



**OFFICE OF THE  
MEDICAL  
EXAMINER**

Palm Beach County Medical  
Examiner's Office  
2021 Annual Report



## Table of Contents

Introduction .....	4
County Demographics.....	5
Workload.....	5
Graph 1: Total ME cases vs. PBC population .....	5
Manner of Death.....	6
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 2021.....	7
Graph 4: Age distribution of homicide victims in 2021 .....	7
Graph 5: Types of homicides in 2012-2021 .....	8
Suicides .....	8
Graph 6: Annual suicide totals for 2012-2021 .....	8
Graph 7: Age distribution of suicide victims in 2021 .....	9
Graph 8: Types of suicides in 2012-2021 .....	9
Accidents.....	10
Graph 9: Annual accident totals for 2012-2021.....	10
Accidents: Drug Overdoses .....	10
Graph 10: Annual accidental Drug Overdose totals for 2012-2021.....	11
Graph 11: Age Distribution of Accidental Drug Overdose Fatalities in 2021.....	11
Graph 12: Opioid Drugs in Accidental Drug Deaths 2021.....	12
Accidents: Motor Vehicle Fatalities .....	12
Graph 13: Annual accidental motor vehicle fatalities totals for 2012-2021.....	12
Graph 14: Victims of 2021 Motor Vehicle Fatalities .....	13
Graph 15: Age Distribution of Motor Vehicle Fatalities in 2021.....	13
Accidents: Falls.....	14
Graph 16: Annual fatalities caused by falls totals for 2012-2021.....	14
Deaths with an Undetermined Manner of Death.....	14
Graph 17: Annual undetermined death totals for 2012-2021.....	15
Graph 18: Causes of Death in 2021 Undetermined Manner of Death Cases .....	15
Natural Deaths .....	15

Graph 19: Annual natural death totals for 2012-2021 .....	16
Graph 20. Causes of Natural Death Examined by the Medical Examiner in 2021.....	16
Graph 21: Race of Decedents Who Died of Natural Disease and Examined by the Medical Examiner in 2021 .....	17
Deaths Involving Law Enforcement and Penal Institution.....	17
Graph 22: Annual police custody deaths totals for 2012-2021 .....	18
Infant Deaths.....	18
Graph 23: Annual infant deaths totals for 2012-2021.....	18
Child Deaths .....	19
Graph 24: Age distribution in children who died in 2021.....	19
Graph 25: Cause of Death in Child Deaths in 2021.....	20
Frequently Asked Questions (FAQ).....	20

## Introduction

According to the Florida Legislature Office of Economic and Demographic Research<sup>1</sup>, Palm Beach County is Florida's 3<sup>rd</sup> 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 406.11<sup>2</sup>. 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. Medicolegal death investigations are carried out 24 hours a day, every day of the year including Federal Holidays. During weekdays the PBCMEO is open to the public during normal business hours.

In 2021, 4,365 deaths were reported to the PBCMEO. This included 1,870 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 9,903 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 9,903 cremation reviews, 52 (0.005%) became ME cases because they fulfilled the criteria of F.S. 406.11. The

---

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

<sup>2</sup> [http://www.leg.state.fl.us/statutes/index.cfm?App\\_mode=Display\\_Statute&Search\\_String=&URL=0400-0499/0406/Sections/0406.11.html](http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0400-0499/0406/Sections/0406.11.html)

total number of ME cases in 2021 was 2,495. The 2021 annual report concentrates on the 2,495 Medical Examiner (ME) cases.

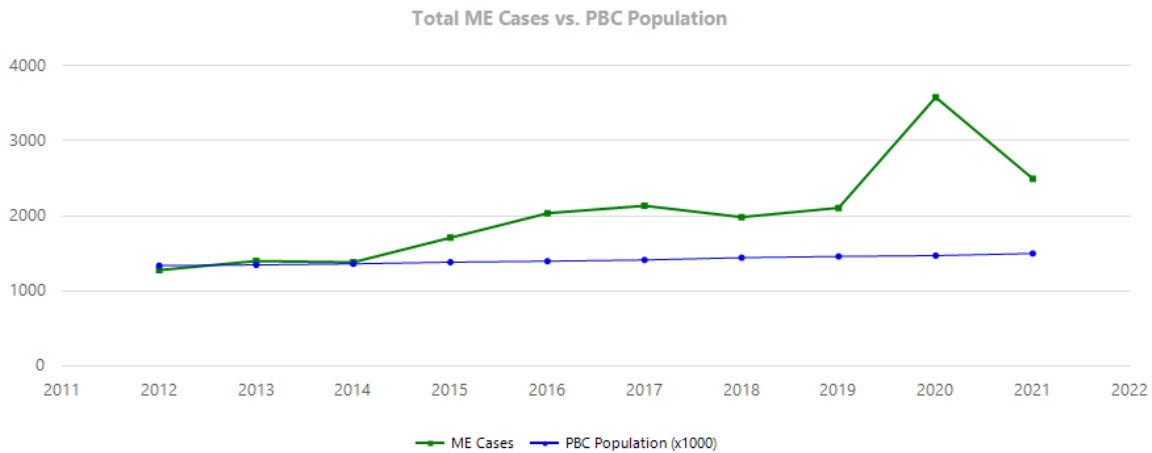
## County Demographics

According to the Florida Legislature Office of Economic and Demographic Research<sup>1</sup>, the population of Palm Beach County in 2021 was estimated to be 1,502,495 (The US Census estimate was 1,497,987). Based on data from the U.S. Census Bureau<sup>3</sup>, this is approximately 13.4 % increase since the 2010 census. The U.S. Census Bureau statistics for 2021 indicates that 51.5 % of the population is female<sup>3</sup>, slightly above five percent (5.1%) of the population is under 5 years of age, while 24.4 % are over 65 years old. Non-Hispanic white is the most common race (53.5 %), followed by Hispanic or Latino (23.4 %), Black (19.8 %), and Asian (2.9 %). Foreign born persons made up 25.4 % of the population. Of those individuals under age 65 years, 17.9 % had no health insurance. The median household income (in 2020 dollars) is \$65,015 with 12 % of the population living in poverty. According to the National Alliance to End Homelessness, in 2021 1,309 people were homeless in Palm Beach County on a given night.<sup>4</sup>

## Workload

### Graph 1: Total ME cases vs. PBC population

Graph 1 shows the total number of ME cases from 2012-2021 compared to the population of Palm Beach County over than 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. The dramatic increase between 2019 and 2020 is due to an increase in drug fatalities and the COVID-19 pandemic. Not accounting for COVID-19 cases there is an upward trend in cases between 2019 and 2021, which is consistent with increase in deaths from multiple modalities, and loosely corresponds to the population increase in Palm Beach County during this period of time.

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

<sup>4</sup> [endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-report/florida/](https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-report/florida/)

## Manner of Death

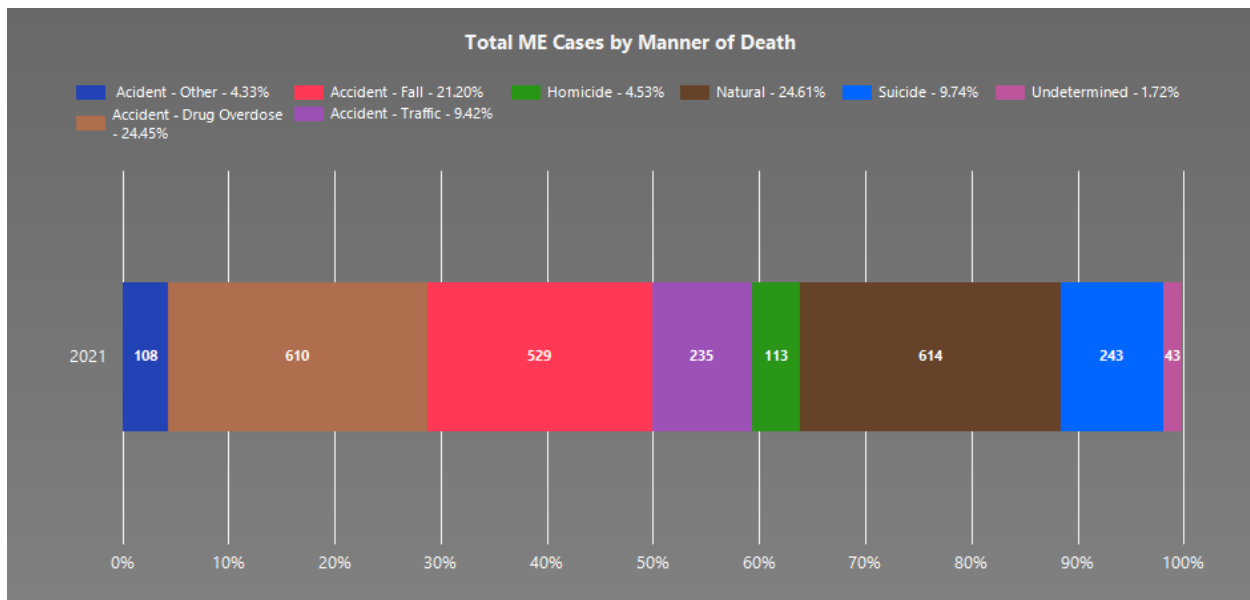
For death certification, each death must be assigned an appropriate manner of death (Figure 1). The assignment of a manner of death is for public health purposes, although other entities (state attorney, insurance companies, etc.) may use this determination for their own purposes. The manners of death 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

<b>BY: MEDICAL CERTIFIER</b>	39. PROBABLE MANNER OF DEATH	The following are under the jurisdiction of the medical examiner:	40. REPORTED TO MEDICAL EXAMINER DUE TO CAUSE OF DEATH?
	<input type="checkbox"/> Natural <input type="checkbox"/> Accident <input type="checkbox"/> Suicide <input type="checkbox"/> Homicide <input type="checkbox"/> Pending Investigation <input type="checkbox"/> Undetermined		<input type="checkbox"/> Yes <input type="checkbox"/> No
	41. CAUSE OF DEATH - PART I. (See instructions on back)	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
	IMMEDIATE CAUSE (Final disease or condition resulting in death)	a. _____	
	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	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 2021. We further break down the accidental deaths into those involving motor vehicles, drug overdoses, falls, and the other types of accidents such as drownings, asphyxia etc. Not included in the graph are seven non-human remains or archeologic specimens that were examined in 2021.

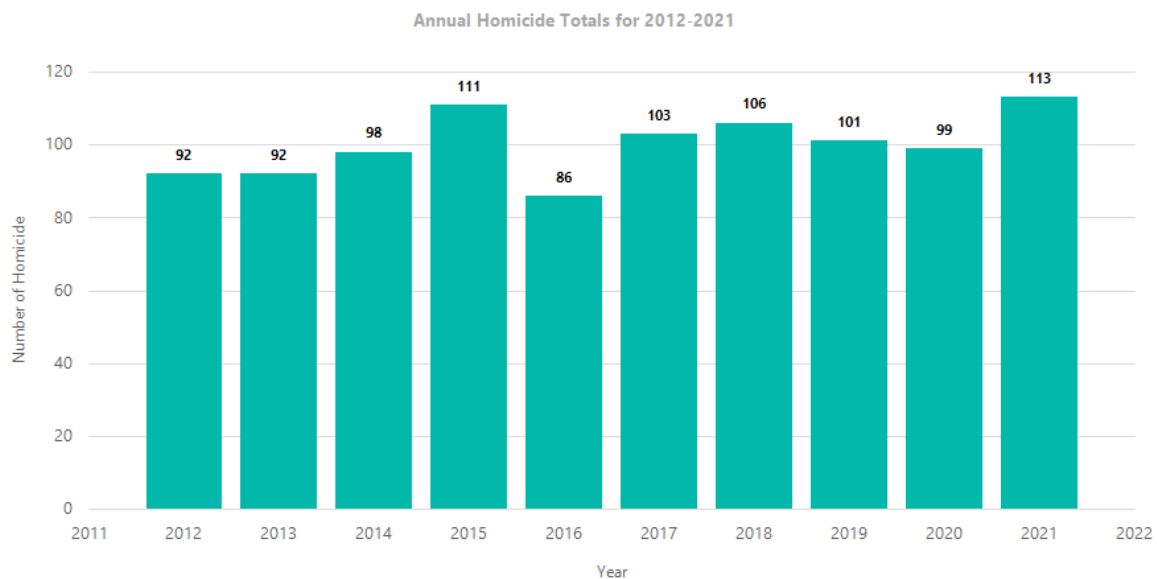


In 2021, the majority (59.39%) of ME cases were of accidental manner. In 2021, 4.53% of total ME cases were homicides, and 9.74% were suicides.

## 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 shows the annual homicide totals for the past ten years.

Graph 3: Annual homicide totals for 2012-2021



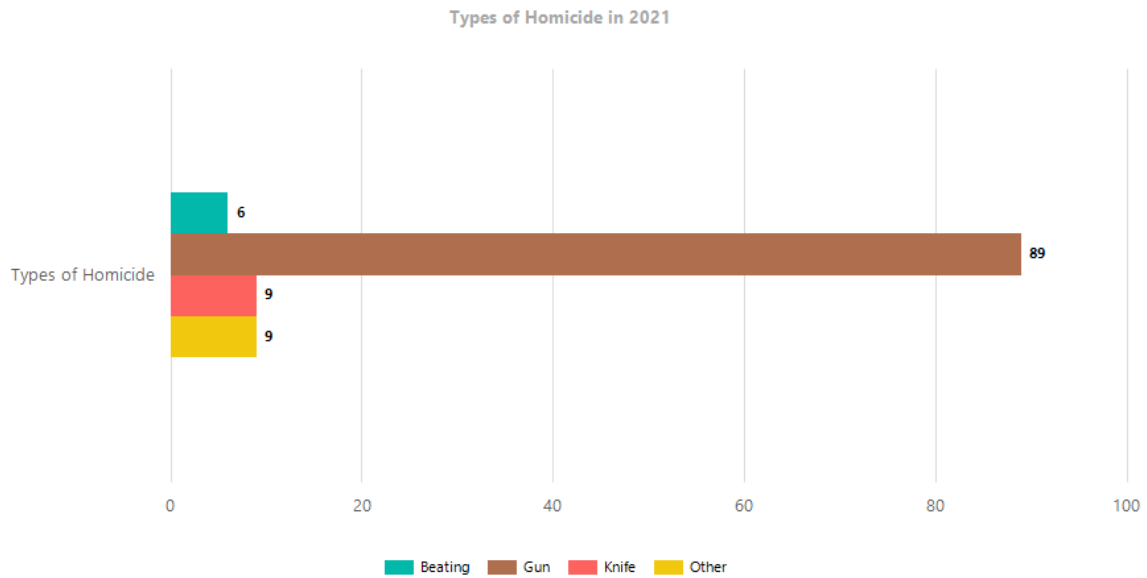
The average annual number of homicides for the last ten years is 100. In 2021, there were 13 more homicides than the annual average. Ninety-two of the homicide victims were male, with a male: female ratio of 4.4:1. Most 2021 homicide victims were blacks (80), followed by whites (20) and Hispanic/Latino (13). The average age in homicide victims was 32.2 years and the age distribution of homicide victims is seen in Graph 4.

Graph 4: Age distribution of homicide victims in 2021



The most common means or instrument of death in the 2021 homicides was a firearm (gun), as seen in Graph 5. Guns far exceeded stabbings or beatings as the means to kill another person in 2021.

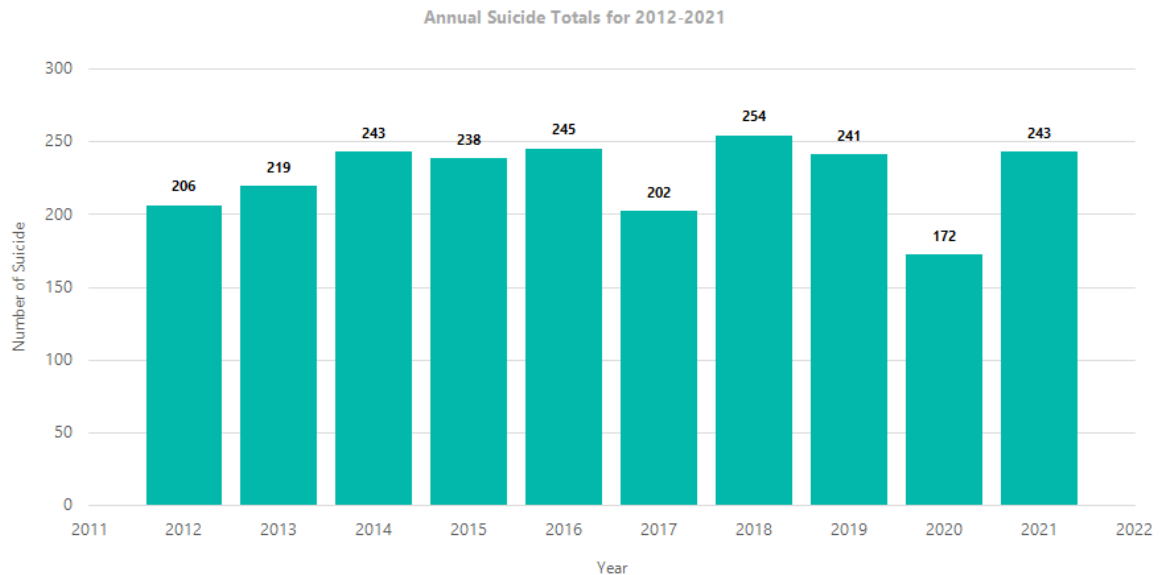
Graph 5: Types of homicides in 2021



## Suicides

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

Graph 6: Annual suicide totals for 2012-2021

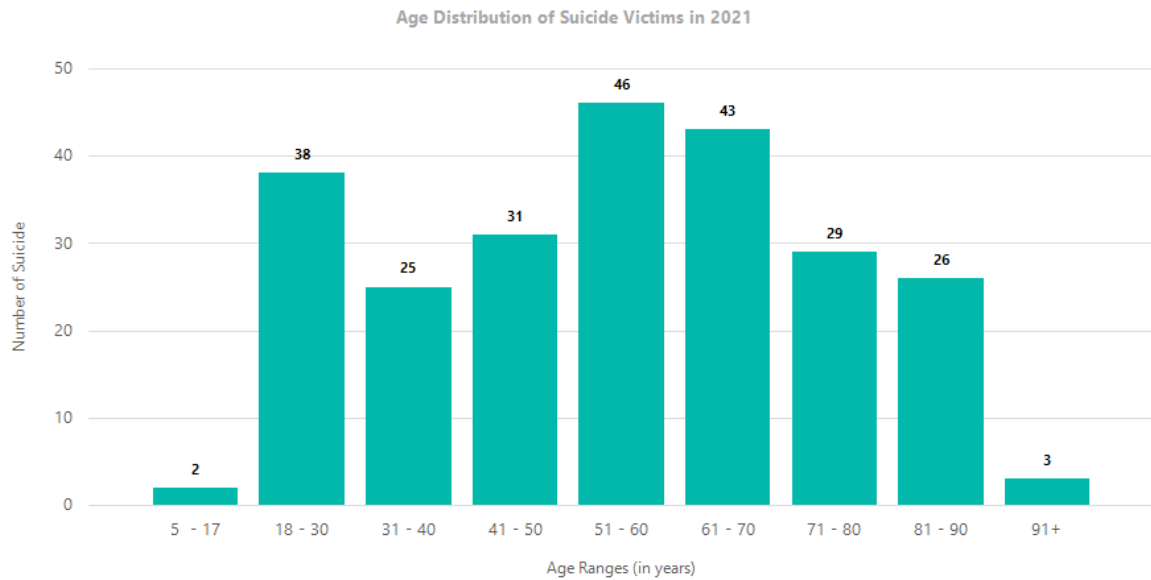


The average annual number of suicides for the last ten years is 226. In 2021, there were 17 more suicides than the annual average. The male: female ratio for suicide victims in 2021 was 2.4:1. Most 2021 suicide



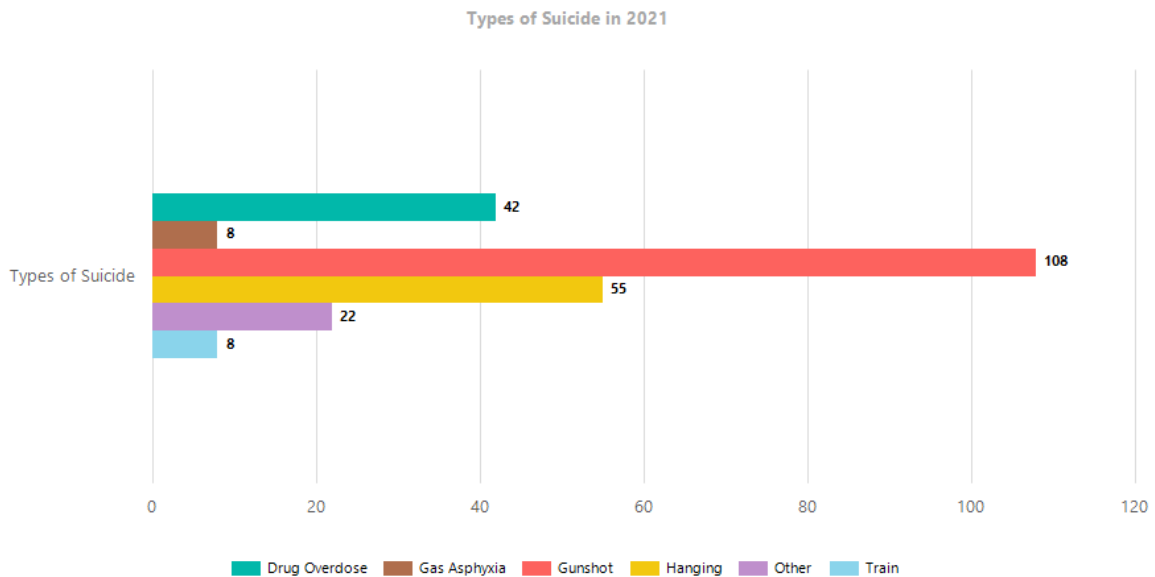
victims were white (210), followed by Hispanic/Latino (17), black (13), and Asian/other (3). The average age of a suicide victim is 55.3 years. The age distribution of suicide victims is seen in Graph 7.

Graph 7: Age distribution of suicide victims in 2021



The most common means or instrument of death in the 2021 suicides was the gun (firearm), as seen in Graph 8. In 2021, guns exceeded intentional drug overdoses and hanging as the preferred means to kill yourself. Gas asphyxia (carbon monoxide, helium, carbon dioxide) included 8 people. Eight suicides involved injuries sustained by trains. The other types of suicide included blunt trauma from jumping from height, thermal injuries from self-immolation, and self inflicted sharp injuries.

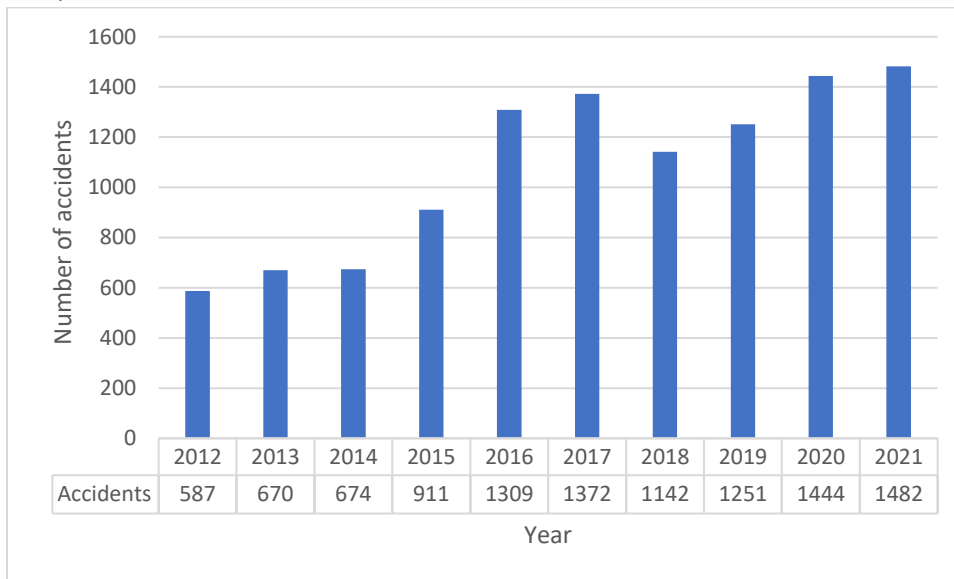
Graph 8: Types of suicides in 2021



## 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. In Graph 9, the marked increase in accidental deaths from 2014 to 2017 is due to the rise in drug, predominantly opioid fatalities. A decrease in opioid deaths caused the decrease in accidents in 2018. As the graph shows, accidental deaths have steadily increased since then.

Graph 9: Annual accident totals for 2012-2021

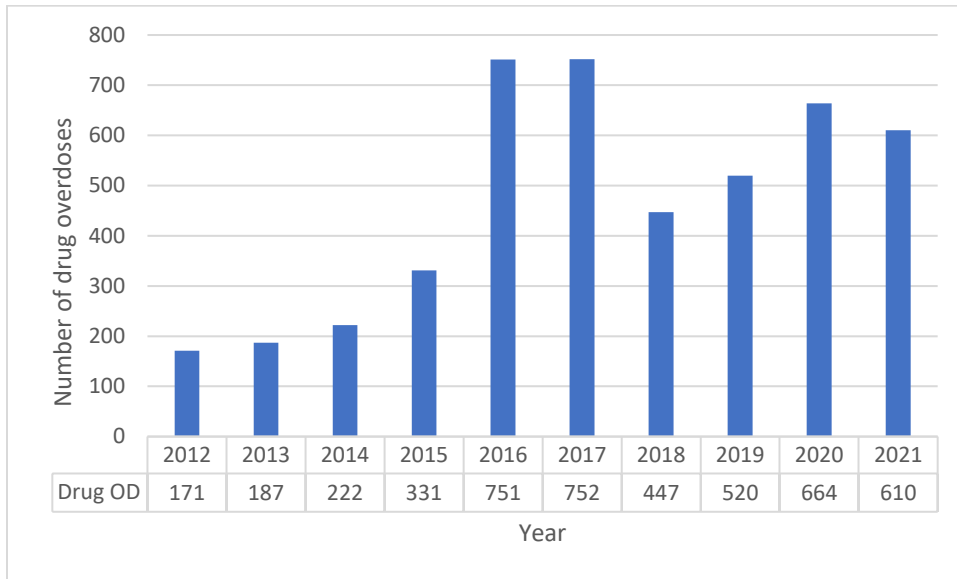


In 2021 most of the accidental deaths resulted from drug overdoses, accounting for 24.4% of total cases. Motor vehicle fatalities constituted 9.4% of total cases and falls 21.20%.

## Accidents: Drug Overdoses

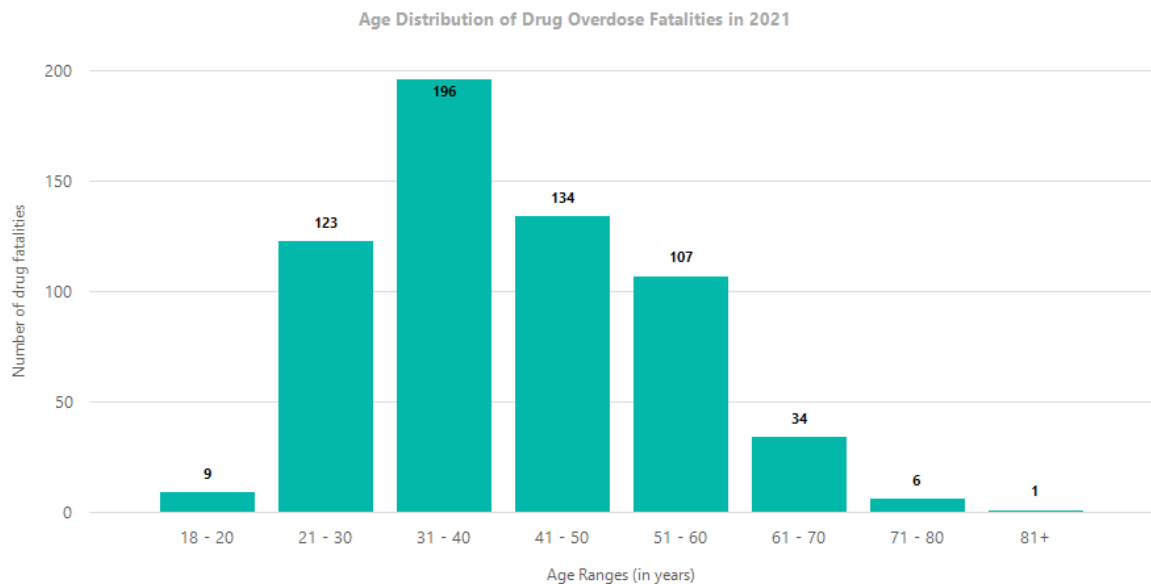
If a drug or drugs accidentally (unintentionally) caused or contributed to the death of a person, then this was counted as an accidental drug death. Suicidal drug overdoses are not included in these graphs as well as those drug overdoses in which the manner of death was undetermined. Alcohol is considered a drug along with illicit drugs (i.e., heroin, cocaine), prescription medications, and non-prescription medications. Opioids are a subset of both illicit (i.e., heroin) and prescription medications (i.e., oxycodone). Graph 10 shows annual accidental drug overdoses for the last ten years.

Graph 10: Annual accidental drug overdoses totals for 2012-2021



In 2021, drugs caused or contributed to death in 657 cases. Out of those 610 overdoses were of accidental manner, with the remaining cases falling under suicide or undetermined manners of death. Opioids were present in 527 of the 657 cases (80%). The average age of accidental drug fatality victims was 40.8 years old. The age distribution of those dying from an accidental drug overdose is seen in Graph 11. The victims were predominantly men (2.8:1 men: women ratio). Most deaths occurred in whites. The accidental overdose ratio of whites as compared to all other races was 3.6:1.

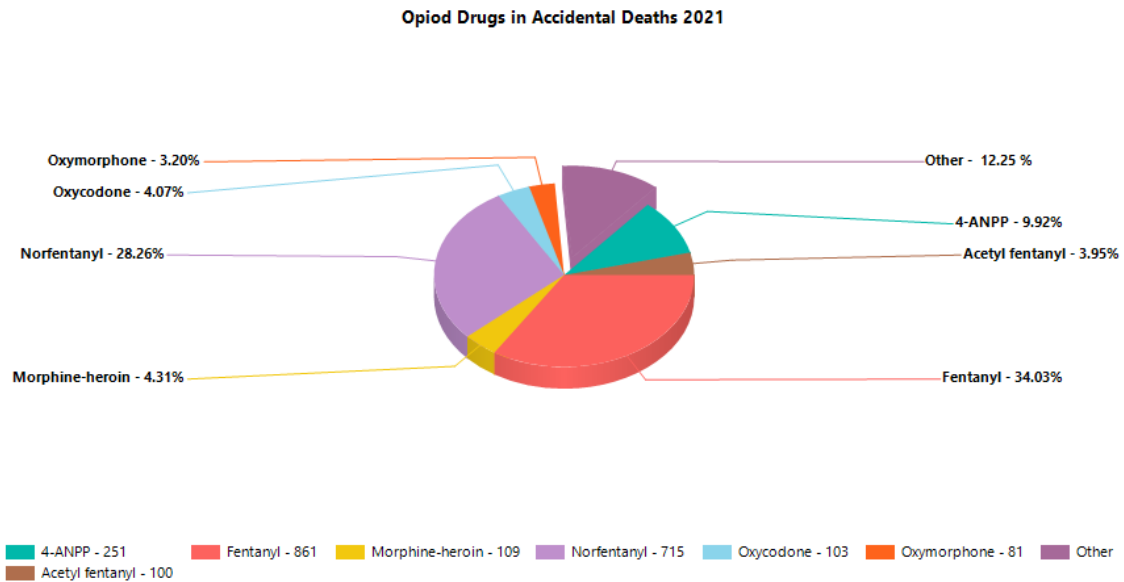
Graph 11: Age Distribution of Accidental Drug Overdose Fatalities in 2021



The relative percentage of opioid drugs causing or contributing to the drug fatalities in 2021 is seen in Graph 12. Fentanyl and its analogs (acetyl fentanyl, furanyl fentanyl etc.) far exceeded the other opiates (such as heroin and oxycodone) in their capacity to kill. In addition, a new compound known as N-

pyrrolidino Etonitazene emerged in PBC on the second half of 2021. This potent drug was present alone or in conjunction to other drugs and was implicated in 19 of the reported accidental drug deaths.

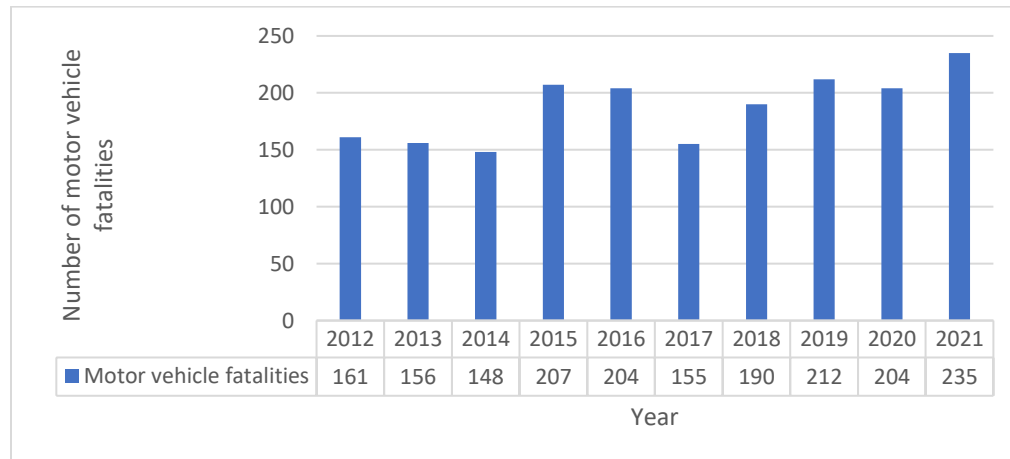
Graph 12: Opioid Drugs in Accidental Drug Deaths, 2021



### Accidents: Motor Vehicle Fatalities

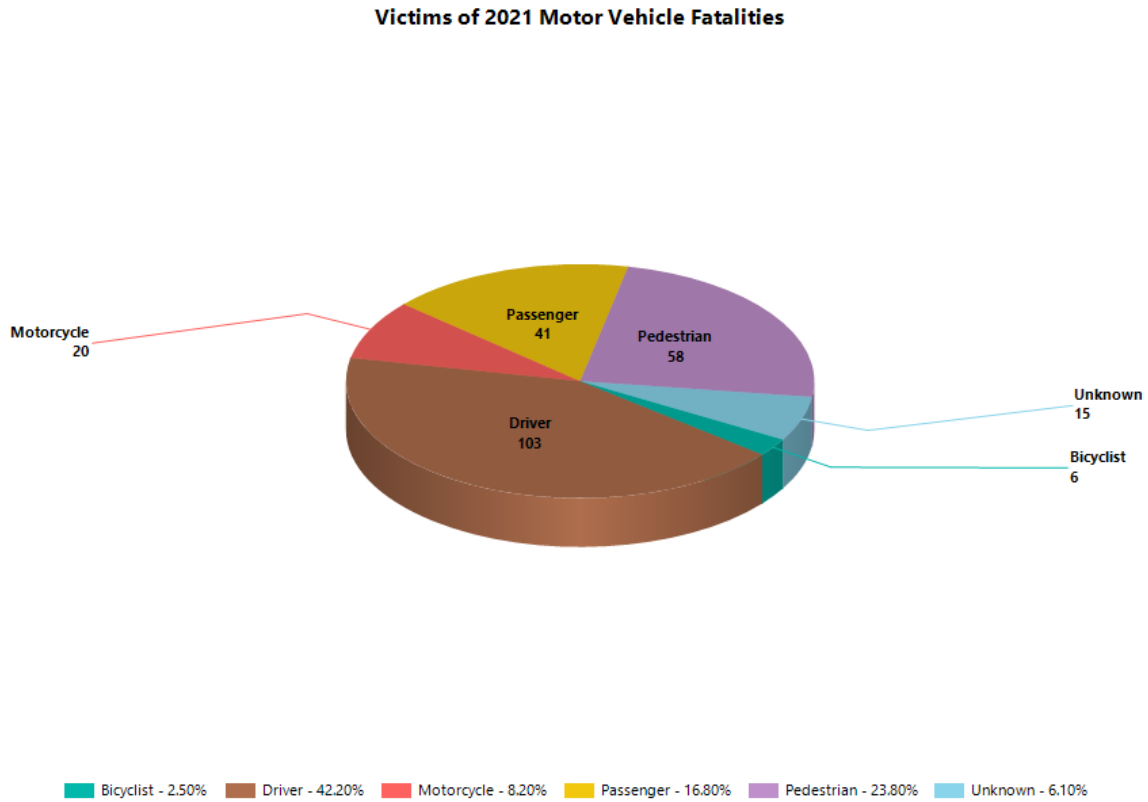
There were 235 accidental motor vehicle fatalities in Palm Beach County for 2021 accounting for 9.4% of total cases. In addition, there were 9 more fatalities that occurred during traffic incidents in which death was deemed to be secondary to other causes. Graph 13 shows the annual number of motor vehicle deaths from 2012 to 2021. In 2021 42.3% of those killed in motor vehicle collisions were driving a car or truck. The remaining victims' percentages are seen in Graph 14. Men were 2.46 times more likely to accidentally die in a motor vehicle collision than women. Whites were 1.34 times more likely to accidentally die in a motor vehicle crash than all other races combined. The average age of the victims was 47.2 years old. The age distribution by decades is seen in Graph 15.

Graph 13: Annual accidental motor vehicle fatality totals for 2012-2021

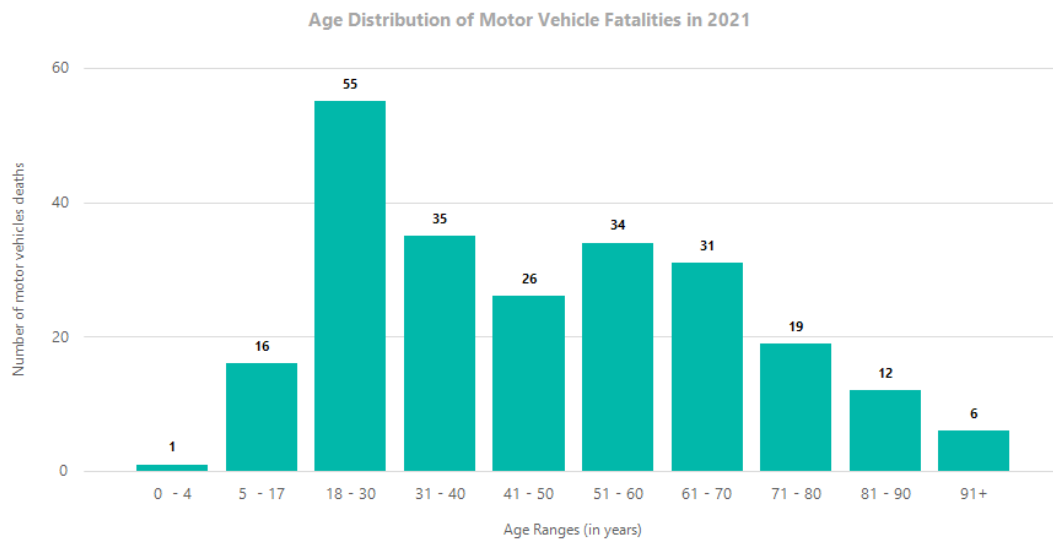




Graph 14: Victims of 2021 Motor Vehicle Fatalities



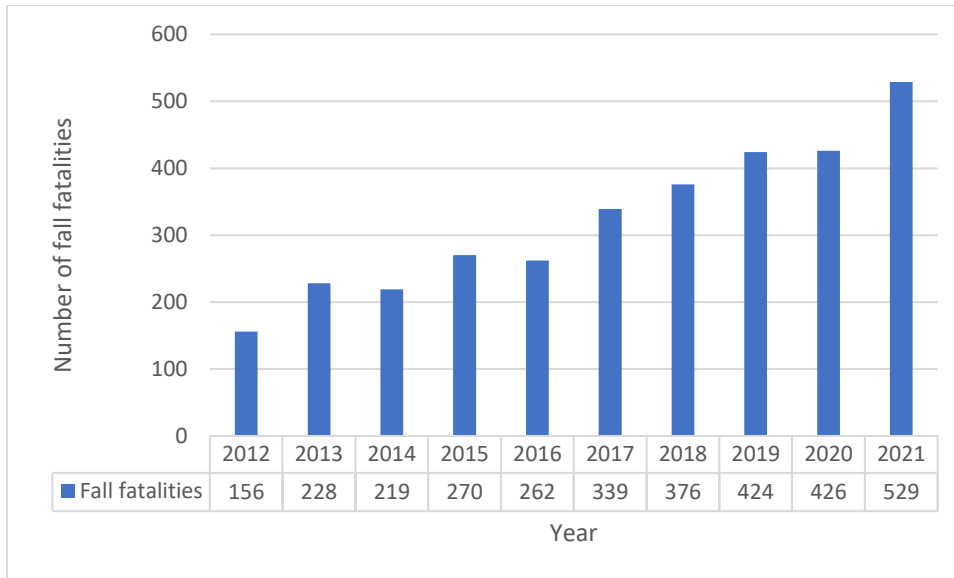
Graph 15: Age Distribution of Motor Vehicle Fatalities in 2021



## Accidents: Falls

Fatal falls continued to rise in 2021, as seen in Graph 16. A possible explanation is the growing elderly population in Palm Beach County. The vast majority of these deaths occur in unstable elders who fall from a standing position resulting in head injury or fractures of the extremities with subsequent complications. The average age at the time of death is 84.7 years. There was a slight predominance in women (1.15 women: men ratio) and whites were more likely to die of an accidental fall over all other races (9.37:1 white: other).

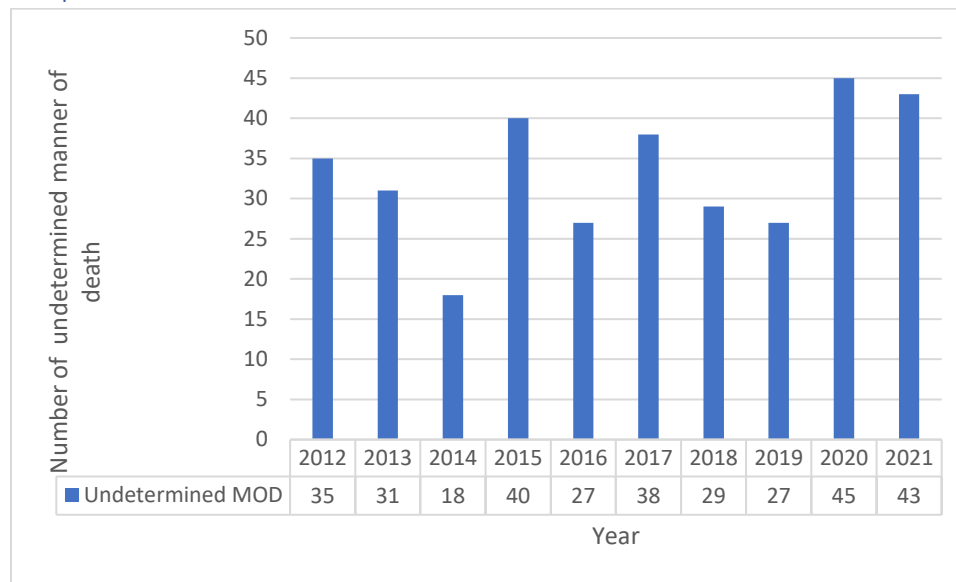
Graph 16: Annual fatalities caused by falls totals for 2012-2021



## Deaths with an Undetermined Manner of Death

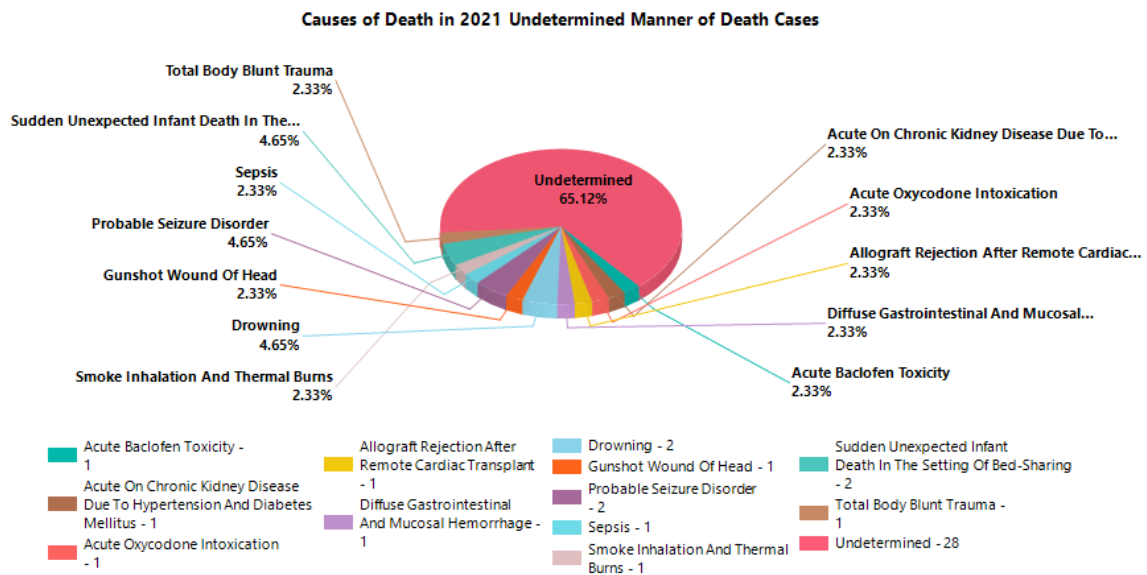
If the manner of death cannot be determined because there is more than one reasonable choice, then it is undetermined. The annual number of deaths with an undetermined manner from 2011 to 2021 is seen in Graph 17.

Graph 17: Annual undetermined death totals for 2012-2021



In 2021, there were 43 deaths in which the manner of death could not be determined. The causes of death in these cases are seen in Graph 18.

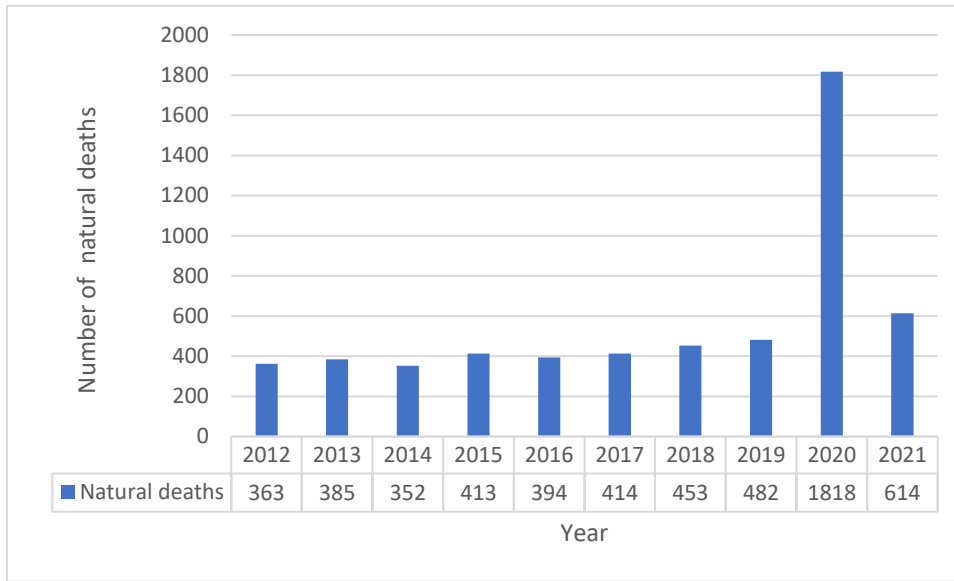
Graph 18: Causes of Death in 2021 Undetermined Manner of Death Cases



## Natural Deaths

A natural death is one that is entirely caused by a disease without contribution by any injury or drug toxicity. If there is no attending physician to certify a death, then it falls upon the Medical Examiner to investigate and opine as to the cause of death. The annual number of natural deaths certified by the PBCMEO from 2012 to 2021 is seen in Graph 19.

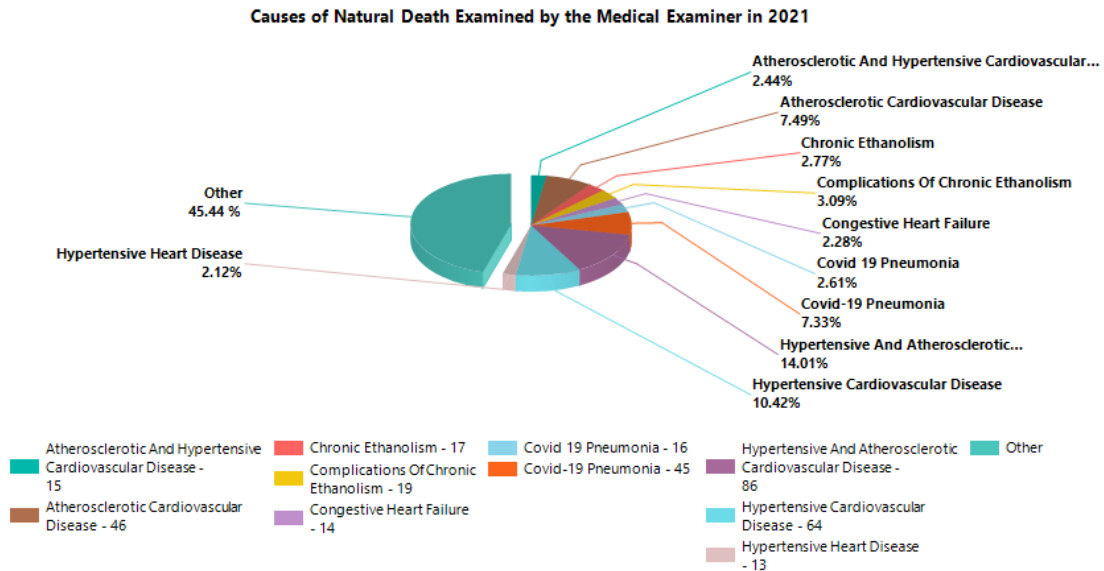
Graph 19: Annual natural death totals for 2012-2021



While the natural causes of death are vast and varied, the most salient natural conditions in 2021 were atherosclerotic and hypertensive cardiovascular disease. While COVID-19 deaths remained prevalent in the community, less COVID-19 deaths were diagnosed by the Medical Examiner as compared to 2020, as the mandate to investigate this natural disease was rescinded on the latter part of 2020. In 2021 the Medical Examiner diagnosed 80 natural deaths associated to COVID-19.

Graph 20 shows the natural conditions diagnosed by the PBCMEO in 2021.

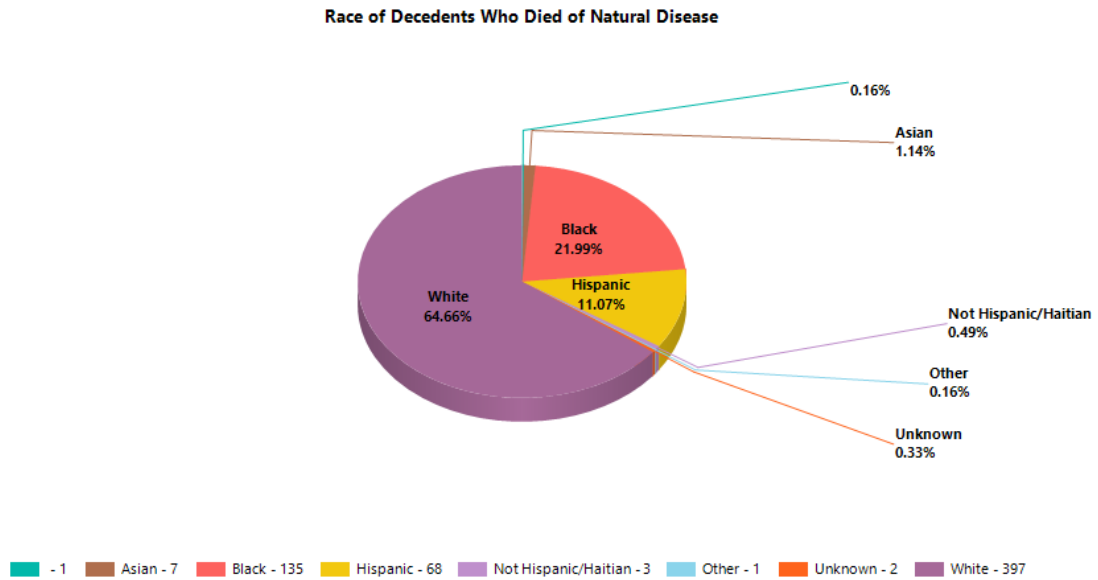
Graph 20. Causes of Natural Death Examined by the Medical Examiner in 2021





In 2021, the average age of those who died of natural disease and fell under medical examiner jurisdiction was 62 years with a range of 1 day to 101 years. Men outnumbered women (2.13: 1 male: female ratio). Whites were more likely to die of natural disease as compared to all other races (1.8: 1 white: other races ratio). Graph 21 shows the relative proportions of people who died of natural disease by their race.

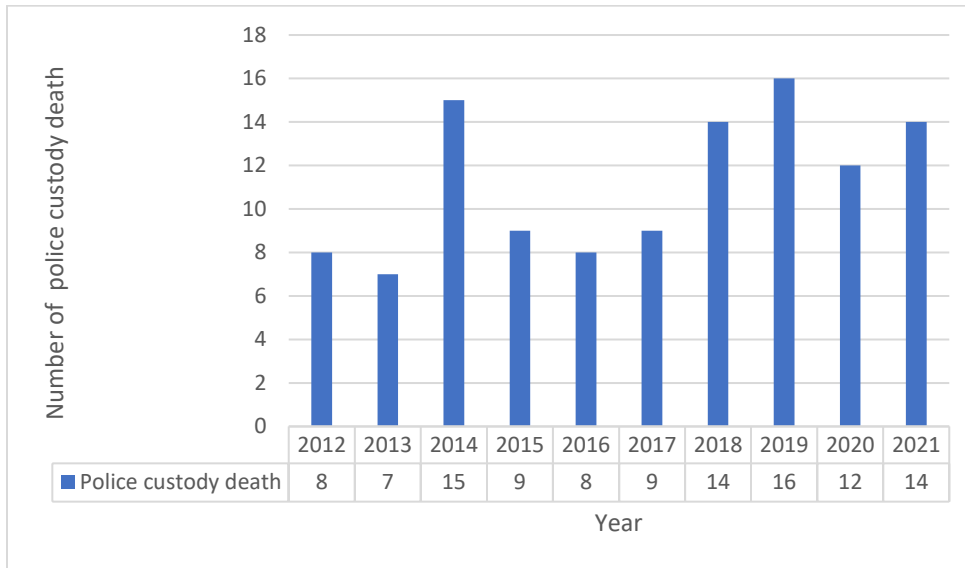
Graph 21: Race of Decedents Who Died of Natural Disease and Examined by the Medical Examiner in 2021



## Deaths involving Law enforcement and penal institutions

Deaths in police custody are of two broad categories: law enforcement involved and penal institution, as defined by the Florida Medical Examiner Commission. These types of death are shown in Graph 22. In 2021, fourteen men died in police custody. Their ages ranged from 18 to 82 years old. Four men died of a natural disease, one death was of undetermined manner, two accidental, three homicide, four suicide. Seven decedents were white, two Hispanic, and five black.

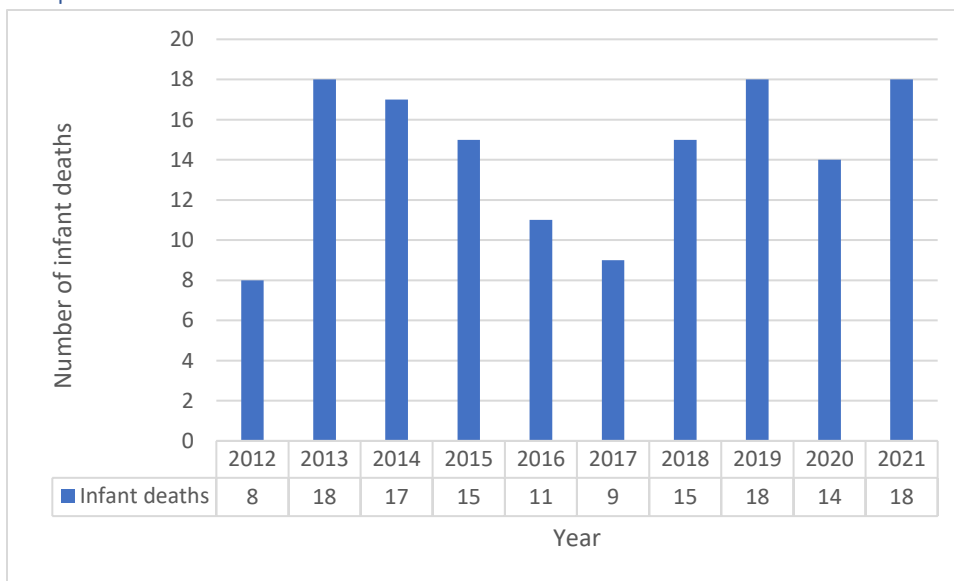
Graph 22: Annual police custody deaths totals for 2012-2021



## Infant Deaths

An infant is a child under the age of one year. Graph 23 shows the number of infant deaths from 2012 to 2021.

Graph 23: Annual infant deaths totals for 2012-2021



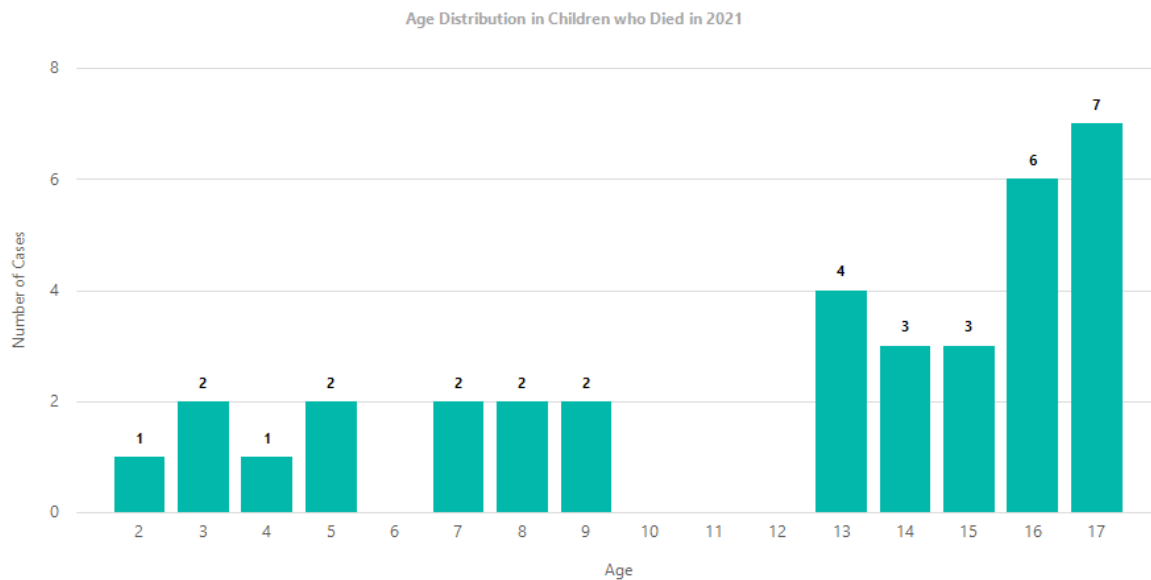
In 2021, eighteen infant deaths were investigated by the Palm Beach County Medical Examiner’s office. Eight infants were girls and ten were boys ( boy: girl ratio is 1.25: 1). Eleven infants were black, four white, and three Hispanic. The age range was from 1 day to 12 months and the average age was 3.6 months. The causes of death varied. Ten cases resulted from asphyxia and/or in association to unsafe sleep environment. The other cases included drowning, drug intoxication, blunt trauma, an inborn error of

metabolism. The manners of death included natural, homicide, accident and undetermined. Two cases remained undetermined after a complete autopsy, toxicology testing, scene examination with doll re-enactment, and ancillary studies.

## Child Deaths

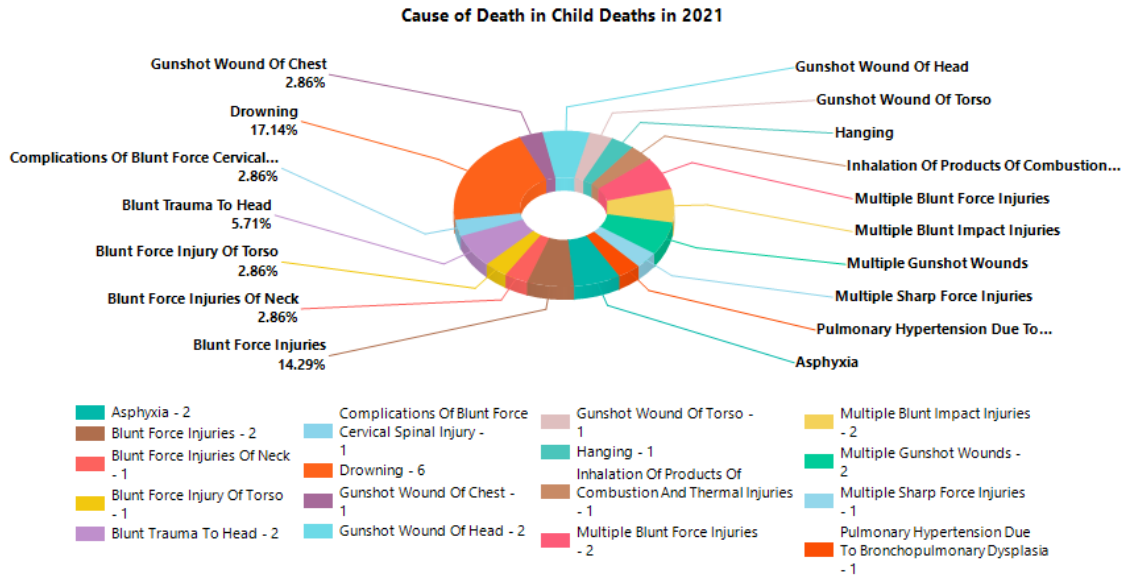
For our purposes, a child is greater than 1 year old, but less than 18 years of age. By this definition, 35 child deaths were investigated by the Palm Beach County Medical Examiner’s office in 2021. The age distribution of child deaths in 2021 is seen in graph 24. Twenty three child deaths occurred in teenage years. The boy to girl ratio was 3.3: 1. There was a higher likelihood of death in white children with a white to other race ratio of 1.6. The causes of death were varied and are seen in Graph 25. The homicides occurred between the ages of 2 months and 17 years and were secondary to gunshot wounds and stab wounds. Suicides were associated to drug overdose and firearms. Accidents were predominantly a result of blunt trauma and drug overdose. Other deaths included drowning and asphyxia by hanging.

Graph 24: Age distribution in children who died in 2021



The distribution of cases by cause of death in child deaths is seen in Graphs 25.

Graph 25: Cause of Death in Child Deaths in 2021



## 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](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/>