

# Kent County Medical Examiner



## 2016 Annual Report

Office of the Medical Examiner  
700 Fuller N.E.  
Grand Rapids, Michigan 49503

## 2016 Kent County Medical Examiner Annual Report

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To the Kent County Board of Commissioners  
and to the Citizens of Kent County:

I am pleased to present the Kent County Medical Examiner 2016 Annual Report. I would like to highlight several aspects of this report. First, our total cost for 2016 was \$1,363,204.00, a more than \$13,000 decrease from 2015. This is a bargain given that the calculated mean budget/capita in the United States is \$3.02 compared to approximately \$2.10 for Kent County.

A continuing challenge for our office is the large number of drug overdoses. In particular, the large number of novel drugs, particularly analogs of fentanyl, presents a diagnostic challenge. Fentanyl and its analogs are not identified on most routine drug screens employed by hospitals and, thus, remain unidentified unless a hospital requests the laboratory to check for such drugs in the patient. Our office has requested and usually received cooperation from law enforcement in submitting syringes and material that may contain drugs to our office or to the State Police Crime Lab for identification. Unfortunately, the same cannot be said for Grand Rapids area hospitals. All too often, patients are evaluated in the emergency department for suspected drug overdose. A urine drug screen, which is very crude and gives no information as to the amount of drug in the patient's blood, will be done. Many important drugs, such as fentanyl, are not identified on these screens. Regardless, no attempt to determine a blood level of drugs of abuse or of prescription narcotics is undertaken. There is simply an a priori assumption that the patient has overdosed on something. The patient is admitted to the intensive care unit where he or she may survive for four or five days or longer. Meanwhile, the laboratory discards any blood that was drawn from the patient on admission, blood which could be used to determine a level of a drug on which the patient overdosed. By the time the case is reported to us, we have a dead patient and no way to determine how the death occurred, in particular, whether the patient died from a drug overdose.

The unfortunate outcome of this is: (1) the family will never know the true cause of death of their loved one, (2) cause of death statistics are inaccurate because such deaths will have to be certified as "indeterminable", and (3) law enforcement cannot prosecute the supplier of drugs that may have caused the overdose because we cannot provide them with a definitive cause of death. Despite numerous efforts to request that hospitals and emergency departments assist us by either quantitating a level of drug in the blood or at least saving us a specimen so that we can determine the level, this problem remains.

The number of unclaimed bodies has decreased due to both the diligent efforts of the Medical Examiner Office staff and local funeral homes in assisting with burial or cremation of such bodies.

The number of deaths of children as reviewed by the Child Death Review Team has decreased with a steady downward trend from 33 cases in 2012 to 21 cases in 2016.

The Medical Examiner Office will continue its efforts to serve the public and hope that assistance and cooperation with these efforts will be rendered.

Respectively submitted,



Stephen D. Cohle, MD  
Kent County Chief Medical Examiner



# Medical Examiner Reportable Deaths and Autopsy

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The Michigan County Medical Examiners Law, P.A. 181 of 1953, as amended, and the Michigan Public Health Code, P.A. 368 of 1978, as amended, mandates that specific types of deaths (listed below, left) be referred to the medical examiner for investigation. Medical examiner investigation of a death may also be ordered by the county's prosecuting attorney, the Michigan Attorney General or, upon the filing of a petition, signed by six (6) electors of a county. Not all deaths referred to the medical examiner for investigation necessarily result in an autopsy; however, an autopsy is generally ordered in certain circumstances (listed below, right), to determine more accurately the cause and manner of death.

## Types of Deaths Reportable to the Medical Examiner, P.A. 368 of 1978

1. Sudden deaths and unexpected deaths (all deaths occurring in operating room, in recovery room, anesthesia related, natural death but not expected, occupational related deaths, subdural hematoma, intracerebral hemorrhage, etc.)\*
2. Accidental deaths (motor vehicle, burns, drowning, falls, broken bones, drug overdose, drug toxicity, subdural hematoma, recent or past trauma, etc.)
3. Violent deaths (homicide, gunshot, stabbing, suicide, subdural hematoma, etc.)\*
4. Suspicious circumstances surrounding a death.\*
5. Deaths occurring as a result of an abortion.
6. Upon written order of the prosecuting attorney or the attorney general or upon the filing of a petition signed by six (6) electors of a county.
7. Death of a prisoner in any county or city jail who dies while so imprisoned.
8. If a fetal death occurs without medical attendance at or after the delivery.

In terms of a physician attendance: for the purposes of the medical examiner program, we consider that an investigation is required when:

- A. The deceased was last seen by a physician more than \*\*ten (10) days before his or her death, if the cause of death appears to be other than the illness or condition for which the deceased was being treated.
- B. The attending physician cannot accurately determine the cause of death.
- C. When the deceased has not received any medical attention during the \*\*\*48 hours prior to the hour of death unless the attending physician, if any, is able to accurately determine the cause of death.

\* All trauma related deaths no matter when the trauma occurred.

\*\* The ten (10) day requirement relates solely to physician attendance.

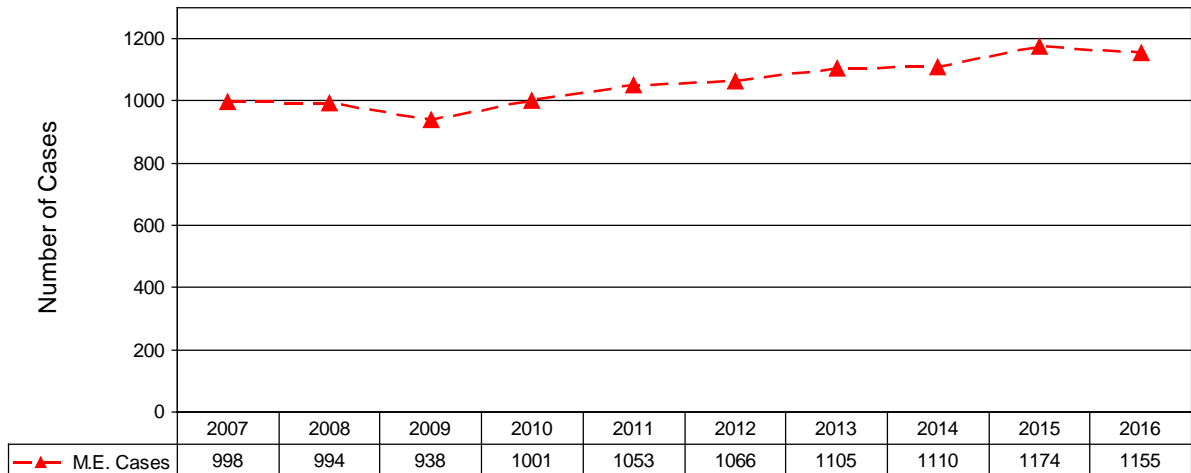
\*\*\*The 48 hour requirement triggers an investigation when there has been no medical attendance of any kind (i.e., nursing care, etc.)

## Types of Medical Examiner Cases for which Autopsy is Generally Ordered

1. Sudden deaths and unexpected deaths only when in the medical examiner's judgment, sufficient medical history is not available to determine cause and manner of death.
2. Accidental deaths such as motor vehicle, burns, drowning, etc. If an individual has been hospitalized for a length of time, it is the medical examiner's decision to order an autopsy.
3. Violent deaths such as homicide, suicide, gunshot, stabbing, etc.
4. Suspicious circumstances surrounding death, including unidentified bodies.
5. Death related to an abortion.
6. Sudden infant deaths (SIDS) and deaths of children 18 and under without significant medical history.
7. Death of a prisoner imprisoned at any county or city jail.
8. In a fetal death occurring without medical attendance at or after delivery.
9. An autopsy may be ordered at the discretion of the medical examiner if the cause of death appears to be other than the illness or condition for which the deceased was being treated, or if the attending physician cannot accurately determine the cause of death.
10. Anesthesia-related and unexpected deaths of patient in health care institutions.
11. Partial autopsies are not done because it is not best practice.
12. Views are performed in cases in which there is adequate history to explain the death, but there are external findings, such as injuries, that require direct examination to determine whether they maybe significant injuries that mandate full autopsy.

# 2016 Medical Examiner Caseload

**Figure 1: Accepted Kent County Medical Examiner Cases, 2007-2016**

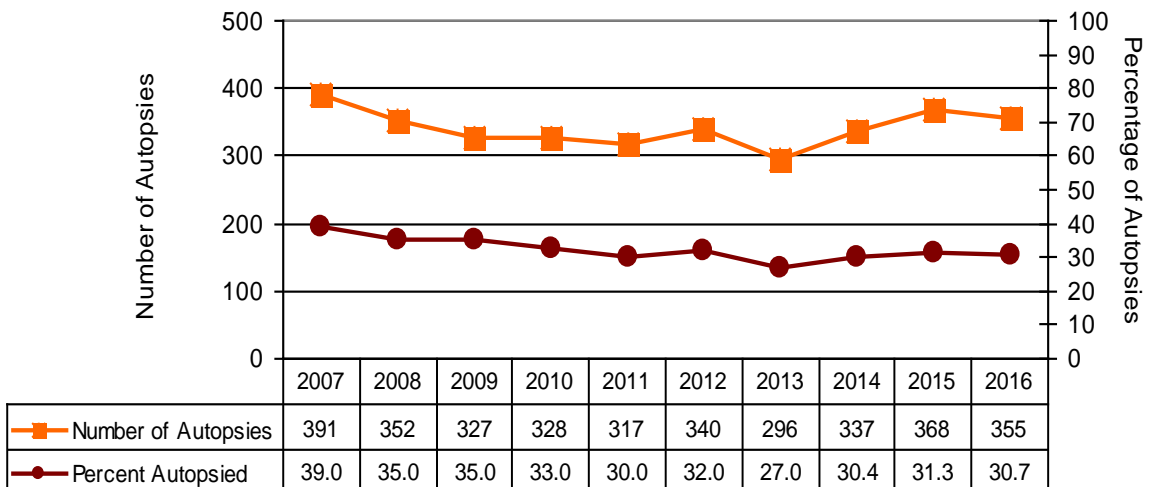


**Total Referred Medical Examiner Cases in 2016: 1,727**

Accepted	1,155	67.0%
Declined	572	33.0%

In 2016, there were 5,934 deaths in Kent County. The medical examiner was contacted regarding 1,727 of these deaths. 1,155 cases were accepted for investigation, while 572 were declined and did not fall within the requirements for investigation by the Medical Examiner's Office. There were no exhumations in 2016. In 2016, there were 162 referrals to Gift of Life and Eversight resulting in 45 tissue donors and 41 eye donors.

**Figure 2: Medical Examiner Cases with Autopsy, 2007-2016**



Of the 355 autopsies performed, 345 were charged to Kent County. The remaining 10 autopsies were performed at the request of other counties. Toxicology was performed on 375 cases with 15 of those being views (85) and 19 where only toxicology was performed. There were no partial autopsies performed.

# 2016 Medical Examiner Caseload

Figure 3: Accepted Medical Examiner Caseload by Month, 2012-2016

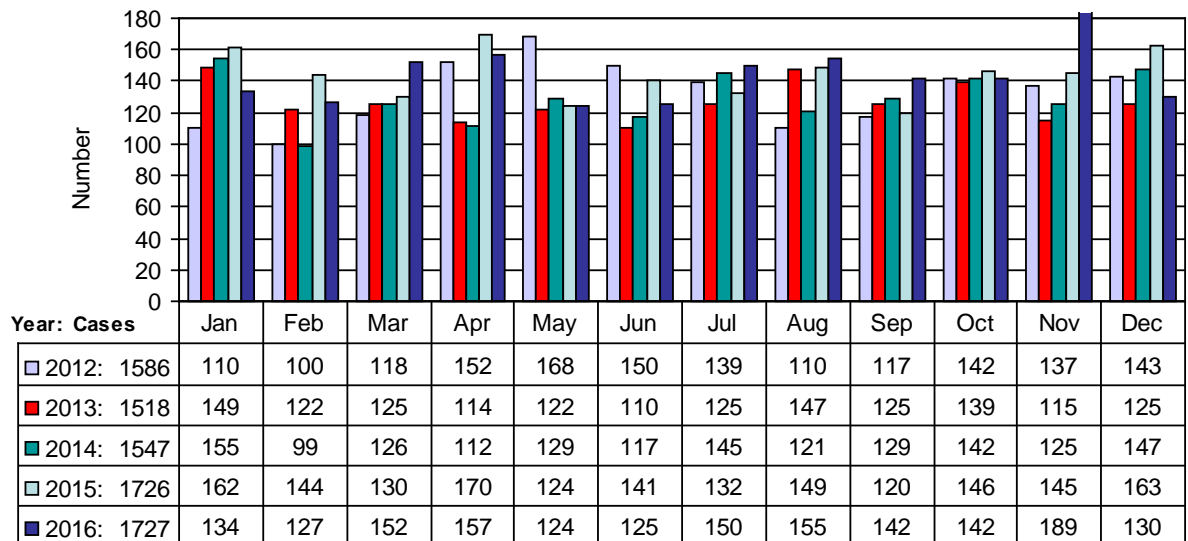
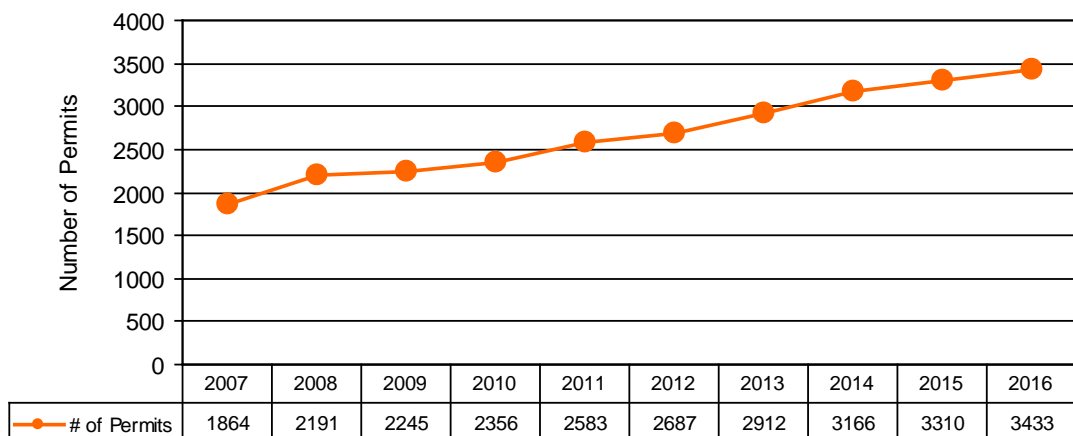
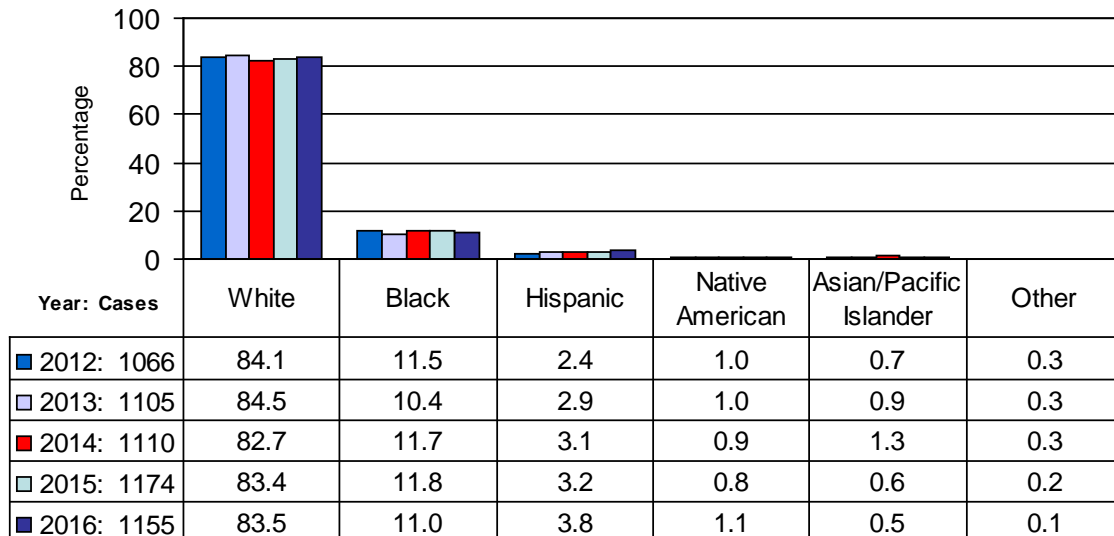


Figure 4: Cremation Permits Issued, 2007-2016

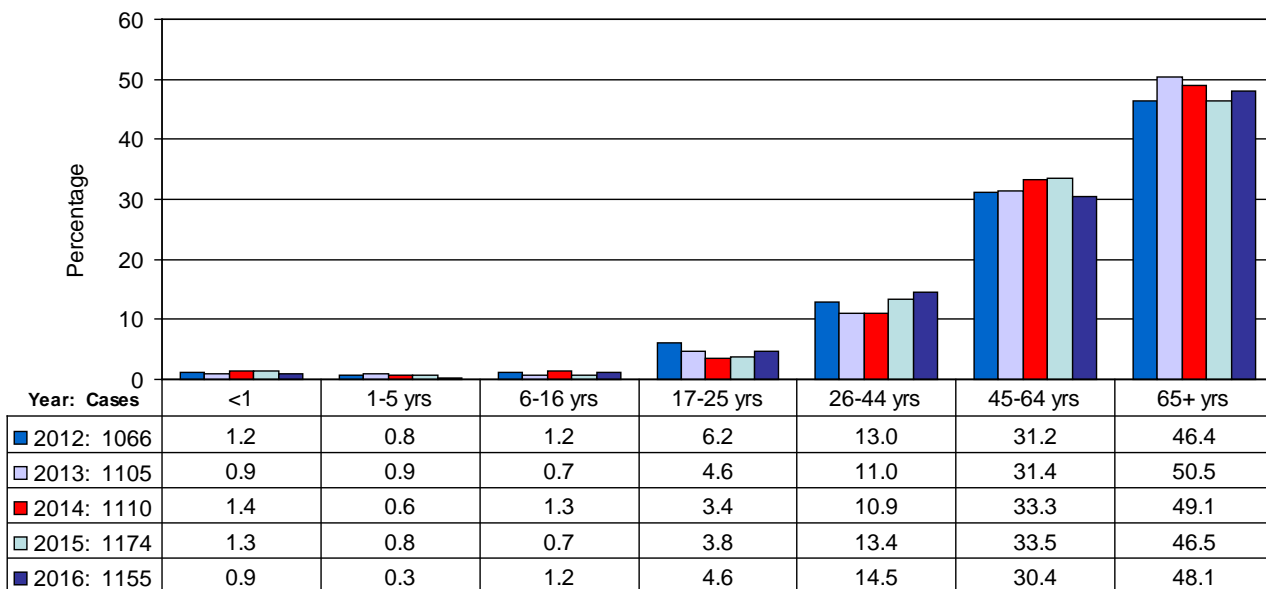


# Demographics of Medical Examiner Cases

**Figure 5: Medical Examiner Cases by Race/Ethnicity, 2012-2016**



**Figure 6: Medical Examiner Cases by Age at Death, 2012-2016**



**Table 1: Medical Examiner Cases by Gender, 2012-2016**

	2012	2013	2014	2015	2016
Female	35.8%	38.5%	38.8%	37.3%	39.8% (460 cases)
Male	64.2%	61.5%	61.1%	62.7%	60.2% (695 cases)
Unknown			0.1% (bones)		

# Manner of Death

Figure 7: Medical Examiner Cases by Manner of Death, 2007-2016

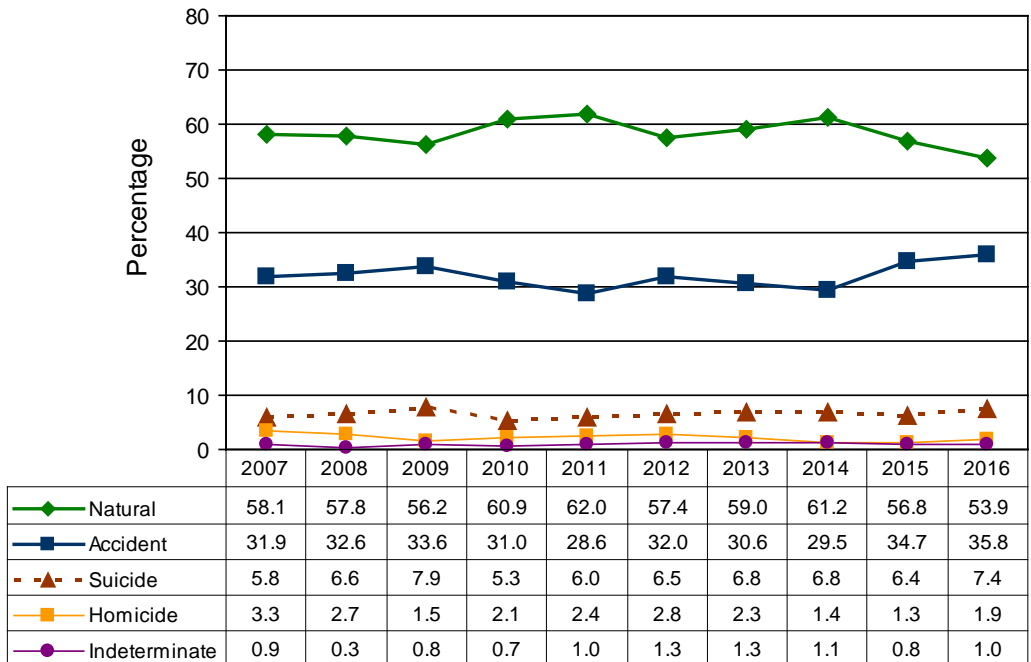
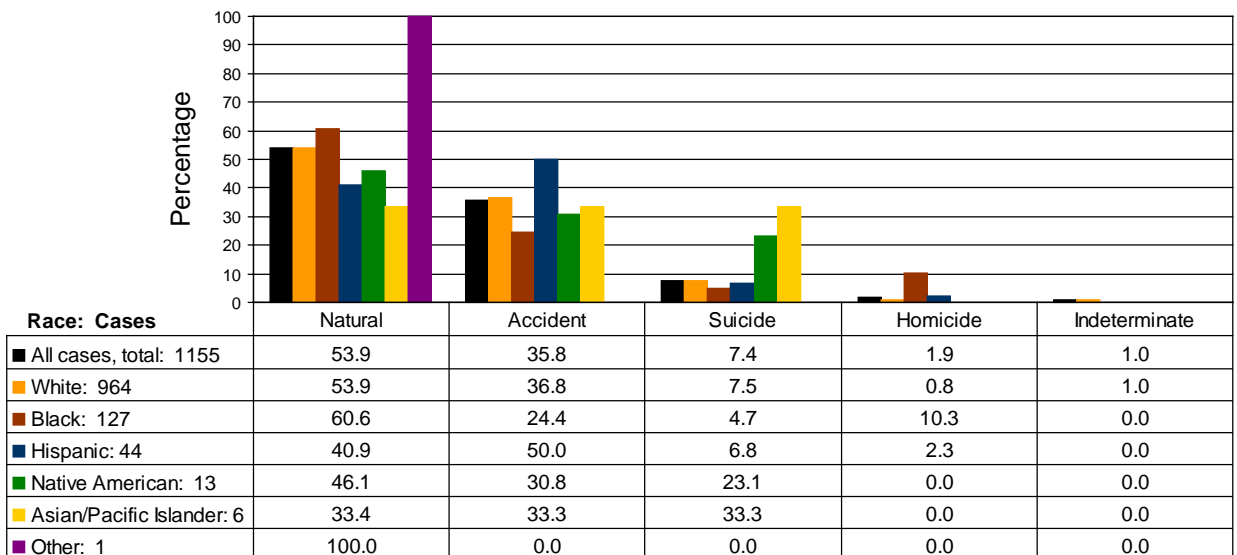


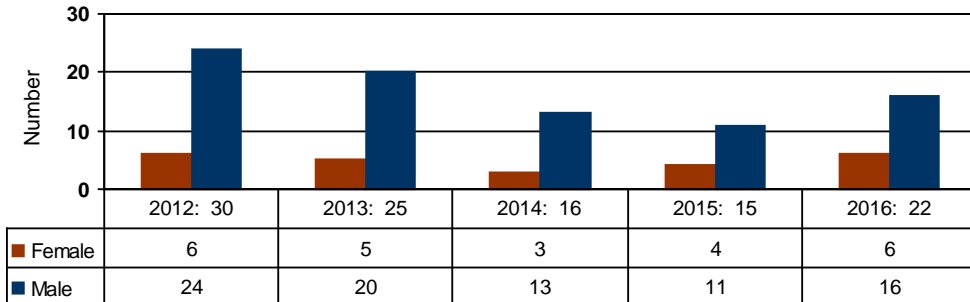
Figure 8: Manner of Death by Race/Ethnicity, 2016



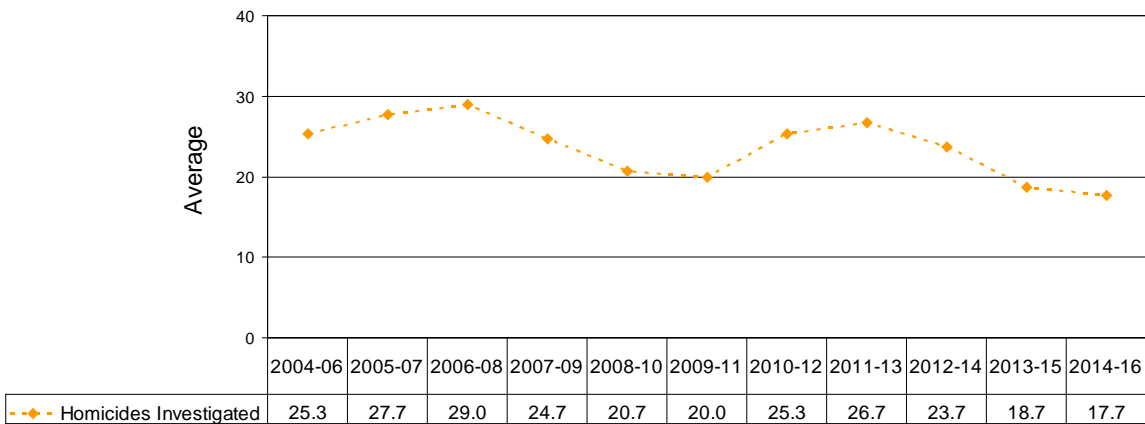


# Manner of Death

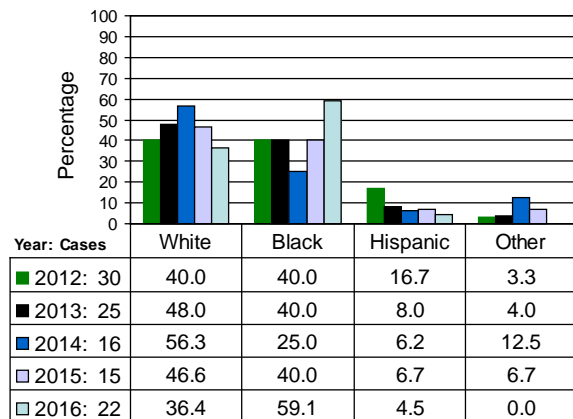
**Figure 9: Kent County Homicides by Gender, 2012-2016**



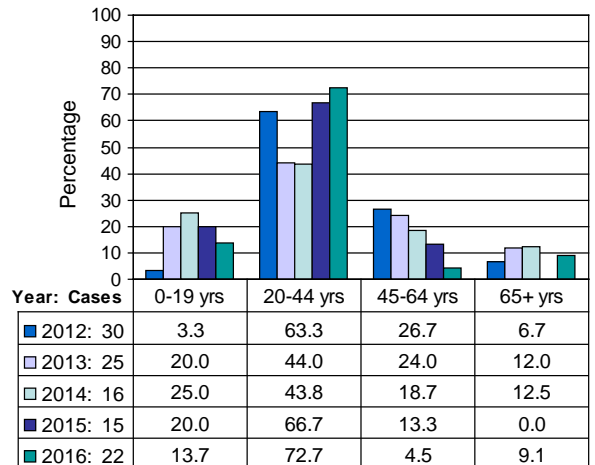
**Figure 10: Kent County Homicides, Three-Year Moving Averages, 2004-2016**



**Figure 11: Homicides by Race, 2012-2016**

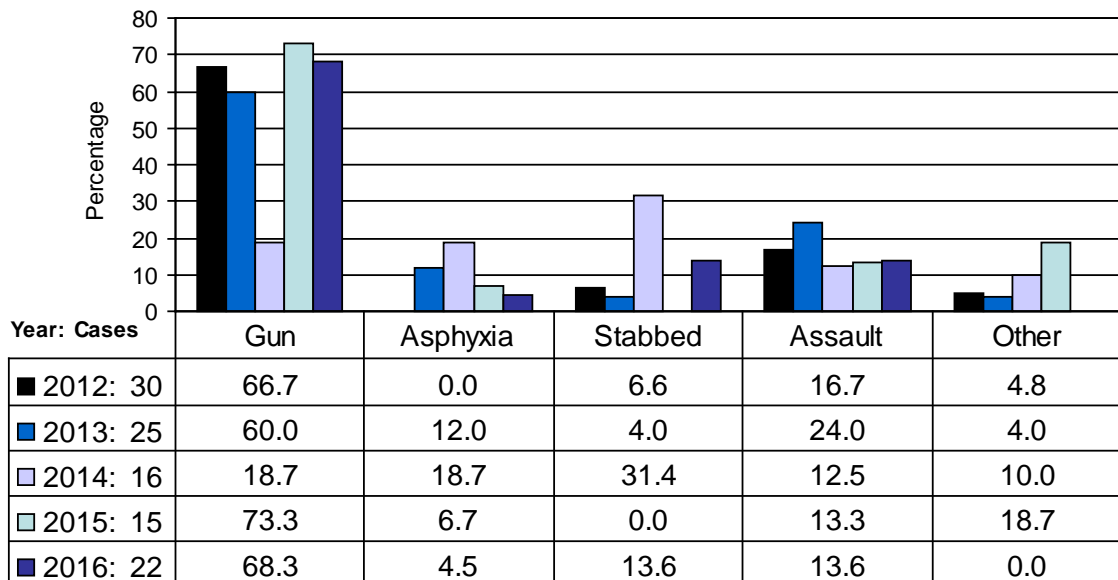


**Figure 12: Homicides by Age, 2012-2016**



# Manner of Death

**Figure 13: Homicide Cases by Method Used, 2012-2016**



**Table 2: Gun Homicides by Age, 2012-2016**

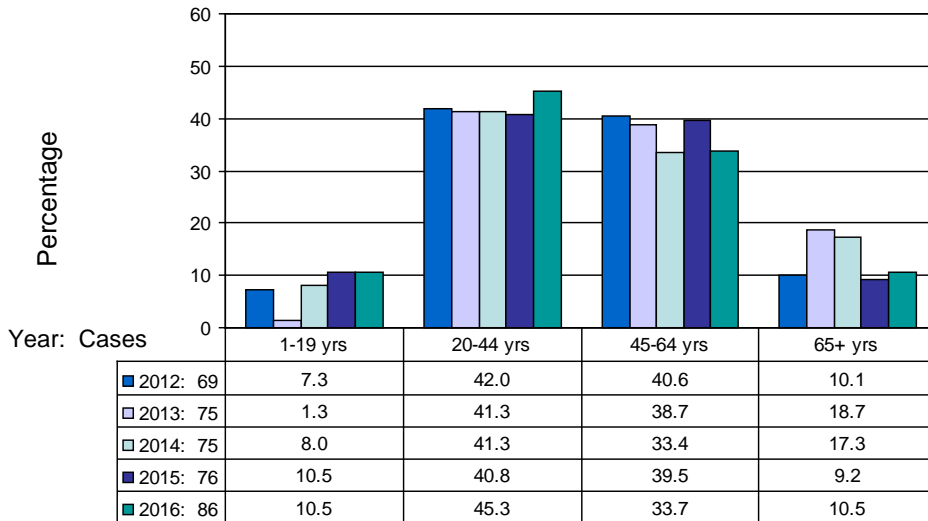
Year: Cases	AGE			
	0-19 yrs	20-29 yrs	30-39 yrs	40+ yrs
2012: 20	1	11	3	4
2013: 15	4	5	1	5
2014: 3	1	1	1	0
2015: 11	1	3	5	2
2016: 15	1	8	3	3

**Table 3: Suicide Cases by Race, 2012-2016**

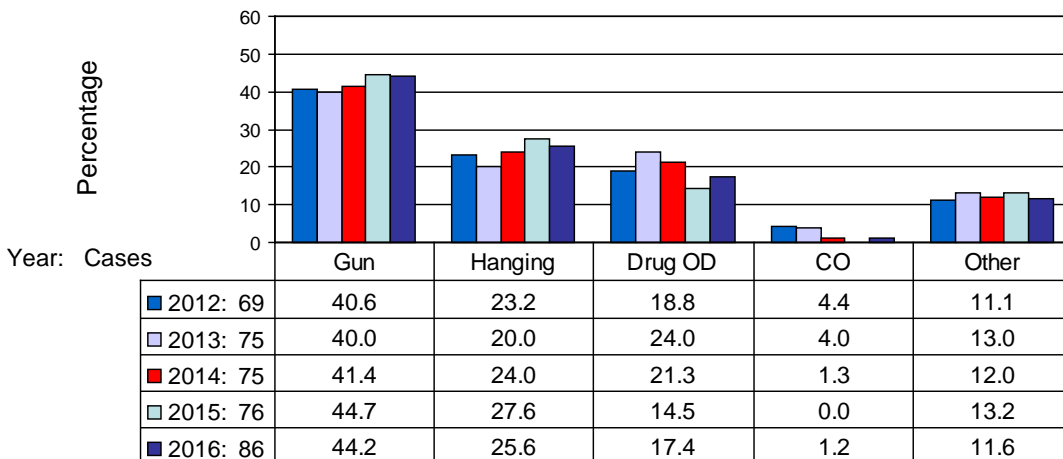
	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>Native American</u>	<u>Asian</u>
2012: 69	89.9%	5.8%	2.9%	0.0%	1.4%
2013: 75	90.7%	1.3%	6.7%	0.0%	1.3%
2014: 75	90.7%	8.0%	0.0%	0.0%	1.3%
2015: 76	85.5%	7.9%	5.3%	0.0%	1.3%
2016: 86	83.7%	7.0%	3.5%	3.5%	2.3%

# Manner of Death

**Figure 14: Suicide Cases by Age, 2012-2016**



**Figure 15: Suicide Cases by Method Used, 2012-2016**

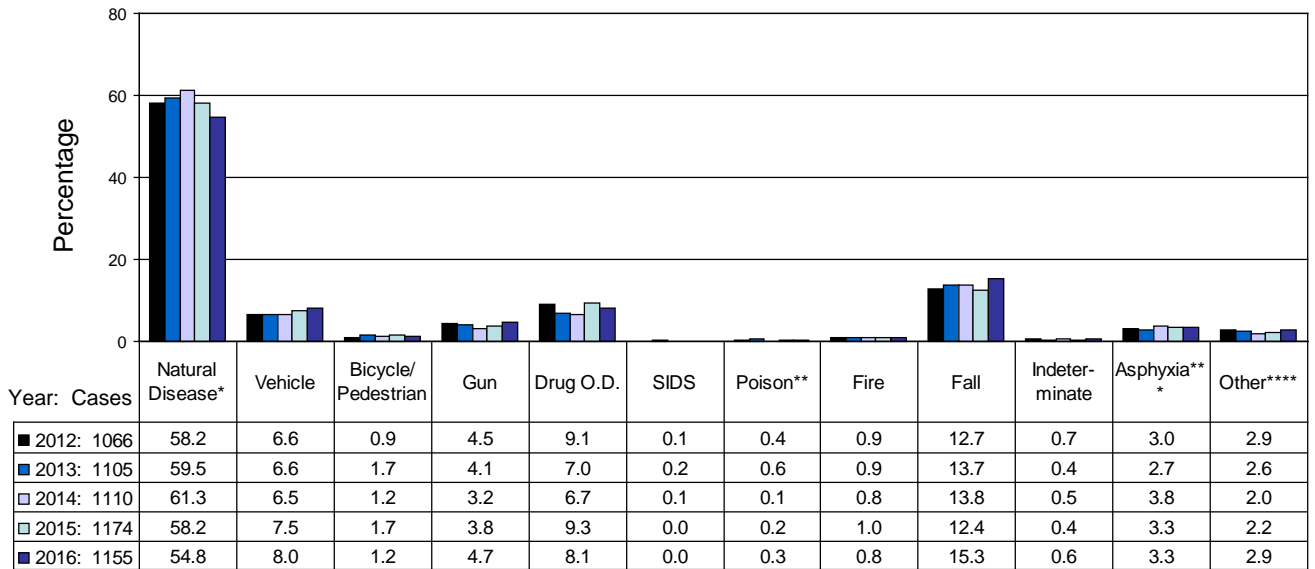


In 2016, CO is carbon monoxide poisoning, while Other consists of asphyxia (1), drowning (1), fire (1), falls (3), fire (1), stabbing (1), poison (1) and incised wounds (1).

Of the 86 suicide deaths for 2016, females accounted for 26 (30.2%) deaths, while males accounted for 60 (69.8%).

# Cause of Death

**Figure 16: Medical Examiner Cases by Cause of Death, 2012-2016**



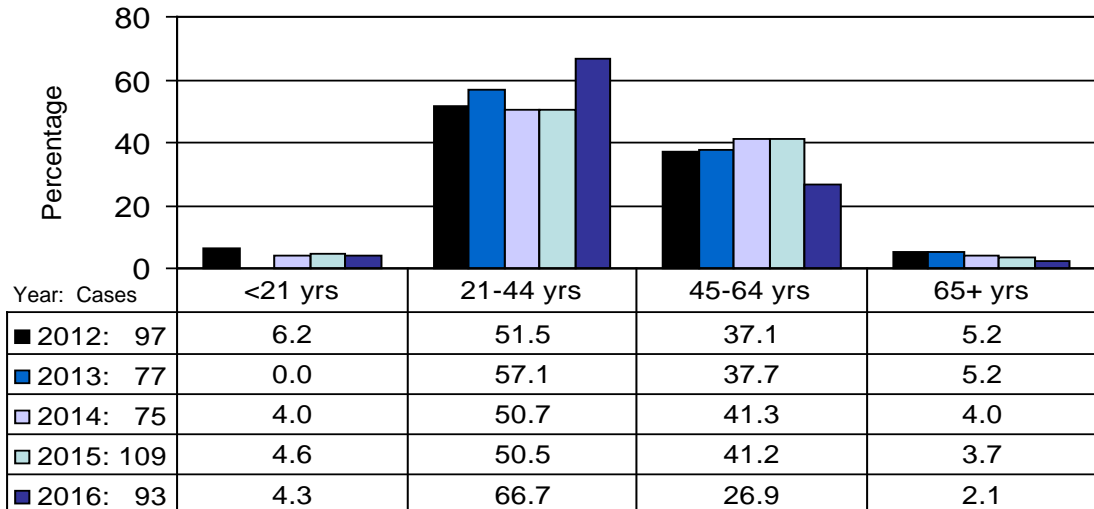
\*Natural: alcohol (37; 5.8%); cancer (25; 4.0%), cardiovascular (446; 70.5%); CNS (33; 5.2%); respiratory (35; 5.5%), and other (57; 9.0%)

\*\*Poison includes carbon monoxide poisoning (3; 75.0%), and herbicide ingestion (1; 25.0%).

\*\*\*Asphyxia includes deaths from hanging (22; 57.9%), choking on food (6; 15.8%), suffocation with bedding, (2; 5.3%), co-sleeping (4; 10.6%), crushed by object (1; 2.6%), .positional asphyxia (1; 2.6%), Ligature strangulation (1; 2.6%), and suffocation with plastic bag (1; 2.6%).

\*\*\*\*Other includes deaths from encephalopathy d/t choking on food (1; 2.9%), drowning (11; 32.5%), stabbed (4; 11.8%), head trauma (2; 5.9%), strangulation (1; 2.9%), hypothermia (3; 8.8%), electrocution (2; 5.9%), incised wounds (1; 2.9%), sepsis d/ injection (1; 2.9%), crushed by object (2; 5.9%), struck by bull (1; 2.9%), complications from surgery (1; 2.9%), blunt force injuries (2; 5.9%), and quadriplegia (2; 5.9%).

**Figure 17: Drug Deaths by Age, 2012-2016**

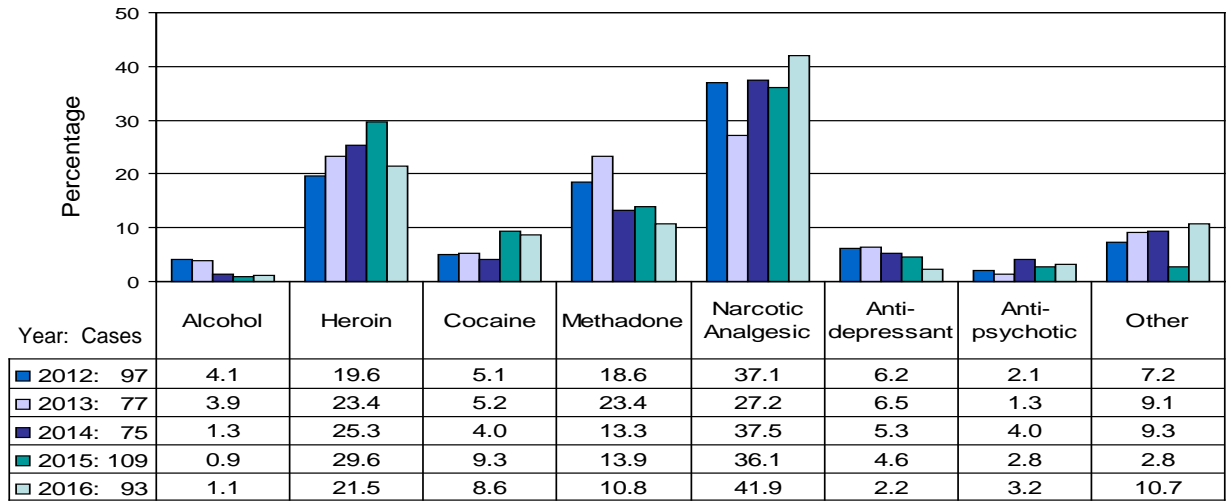


**Table 4: Drug Deaths by Gender, 2016**

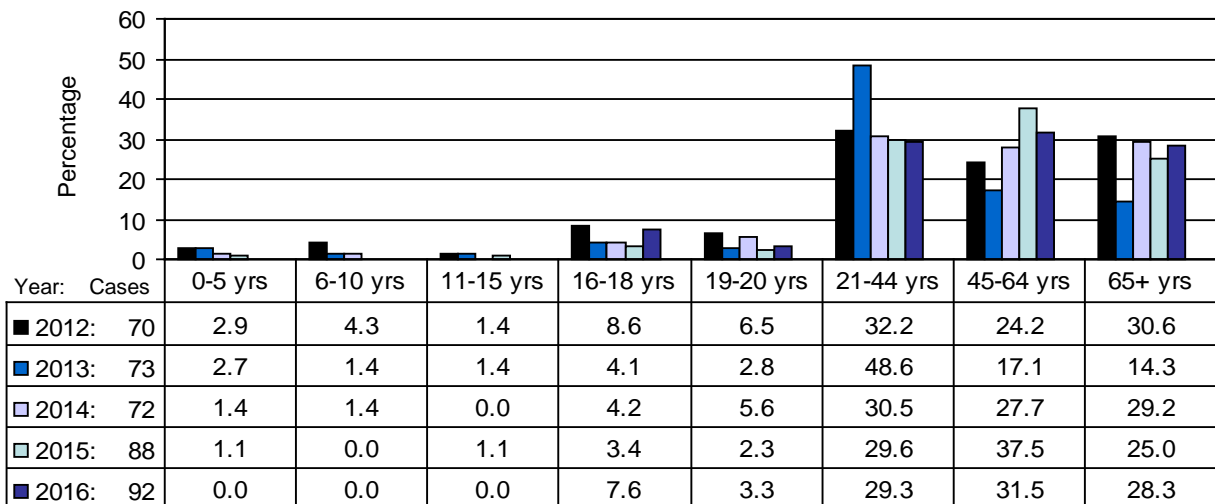
	Female (40)	Male (53)
Accident	28	49
Suicide	11	4
Indeterminate	1	0

# Cause of Death

**Figure 18: Drug Deaths by Drug of First Mention, 2012-2016**



**Figure 19: Vehicular Deaths by Age, 2012-2016**



**Table 5: Vehicular Deaths by Gender, 2012-2016**

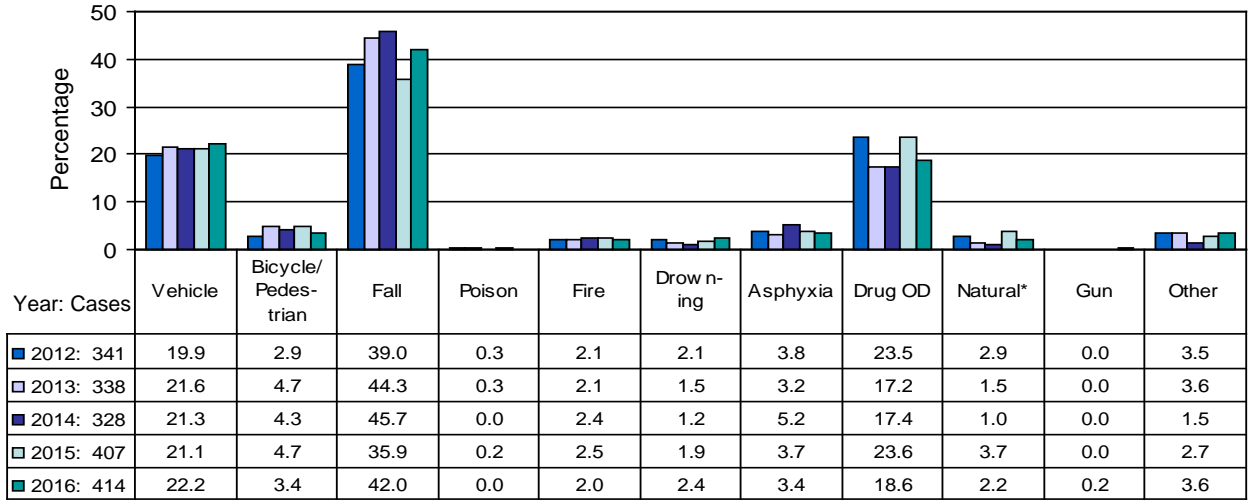
	Female	Male
2012: 70	30.0% (21)	70.0% (49)
2013: 73	28.8% (21)	71.2% (52)
2014: 72	38.9% (28)	61.1% (44)
2015: 88	26.1% (23)	73.9% (65)
2016: 92	40.2% (37)	59.8% (55)

**Table 6: Bicycle/Pedestrian Deaths by Age, 2012-2016**

	<21 yrs	21-44 yrs	45-64 yrs	65+ yrs
2012: 10	6	3	1	1
2013: 16	2	3	8	3
2014: 14	2	4	8	0
2015: 20	3	4	10	3
2016: 14	2	6	4	2

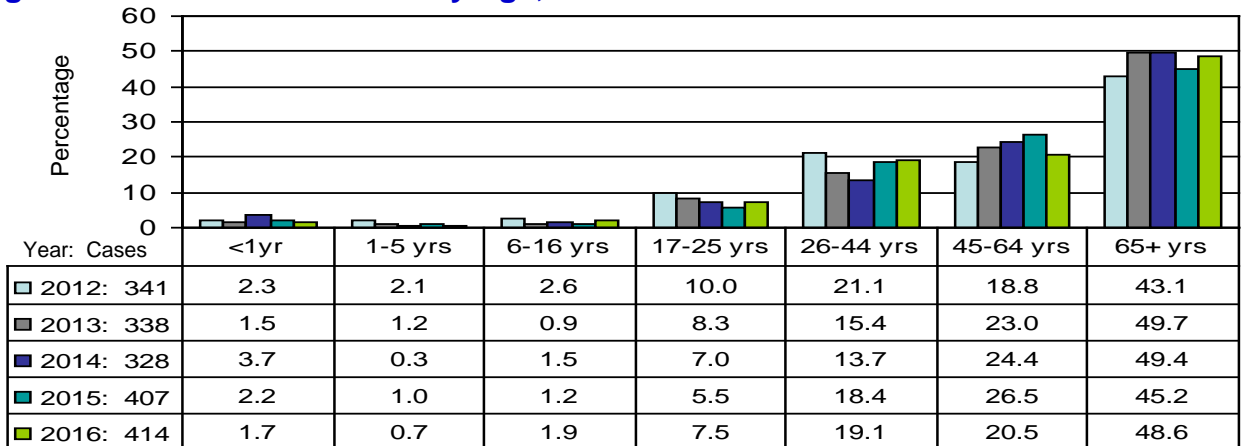
# Cause of Death

**Figure 20: Accidental Deaths by Cause, 2012-2016**

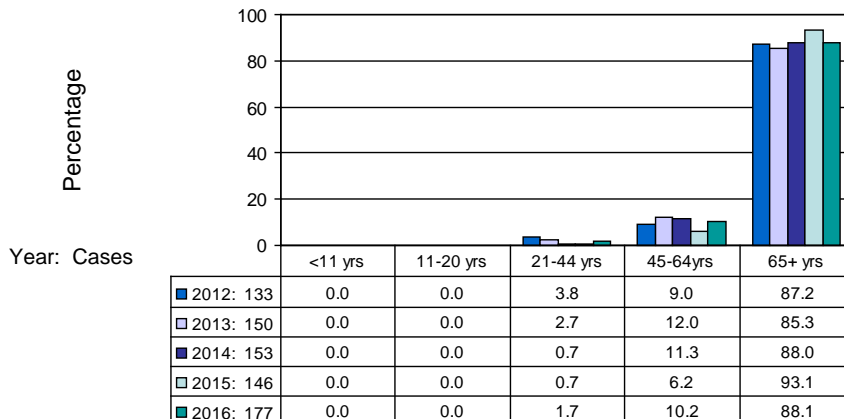


\*A natural cause of death can have a contributing factor that determines the death to be accidental. There were 9 deaths that fell into this category in 2016 from falls (2), post traumatic epilepsy/seizure d/t motor vehicle accident (2), mixed drug (1), morphine toxicity (1), cocaine toxicity (1), methamphetamine toxicity (1), and ethanol (1).

**Figure 21: Accidental Deaths by Age, 2012-2016**



**Figure 22: Deaths Resulting from Falls by Age, 2012-2016**



## MISCELLANEOUS

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### Unclaimed Bodies 2012-2016

The Medical Examiner's Office handles all indigent burials in Kent County even if they do not fall under the medical examiner's jurisdiction with the assistance of the Michigan Department of Human Services. In 2016, the office processed 27 unclaimed bodies.

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Medical Examiner Cases	10	18	11	18	9
Not Medical Examiner Cases	20	16	19	18	18
<b>Total Cases</b>	<b>30</b>	<b>34</b>	<b>30</b>	<b>36</b>	<b>27</b>

Deceased are considered unclaimed when they absolutely have no legal next of kin, and others fall under this category when family members either can not afford the expense of a burial/cremation or just do not want anything to do with the funeral arrangements.

### Child Death Cases Reviewed 2012-2016

The Child Death Review Team reviews the deaths of those in Kent County who are 17 and younger. In 2016, there were 21 child death cases reviewed. Of these cases, 9 were deaths from 2015 and 12 were deaths from 2016.

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Natural	3	7	5	3	3
SIDS	1	0	2	1	0
Vehicular Accident	7	4	5	2	2
Accidental	14	5	6	11	9
Suicide	5	1	4	4	3
Homicides	1	5	3	1	4
Indeterminate	2	0	2	2	0
<b>Total Cases</b>	<b>33</b>	<b>22</b>	<b>27</b>	<b>24</b>	<b>21</b>

Natural includes deaths from complex congenital heart disease (1); volvulus without malrotation (1); multiple congenital cardiac anomalies (1).

Accidental includes deaths from suffocation: asphyxia d/t smothering-wrapped in bed clothing (1); face down in Pac-n-Play (1); positional asphyxia-face down in air mattress (1); placed on soft bedding (1); co-sleeping (3, anaphylaxis d/t food allergy (1) and acute morphine toxicity (1).

Suicide includes death by gun (1); and hanging (2).

Homicide includes death by gun (1); stabbing & blunt head trauma (1); craniocerebral trauma (1) and asphyxia by smothering (1).

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