TOTAL	318	172	490	100.00%

Number of Accident Deaths, by Age and Means

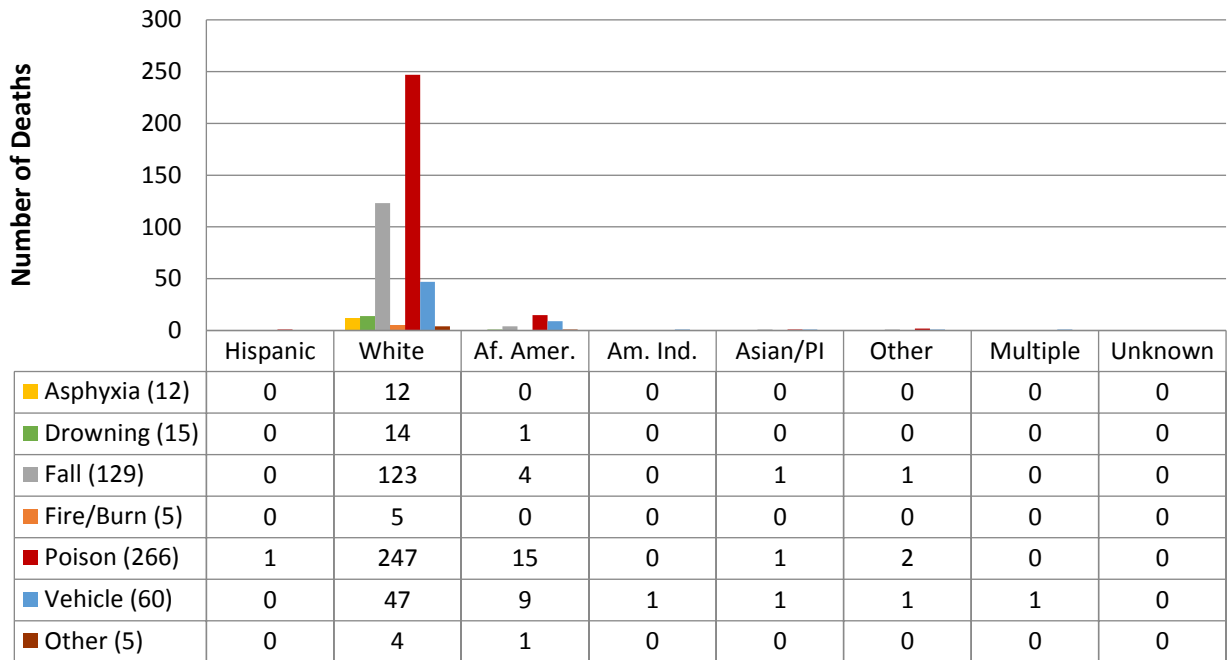


Accidental poisoning accounted for 54.3% (266/490) of all accidental death cases, with the 30-39 age group having the highest percent of all accidental poisoning deaths (74).

Falls accounted for the second highest percentage of accidental deaths at 26.3% (129/490), with the majority of deaths occurring in the 70+ age group (109).

Cases by Race and Means

Number of Accident Deaths, by Race and Means



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	0	1	1
White	287	162	449
African American	23	8	31
American Indian	0	1	1
Asian Pacific	3	0	3
Multiracial	4	0	4
Other	1	0	1
TOTAL	318	172	490

Manner of Death – Suicide

Suicide deaths represented 4.4% (116/2,612) of all Medical Examiner cases.

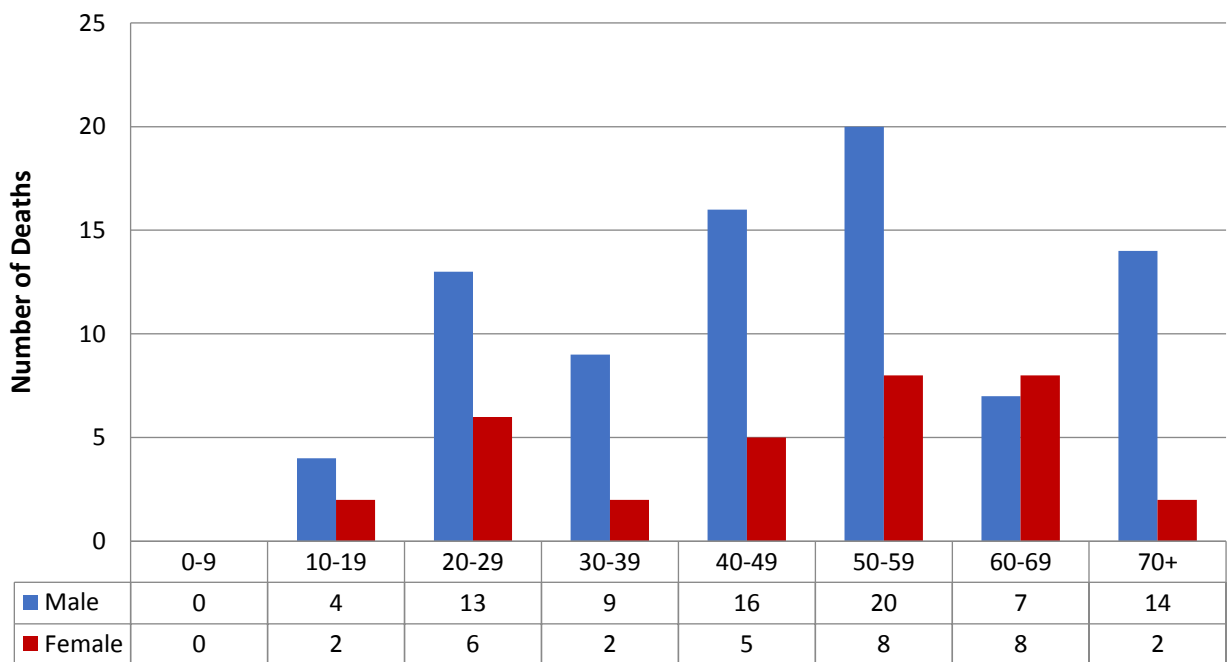
Males accounted for 71.6% (83/116) of the suicide deaths; females accounted for 28.4% (33/116) of the suicide deaths.

The male 50-59 age group accounted for 24.1% (20/83) of all male suicide deaths, while the female 50-59 age group accounted for 24.2% (8/33) of all female suicide deaths.

The combined male/female 50-59 age groups represented 24.1% (28/116) of the suicide deaths.

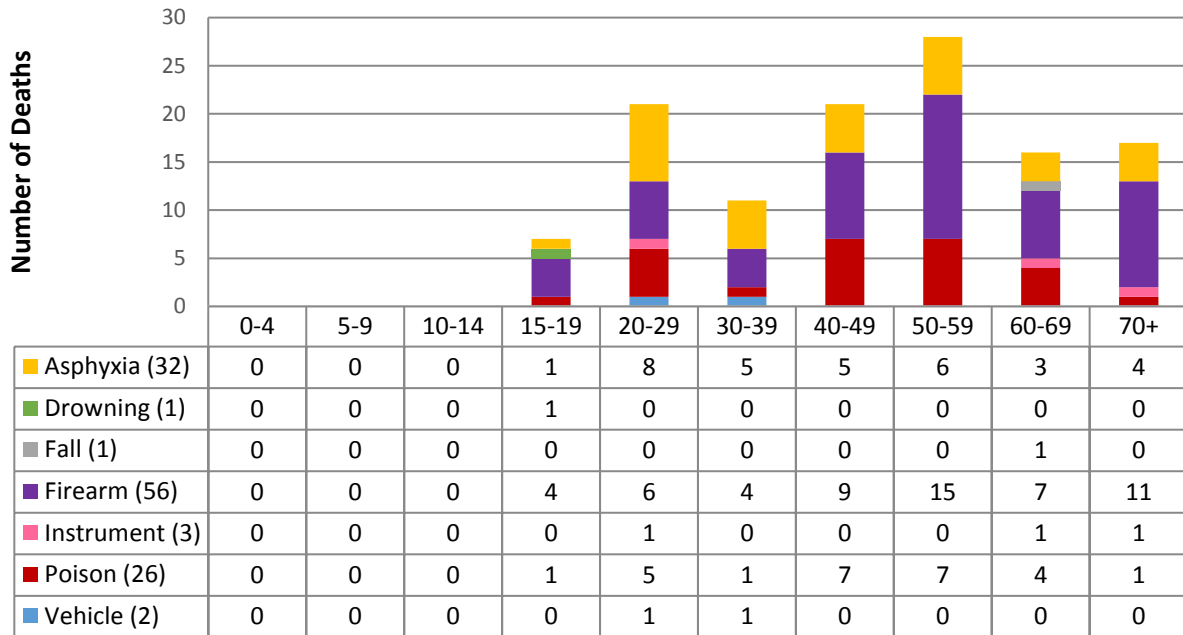
Cases by Age and Gender

Number of Suicide Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	4	2	6	5.17%
20 Years and Older	79	31	110	94.83%
TOTAL	83	33	116	100.00%

Number of Suicide Deaths, by Age and Means



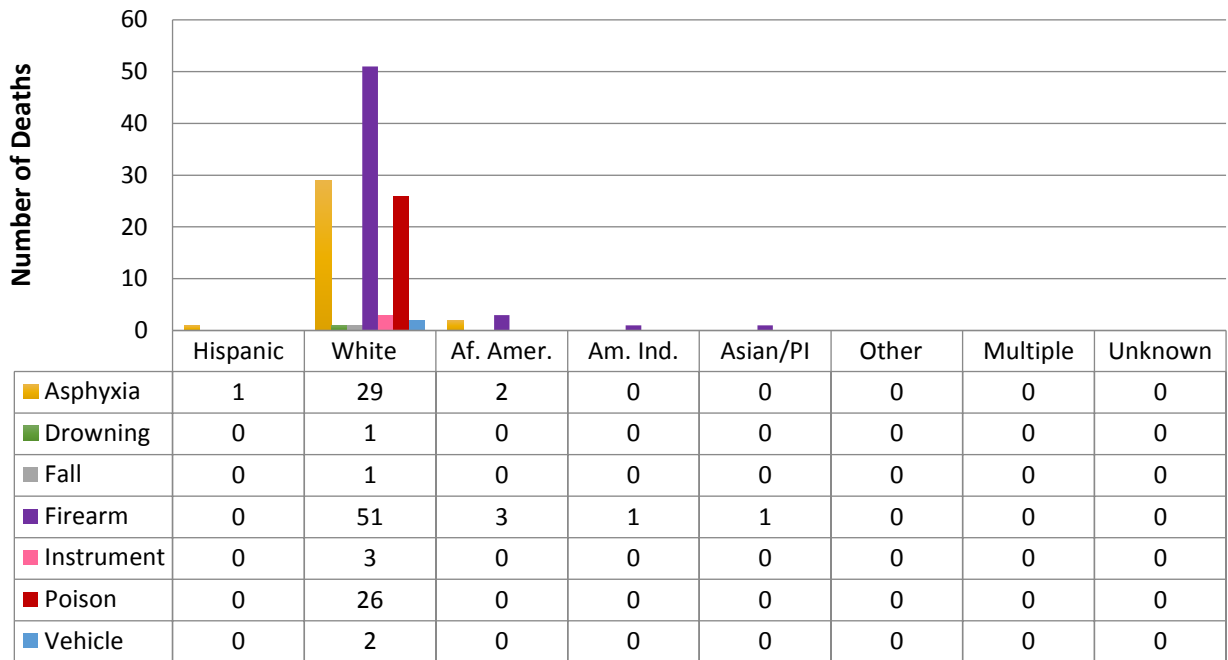
Firearm suicide cases accounted for 48.3% (56/116) of all suicide death cases, with the majority of deaths occurring in the 50-59 age group (15).

Asphyxia accounted for the second highest percentage of suicides at 27.6% (32/116), with the majority of deaths occurring in the 20-29 age group (8).

⁷ Some deaths may have multiple Means of Death recorded, and some may have no Means recorded.

Cases by Race and Means

Number of Suicide Deaths, by Race and Means



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	1	0	1
White	77	31	108
African American	3	2	5
American Indian	1	0	1
Asian Pacific	1	0	1
Multiracial	0	0	0
Other	0	0	0
TOTAL	83	33	116

Manner of Death – Homicide

Homicide deaths represented 0.5% (13/2,612) of all Medical Examiner cases.

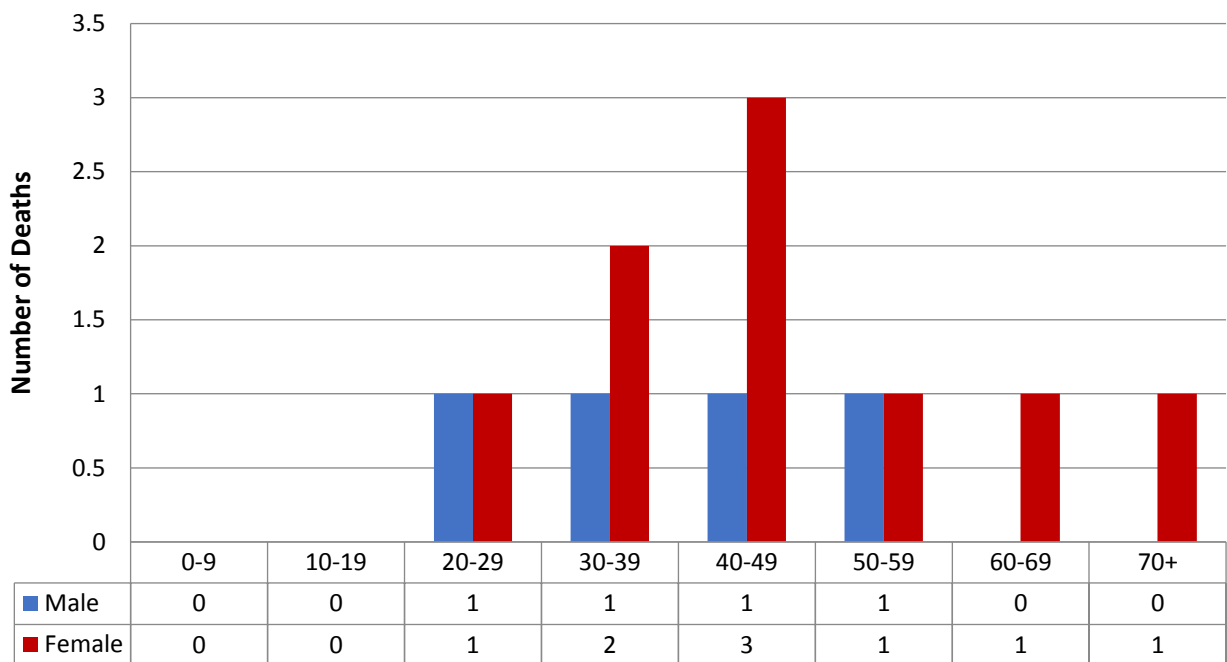
Males accounted for 30.8% (4/13) of the homicide deaths; females accounted for 69.2% (9/13) of the homicide deaths. This represents a 128% increase in proportion of female homicide deaths, as compared to 2015.

The male 40-49 age group accounted for 25.0% (1/4) of all male homicide deaths, while the female 40-49 age group accounted for 33.3% (3/9) of all female homicide deaths.

The combined male/female 40-49 age groups represented 30.8% (4/13) of the homicide deaths.

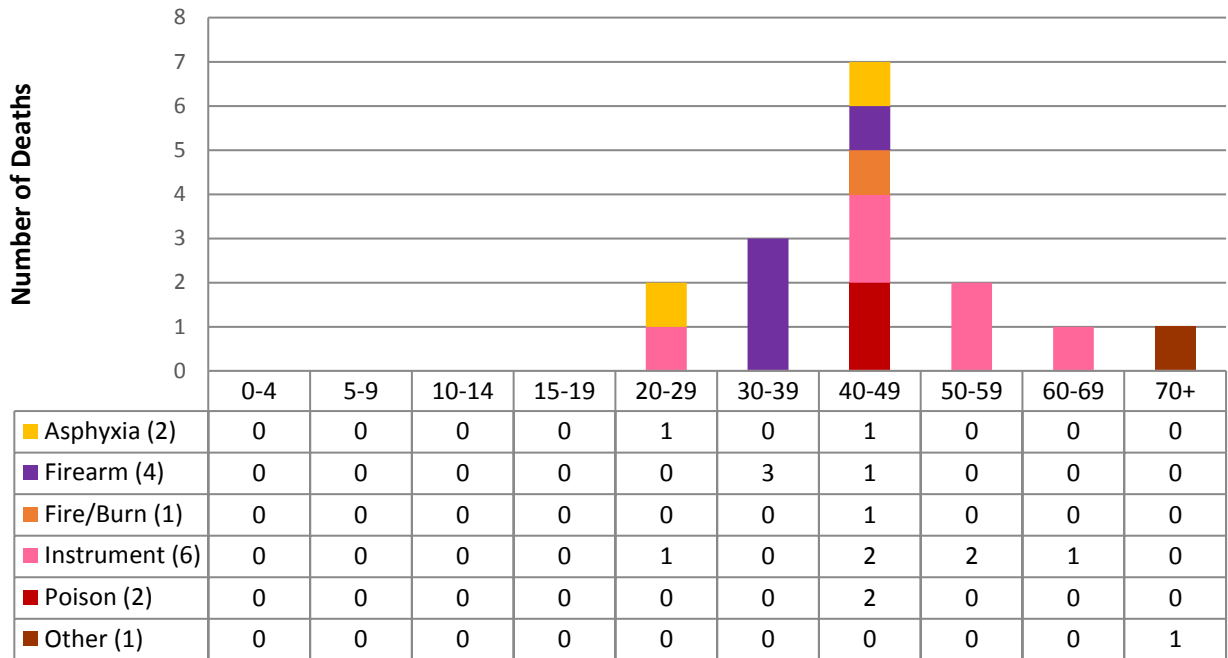
Cases by Age and Gender

Number of Homicide Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	0	0	0	0.00%
20 Years and Older	4	9	13	100.00%
TOTAL	4	9	13	100.00%

Number of Homicide Deaths, by Age and Means



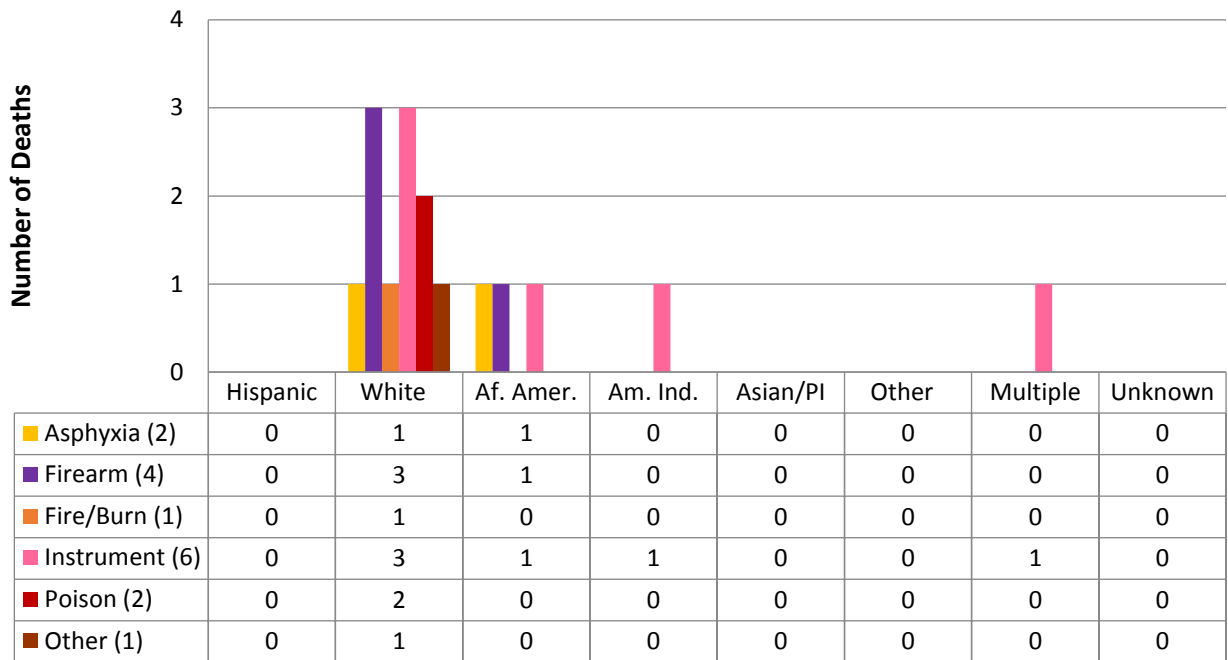
Homicide by instrument accounted for 46.2% (6/13) of all homicide death cases, with the majority of deaths occurring in the 40-49 and 50-59 age groups (2).

Firearms accounted for the second highest percentage of homicides at 30.8% (4/13), with the majority of deaths occurring in the 30-39 age group (3).

⁸ Some deaths may have multiple Means of Death recorded, and some may have no Means recorded.

Cases by Race and Means

Number of Homicide Deaths, by Race and Means



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	0	0	0
White	3	5	8
African American	1	2	3
American Indian	0	1	1
Asian Pacific	0	0	0
Multiracial	0	0	0
Other	0	1	1
TOTAL	4	9	13

Manner of Death – Indeterminate

Indeterminate deaths represented 1.2% (31/2,612) of all Medical Examiner cases.

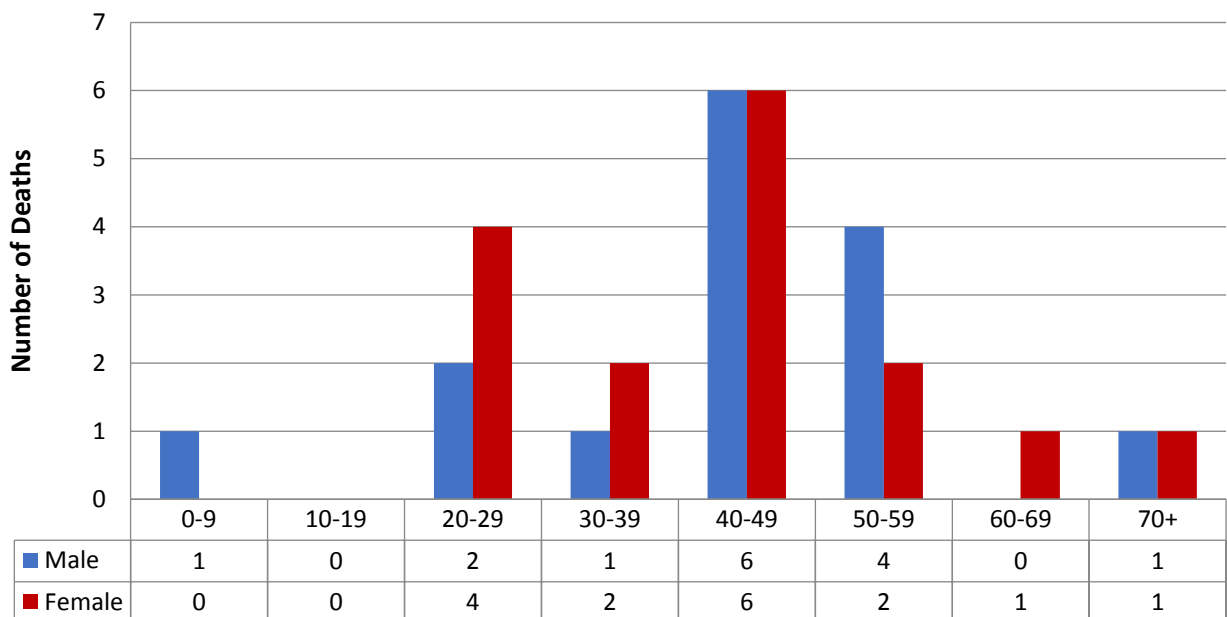
Males accounted for 48.4% (15/31) of the indeterminate deaths; females accounted for 51.6% (16/31) of the indeterminate deaths.

The male 40-49 age group accounted for 40.0% (6/15) of all male indeterminate deaths, while the female 40-49 age group accounted for 37.5% (6/16) of all female indeterminate deaths.

The combined male/female 40-49 age groups represented 38.7% (12/31) of the indeterminate deaths.

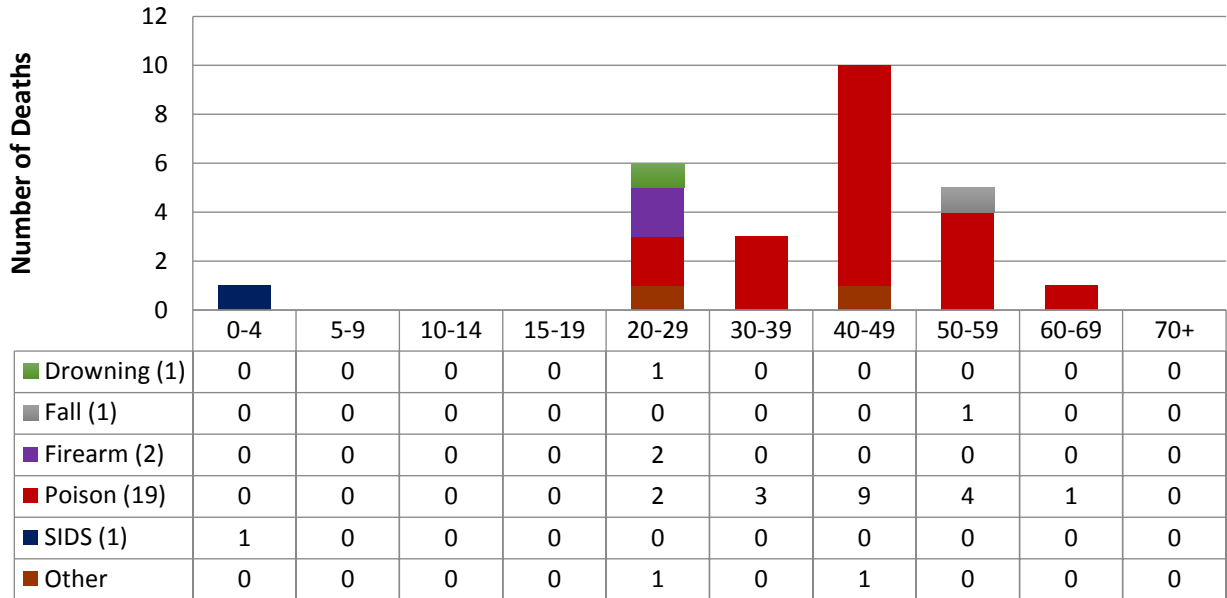
Cases by Age and Gender

Number of Indeterminate Deaths, by Age and Gender



Age Group	Male	Female	Total	Percent
0-19 Years	1	0	1	3.23%
20 Years and Older	14	16	30	96.77%
TOTAL	15	16	31	100.00%

Number of Indeterminate Deaths, by Age and Means



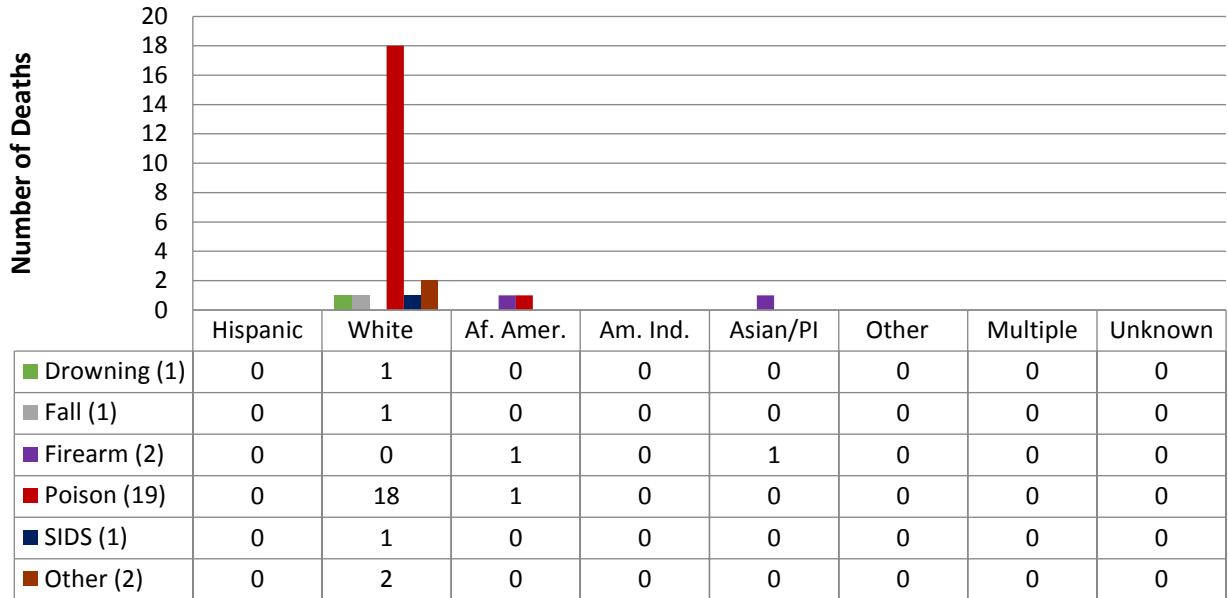
Poisoning cases accounted for 61.3% (19/31) of all indeterminate death cases, with the majority of deaths occurring in the 40-49 age group (9).

Firearm and miscellaneous/other means both accounted for the second highest percentage of indeterminate cases at 6.5% (2/31). All firearm indeterminate deaths occurred in the 20-29 age group (2). The miscellaneous/other deaths occurred in the 20-29 and 40-49 age groups.

⁹ Some deaths may have multiple Means of Death recorded, and some may have no Means recorded.

Cases by Race and Means

Number of Indeterminate Deaths, by Race and Means



Cases by Race and Gender

Race	Male	Female	Total
Hispanic	0	0	0
White	13	15	28
African American	1	1	2
American Indian	0	0	0
Asian Pacific	1	0	1
Multiracial	0	0	0
Other	0	0	0
TOTAL	15	16	31

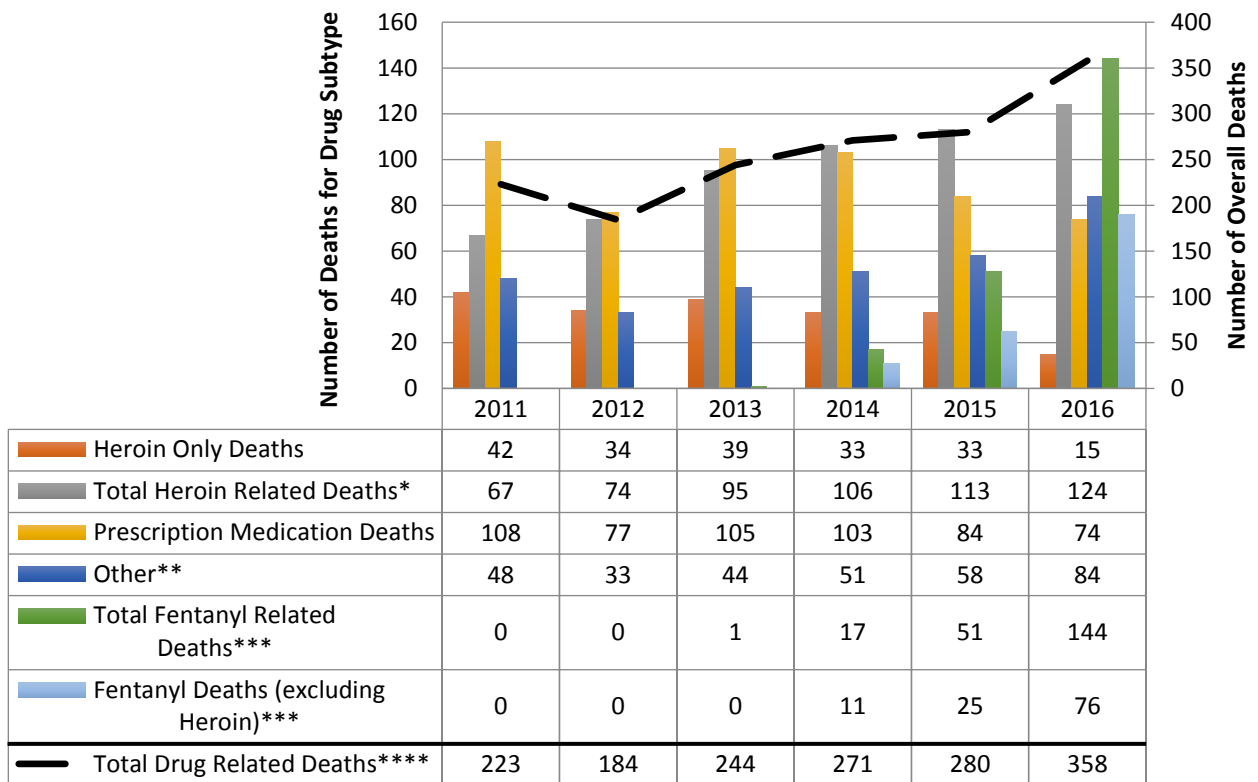
Drug-Related Deaths

Toxicology analysis using various body fluids 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 2016, total drug-related deaths increased by 28%, compared to 2015. Heroin-related deaths increased by 10%¹⁰, whereas fentanyl deaths (excluding heroin) increased by 204%.

Drug Related Deaths, 2011-2016



¹⁰ * 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.

**** Total deaths is the summation of total heroin-related, prescription medication, other, and fentanyl deaths (excluding heroin).