



**OFFICE OF THE
MEDICAL
EXAMINER**

Palm Beach County Medical
Examiner's Office
2018 Annual Report

Table of Contents

Introduction	4
County Demographics.....	5
Workload.....	5
Graph 1: Total ME cases vs. PBC population	5
Manner of Death.....	5
Figure 1: Florida death certificate with manner and cause of death sections	6
Graph 2: Total ME cases by the manner of death	6
Homicides.....	7
Graph 3: Annual homicide totals for 2008-2018	7
Graph 4: Age distribution of homicide victims in 2018	7
Graph 5: Types of homicides in 2017-2018	8
Suicides	8
Graph 6: Annual suicide totals for 2008-2018	8
Graph 7: Age distribution of suicide victims in 2018	9
Graph 8: Types of suicides in 2017-2018	9
Accidents.....	10
Graph 9: Annual accident totals for 2008-2018.....	10
Accidents: Motor Vehicle Fatalities	10
Graph 10: Annual accidental motor vehicle fatality totals for 2008-2018	10
Graph 11: Victims of 2018 Motor Vehicle Fatalities	11
Graph 12: Age Distribution of Motor Vehicle Fatalities in 2018.....	11
Accidents: Drug Overdoses	12
Graph 13: Annual accidental drug overdoses totals for 2008-2018	12
Graph 14: Opioid Drugs in Accidental Drug Deaths, 2018.....	12
Graph 15: Age Distribution of Accidental Drug Overdose Fatalities in 2018.....	13
Accidents: Falls.....	13
Graph 16: Annual fatalities caused by falls totals for 2008-2018.....	14
Deaths with an Undetermined Manner of Death.....	14
Graph 17: Annual undetermined death totals for 2008-2018.....	14
Graph 18: Causes of Death in 2018 Undetermined Manner of Death Cases	15
Natural Deaths	15

Graph 19: Annual natural death totals for 2008-2018	15
Graph 20. Causes of Natural Death Examined by the Medical Examiner in 2018.....	16
Graph 21: Race of Decedents Who Died of Natural Disease and Examined by the Medical Examiner in 2018	16
Deaths in Police Custody.....	17
Graph 22: Annual police custody deaths totals for 2008-2018	17
Infant Deaths.....	18
Graph 23: Annual infant deaths totals for 2008-2018.....	18
Child Deaths	18
Graph 24: Age distribution in children who died in 2018.....	19
Graph 26: Cause of Death in Child Deaths in 2018.....	19
Graph 26: Manner of Death in Child Deaths in 2018.....	20
Frequently Asked Questions (FAQ).....	21

Introduction

According to the Florida Legislature Office of Economic and Demographic Research¹, Palm Beach County is Florida's 3rd most populous county, with 6.9% of Florida's population. In addition to its' year round and seasonal residents, Palm beach County has several million visitors per year. If any person, resident or visitor, dies within Palm Beach County, and the circumstances of the death fulfill the criteria defined by Florida Statute 406.11, they will be referred to the Palm Beach County Medical Examiner Office for investigation of the circumstances.

The Palm Beach County Medical Examiner's Office (PBCMEO), District 15 of the Florida Medical Examiner system, is responsible for determining the cause and manner of death of people who die in Palm Beach County and fulfill the criteria of Florida Statute 406.11². The medical examiner shall "make or have performed such examinations, investigations, and autopsies as he or she shall deem necessary or shall be requested by the state attorney" based on the following criteria of Florida Statute 406.11:

- (a) When any person dies in the state:
 - 1. Of criminal violence
 - 2. By accident
 - 3. By suicide
 - 4. Suddenly, when in apparent good health
 - 5. Unattended by a practicing physician or other recognized practitioner
 - 6. In any prison or penal institution
 - 7. In police custody
 - 8. In any suspicious or unusual circumstance
 - 9. By criminal abortion
 - 10. By poison
 - 11. By disease constituting a threat to public health
 - 12. By disease, injury or toxic agent resulting from employment
- (b) When a dead body is brought into the state without proper medical certification
- (c) When a body is to be cremated, dissected, or buried at sea.

The Palm Beach County Medical Examiner Office is located at 3126 Gun Club Road, in West Palm Beach. This facility includes medical examination areas, evidence and specimen storage areas, tissue procurement area, X-ray facilities, as well as administrative areas and offices. The Office is open during normal business hours and observes Federal holidays.

In 2018, 2896 deaths were reported to the PBCMEO. This included 912 cases investigated and determined to NOT fulfill the criteria of F.S. 406.11. These are called non-medical examiner (non-ME) cases. The PBCMEO reviewed the death certificates of 8292 decedents who were to be cremated to determine if any fulfilled the criteria of F.S. 406.11 and thus become a medical examiner (ME) case. Of those 8292 cremation reviews in 2018, 72 (0.9%) became ME cases because they fulfilled the criteria of F.S. 406.11. The total number of ME cases in 2018 was 1984. The 2018 annual report concentrates on the 1984 medical examiner (ME) cases.

¹ <http://edr.state.fl.us/Content/area-profiles/county/palmbeach.pdf>

² http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0400-0499/0406/Sections/0406.11.html

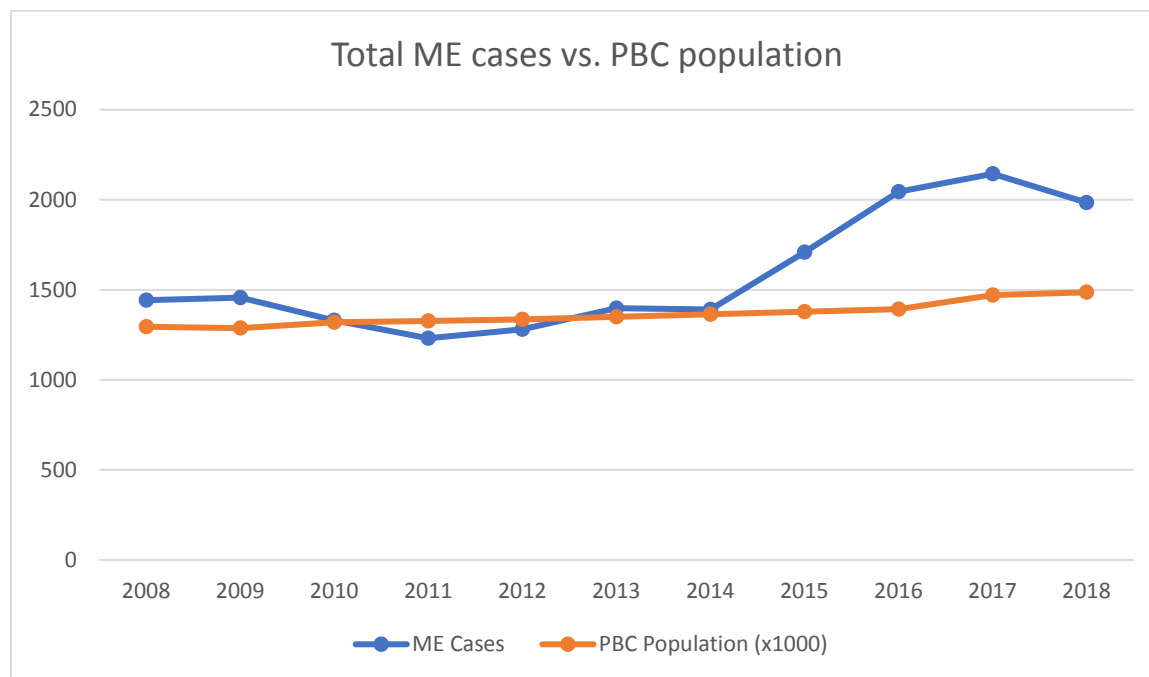
County Demographics

According to the U.S. Census Bureau³, the population of Palm Beach County in 2018 was estimated to be 1,485,941. This is a 12.6 % increase since the 2010 census. 51.5 % of the population is female. Five percent of the population is under 5 years of age, while 23.6 % are over 65 years old. Non-Hispanic white is the most common race (55 %), followed by Hispanic or Latino (22 %), Black (20 %), and Asian (3 %). Foreign born persons made up 25 % of the population. Of those individuals under age 65 years, 17.4 % had no health insurance. The median household income (in 2017 dollars) is \$57,256 with 11.8 % of the population living in poverty. According to the Homeless Coalition⁴, 1,308 individuals and families are homeless on any given day in 2018, an 18.6% increase from 2017.

Workload

Graph 1: Total ME cases vs. PBC population

Graph 1 shows the total number of ME cases from 2008-2018 compared to the population of Palm Beach County over the same time period.



The dramatic increase in the total number of ME cases from 2014 to 2017 is due largely to fatal opioid overdoses. The decrease in total ME cases in 2018 is due to a reduction in opioid fatalities.

Manner of Death

For death certification, each death must be assigned an appropriate manner of death (Figure 1). The assignment of a manner of death is for public health purposes, although other entities (state attorney,

³ <https://www.census.gov/quickfacts/fact/table/palmbeachcountyflorida/PST045216>

⁴ <https://www.homelesscoalitionpbc.org/p/12/facts-and-figures#.WvztOoiUuUk>

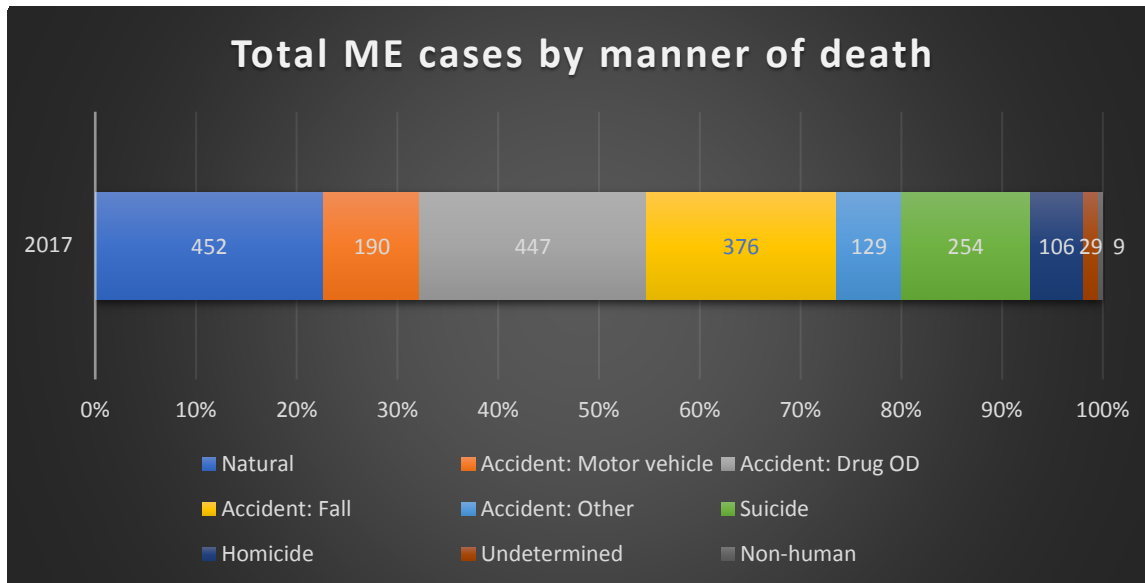
insurance companies, etc.) may use this determination for their own purposes. The manners of death are natural, accident, suicide, homicide, and undetermined. Natural death is one that is entirely caused by a disease without contribution by any injury. If the manner of death cannot be determined because there is more than one reasonable choice, then it is undetermined.

Figure 1: Florida death certificate with manner and cause of death sections

BY: MEDICAL CERTIFIER	39. PROBABLE MANNER OF DEATH <input type="checkbox"/> Natural	The following are under the jurisdiction of the medical examiner: <input type="checkbox"/> Accident <input type="checkbox"/> Suicide <input type="checkbox"/> Homicide <input type="checkbox"/> Pending Investigation <input type="checkbox"/> Undetermined	40. REPORTED TO MEDICAL EXAMINER DUE TO CAUSE OF DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> No
	41. CAUSE OF DEATH - PART I. (See instructions on back) IMMEDIATE CAUSE (Final disease or condition resulting in death) Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST	Enter the <u>chain of events</u> - diseases, injuries, or complications - that directly caused the death. Enter only one cause on a line. DO NOT enter terminal event such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology.	Approximate Interval: Onset to Death
	a. _____		
	b. _____		
	c. _____		
	d. _____		

Graph 2: Total ME cases by the manner of death

Graph 2 shows the proportion of death by the manner of death in 2018. We further break down the accidental deaths into those involving motor vehicles, drug overdoses, falls, and the other types of accidents such as drownings, etc. Finally, we also include non-human remains or archeologic specimens that were examined in 2018.

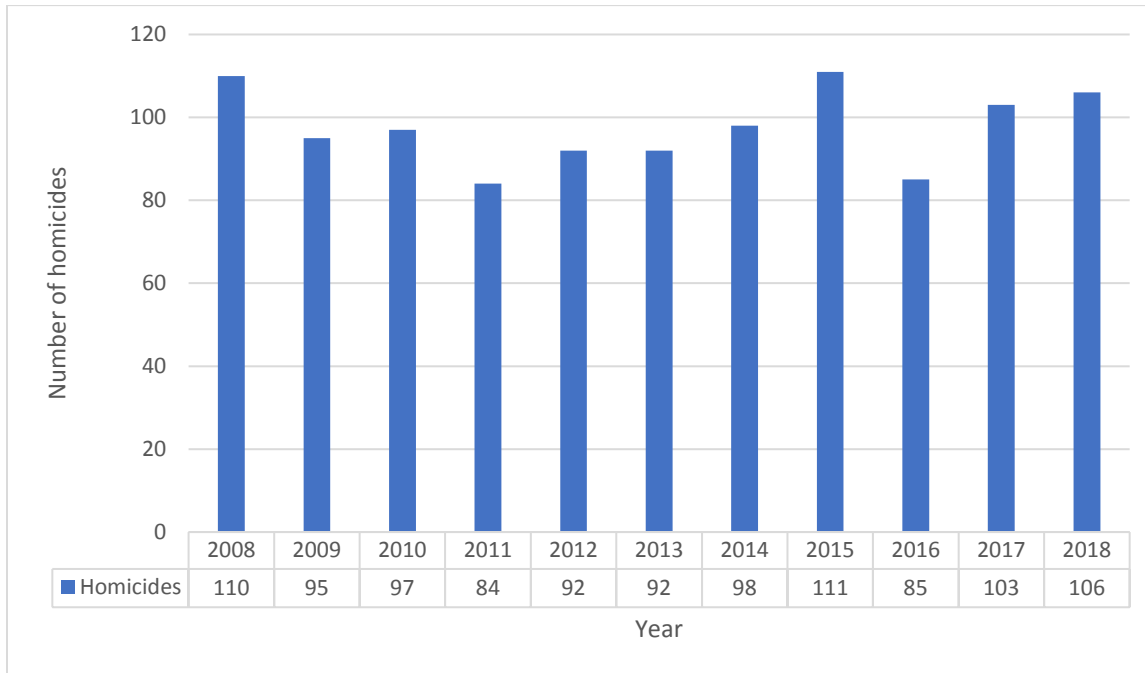


In 2018, the majority (57.5%) of ME cases were accidents, and most of the accidents were fatal drug overdoses (39%). Motor vehicle fatalities constituted 17% of all accidents and falls another 33% of accidents. The majority of fatal falls resulted in head injury and occurred in elders who were often taking anticoagulant medication or “blood thinners.” In 2018, 5% of ME cases were homicides, and 13% were suicides.

Homicides

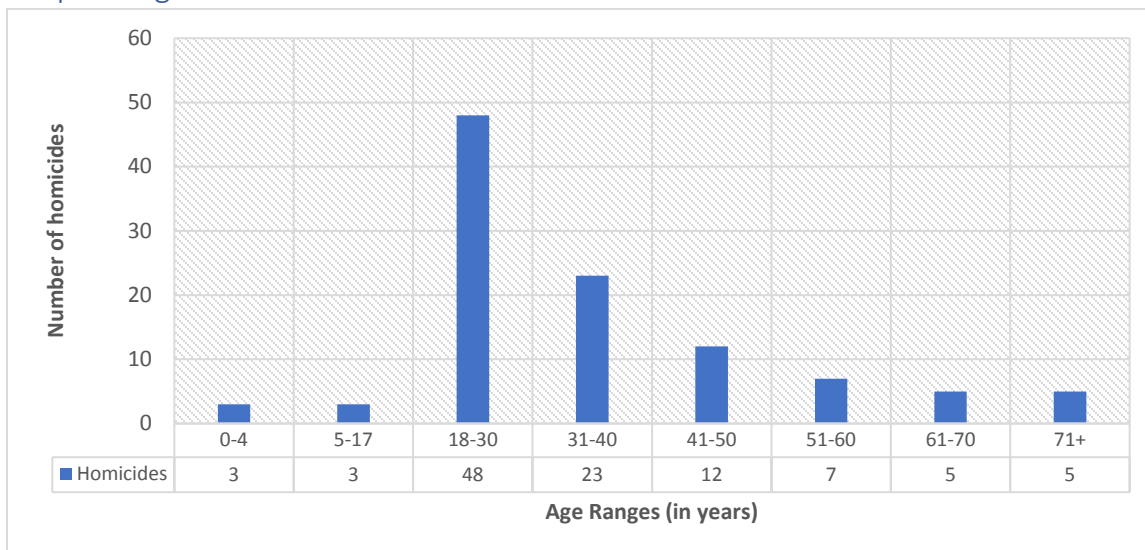
For death certification, homicide is defined as death at the hands of another person. Homicide determination is not a legal decision. The state attorney and investigative law enforcement agency will determine if and what criminal charges will be brought forth, not the medical examiner.

Graph 3: Annual homicide totals for 2008-2018



The average annual number of homicides for the last eleven years is 98. In 2018, there were 8 more homicides than the annual average. The male: female ratio for homicide victims in 2018 was 4.6: 1. Most 2018 homicide victims were blacks (60), followed by whites (23) and Hispanic/Latino (13). The average age in homicide victims was 35 years and the age distribution of homicide victims is seen in graph 4.

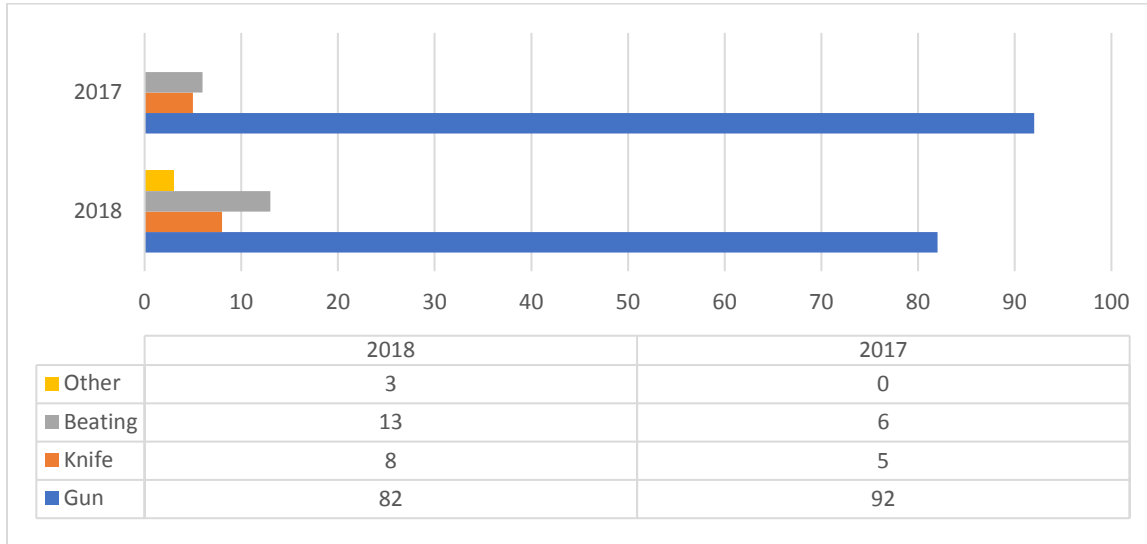
Graph 4: Age distribution of homicide victims in 2018



The most common means or instrument of death in the 2018 homicides was the gun, as seen in graph 5.

Guns far exceeded stabbings or beatings as the means to kill another person in 2018. It may be surprising to some that no strangulations, suffocations, poisonings, or drownings were used to kill another person in 2018. Guns are much more efficient killing instruments that do not require proximity, intimacy, or subterfuge to accomplish the task.

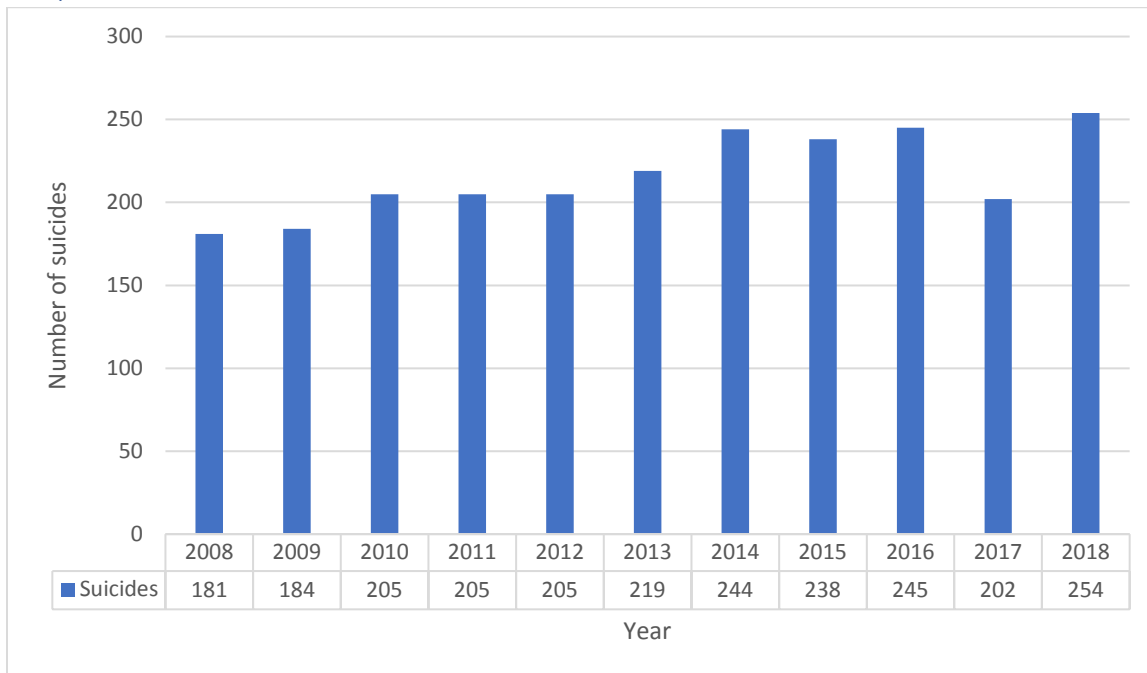
Graph 5: Types of homicides in 2017-2018



Suicides

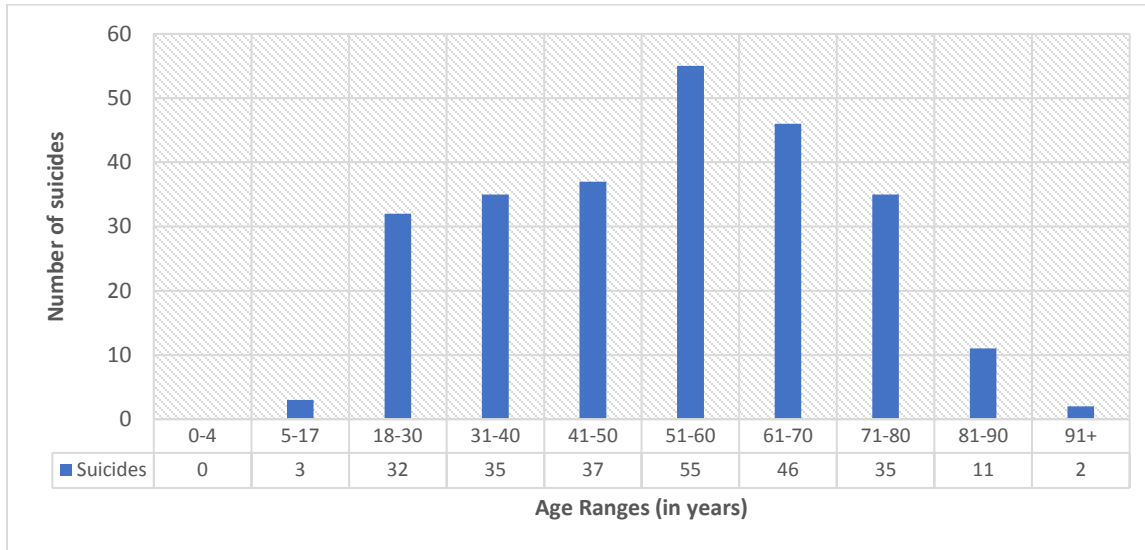
For death certification, suicide is defined as death at one's own hands.

Graph 6: Annual suicide totals for 2008-2018



The average annual number of suicides for the last eleven years is 217. In 2018, there were 37 more suicides than the annual average. The male: female ratio for suicide victims in 2018 was 4:1. Most 2018 suicide victims were white (224), followed by black (16), Hispanic/Latino (11) and Asian (3). The average age of a suicide victim is 53 years. The age distribution of suicide victims is seen in graph 7.

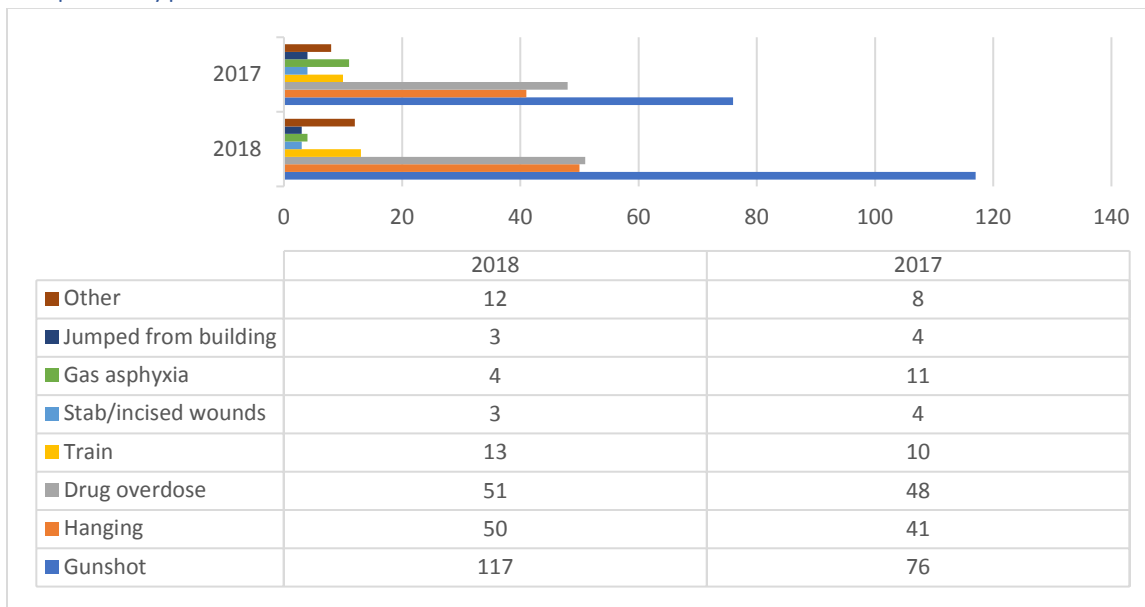
Graph 7: Age distribution of suicide victims in 2018



The most common means or instrument of death in the 2018 suicides was the gun, as seen in graph 8.

In 2018, guns exceeded drugs and hanging as the preferred means to kill yourself. Gas asphyxia included three people who died from carbon monoxide poisoning (usually car exhaust) and one who used hydrogen sulfide gas. The other types of suicide included motor vehicles (2), drowning (3), immolation by gasoline (1), insulin overdose (1), tracheostomy tube removal (1) and a plastic bag over their head alone or in combination with drugs (4).

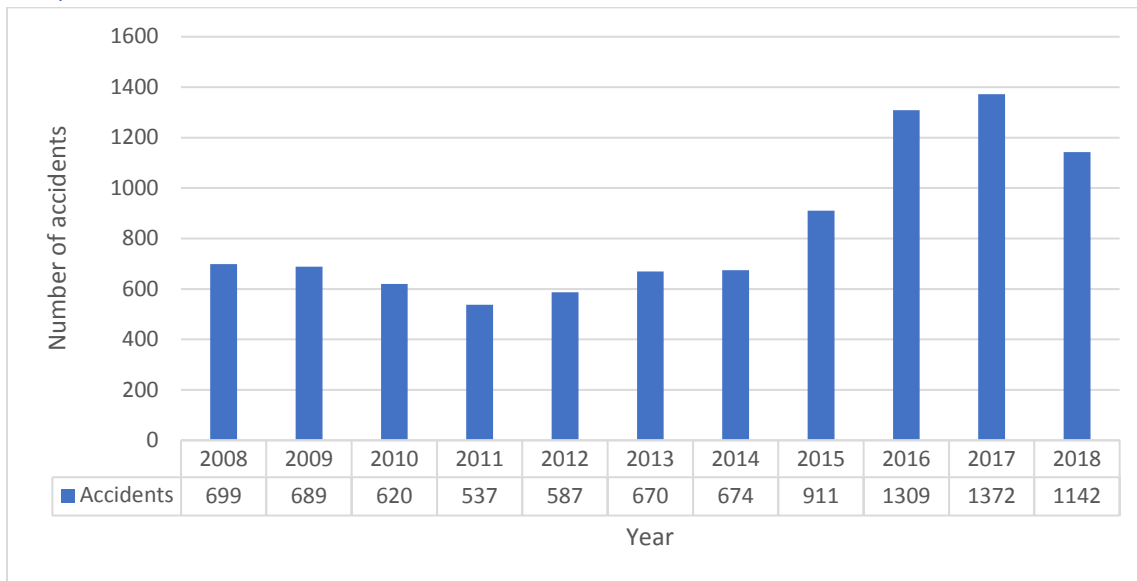
Graph 8: Types of suicides in 2017-2018



Accidents

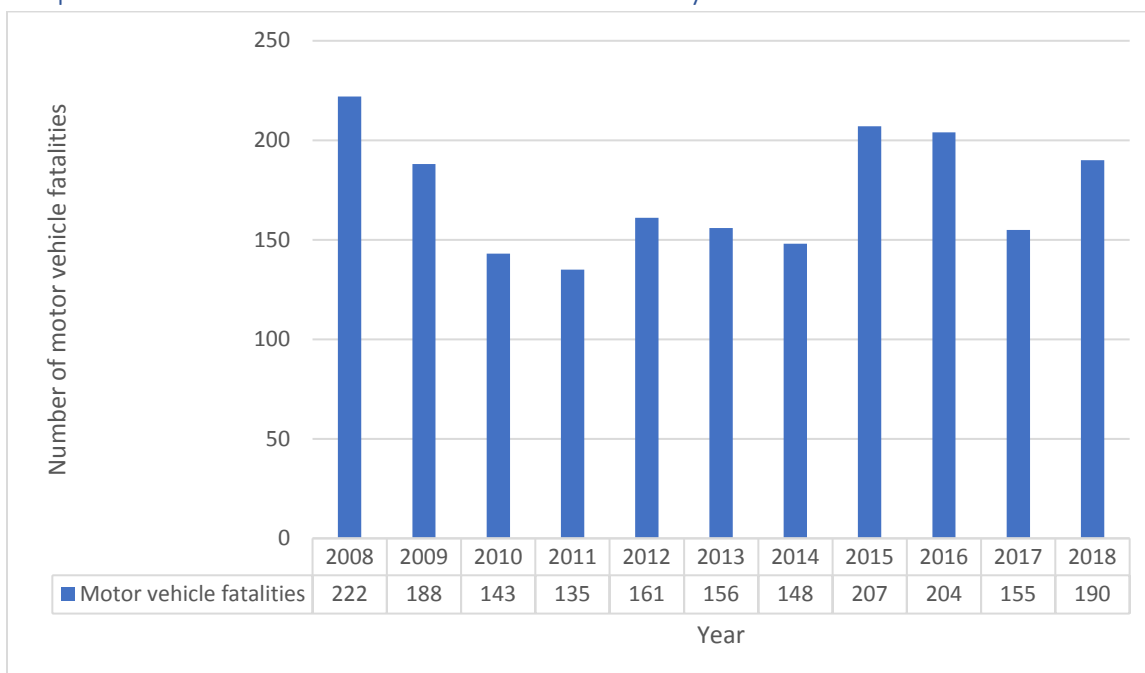
Accidents are deaths that result from an unintentional injury. In this report, we further break down the accidents into three large subgroups: deaths from motor vehicle collisions, drug overdoses, and falls. These subgroups are examined in greater detail later. In graph 9, the marked increase in accidental deaths from 2014 to 2017 is due to the rise in drug, predominantly opioid fatalities. The decrease in opioid deaths causes the decrease in accidents in 2018.

Graph 9: Annual accident totals for 2008-2018



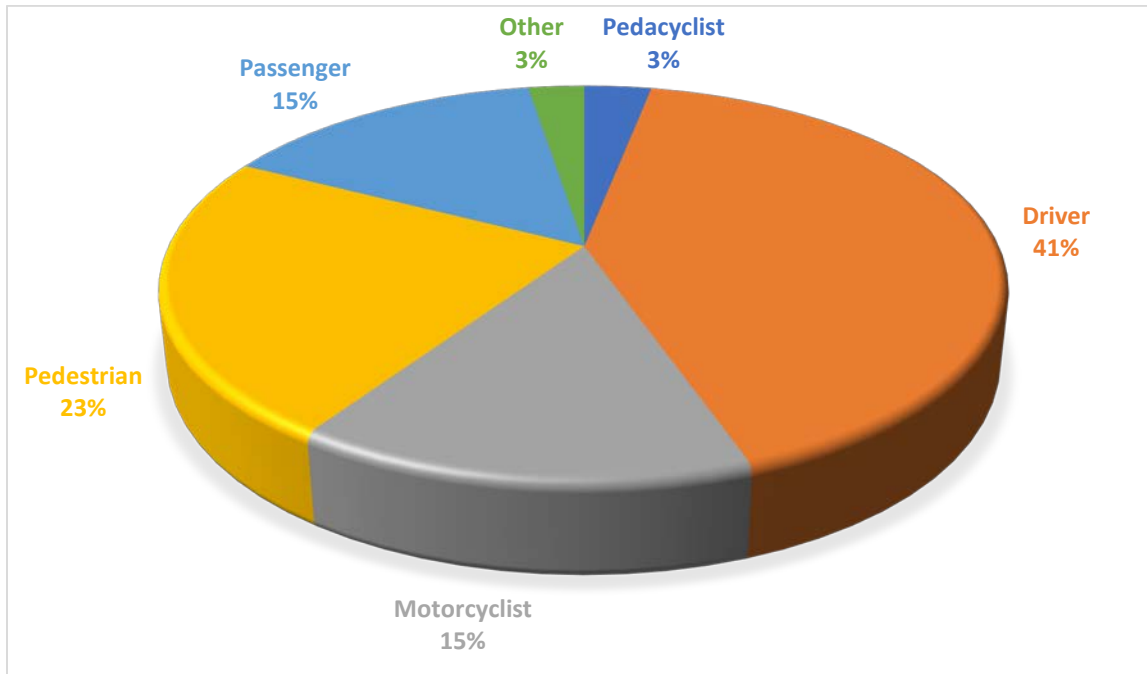
Accidents: Motor Vehicle Fatalities

Graph 10: Annual accidental motor vehicle fatality totals for 2008-2018

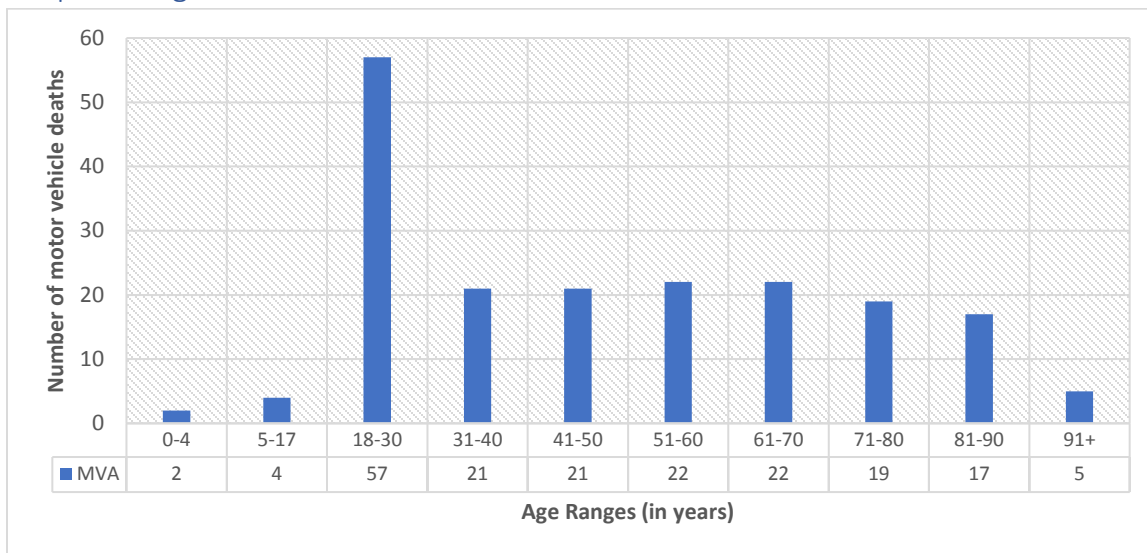


There were 190 accidental motor vehicle fatalities in Palm Beach County for 2018. Graph 10 shows the annual number of motor vehicle deaths from 2008 to 2018. In 2018, 41% of those killed in motor vehicle collisions were driving a car or truck. The remaining victims' percentages are seen in Graph 11. In 2018, men were 2.9 times more likely to accidentally die in a motor vehicle collision than women. Whites were 1.5 times more likely to accidentally die in a motor vehicle crash than blacks or Hispanics. The average age of the victims was 48 years old. The age distribution by decades is seen in graph 12.

Graph 11: Victims of 2018 Motor Vehicle Fatalities



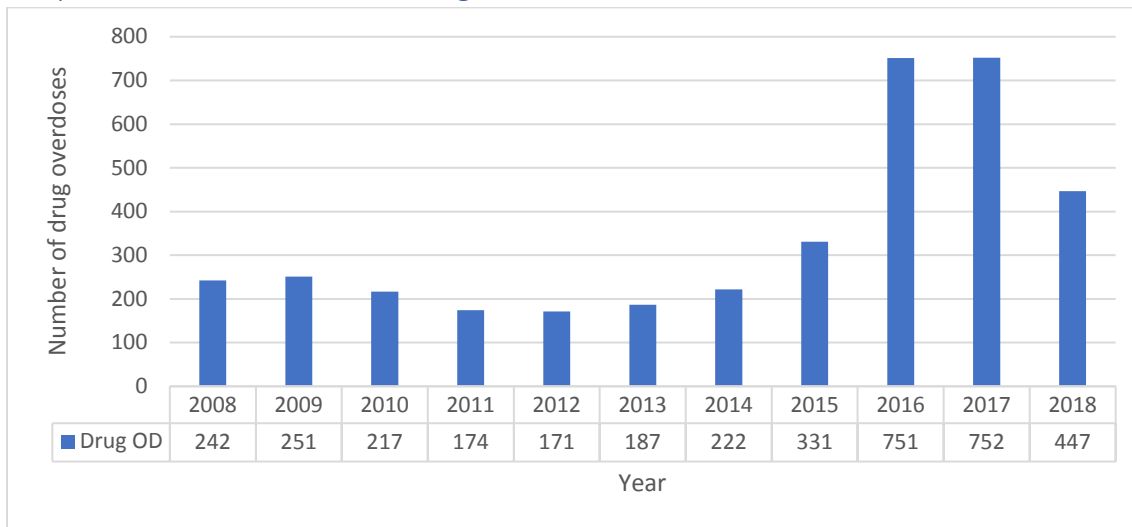
Graph 12: Age Distribution of Motor Vehicle Fatalities in 2018



Accidents: Drug Overdoses

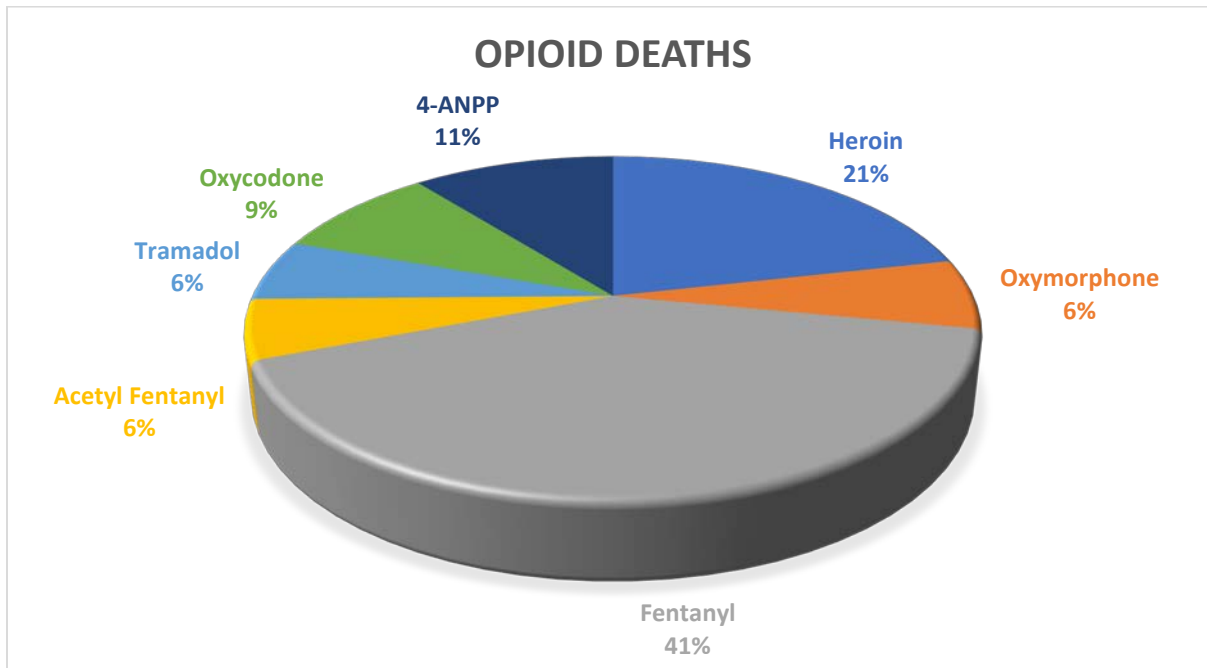
If a drug or drugs accidentally caused or contributed to the death of a person, then this was counted as an accidental drug death. Alcohol is considered a drug along with illicit (i.e., heroin, cocaine), prescription, and non-prescription medications. Opioids are a subset of both illicit (i.e., heroin) and prescription medications (i.e., oxycodone). Suicidal drug overdoses are not included in these graphs as well as those drug overdoses in which the manner of death was undetermined.

Graph 13: Annual accidental drug overdoses totals for 2008-2018



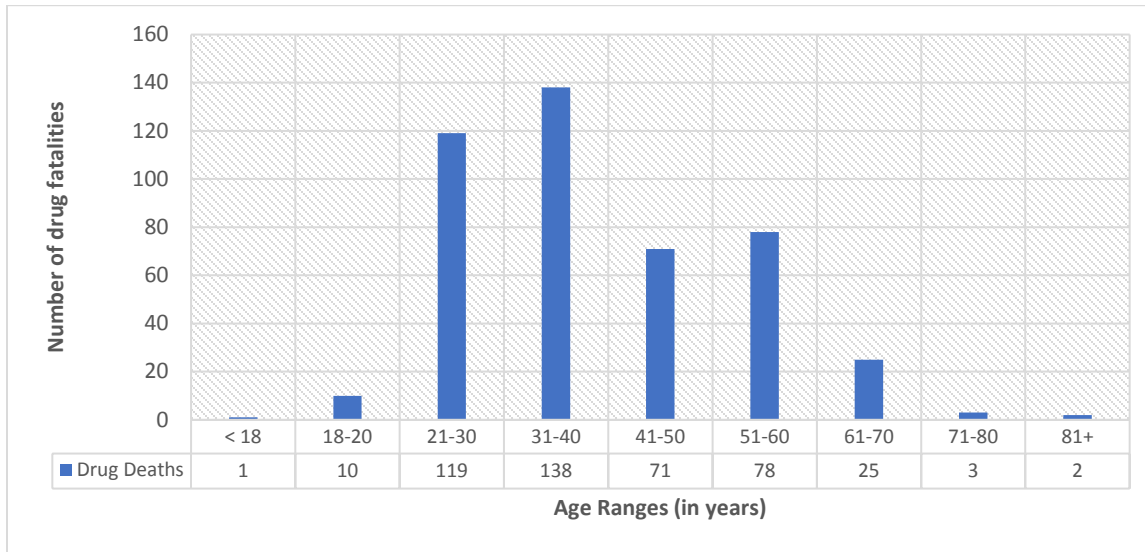
In 2018, there were 447 accidental drug fatalities, of which 383 involved one or more opioid drugs. The relative percentage of opioid drugs causing or contributing to the 383 drug fatalities in 2018 is seen in graph 14.

Graph 14: Opioid Drugs in Accidental Drug Deaths, 2018



Fentanyl and its analogs (acetyl fentanyl and 4-ANPP) far exceeded the other opiates (such as heroin and oxycodone) in their capacity to kill. In 2018, the average age of accidental drug fatality victims was 40 years old. The age distribution of those dying from an accidental drug overdose is seen in graph 15. The victims were predominantly men (2.5:1 men:women) and whites were seven times more likely to die of an accidental drug overdose than all other races.

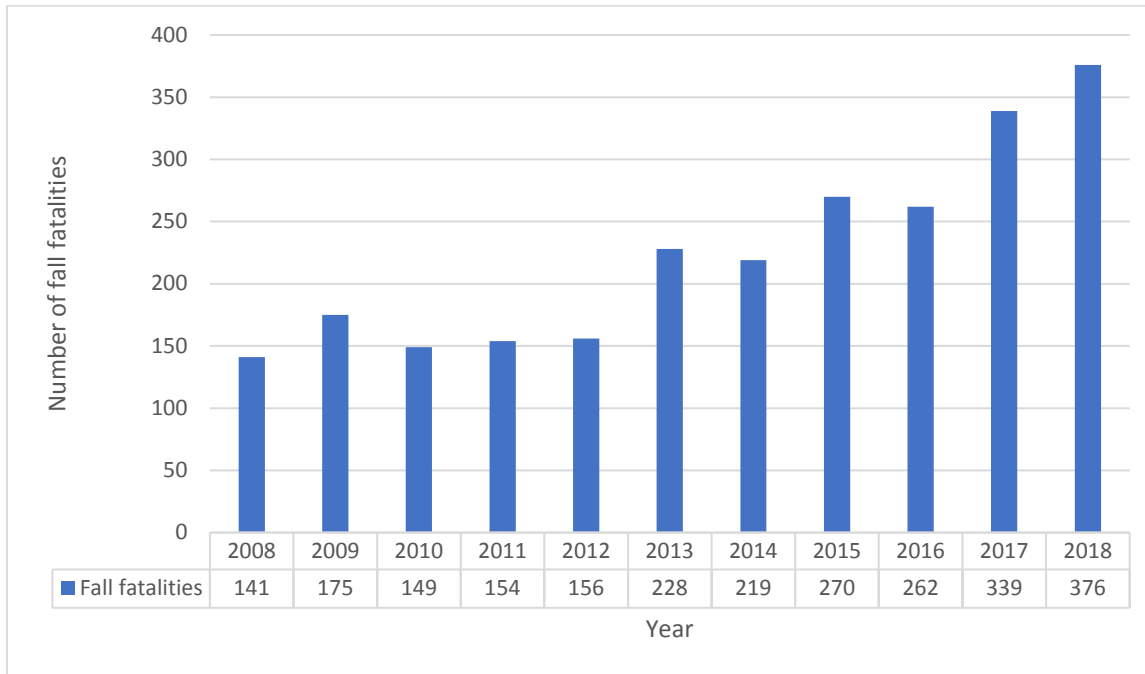
Graph 15: Age Distribution of Accidental Drug Overdose Fatalities in 2018



Accidents: Falls

Fatal falls continue to rise over recent years as seen in graph 16, but unlike drug fatalities, shows no abatement. The vast majority of these deaths occur in unstable elders who fall from a standing position. Women often have osteoporosis and are more likely to fracture their hip. Men with heart disease who are treated with anticoagulants are more likely to struck their head leading to fatal brain hemorrhage.

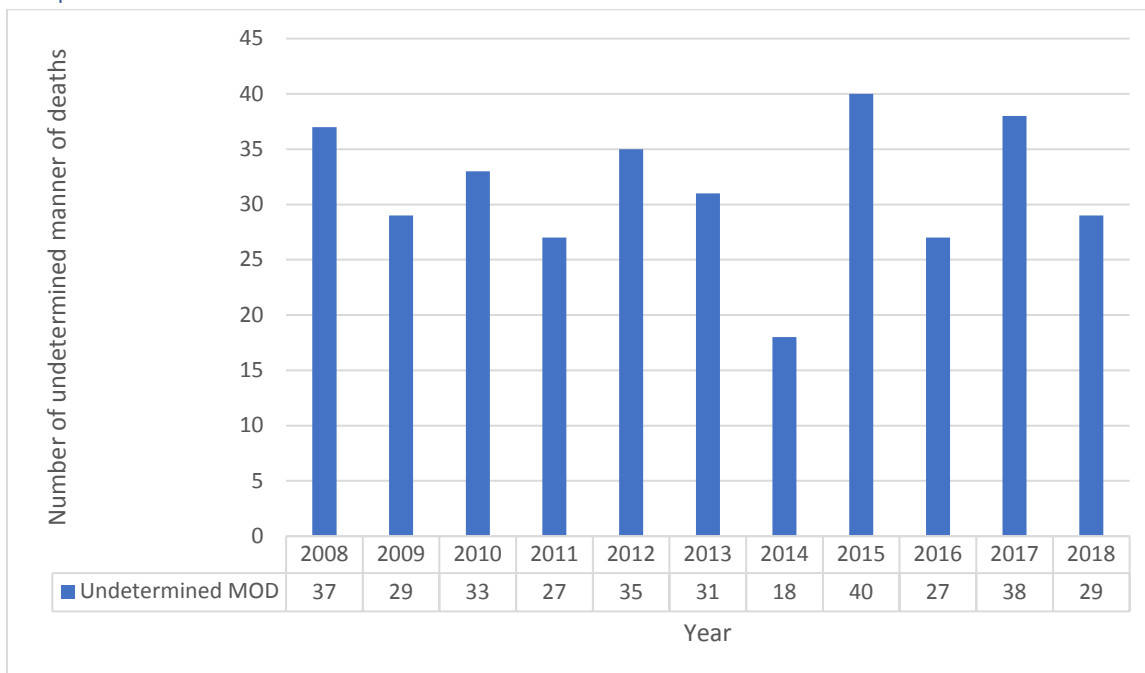
Graph 16: Annual fatalities caused by falls totals for 2008-2018



Deaths with an Undetermined Manner of Death

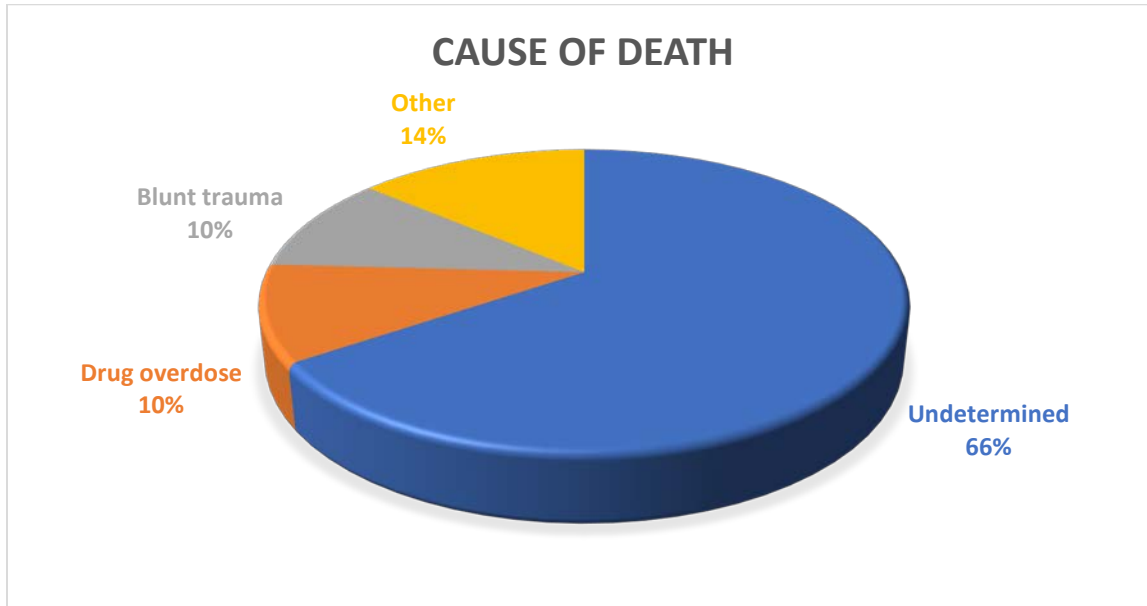
The manner of death is how the death came about and is for death certification and public health purposes. The manners of death are natural, accident, suicide, homicide, and undetermined. If the manner of death cannot be determined because there is more than one reasonable choice, then it is undetermined. The annual number of deaths with an undetermined manner from 2008 to 2018 is seen in graph 17.

Graph 17: Annual undetermined death totals for 2008-2018



In 2018, there were 29 deaths in which the manner of death could not be determined. The causes of death in these cases are seen in graph 18.

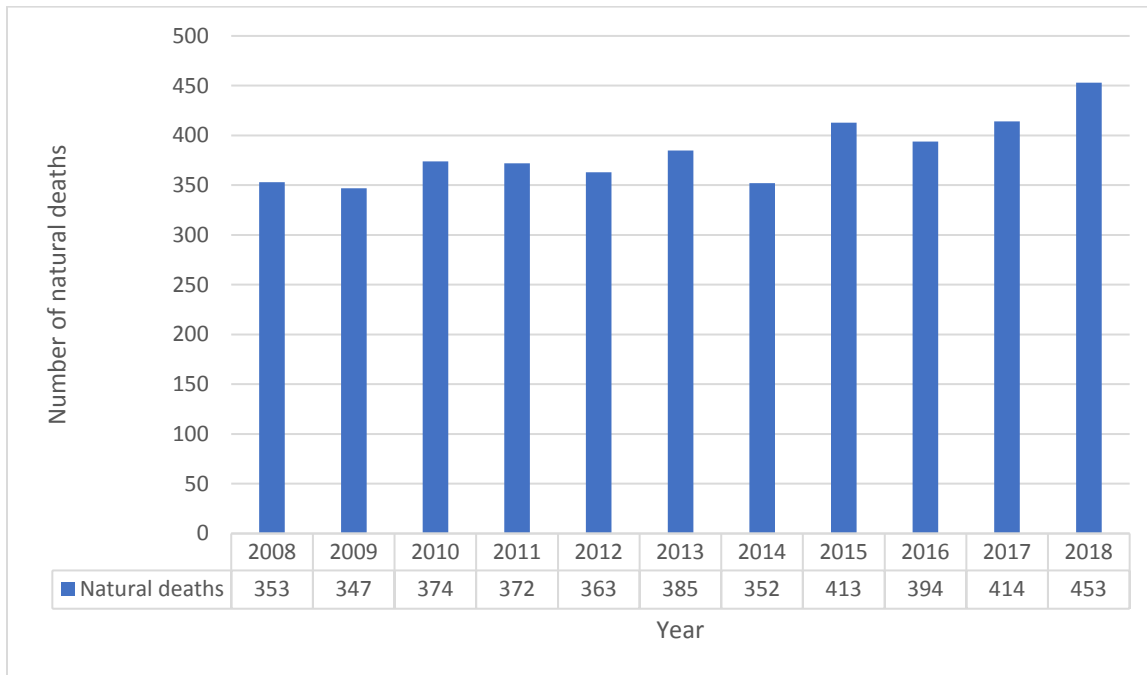
Graph 18: Causes of Death in 2018 Undetermined Manner of Death Cases



Natural Deaths

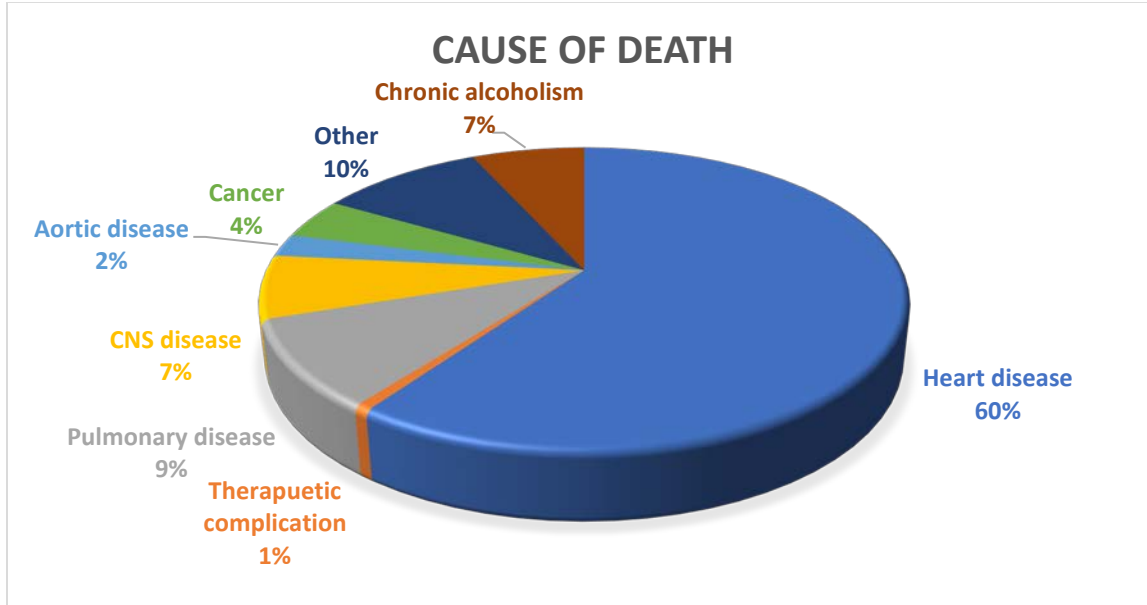
A natural death is one that is entirely caused by a disease without contribution by any injury. The annual number of natural deaths from 2008 to 2018 is seen in graph 19.

Graph 19: Annual natural death totals for 2008-2018



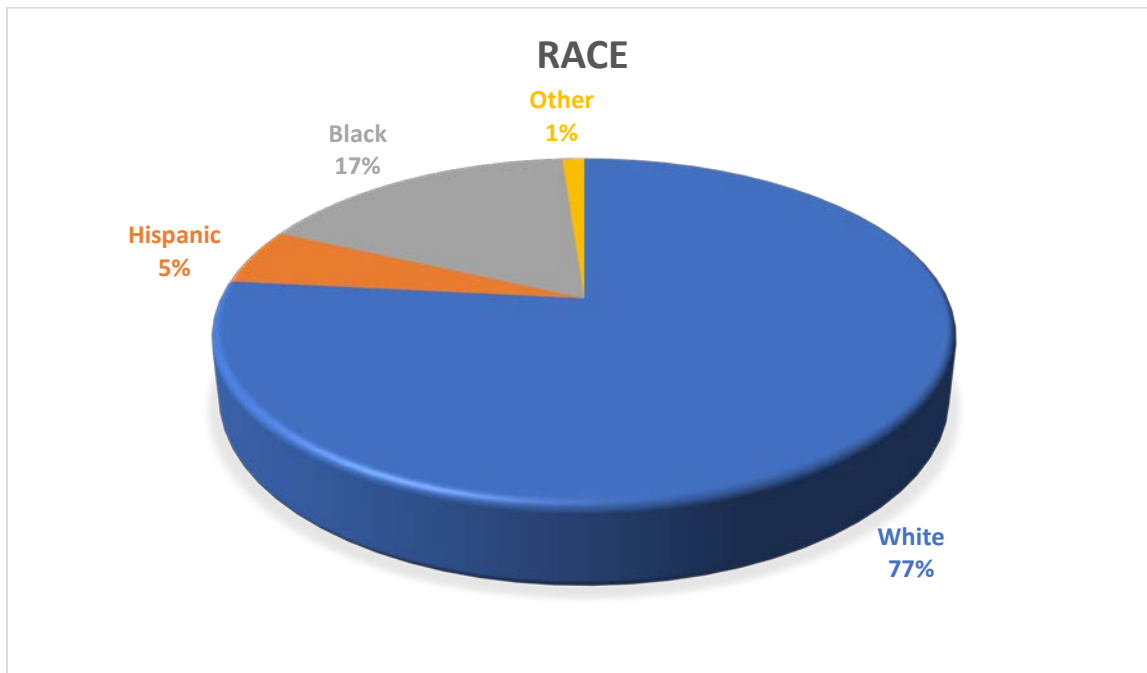
In 2017, the majority of natural deaths investigated by the medical examiner were due to heart disease as this is most likely to kill suddenly without any previous signs or symptoms. Graph 20 shows the diseases that caused natural deaths and examined by the medical examiner in 2018.

Graph 20. Causes of Natural Death Examined by the Medical Examiner in 2018



In 2018, the average age of those who died of natural disease and fell under medical examiner jurisdiction was 61 years with a range of 6 months to 98 years. Men outnumbered women 2 to 1. Graph 21 shows the relative proportions of people who died of natural disease by their race.

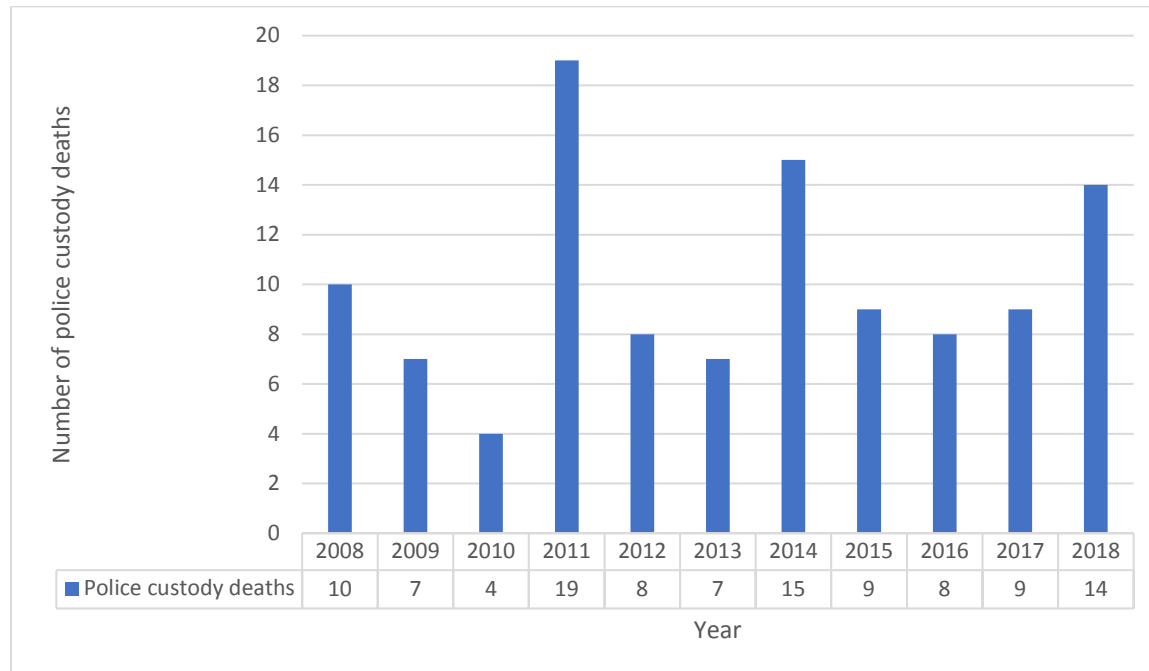
Graph 21: Race of Decedents Who Died of Natural Disease and Examined by the Medical Examiner in 2018



Deaths in Police Custody

Deaths in police custody are of two broad categories: law enforcement involved and penal institution, as defined by the Florida Medical Examiner Commission. In 2018, fourteen men died in police custody. Their ages ranged from 22 to 67 years old. Six men died of a natural disease while in jail or prison. Another man died in the jail infirmary of unknown causes. One man died after a motor vehicle collision during a police chase. One man died of a drug-induced psychosis after police captured him and medics became to treat him. Police shot two men after separate confrontations. One man shot himself when the police came to arrest him. One man was beaten to death by other jail inmates. Finally, one man died of a drug overdose while wearing an ankle monitor.

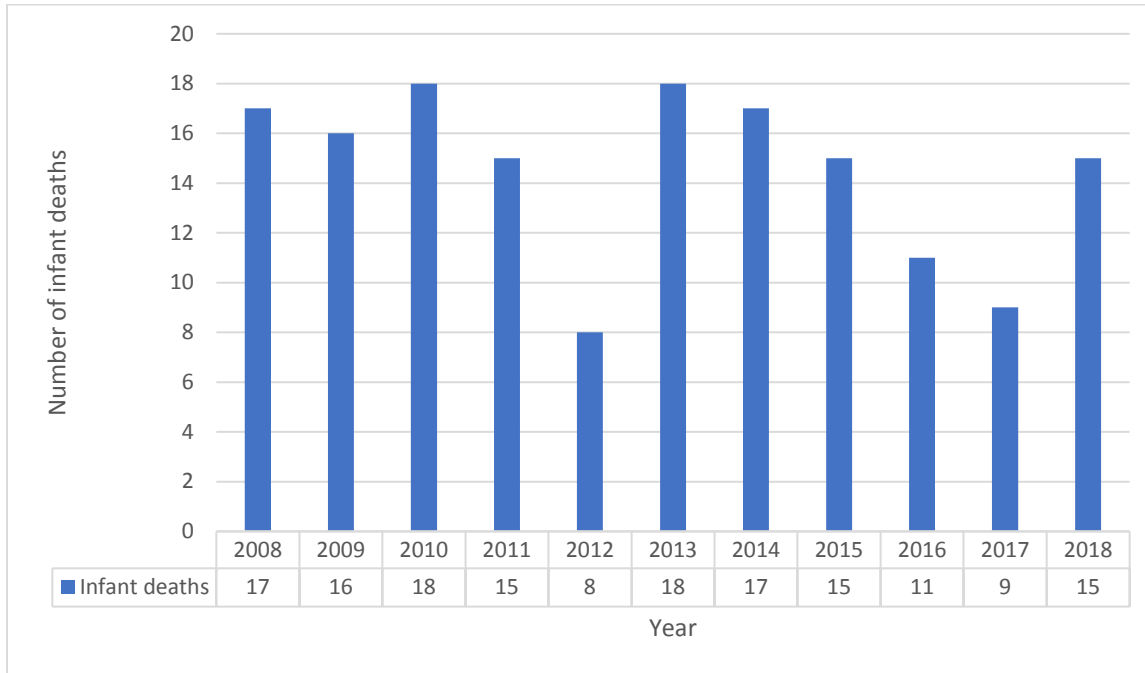
Graph 22: Annual police custody deaths totals for 2008-2018



Infant Deaths

An infant is a child under the age of one year. Graph 23 shows the number of infant deaths from 2008 to 2018.

Graph 23: Annual infant deaths totals for 2008-2018

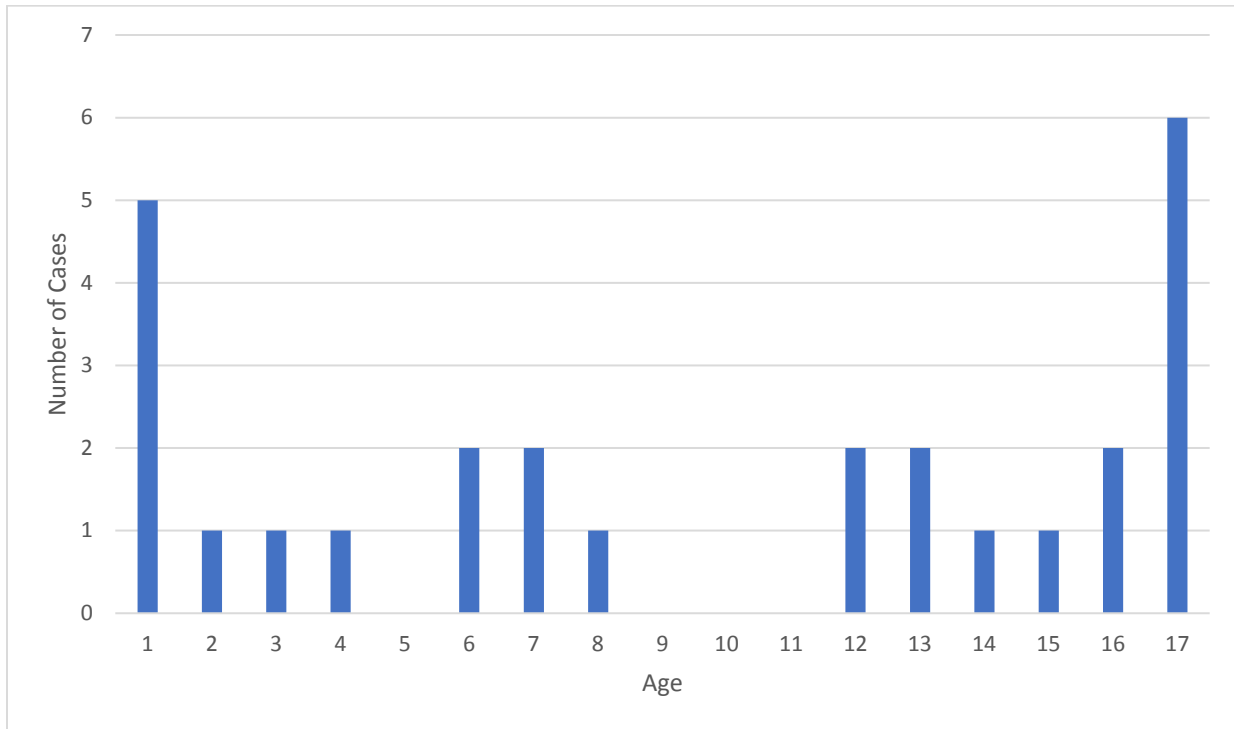


In 2018, fifteen infant deaths were investigated by the Palm Beach County Medical Examiner’s office. Eleven infants were boys. Nine infants were white or Hispanic and the remaining six were black. The age range was newborn-6 months and the average age was 2.7 months. Eleven deaths were due to accidental suffocation. Two deaths involved homicides, two involved pneumonia and one remained undetermined after a complete autopsy, toxicology testing and scene examination with doll re-enactment.

Child Deaths

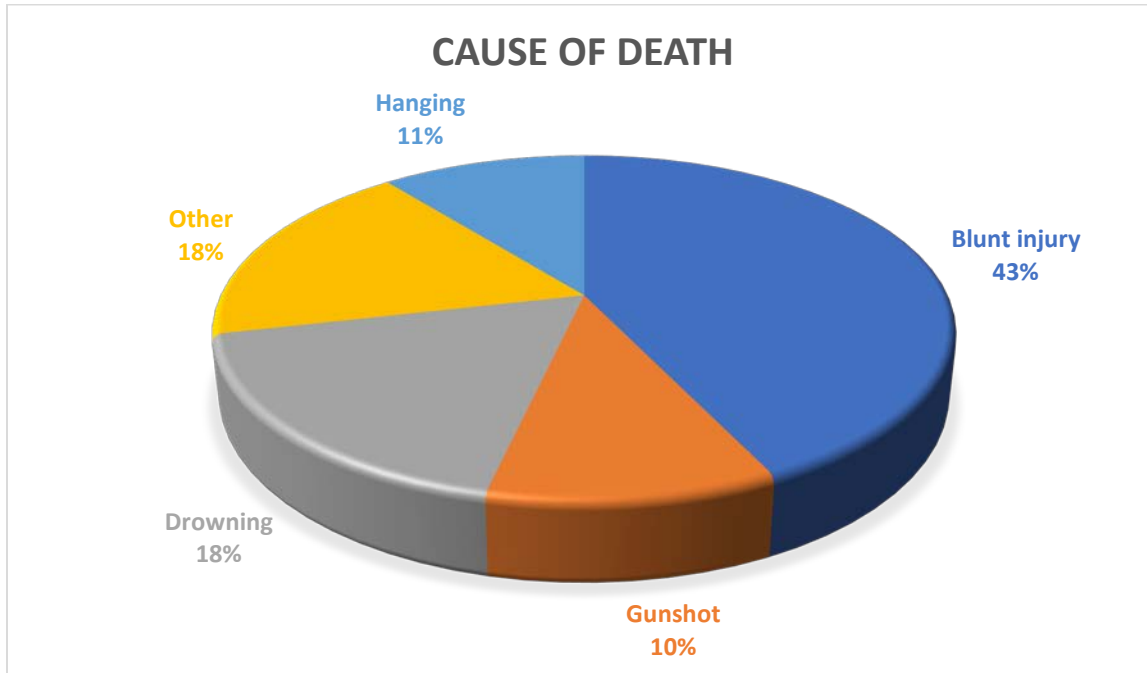
For our purposes, a child is greater than 1 year old, but less than 18 years of age. By this definition, 28 child deaths were investigated by the Palm Beach County Medical Examiner’s office in 2017. The average age was 9.5 years and the age distribution of child deaths in 2017 as seen in graph 23. The ratio of boys to girls was 4.6 to 1. There 12 black children, 10 whites, 5 Hispanic/Latino, and 1 asian child.

Graph 24: Age distribution in children who died in 2018

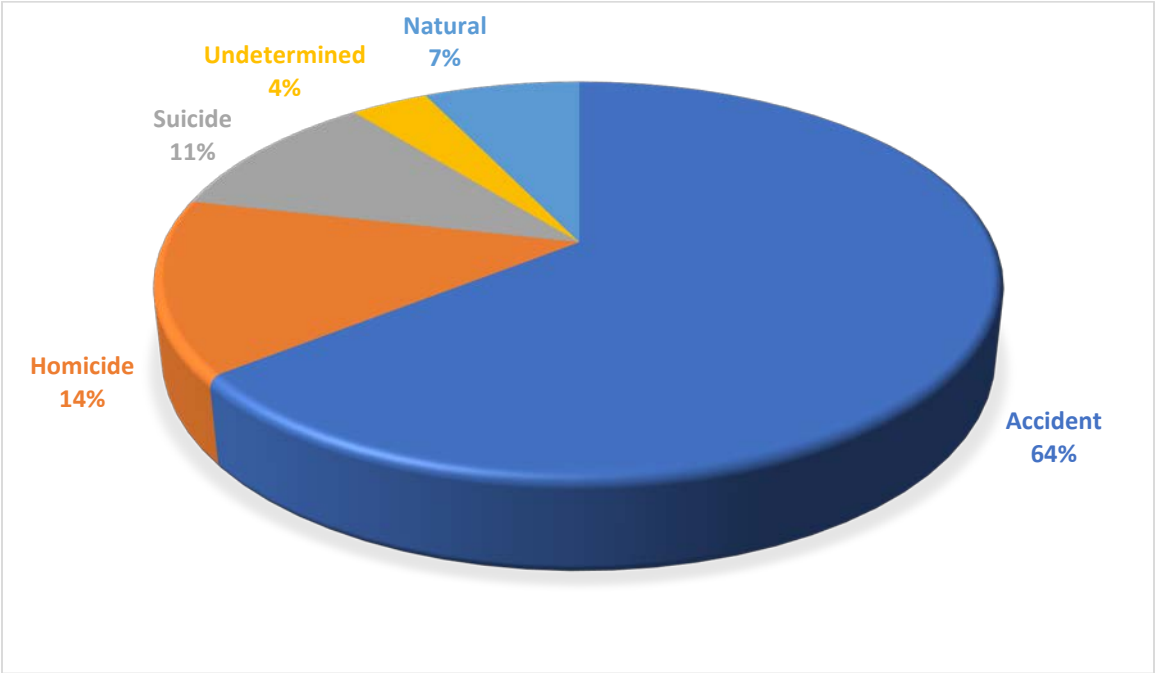


The distribution of cases by cause and manner of death are seen in graphs 25 and 26.

Graph 26: Cause of Death in Child Deaths in 2018



Graph 26: Manner of Death in Child Deaths in 2018



Frequently Asked Questions (FAQ)

District 15: Palm Beach County Medical Examiner's Office website

<http://discover.pbcgov.org/medicalexaminer/Pages/default.aspx>

Florida Statute 406

http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0400-0499/0406/0406PARTIContentsIndex.html

FAC 11-G

<https://www.flrules.org/gateway/RuleNo.asp?ID=11G-2.006>

Practice Guidelines for Florida ME

<https://www.fdle.state.fl.us/MEC/Publications-and-Forms/Documents/2010-Guidelines-Adopted.aspx>

Electronic Death Certificate

Email: D15ME@pbcgov.org

Florida Association of Medical Examiners

<http://www.fameonline.org/>