

# OFFICE OF THE MEDICAL EXAMINER

## ANNUAL REPORT 2014

Allegan County

Calhoun County

Kalamazoo County

Muskegon County



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## SERVICES WE PROVIDE

### INVESTIGATIONS OF DEATHS REPORTED TO OUR OFFICE

As the medical examiner's office for multiple counties in Michigan, we perform autopsies and other postmortem examinations as an important part of the death investigation process. Each county in Michigan has a licensed physician, appointed by the county commissioners, who is responsible for investigating deaths covered by the requirements of Michigan Compiled Laws.

In general, the deaths investigated by our office include those that are thought to result from injury or poisoning (such as homicide, suicide, and accidental deaths), and those deaths that are sudden, unexpected, and not readily explainable at the time of death.

Since deaths occur regardless of time or day, the medical examiner's office responds to deaths 24 hours per day, 365 days per year.

The typical sequence of events that occurs following a death is:

1. A death is reported to the on-call medical examiner investigator (MEI).
2. We assess whether we have legal authority and duty to investigate the death.
3. The death scene is visited and investigated, if needed.
4. Investigative information is obtained about the decedent's medical and social history, as well as other information surrounding the events that were associated with the death.
5. If an examination is indicated, the body is transported to the medical examiner's office at Western Michigan University Homer Stryker M.D. School of Medicine (WMed) in Kalamazoo, Michigan.
6. If the investigator believes the death may not require a postmortem investigation, the on-call medical examiner is contacted and the case is discussed before the body is released to the funeral home.
7. An investigative report is written by the medical examiner investigator including contacting the primary care physician to notify of the death and to confirm medical history.
8. A death certificate is generated by either the decedent's personal physician or the assigned medical examiner.
9. If a postmortem examination is performed, following all appropriate test results, a postmortem examination report is written.
10. Permanent records are maintained for future use, as needed, and distributed to those who have requested a copy of the report and are authorized to receive the report.

Occasionally, some deaths require follow-up investigations, which for most of our counties are conducted by our Chief Investigators and in-house investigators based at WMed in Kalamazoo.

## DEATH CERTIFICATION

The main focus of our investigation is to determine the cause and manner of death, and to clarify circumstances surrounding the death. The cause of death is related to the underlying disease or injury that resulted in the individual's death. The manner of death, in the state of Michigan, is limited to these possibilities: natural, accident, suicide, homicide, or indeterminate. In addition, information gathered during the investigation of event(s) before death and/or collection of evidence that may be critical for future legal proceedings.

## CASE MANAGEMENT APPROACH

The medical examiner or deputy medical examiner, who are also board-certified forensic pathologists, is assigned to each case and generally uses one of four approaches in each of the deaths for which our office is responsible:

- Direct Release - the body is released directly from the scene to the funeral home. The MEI at the scene views the body and collects information on the scene, medical history, and social history. This information is provided to the on-call Medical Examiner who may decide to release a body directly to the funeral home chosen by the family.
- View - a cursory examination is performed to further evaluate the case and to rule out trauma or the need for further in-depth examination.
- External or Limited Examination – an external examination includes a detailed record of observations, possible laboratory/toxicology testing and a dictated report. A limited examination generally is within an anatomic boundary (such as a brain only examination) to recover a foreign body, hardware or to answer specific questions. These examinations may also include toxicology testing.
- Complete Autopsy – a complete examination includes external and internal examination, with toxicology (if the appropriate specimens are available).

## DECISION TO AUTOPSY

The Medical Examiner and Deputy Medical Examiners use standards established by the National Association of Medical Examiners (NAME) to determine whether an autopsy is indicated. The standards, most recently revised in September of 2014, state:

The forensic pathologist shall perform a forensic autopsy when:

1. The death is known or suspected to have been caused by apparent criminal violence.
2. The death is unexpected and unexplained in an infant or child.
3. The death is associated with police action.

4. The death is apparently non-natural and in custody of a local, state, or federal institution.
5. The death is due to acute workplace injury.
6. The death is caused by apparent electrocution.
7. The death is by apparent intoxication by alcohol, drugs, or poison, unless a significant interval has passed, and the medical findings and absence of trauma are well documented.
8. The death is caused by unwitnessed or suspected drowning.
9. The body is unidentified and the autopsy may aid in identification.
10. The body is skeletonized.
11. The body is charred.
12. The forensic pathologist deems a forensic autopsy is necessary to determine cause or manner of death, or document injuries/disease, or collect evidence.
13. The deceased is involved in a motor vehicle incident and an autopsy is necessary to document injuries and/or determine the cause of death.

## NAME ACCREDITATION

The Medical Examiner's Office at Western Michigan University Homer Stryker M.D. School of Medicine received accreditation from the National Association of Medical Examiner's after a site visit in 2015. The office Information regarding inspection and accreditation is at the website for the National Association of Medical Examiners. [www.TheNAME.org](http://www.TheNAME.org).

## MANNER OF DEATH

Guidelines for classifying the manner of death include:

- Natural deaths are due solely or nearly totally to disease and/or the aging process.
- Accident applies when an injury or poisoning (including drug overdoses) causes death and there is little or no evidence that the 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 committed to do self-harm or cause the death of one's self.
- Homicide occurs when the death results from a volitional act committed by another person to cause fear, harm, or death. Intent to cause death is a common element but is not required for classification as a homicide. It has to be emphasized that the classification of homicide for the purpose of death certification is a "neutral" term and neither indicates nor implies criminal intent, which remains a determination within the province of legal processes.

- 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, in thorough consideration of all available information.

In general, when death involves a combination of natural processes and external factors, such as injury or poisoning, preference is given to the non-natural manner of death.

## CREMATION PERMIT AUTHORIZATIONS

Michigan compiled law 52.210 requires funeral directors and embalmers to obtain a signed permit from the medical examiner for the county in which the death occurred. Our office reviews thousands of cremation permit requests each year. The requests for authorization to cremate involves reviewing the death certificate provided by the funeral director to ascertain that deaths that should have been reported to our office were, in fact, reported. Deaths that were not properly reported are investigated before cremation is authorized.

## TESTIMONY AT TRIALS

The Medical Examiner and Deputy Medical Examiners receive multiple subpoenas and engage in multiple conversations and meetings with members of the law enforcement and legal community involving criminal and civil matters.

## PUBLIC HEALTH AND SAFETY ISSUES

Although the major purpose of the Medical Examiner's Office is to conduct death investigations, the information obtained from individual death investigations may also be studied collectively to gather information that may be used to address public health and safety issues. Our office participates with the child death review process in all counties, providing significant information regarding how children died with the goal of preventing future deaths. Our office anticipates increased involvement with elder death review teams in future years.

## EDUCATION

Our Medical Examiner's Office has strong affiliations with academic institutions. As part of the Western Michigan University Homer Stryker M.D. School of Medicine (WMed) our Medical Examiner and Deputy Medical Examiners are dually appointed as faculty with associated teaching and mentoring duties. Medical students and other students in advanced degree programs have the opportunity to fulfill electives in the Medical Examiner's Office to gain experience and exposure to forensic pathology.

## COMMENT ON METHOD AND TERMS

This annual report reflects the activities of our Medical Examiner's Offices during a given calendar year. With rare exception (*e.g.*, deaths reported to the wrong medical examiner office), the data include only those cases over which the county's medical examiner can exercise jurisdiction, which is based on where the individual was pronounced dead rather than the county of residence or the county in which the incident leading to death might have occurred. Furthermore, the data reflect the calendar year in which the deaths were reported to the respective medical examiner's office, regardless of the year in which the death actually occurred.

"MEI Scene Investigations" are those reported deaths for which an MEI went to the death scene. "Deaths Investigated" include MEI Scene Investigations as well as reported deaths that, while not requiring a scene investigation, did involve investigation beyond the initial report of death, usually in the form of a records review in response to information provided as part of a cremation request. The category "Referrals to Gift of Life" does not include in-hospital deaths reported to the Medical Examiner's Office, which are referred to Gift of Life by hospital staff rather than the Medical Examiner's Office. For "Accidental Deaths," the subcategory "Vehicle" consists of deaths that were classified as transportation-related fatalities, and include all forms of transport; drivers/operators, passengers, and pedestrians; and types of death that might otherwise fall into a different subclassification, such as vehicle fires and traumatic asphyxia. Finally, "SUID" stands for Sudden Unexplained Infant Death.

## ALLEGAN COUNTY

### STAFF

#### MEDICAL EXAMINER

Joyce L. deJong, D.O.

#### DEPUTY MEDICAL EXAMINERS

Elizabeth Douglas, M.D.

Brandy Shattuck, M.D.

John Bechinski, D.O.

Philip Croft, M.D.

Michael Markey, M.D.

Joseph DelTondo, D.O.

#### MEDICAL EXAMINER INVESTIGATORS

Tammy Bruce

Kim Duron

Robert Griffith

Lisa Letts

Eric Luthy

Judy Miller

Adam Sabala

Paul Smith

SUMMARY OF ALL CASES WITH A COMPARISON OF PAST 5 YEARS – ALLEGAN

ALLEGAN COUNTY	2010	2011	2012	2013	2014
<b>Total Deaths in the County</b>	607	598	602	657	705
<b>Deaths Reported to the Medical Examiner</b>	164	172	162	182	193
<b>Deaths Investigated</b>	*	*	145	164	189
<b>MEI Scene Investigations</b>	147	155	143	160	177
<b>Death Certificates by ME</b>	98	83	78	76	97
<b>Bodies Transported to Morgue</b>	80	68	63	58	74
<b>Complete Autopsy</b>	57	51	43	49	63
<b>Limited Autopsy</b>	4	2	6	1	2
<b>External Examination</b>	16	13	11	5	7
<b>Storage Only</b>	3	2	3	3	2
<b>Total Cases with Toxicology</b>	70	51	54	54	70
<b>Unidentified Remains After Exam</b>	0	0	0	0	2
<b>Referrals to Gift of Life</b>	14	35	37	32	74
<b>Tissue/Cornea Donations</b>	2	3	7	0	9
<b>Unclaimed Bodies</b>	0	2	2	1	2
<b>Exhumations</b>	0	0	0	0	0
<b>Cremation Permits</b>	287	300	299	350	409 <sup>A</sup>

\*Data not collected

<sup>A</sup>Estimated from combined numbers from Sparrow and WMed.

MANNERS OF DEATHS REPORTED TO ALLEGAN COUNTY MEDICAL EXAMINER

ALLEGAN COUNTY	2010	2011	2012	2013	2014
Natural	105	128	126	141	132
Accident	37	28	22	31	39
Suicide	16	14	12	6	16
Homicide	0	1	1	2	2
Indeterminate	6 <sup>A</sup>	1 <sup>B</sup>	1 <sup>C</sup>	2 <sup>D</sup>	4 <sup>E</sup>
<b>Total</b>	<b>164</b>	<b>172</b>	<b>162</b>	<b>182</b>	<b>193</b>

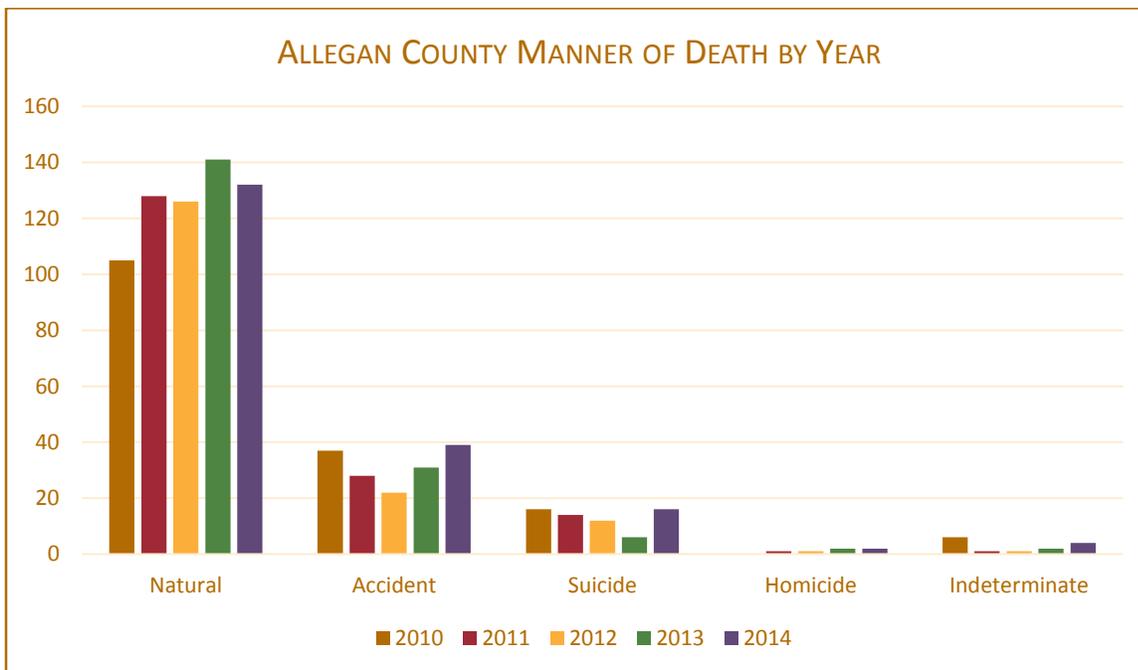
<sup>A</sup> (2) Drug related; (1) Drowning; (1) Carbon monoxide; (1) Non-human bones; (1) Severely decomposed, cause and manner could not be determined

<sup>B</sup> (1) Hypothermia complicated by mixed drug intoxication

<sup>C</sup> (1) Ingested multiple prescription drugs

<sup>D</sup> (1) SUID; (1) Indeterminate cause of death

<sup>E</sup> (1) SUID associated with unsafe sleep; (1) Unknown, presumed dead; (2) Skeletonized remains



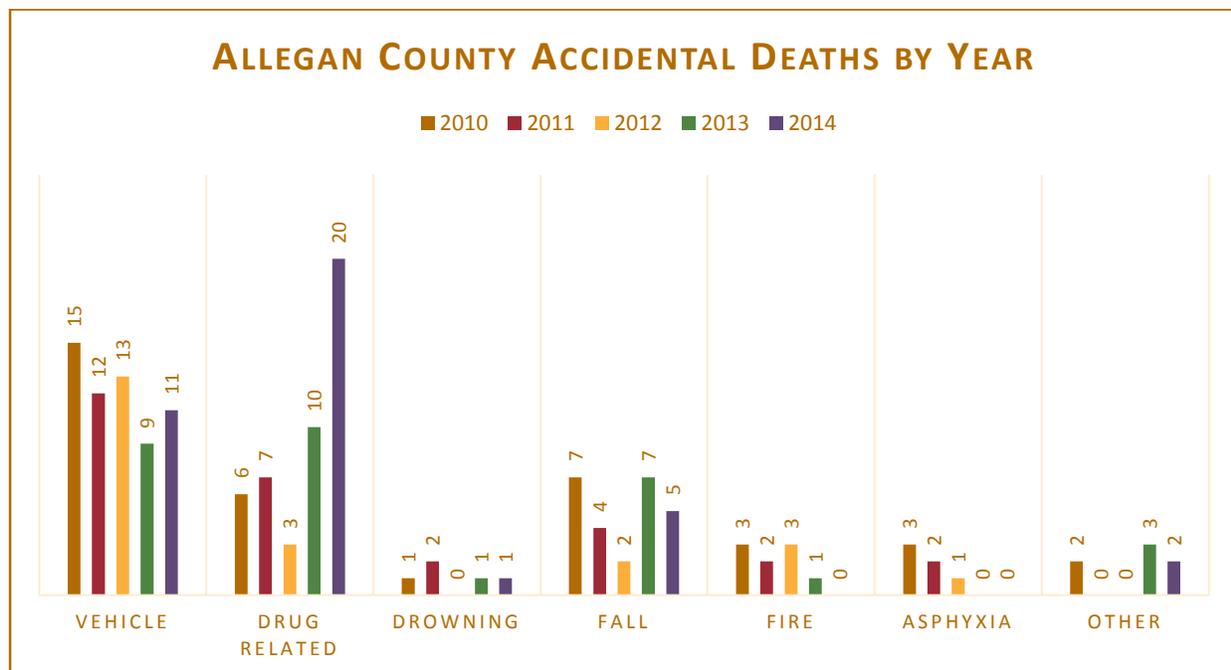
ACCIDENTAL DEATHS – SUBCLASSIFICATION – ALLEGAN COUNTY

ALLEGAN	2010	2011	2012	2013	2014
Vehicle	15	12	13	9	11
Drug Related	6	7	3	10	20
Drowning	1	2	0	1	1
Fall	7	4	2	7	5
Fire	3	2	3	1	0
Asphyxia	3	2	1	0	0
Other	2 <sup>A</sup>	0	0	3 <sup>B</sup>	2 <sup>C</sup>
<b>Total</b>	<b>37</b>	<b>29</b>	<b>22</b>	<b>31</b>	<b>39</b>

<sup>A</sup> (1) Accidental gunshot wounds; (1) Shot self; (1) Shot by another many years previous

<sup>B</sup> (2) Struck by falling timber; (1) Hypothermia

<sup>C</sup> (1) Aircraft crash; (1) Acute GI illness associated with consumption of wild mushrooms



ALLEGAN COUNTY DRUG RELATED FATALITIES

ALLEGAN	2010	2011	2012	2013	2014
Accident	6	7	3	10	21
Suicide	2	3	0	1	4
Indeterminate	2	0	1	0	0

ALLEGAN COUNTY – SUICIDES

SUICIDE TOTALS BY YEAR – ALLEGAN COUNTY

ALLEGAN	2010	2011	2012	2013	2014
<b>TOTAL</b>	16	14	12	6	16

SUICIDE METHOD – ALLEGAN COUNTY

ALLEGAN	2010	2011	2012	2013	2014
<b>Firearm</b>	6	6	9	3	11
<b>Hanging</b>	6	3	3	0	1
<b>Drug Intoxication</b>	2	2	0	1	4
<b>Carbon Monoxide</b>	1	1	0	1	0
<b>Motor Vehicle</b>	1	2	0	1	0

SUICIDE BY AGE – ALLEGAN COUNTY

ALLEGAN	2010	2011	2012	2013	2014
<b>0-17</b>	0	0	0	0	0
<b>18-25</b>	3	1	1	1	1
<b>26-44</b>	8	7	3	2	4
<b>45-64</b>	2	4	6	2	8
<b>65+</b>	3	2	2	1	3

ALLEGAN COUNTY – REPORTED DEATHS OF INFANTS AND CHILDREN

ALLEGAN			
AGE	SEX	CAUSE OF DEATH	MANNER OF DEATH
<b>2010</b>			
10 years	F	Hanging, scarf around neck; scarf attached to bed	Indeterminate
16 years	M	Drowning, above-ground swimming pool	Accident
<b>2011</b>			
0	M	24-weeks gestation stillborn	N/A
6 years	M	complications of alpha-thalassemia xOlinked mental retardation syndrome	Natural
14 years	F	Multiple injuries; vehicle vs. vehicle collision	Accident
15 years	F	Diabetes mellitus	Natural
15 years	M	Mechanical asphyxia; compression by overturned ATV	Accident

2012			
None			
2013			
1 month	F	Indeterminate	Indeterminate
9 months	F	SUID; tracheobronchitis	Indeterminate
2014			
3 months	M	Asphyxia due to obstruction of airways; injuries of head	Homicide
1 month	F	SUID associated with unsafe sleep environment	Indeterminate
7 months	F	Complications of congenital abnormalities including 1p36 deletion	Natural
17 years	M	Unknown-presumed dead	Indeterminate

## CALHOUN COUNTY

### STAFF

#### MEDICAL EXAMINER

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Phillip Croft, M.D.

Michael Markey, M.D.

Joseph DelTondo, D.O.

#### MEDICAL EXAMINER INVESTIGATORS

Kai Cronin

Aleatha Devriendt

Kim Duron

Robb Huebner

Patrick Jansens

SUMMARY OF ALL CASES – CALHOUN

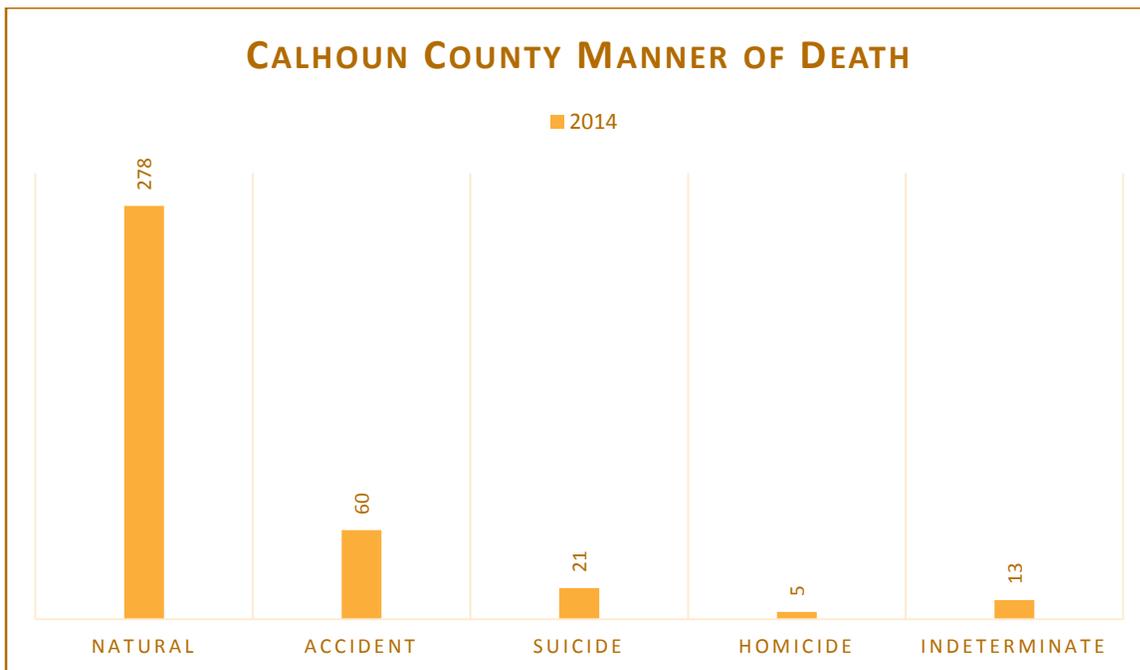
<b>CALHOUN COUNTY</b>	<b>2014</b>
<b>Total Deaths in the County</b>	1387
<b>Deaths Reported to the Medical Examiner</b>	377
<b>Deaths Investigated</b>	335
<b>MEI Scene Investigations</b>	296
<b>Death Certificates by ME</b>	178
<b>Bodies Transported to Morgue</b>	138
<b>Complete Autopsy</b>	103
<b>Limited Autopsy</b>	1
<b>External Examination</b>	20
<b>Storage Only</b>	14
<b>Total Cases with Toxicology</b>	122
<b>Unidentified Remains After Exam</b>	0
<b>Referrals to Gift of Life</b>	119
<b>Tissue/Cornea Donations</b>	18
<b>Unclaimed Bodies</b>	13
<b>Exhumations</b>	1
<b>Cremation Permits</b>	721 <sup>A</sup>

<sup>A</sup>Estimated from combined numbers from Sparrow and WMed.

MANNERS OF DEATHS REPORTED TO CALHOUN COUNTY MEDICAL EXAMINER

CALHOUN COUNTY	2014
Natural	278
Accident	60
Suicide	21
Homicide	5
Indeterminate	13 <sup>A</sup>
<b>Total</b>	<b>377</b>

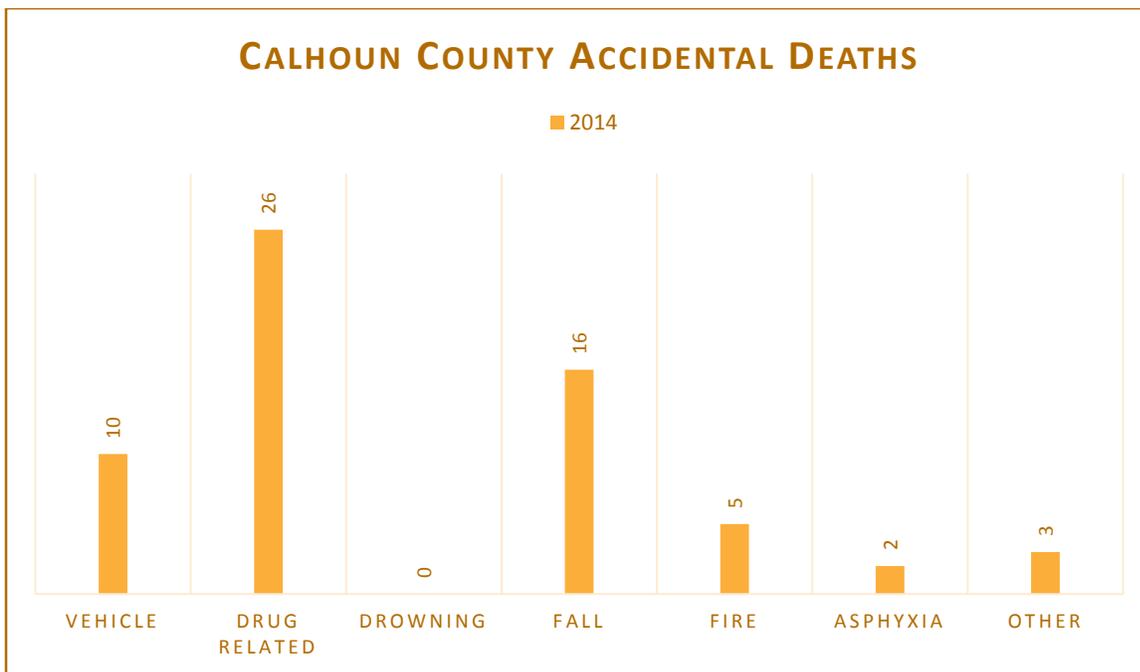
<sup>A</sup> (2) Inhalation of products of combustion in residential fire; (1) Aortic hemorrhaging; (2) Indeterminate cause of death; (1) SUID; (2) SUID associated with unsafe sleep; (2) Mixed drug intoxication; (1) Multiple blunt force injuries; (1) Non-human; (1) Complications of tracheomalacia, loss of ventilatory support



ACCIDENTAL DEATHS – SUBCLASSIFICATION – CALHOUN COUNTY

CALHOUN	2014
Vehicle	10
Drug Related	26
Drowning	0
Fall	16
Fire	5
Asphyxia	2
Other	3 <sup>A</sup>
<b>Total</b>	<b>62</b>

<sup>A</sup> (1) Sharp force injuries from falling into window; (1) Complications of chronic alcohol abuse, pulmonary emphysema, hypothermia; (1) Hypertensive and atherosclerotic cardiovascular disease, environmental cold exposure, dementia



CALHOUN COUNTY DRUG RELATED FATALITIES

CALHOUN	2014
Accident	26
Suicide	3
Indeterminate	2

CALHOUN COUNTY – SUICIDES

SUICIDE TOTALS BY YEAR – CALHOUN COUNTY

CALHOUN	2014
<b>TOTAL</b>	21

SUICIDE METHOD – CALHOUN COUNTY

CALHOUN	2014
<b>Firearm</b>	11
<b>Hanging</b>	7
<b>Drug Intoxication</b>	3
<b>Carbon Monoxide</b>	0
<b>Motor Vehicle</b>	0

SUICIDE BY AGE – CALHOUN COUNTY

CALHOUN	2014
<b>0-17</b>	1
<b>18-25</b>	4
<b>26-44</b>	7
<b>45-64</b>	8
<b>65+</b>	1

CALHOUN COUNTY – REPORTED DEATHS OF INFANTS AND CHILDREN

CALHOUN			
AGE	SEX	CAUSE OF DEATH	MANNER OF DEATH
<b>2014</b>			
0	M	Stillborn	Natural
12 days	F	Positional asphyxia (compromised airway)	Accident
8 months	M	Indeterminate	Indeterminate
22 days	F	SUID	Indeterminate
0	F	Stillborn	Natural
5 months	F	Indeterminate	Indeterminate
6 months	F	SUID associated with unsafe sleep environment	Indeterminate
2 months	F	SUID associated with unsafe sleep environment	Indeterminate
5 years	F	Blunt impacts to the head and torso	Accident

1 year	F	Probable sudden unexpected death in epilepsy	Natural
2 years	M	Complications of tracheomalacia	Indeterminate
16 years	F	Hanging	Suicide
11 years	M	Sudden cardiac event	Natural
15 years	F	Sudden death due to complications of cerebellar vascular tumor	Natural

## KALAMAZOO COUNTY

### STAFF

#### MEDICAL EXAMINER

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#### DEPUTY MEDICAL EXAMINERS

Elizabeth Douglas, M.D.

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Michael Markey, M.D.

Joseph DelTondo, D.O.

#### MEDICAL EXAMINER INVESTIGATORS

Kai Cronin

Ryan Davis

Richard Elsman

Eric Luthy

James Matteson, D-ABMDI

Ken Rourke, D-ABMDI

SUMMARY OF ALL CASES WITH A COMPARISON OF PAST 5 YEARS –  
KALAMAZOO

<b>KALAMAZOO COUNTY</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Total Deaths in the County</b>	2752	2590	2539	2668	2683
<b>Deaths Reported to the Medical Examiner</b>	*	828	778	777	750
<b>Deaths Investigated</b>	*	*	556	580	560
<b>MEI Scene Investigations</b>	*	498	503	549	411
<b>Death Certificates by ME</b>	*	394	362	358	355
<b>Bodies Transported to Morgue</b>	*	244	233	241	253
<b>Complete Autopsy</b>	*	178	187	193	174
<b>Limited Autopsy</b>	*	10	4	4	6
<b>External Examination</b>	*	50	34	37	37
<b>Storage Only</b>	*	6	8	7	36
<b>Total Cases with Toxicology</b>	*	198	212	222	198
<b>Unidentified Remains After Exam</b>	*	14	0	0	0
<b>Referrals to Gift of Life</b>	*	9	46	65	153
<b>Tissue/Cornea Donations</b>	*	3	9	7	25
<b>Unclaimed Bodies</b>	*	14	9	7	10
<b>Exhumations</b>	*	0	0	0	0
<b>Cremation Permits</b>	*	1485	1467	1740	1782 <sup>A</sup>

\*Data not collected.

<sup>A</sup>Estimated from combined numbers from Sparrow and WMed.

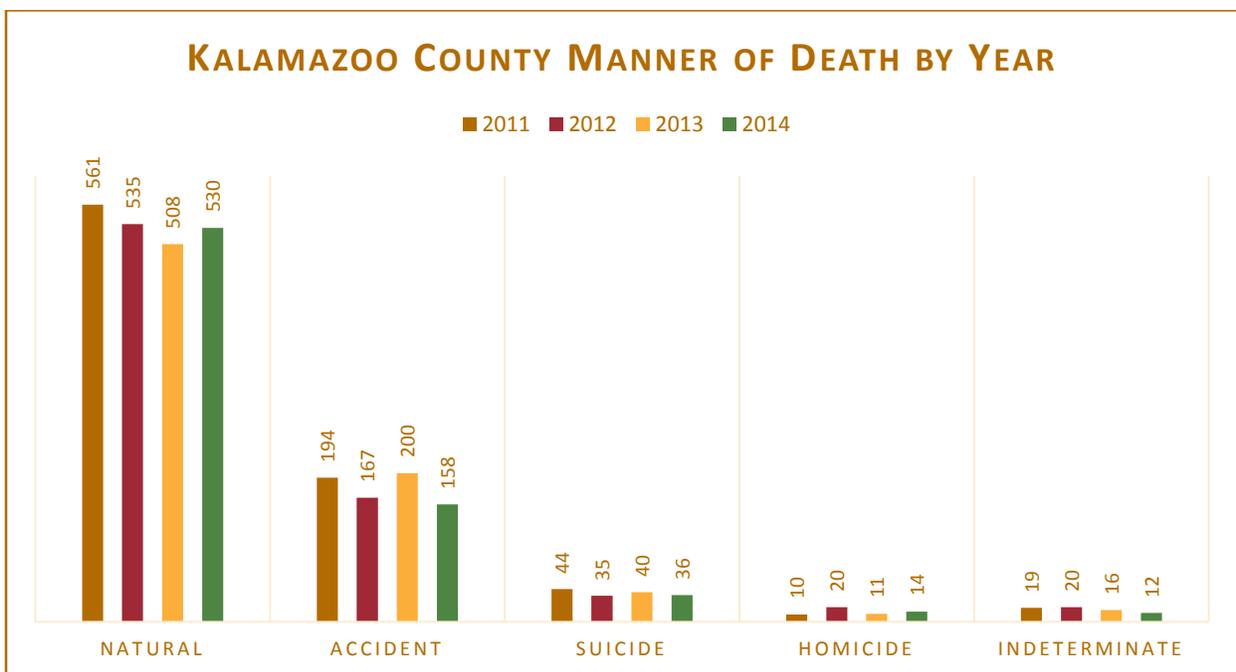
MANNERS OF DEATHS REPORTED TO KALAMAZOO COUNTY MEDICAL EXAMINER

KALAMAZOO COUNTY	2011	2012	2013	2014
Natural	561	535	508	530
Accident	194	167	200	158
Suicide	44	35	40	36
Homicide	10	20	11	14
Indeterminate	19	20 <sup>A</sup>	16 <sup>B</sup>	12 <sup>C</sup>
<b>Total</b>	<b>828</b>	<b>777</b>	<b>775</b>	<b>750</b>

<sup>A</sup> (9) Indeterminate cause of death; (5) Drug intoxication; (2) SUID; (1) Unsafe sleep environment; (1) Left leg fractures; (1) Drowning; (1) Carbon monoxide

<sup>B</sup> (7) SUID; (3) Drug intoxication; (2) Fire; (1) Indeterminate cause of death; (1) Struck by train; (1) Vehicle struck bridge abutment; (1) Splenic rupture under unclear circumstances

<sup>C</sup> (2) Thermal inhalation injuries; (1) Gunshot wound to head; (5) Drug intoxication; (1) Drowning; (3) SUID



ACCIDENTAL DEATHS – SUBCLASSIFICATION – KALAMAZOO COUNTY

KALAMAZOO	2011	2012	2013	2014
Vehicle	46	48	60	35
Drug Related	33	34	47	35
Drowning	5	2	2	3
Fall	92	67	76	77
Fire	5	2	8	3
Asphyxia	6	3	4	2
Hypothermia	2	4	1	1
Other	6 <sup>A</sup>	7 <sup>B</sup>	3 <sup>C</sup>	4 <sup>D</sup>
<b>Total<sup>E</sup></b>	<b>195</b>	<b>167</b>	<b>200</b>	<b>160</b>

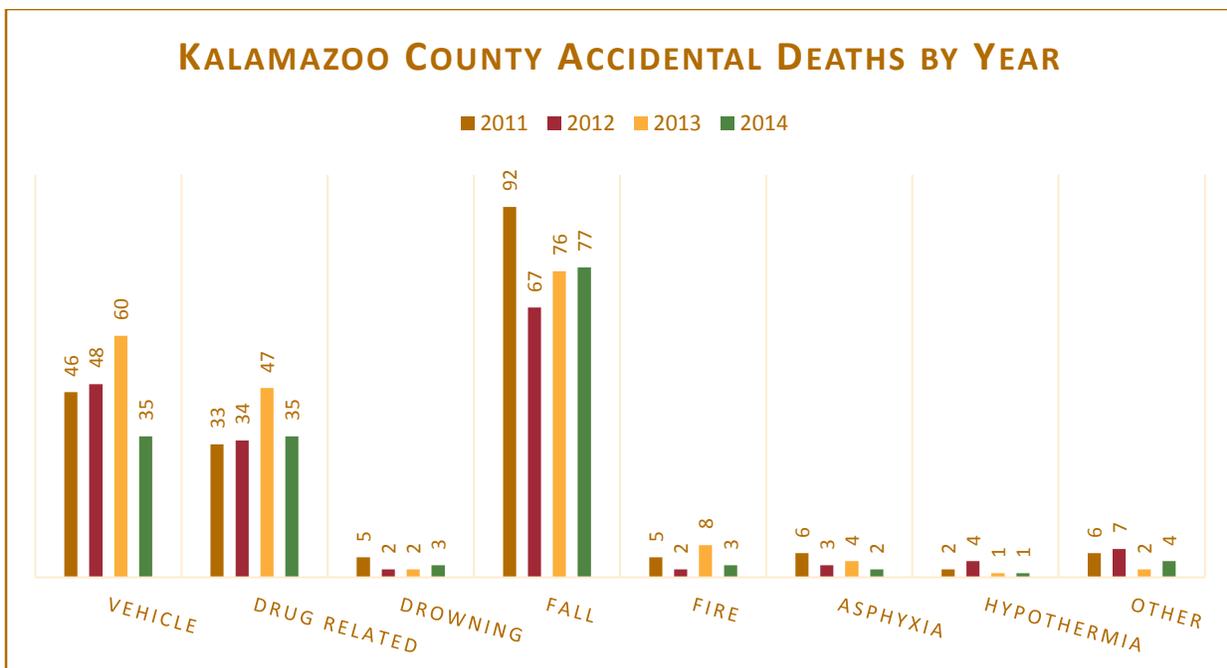
<sup>A</sup> (2) Dog bite injuries; (2) Blunt force head injuries (hit wall and kicked by horse); (1) Ingestion of citronella oil; (1) Probable necrotizing fasciitis & sepsis

<sup>B</sup> (1) Falling tree branch on head; (1) Struck & pinned by tree falling; (1) Complications of spleen laceration during endoscopic procedure; (1) Complications, perforated colon, status post colon biopsies; (2) Explosions (suspected drug lab and vehicle fuel tank); (1) Unknown how pelvis was fractured.

<sup>C</sup> (1) Complications of heat stroke; (1) Carbon monoxide toxicity

<sup>D</sup> (1) Construction staple into head; (1) Struck in head by tree branch and fell off ladder; (1) Sharp force injury from kicking glass door; (1) Anaphylaxis caused by exposure to smoke and burning poison ivy

<sup>E</sup> Some deaths are classified as more than one.



KALAMAZOO COUNTY DRUG RELATED FATALITIES

KALAMAZOO	2011	2012	2013	2014
Accident	34	34	47	35
Suicide	4	8	6	12
Indeterminate	10	5	3	4

KALAMAZOO COUNTY – SUICIDES

SUICIDE TOTALS BY YEAR – KALAMAZOO COUNTY

KALAMAZOO	2011	2012	2013	2014
TOTAL	44	35	40	36

SUICIDE METHOD – KALAMAZOO COUNTY

KALAMAZOO	2011	2012	2013	2014
Firearm	20	15	15	14
Hanging	12	8	13	7
Drug Intoxication	4	8	6	12
Carbon Monoxide	2	1	0	0
Motor Vehicle	0	0	1	1
Sharp Force Injuries	3	1	2	0
Asphyxia	1	1	3	1
Other	1 <sup>A</sup>	1 <sup>B</sup>	0	1 <sup>C</sup>

<sup>A</sup> (1) Fall from balcony

<sup>B</sup> (1) Drowning

<sup>C</sup> (1) Ignited self after pouring accelerant on self

SUICIDE BY AGE – KALAMAZOO COUNTY

KALAMAZOO	2011	2012	2013	2014
0-17	0	1	5	0
18-25	7	3	12	7
26-44	13	11	4	12
45-64	16	12	12	10
65+	8	8	7	7

KALAMAZOO COUNTY – REPORTED DEATHS OF INFANTS AND CHILDREN

KALAMAZOO			
AGE	SEX	CAUSE OF DEATH	MANNER OF DEATH
<b>2011</b>			
0	F	Indeterminate	Indeterminate
8 days	M	Multiple injuries due to attack by dog	Accident
8 days	M	Complications of asphyxia associated with bed sharing	Accident
1 month	M	Full term birth and gastroschisis status post repair	Natural
1 month	F	SUID: Co-sleeping with two adults	Indeterminate
1 month	M	Asphyxia, found face down in bed	Accident
2 months	F	SUID	Indeterminate
10 months	F	28 weeks gestation; premature with multiple medical problems	Natural
11 months	F	Complications of hydrocarbon ingestion/aspiration (citronella torch oil)	Accident
1 year	F	Multiple injuries; run over by truck	Accident
1 year	M	Drug (morphine intoxication)	Indeterminate
2 years	F	Neuroblastoma and acquired "BOOP"	Natural
3 years	F	Blunt force injuries, head	Homicide
3 years	F	Complications of hypoplastic left heart syndrome status post orthotopic heart transplant	Natural
3 years	M	Blunt force injuries of head	Accident
6 years	M	Smoke and soot inhalation and complications thereof	Indeterminate
7 years	M	Blunt force head injuries; child on sled collided with motor vehicle	Accident
15 years	M	Thermal injuries (burns)	Accident
16 years	F	Leukemia	Natural
16 years	M	Mentally impaired since birth, spina bifida, seizures, hydrocephalus	Natural
<b>2012</b>			
7 days	M	Metabolic disorder	Natural
14 days	M	Traumatic head injuries	Homicide
16 days	F	SUID	Indeterminate
19 days	M	Lipoid pneumonia	Natural

2 months	F	SUID associated with bed sharing	Indeterminate
2 months	F	Indeterminate	Indeterminate
3 months	M	Indeterminate	Indeterminate
4 months	M	Indeterminate	Indeterminate
5 months	M	Bacterial pneumonia associated with influenza a virus infection; Other-complications of prematurity and unsafe sleep (on sofa with siblings)	Natural
5 months	M	Indeterminate	Indeterminate
10 months	F	Blunt force injuries of the head	Homicide
1 year	F	Cardiomegaly of indeterminate etiology; myocarditis	Natural
1 year	M	Asphyxia, overlaying	Accident
1 year	F	Inflicted head trauma	Homicide
5 years	M	History of cerebral palsy, seizure disorder, cortical blindness second to congenital defects	Natural
8 years	F	Smoke and soot inhalation and thermal body burns	Homicide
9 years	M	History of multiple congenital defects; ARDS	Natural
9 years	M	Drowning	Accident
11 years	M	Seizure disorder	Natural
11 years	M	Medical complications of intracerebral hemorrhage; cystic fibrosis	Natural
13 years	M	Complications of acute gastrointestinal illness; cerebral palsy	Natural
15 years	M	Gunshot wound of head	Suicide
16 years	F	Blunt force injuries of the head; motor vehicle crash	Accident
17 years	M	Dilated cardiomyopathy; medically significant obesity	Natural
<b>2013</b>			
0	Unknown	Intrauterine demise	None
0	F	Intrauterine demise	None
1 month	M	Complications of severe hydrocephalus	Natural
1 month	M	Asphyxia associated with bed sharing	Accident
1 month	M	SUID; co-sleeping with adult, prone sleep position	Indeterminate
2 months	F	SUID associated with bed sharing	Indeterminate

2 months	F	Complications of bacterial meningitis	Natural
3 months	F	SUID; found prone after supine placement in infant bouncer chair, focal bronchopneumonia	Indeterminate
5 months	F	Probably suffocation due to unsafe sleep (prone position on bed, strapped in overturned bouncy seat)	Accident
5 months	M	SUID; blankets and pillow partially covering face, sleeping in adult bed, recent respiratory illness	Indeterminate
6 months	M	SUID; pneumonia and sleeping in prone position	Indeterminate
6 months	F	SUID associated with unsafe sleeping environment	Indeterminate
7 months	M	SUID associated with unsafe sleeping environment	Indeterminate
7 months	M	Complications of prematurity and bronchopulmonary dysplasia	Natural
8 months	M	Drowning	Accident
1 year	F	Indeterminate	Indeterminate
1 year	F	Multiple traumatic injuries	Accident
1 year	M	Complications of severe pneumonitis, etiology unknown	Natural
1 year	M	Multiple shotgun wounds	Homicide
1 year	M	Complications of congenital heart disease	Natural
1 year	F	Inhalation of products of combustion and thermal injuries	Accident
3 years	M	Inhalation of products of combustion and thermal injuries	Accident
3 years	F	Inhalation of products of combustion and thermal injuries	Accident
11 years	M	Complications of seizure disorder	Natural
11 years	F	Acute asthma exacerbation	Natural
13 years	M	Multiple blunt force injuries	Accident
13 years	F	Hanging	Suicide
13 years	F	Hanging	Suicide
14 years	M	Hanging	Suicide

15 years	F	Complications of pneumonia; ventilator dependent, seizure disorder, cerebral palsy	Natural
15 years	M	Hanging	Suicide
16 years	F	Cystic fibrosis	Natural
17 years	M	Multiple blunt force injuries and thermal injuries	Suicide
17 years	F	Multiple blunt force injuries	Accident
<b>2014</b>			
0	M	Stillborn	Natural
20 days	F	Gram negative sepsis and meningitis; enterobacter cloacae	Natural
3 months	F	Complications of multiple injuries	Homicide
11 months	F	SUID	Indeterminate
7 months	M	Blunt impacts to the head	Homicide
7 months	M	SUID; unsafe sleep conditions (co-sleeping with one adult in adult bed, prone sleeping position)	
0	F	Miscarriage	Natural
1 month	F	SUID	Indeterminate
7 days	F	SUID consistent with myocarditis of unknown etiology	Natural
1 year	F	Cerebral injury	Homicide
4 years	M	Cardiac arrest; hemiplegia, seizures	Natural
2 years	M	Craniocerebral injuries	Homicide
10 years	M	Traumatic asphyxia	Accident
6 years	M	Complications of multiple injuries, vehicle collision	Accident
7 years	M	Complications of para influenza virus; panhypopituitarism, sirs, epilepsy, microcephalus, hypernatremia	Natural
10 years	F	Blunt impacts to the trunk; motor vehicle collision	Accident
7 years	F	Central line infection with gram positive cocci and gram negative bacilli; Hirschsprungs disease, intestinal malabsorption, TPN therapy, chronic encephalopathy, failure to thrive, total colectomy, recurrent sepsis	Natural

14 years	F	Sudden cardiac event associated with focal myocardial fibrosis and mitral valve prolapse	Natural
17 years	F	Multiple injuries; motor vehicle accident	Accident
16 years	M	Multiple blunt force injuries; bicyclist collision with train	Accident
13 years	M	Gunshot wound of chest	Homicide
14 years	M	Ischemic bowel; generalized nonconvulsive epilepsy, mixed development disorder, fetus and newborn affected by maternal use of alcohol, infantile autism, encephalopathy, ADHD, colostomy, dysphagia, cerebral palsy, abdominal adhesions, FTT, feeding intolerance, gastrostomy tube	Natural

## MUSKEGON COUNTY

### STAFF

#### MEDICAL EXAMINER

Joyce L. deJong, D.O.

#### DEPUTY MEDICAL EXAMINERS

Elizabeth Douglas, M.D.

Brandy Shattuck, M.D.

John Bechinski, D.O.

Phillip Croft, M.D.

Michael Markey, M.D.

Joseph DelTondo, D.O.

#### MEDICAL EXAMINER INVESTIGATORS

Chris Anderson

Richard Duell

Molly Hemmelsbach

Robert Huss, D-ABMDI

SUMMARY OF ALL CASES WITH A COMPARISON OF PAST 5 YEARS

MUSKEGON COUNTY	2010	2011	2012	2013	2014
<b>Total Deaths in the County</b>	1637	1693	1600	1730	1707
<b>Deaths Reported to the Medical Examiner</b>	544	440	481	527	524
<b>Deaths Investigated</b>	*	*	412	424	453
<b>MEI Scene Investigations</b>	353	310	384	420	444
<b>Death Certificates by ME</b>	213	201	203	216	228
<b>Bodies Transported to Morgue</b>	163	161	132	148	178
<b>Complete Autopsy</b>	135	122	106	120	144
<b>Limited Autopsy</b>	5	10	2	6	2
<b>External Examination</b>	22	21	22	18	18
<b>Storage Only</b>	1	8	2	4	4
<b>Total Cases with Toxicology</b>	147	153	119	142	152
<b>Unidentified Remains After Exam</b>	0	0	0	0	0
<b>Referrals to Gift of Life</b>	27	70	81	93	156
<b>Tissue/Cornea Donations</b>	3	7	13	18	24
<b>Unclaimed Bodies</b>	0	4	4	3	6
<b>Exhumations</b>	0	0	0	0	0
<b>Cremation Permits</b>	893	812	952	986	1007 <sup>A</sup>

\*Data not collected

<sup>A</sup>Estimated from combined numbers from Sparrow and WMed.

MANNERS OF DEATHS REPORTED TO MUSKEGON COUNTY MEDICAL EXAMINER

MUSKEGON	2010	2011	2012	2013	2014
<b>Natural</b>	419	317	362	397	375
<b>Accident</b>	83	81	77	84	102
<b>Suicide</b>	25	18	26	23	21
<b>Homicide</b>	6	7	4	13	14
<b>Indeterminate</b>	11 <sup>A</sup>	17 <sup>B</sup>	11 <sup>C</sup>	8 <sup>D</sup>	12 <sup>E</sup>
<b>Total</b>	<b>544</b>	<b>440</b>	<b>480</b>	<b>525</b>	<b>524</b>

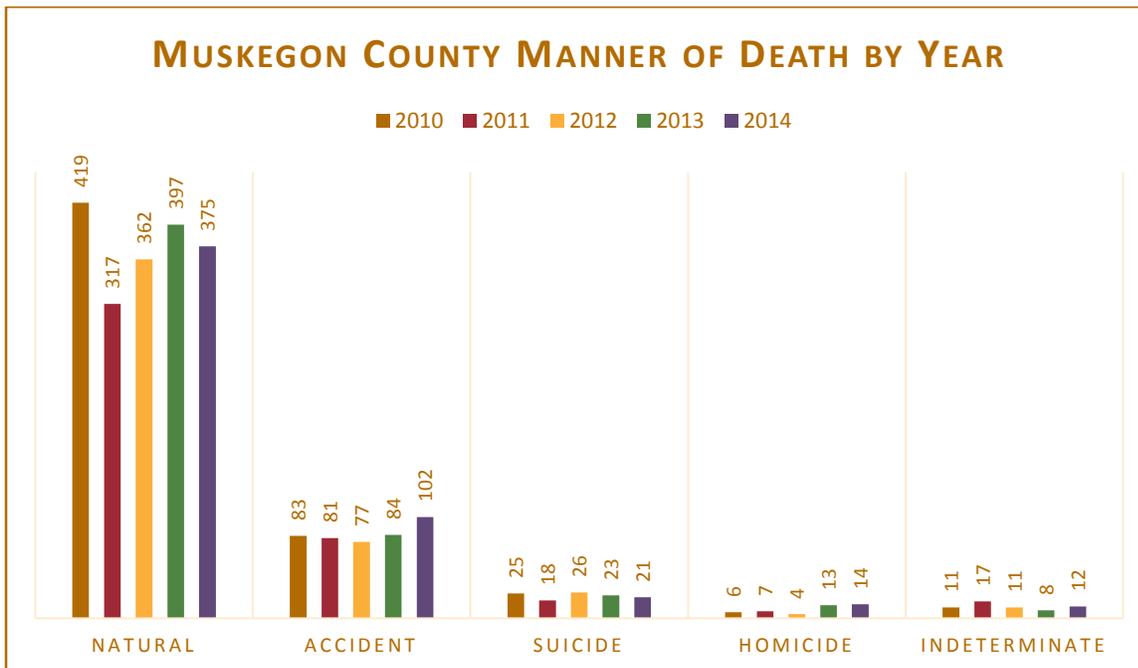
<sup>A</sup> (4) SUID; (1) Non-human bones; (1) Complications of anoxic encephalopathy of undetermined etiology; (5) Drug-related

<sup>B</sup> (1) SUID; (3) Drug-related; (1) Inhalation, products of combustion – house fire; (3) Drowning; (7) Non-human bones; (1) Ruptured spleen; (1) Multiple injuries, driver, motor vehicle accident

<sup>C</sup> (1) Complications of right femur & humerus fractures; (4) Indeterminate cause of death; (1) Dehydration, failure to thrive; (2) Mixed drug intoxication; (1) SUID; (1) Stress cardiomyopathy of unknown etiology; (1) Acute renal failure, uncertain if external factors/injuries played a role

<sup>D</sup> (1) SUID; (4) Indeterminate cause of death; (2) Mixed drug intoxication; (3) Drove car into river

<sup>E</sup> (1) Blunt injury of head, torso, extremities; (3) Non-human bone; (1) Complications of blunt impacts to head; (1) Bilateral pneumonia and pulmonary abscess complicating pulmonary emphysema; (1) Sudden death following exertion; (4) Mixed drug intoxication; (1) SUID



ACCIDENTAL DEATHS – SUBCLASSIFICATION – MUSKEGON COUNTY

MUSKEGON	2010	2011	2012	2013	2014
<b>Vehicle</b>	16	25	18	13	18
<b>Drug Related</b>	31	30	20	37	47
<b>Drowning</b>	3	4	4	4	4
<b>Fall</b>	21	17	27	26	29
<b>Fire</b>	3	3	0	0	1
<b>Asphyxia</b>	6	1	4	2	2
<b>Other</b>	2 <sup>A</sup>	1 <sup>B</sup>	3 <sup>C</sup>	0	2 <sup>D</sup>
<b>Total<sup>E</sup></b>	<b>82</b>	<b>81</b>	<b>76</b>	<b>82</b>	<b>103</b>

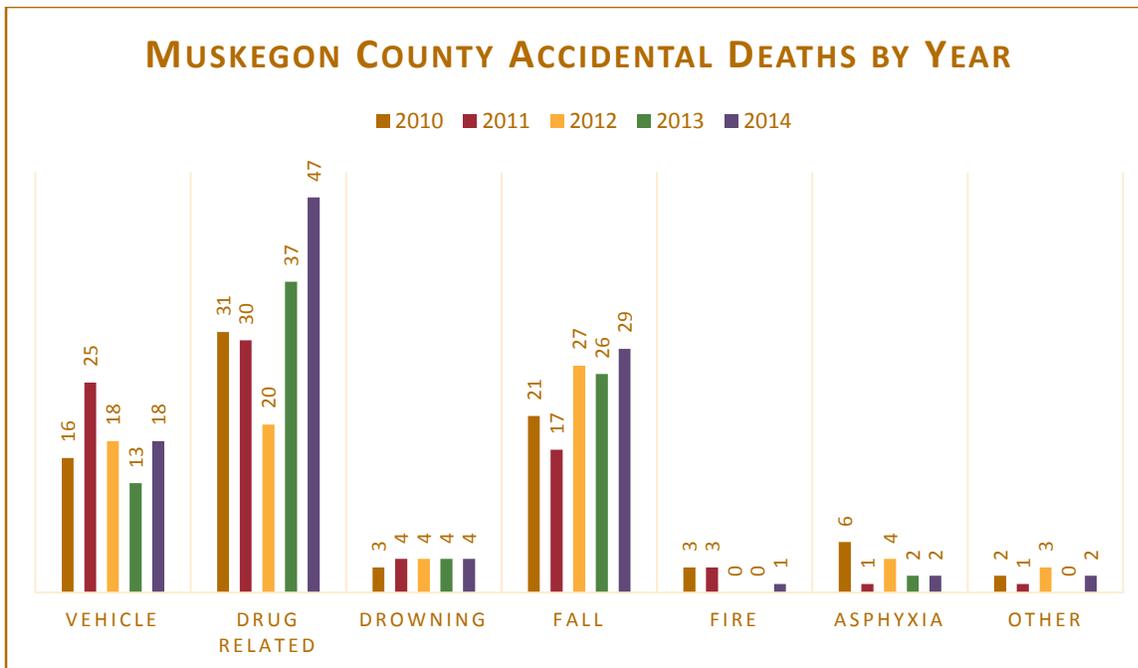
<sup>A</sup> (1) Splenic injury during colonoscopy; (1) Medical complications of being trapped under object in home

<sup>B</sup> (1) Head injury due to bag of dye

<sup>C</sup> (1) Jail inmate requiring restraint; (1) Crushed in an industrial steam chest mold; (1) Head injury during soccer game

<sup>D</sup> (1) Pulmonary thromboembolic disease; (1) Complications of hypothermia

<sup>E</sup> Some deaths are classified as more than one



MUSKEGON COUNTY DRUG RELATED FATALITIES

MUSKEGON	2010	2011	2012	2013	2014
<b>Accident</b>	31	30	20	37	47
<b>Suicide</b>	9	3	5	1	2
<b>Indeterminate</b>	5	3	2	2	5

MUSKEGON COUNTY – SUICIDES

SUICIDE TOTALS BY YEAR – MUSKEGON COUNTY

MUSKEGON	2010	2011	2012	2013	2014
<b>TOTAL</b>	25	18	26	23	21

SUICIDE METHOD – MUSKEGON COUNTY

MUSKEGON	2010	2011	2012	2013	2014
<b>Firearm</b>	10	10	13	9	10
<b>Hanging</b>	5	4	7	7	7
<b>Drug Intoxication</b>	9	3	5	1	3
<b>Sharp Force Injuries</b>	0	0	0	2	0
<b>Motor Vehicle</b>	0	0	0	2	1
<b>Other</b>	1 <sup>A</sup>	1 <sup>B</sup>	1 <sup>C</sup>	2 <sup>D</sup>	0

<sup>A</sup> (1) Inhalation of automobile exhaust

<sup>B</sup> (1) Suffocation via plastic bag over head

<sup>C</sup> (1) Carbon monoxide; (1) Crossbow

SUICIDE BY AGE – MUSKEGON COUNTY

MUSKEGON	2010	2011	2012	2013	2014
<b>0-17</b>	0	2	1	0	3
<b>18-25</b>	1	1	2	2	4
<b>26-44</b>	9	7	9	10	3
<b>45-64</b>	9	5	8	7	9
<b>65+</b>	6	3	6	4	2

MUSKEGON COUNTY – REPORTED DEATHS OF INFANTS AND CHILDREN

<b>MUSKEGON</b>			
<b>AGE</b>	<b>SEX</b>	<b>CAUSE OF DEATH</b>	<b>MANNER OF DEATH</b>
<b>2010</b>			
0	M	18-week gestation, stillbirth, twin A	N/A
0	M	18-week gestation, stillbirth, twin B	N/A
0	F	25-week gestation, stillbirth	N/A
0	M	21-week gestation, stillbirth	N/A
0	M	18-week gestation, stillbirth	N/A
0	M	16-week gestation, fetal demise	N/A
0	F	12-week gestation, spontaneous abortion	N/A
0	M	15-week gestation, fetal demise	N/A
0	M	20-week gestation, stillbirth	N/A
0	Unknown	20-week gestation, stillbirth	N/A
0	F	36.2-week gestation, multiple lethal anomalies	N/A
45 minutes	F	Born with alobar holoprosencephaly	Natural
1 hour	F	24-week gestation, congenital anomalies	Natural
24 days	M	Asphyxia due to obstruction of external airways by pillow	Accident
27 days	M	SUID	Indeterminate
1 month	M	SUID; prone sleeping position	Indeterminate
2 months	F	SUID associated with co-sleeping on couch with adult	Indeterminate
2 months	M	SUID	Indeterminate
3 months	M	Asphyxia, external compression of airways	Accident
6 years	M	Drowning	Accident
6 years	F	Drowning	Accident
16 years	M	Gunshot wound of head	Homicide
11 years	M	Blunt force injuries of chest due to ATV	Accident
17 years	F	Blunt force injuries, passenger of vehicle	Accident
17 years	M	Massive intra-utero CVA at birth, severe brain injury	Natural
<b>2011</b>			
0	M	14-week gestation, inevitable miscarriage	N/A

1 month	F	Asphyxia due to external compression (overlay)	Accident
2 months	M	SUID	Indeterminate
4 years	M	Blunt force injuries, passenger	Accident
6 years	M	Multiple injuries, vehicle vs. vehicles, passenger	Accident
17 years	M	Drowning	Accident
17 years	M	Drowning	Accident
17 years	M	Drowning	Suicide
<b>2012</b>			
0	Unknown	14-week gestation, completion of elective/therapeutic abortion	N/A
2 months	M	Indeterminate	Indeterminate
2 months	M	Asphyxia due to smothering	Accident
5 months	M	SUID	Indeterminate
5 months	M	Indeterminate	Indeterminate
1 year	F	Sudden unexpected death associated with febrile illness, retinoblastomas	Natural
2 years	M	Craniocerebral injuries, struck by motor vehicle	Accident
3 years	F	Dehydration due to failure to thrive	Indeterminate
6 years	M	Choking, choked on rock	Accident
12 years	F	Acute peritonitis, perforated meckel diverticulum	Natural
13 years	M	Shotgun wound of head	Suicide
15 years	M	Multiple injuries, pedestrian struck by motor vehicle	Accident
<b>2013</b>			
0	M	Intrauterine fetal disease	N/A
1 month	M	Indeterminate	Indeterminate
1 month	M	Asphyxia associated with sleeping position	Accident
2 months	M	Multiple injuries	Homicide
5 months	M	SUID	Indeterminate
13 years	M	Sudden unexpected death in epilepsy	Natural
15 years	F	Drowning	Accident
17 years	M	Gunshot wound of head	Homicide
17 years	M	Gunshot wound of head	Homicide
<b>2014</b>			
0	F	Asphyxia due to smothering	Homicide
1 month	F	Sudden unexpected infant death	Indeterminate

1 month	F	Asphyxia by external obstruction of airways due to unsafe sleeping environment	Accident
2 months	M	Asphyxia, co-sleeping on couch while breast feeding	Accident
15 years	M	Shotgun wound of head	Suicide
15 years	F	Hanging	Suicide
15 years	F	Multiple blunt injuries, passenger of vehicle in collision with fixed object(s)	Accident
17 years	M	Gunshot wound of back	Homicide
14 years	M	Gunshot wound of head	Homicide
16 years	M	Drowning and mechanical asphyxia due to motor vehicle crash (driver)	Accident
17 years	M	Gunshot wound of chest	Homicide
15 years	M	Gunshot wound of neck and head	Suicide