
Annual Report 2016

Protecting the interests of deceased individuals, their
loved ones and the community



Milwaukee County Medical Examiner
933 West Highland Avenue
Milwaukee, Wisconsin 53233

Table of Contents	Page
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MISSION STATEMENT	3
PURPOSE AND FUNCTION	4
DEPARTMENT AUTHORITY	5
GLOSSARY OF TERMS	6
SUMMARY DATA – MEDICAL EXAMINER CASES	8
DEATHS BY MANNER	
NATURAL	9
ACCIDENT	11
SUICIDE	13
HOMICIDE	14
UNDETERMINED	15
MEDICAL EXAMINER ACTIVITIES	16



Mission Statement

- To promote and maintain the highest professional standards in the field of death investigation;
- To provide timely, accurate and legally defensible determinations as to the cause and manner of death;
- To enhance public health and safety through reducing the incidence of preventable deaths;
- To foster public awareness and support the advancement of professional medical and legal education; and,
- To protect the interests of deceased individuals, their loved ones, and the communities we serve.

The Purpose and Function of the Medical Examiner's Office

The Milwaukee County Medical Examiner's Office is charged with investigating and determining the cause, circumstances and manner in each case of sudden, unexpected or unusual death. Additional activities important to the public health and safety function of the Medical Examiner include:

- Detect tuberculosis, hepatitis, meningitis and other infectious diseases to assist in prevention against the spread of communicable disease;
- Coordinate with other public health and safety organizations and entities to reduce the incidence of preventable deaths;
- Participate as part of the governmental response team for emergency management services;
- Issue death certificates for deaths investigated by this office;
- Conduct cremation investigations for all Milwaukee County deaths in which cremation is selected as a means of disposition;
- Maintain a forensic toxicology (drug) laboratory for testing blood and body fluid specimens for the presence of drugs, poisons or other toxic agents; and,
- Host an annual seminar designed to educate pathologists, coroners, attorneys, law enforcement officers, and other health professionals on a variety of topics related to forensic science.

Department Authority

Section 979.01 Wisconsin Statutes requires that any person having knowledge of an unexplained, unusual, or suspicious death, or a death due to homicide, suicide, or a death following an accident, whether the injury is or is not the primary cause of death, a death without a physician in attendance within 30 days preceding death, a death in which the attending physician refuses to sign the death certificate, etc., shall report such death to the medical examiner for investigation. Investigations are conducted by the office for certifying cause and manner of death. Furthermore, if a death appears to be a result of unlawful means, it is reported to the District Attorney pursuant to §979.04 (2), as well as the appropriate local law enforcement agency, for further investigation, and possible criminal prosecution.

Additional investigative responsibilities described in §979.10 direct the medical examiner to view the remains, and make an investigation into the cause and manner of all deaths in which the next-of-kin selected cremation for disposition.

Milwaukee County Medical Examiner Annual Report 2016

Glossary of Terms

Cremation	A means for the disposition of human remains after death, consisting of the application of heat to reduce the remains to ashes. A document authorizing the cremation of human remains is required under the law prior to cremation. The medical examiner/coroner for the county in which the cremation is to be performed must authorize such disposition upon review and investigation of the death.
Death certificate	A document signed by a physician, medical examiner or coroner testifying that the circumstances and cause of death as contained in the certificate are verified by the certifier. This certification process is used for legal and evidentiary purposes in matters pertaining to the estate of the decedent, as well as for public health and vital records purposes.
Drug	Medication or substance other than food used for therapeutic or other (recreational) use. A <i>therapeutic</i> drug is a medication or substance used in the prevention, diagnosis or treatment of a disease or symptom. A <i>recreational</i> drug is a substance used for its personal stimulation, euphoria or mood-altering properties (includes alcohol).
Gender	The sex designation, whether male or female, of the individual being described
Jurisdiction	The medical examiner accepts jurisdiction on all deaths properly reported to this office under WI Statute §979, as described in the Department Authority section of this report. Not all deaths occurring in Milwaukee County are “reportable deaths” within the jurisdiction of the medical examiner.
Manner of death	The classification of circumstances surrounding the cause of death of an individual, as determined by the medical examiner and certified on the death certificate. The standard manners of death as used in death certification include: natural, accident, suicide, homicide and undetermined.
Natural	The cause of death is a physical disease of the body, ultimately resulting in cessation of bodily functions.
Accident	The cause of death is an unintentional injury, caused by a condition or agent external to the decedent.
Suicide	The death is the result of a purposeful action toward the intentional taking of one’s own life.

Milwaukee County Medical Examiner Annual Report 2016

Glossary of Terms (Continued)

Homicide	The death is the result of an intentional harmful act of another person, whether or not that action was intended to cause death.
Undetermined	A death is certified as undetermined when, after complete investigation, insufficient evidence remains to make a complete determination as to one of the above classifications.
Poison	A “toxin” is a substance that can harm an organism by other than mechanical means. “Poison” simply means “too much,” as even therapeutically useful substances can cause harm when given at high levels.
Race	The ethnic category to which an individual is assigned for vital statistics reporting. The categories used in this report are: African American, Asian/Pacific Islander, Caucasian, Eastern Indian, Hispanic, Multi-racial, and Native American.
Trauma NOS	This is trauma with a cause that is not otherwise specified or does not meet the definitions of other categories.

Milwaukee County Medical Examiner Annual Report 2016

Deaths in Milwaukee County in 2016 (by Manner of Death)

MANNER	NUMBER	PERCENTAGE
Natural	755	41%
Accident	751	41%
Suicide	114	6%
Homicide	168	9%
Undetermined	43	3%

ME CASES JURISDICTION ACCEPTED	1,828
CREMATION ONLY INVESTIGATIONS	2,936
JURISDICTION WAIVED	919
NON-REPORTABLE	456
CONSULTATION EXAM/OTHER JURISDICTION	536

There were 6,675 deaths reported to the Milwaukee County Milwaukee County in calendar year 2016.

Of the 1,828 cases where jurisdiction was accepted, 1,039 cases were autopsied (57%). Additionally, 12 external exams (5 external exam only and 7 external exam with toxicology), 18 private autopsies for suspected CJD cases. The Milwaukee County Medical Examiner's office does not perform partial autopsies or allow hospitals to perform autopsies under its jurisdiction. Autopsies were not performed in deaths where the reported circumstances, scene investigation, medical history or external examination offered information sufficient to certify the death. All suicides, homicides and most accidental deaths underwent autopsy.

Milwaukee County Medical Examiner Annual Report 2016

Deaths by Manner: Natural

The majority of deaths certified by the Milwaukee County Medical Examiner's Office in 2016 were classified as "natural" deaths. Natural deaths come under jurisdiction of the medical examiner when they are sudden or unexpected, when the decedent has not been under the care of a health care provider, or when there are suspicious circumstances surrounding the death.

In 2016, 755 deaths were certified as natural and comprised 41% of all deaths investigated, compared to 774 (45%) in 2015. The most frequent cause of natural death across all age groups was cardiovascular with 492 deaths (65%). The majority of these deaths occurred in the 56-74 year age group (247) and in men (307 males versus 185 females).

2016 Natural Deaths By Age and Gender

Type/Age in years		<1	1 - 5	13 - 17	18 - 25	26 - 55	56 - 74	75+	Total
Alcohol Related	Male	0	0	0	0	1	0	1	2
		0	0	0	0	1	0	1	2
	Female	0	0	0	0	6	2	0	8
Asphyxia	Male	0	0	0	0	12	19	1	32
		0	0	0	0	18	21	1	40
	Female	0	0	0	0	0	1	0	1
Autoimmune	Male	0	0	0	0	1	0	0	1
		0	0	0	0	1	1	0	2
	Female	0	0	0	0	0	1	0	1
Cancer	Male	0	0	0	0	1	0	0	1
		0	0	0	0	1	1	0	2
	Female	0	0	0	0	0	4	0	4
Cardiovascular	Male	0	0	0	0	0	4	2	6
		0	0	0	0	0	8	2	10
	Female	0	0	0	0	33	77	75	185
Central Nervous System	Male	0	0	0	0	71	170	66	307
		0	0	0	0	104	247	141	492
	Female	0	0	0	1	6	2	7	16
Congenital	Male	0	0	0	1	3	7	4	15
		0	0	0	2	9	9	11	31
	Female	0	0	0	0	1	0	0	1
Endocrine	Male	0	0	0	0	1	0	0	1
		0	0	0	0	2	0	0	2
	Female	0	0	0	1	9	7	2	19
Gastrointestinal	Male	0	0	0	0	17	13	3	33
		0	0	0	1	26	20	5	52
	Female	0	0	0	0	1	0	2	3
	Male	0	0	0	0	4	2	0	6
		0	0	0	0	5	2	2	9
	Female	0	0	0	0	0	0	0	0

Milwaukee County Medical Examiner Annual Report 2016

Hematologic	Male	0	0	0	0	0	0	1	1
		0	0	0	0	0	0	1	1
Infectious	Female	1	0	0	0	1	1	2	5
	Male	1	0	0	0	1	3	1	6
		2	0	0	0	2	4	3	11
Kidney Disease	Female	0	0	0	0	1	1	1	3
	Male	0	0	0	0	0	0	1	1
		0	0	0	0	1	1	2	4
Liver Disease	Female	0	0	0	0	1	2	0	3
	Male	0	0	0	0	2	2	0	4
		0	0	0	0	3	4	0	7
Metabolic/Nutritional	Female	0	0	0	0	1	2	0	3
	Male	0	0	0	0	2	1	0	3
		0	0	0	0	3	3	0	6
Musculoskeletal	Female	0	0	0	0	0	0	1	1
		0	0	0	0	0	0	1	1
Neoplastic	Female	0	0	0	0	0	4	2	6
	Male	0	0	0	1	1	8	2	12
	Unknown	0	0	0	0	0	1	0	1
		0	0	0	1	1	13	4	19
Neurodegenerative	Female	0	1	1	0	0	0	0	2
		0	1	1	0	0	0	0	2
Other	Female	1	0	0	1	1	0	0	3
		1	0	0	1	1	0	0	3
Respiratory	Female	1	0	0	1	5	10	1	18
	Male	0	0	0	1	2	11	4	18
		1	0	0	2	7	21	5	36
Sudden Unexplained Infant Death	Female	1	0	0	0	0	0	0	1
		1	0	0	0	0	0	0	1
Undetermined	Female	0	0	0	1	2	2	0	5
	Male	0	0	0	0	1	0	0	1
		0	0	0	1	3	2	0	6
Vascular	Female	0	0	0	0	3	1	1	5
	Male	0	0	0	0	4	8	0	12
		0	0	0	0	7	9	1	17
Total		5	1	1	8	195	365	180	755

Milwaukee County Medical Examiner Annual Report 2016

Deaths by Manner: Accident

The second most common manner classification in 2016 was “accident.” Accidental death refers to unintentional deaths resulting from interaction with a “hostile environment” such as drowning or fire.

In 2016, 751 deaths were certified as accidents and comprised 41% of all deaths investigated, compared to 654 (37%) in 2015. The two most frequent causes of accidental death across all age groups were drug-related with 328 deaths (44%) and falls with 237 (32%) deaths.

2016 Accidental Deaths By Age and Sex

Death Type/Age Category		<1	1 - 5	6 - 12	13 - 17	18 - 25	26 - 55	56 - 74	75+	Total
	Male	1	1	0	0	0	1	0	0	3
	Female	1	1	0	0	0	1	0	0	3
Alcohol Related	Male	0	0	0	0	0	3	0	1	4
	Female	0	0	0	0	0	3	0	1	4
Asphyxia	Female	2	1	0	0	0	2	3	2	10
	Male	2	2	1	0	3	4	3	0	15
	Unknown	4	3	1	0	3	6	6	2	25
Blunt Force Trauma	Male	0	0	1	3	8	10	9	12	43
	Female	0	2	0	1	3	2	4	14	26
	Unknown	0	2	1	4	11	12	13	26	69
Burn	Male	0	0	0	0	0	0	1	0	1
	Female	0	0	0	0	0	0	1	0	1
Carbon Monoxide (non-fire)	Female	0	0	0	0	0	1	0	0	1
	Unknown	0	0	0	0	0	1	0	0	1
Central Nervous System	Female	0	0	0	0	0	0	1	0	1
	Unknown	0	0	0	0	0	0	1	0	1
Drowning (non-boat)	Male	0	0	0	0	1	4	2	1	8
	Female	0	0	0	0	0	1	0	0	1
	Unknown	0	0	0	0	1	5	2	1	9
Drug Related	Male	0	0	1	0	22	156	47	0	226
	Female	0	1	0	1	14	73	12	1	102
	Unknown	0	1	1	1	36	229	59	1	328
Environmental Exposure	Male	0	0	0	0	0	3	3	0	6
	Female	0	0	0	0	1	1	1	0	3
	Unknown	0	0	0	0	1	4	4	0	9
Falls	Female	0	0	0	0	0	1	19	127	147
	Male	0	0	0	1	1	2	15	70	89
	Unknown	0	0	0	0	0	0	0	1	1
	Total	0	0	0	1	1	3	34	198	237

Milwaukee County Medical Examiner Annual Report 2016

Fire Related Injury	Male	0	1	0	0	0	1	0	0	2
	Female	0	0	0	0	0	0	0	2	2
		0	1	0	0	0	1	0	2	4
Gunshot Injury	Female	0	0	0	0	0	2	1	0	3
		0	0	0	0	0	2	1	0	3
Industrial	Male	0	0	0	0	0	1	0	0	1
		0	0	0	0	0	1	0	0	1
Motorized Vehicle - Driver	Female	0	0	0	0	1	2	0	2	5
	Male	0	0	0	0	1	9	4	3	17
		0	0	0	0	2	11	4	5	22
Motorized Vehicle - Passenger	Female	0	0	0	0	4	5	1	2	12
	Male	0	0	0	0	0	4	0	0	4
		0	0	0	0	4	9	1	2	16
Motorized Vehicle - Pedestrian	Male	0	0	0	0	0	2	2	1	5
	Female	0	1	0	1	1	4	1	0	8
		0	1	0	1	1	6	3	1	13
Neurodegenerative	Female	0	0	0	0	0	0	1	0	1
		0	0	0	0	0	0	1	0	1
Non-Powered Vehicle - occupant	Male	0	0	0	0	0	0	1	0	1
		0	0	0	0	0	0	1	0	1
Therapy Related Trauma	Female	0	0	0	0	0	0	1	0	1
		0	0	0	0	0	0	1	0	1
Trauma NOS	Male	0	0	0	0	0	1	0	0	1
		0	0	0	0	0	1	0	0	1
Water Related Incident	Male	0	0	0	0	1	0	0	0	1
	Female	0	0	0	0	0	0	1	0	1
		0	0	0	0	1	0	1	0	2
Total		5	9	3	7	61	295	132	239	751

Milwaukee County Medical Examiner Annual Report 2016

Deaths by Manner: Suicide

Suicide is defined as the intentional taking of one's own life. A total of 114 (6%) deaths were certified as suicide by the Milwaukee County Medical Examiner's Office in the year 2016. This is up slightly from 2015 which had 99 (6%) deaths classified as suicide. Gunshot injury related suicides represented slightly more than half of all suicides with 51% and Asphyxial deaths came in second at 25%. 74% of all suicides certified in 2016 were male.

2016 Suicide Deaths By Age and Sex

Death Type/Age Category		6 - 12	13 - 17	18 - 25	26 - 55	56 - 74	75+	Total
Asphyxia	Male	1	0	6	12	1	1	21
	Female	0	0	4	3	1	0	8
		1	0	10	15	2	1	29
Blunt Force Trauma	Male	0	0	2	0	0	0	2
	Female	0	0	1	0	0	0	1
		0	0	3	0	0	0	3
Carbon Monoxide (non-fire)	Male	0	0	0	1	1	0	2
	Female	0	0	0	0	1	0	1
		0	0	0	1	2	0	3
Drug Related	Female	0	0	0	4	3	0	7
	Male	0	0	0	1	3	0	4
		0	0	0	5	6	0	11
Falls	Male	0	0	1	2	0	0	3
	Female	0	0	0	1	0	0	1
		0	0	1	3	0	0	4
Gunshot Injury	Female	0	1	1	7	1	0	10
	Male	0	0	6	21	15	6	48
		0	1	7	28	16	6	58
Motorized Vehicle - Pedestrian	Female	0	0	2	0	0	0	2
		0	0	2	0	0	0	2
Sharp Force Injury	Male	0	0	0	3	1	0	4
		0	0	0	3	1	0	4
Total		1	1	23	55	27	7	114

Milwaukee County Medical Examiner Annual Report 2016

Deaths by Manner: Homicide

For the purpose of this report, homicide is defined as death resulting from injuries inflicted by another person regardless of intent. The medical examiner determination of homicide rests solely on the medical evidence present at the time of the investigation, and is independent of the legal definition, which often includes the concept of intent.

The Milwaukee County Medical Examiner's Office had 168 cases certified as homicides which comprised nearly 9% of all deaths investigated in 2016. This is fairly consistent with 2015 wherein 161 (10%) deaths were certified as homicides. Male gunshot injury homicides far exceeded all other combinations of categories and gender with 120 male deaths representing 71% of all homicide deaths.

2016 Homicide Deaths By Age and Sex

Death Type/Age Category		<1	1 - 5	6 - 12	13 - 17	18 - 25	26 - 55	56 - 74	Total
Abuse/Neglect	Male	0	0	1	0	0	1	0	2
	Female	0	0	1	0	0	1	0	2
Asphyxia	Female	0	0	0	0	1	2	0	3
	Male	0	0	0	0	1	2	0	3
Blunt Force Trauma	Female	1	0	0	0	0	2	1	4
	Male	0	0	0	0	1	1	0	2
	Undetermined	1	0	0	0	1	3	1	6
Carbon Monoxide (non-fire)	Female	0	0	0	0	0	0	1	1
	Male	0	0	0	0	0	0	1	1
Drowning (non-boat)	Male	1	0	0	0	0	0	0	1
	Female	1	0	0	0	0	0	0	1
Gunshot Injury	Female	0	1	1	1	5	11	1	20
	Male	0	0	1	5	34	75	5	120
	Undetermined	0	1	2	6	39	86	6	140
Sharp Force Injury	Female	0	1	0	0	0	2	0	3
	Male	0	0	0	0	4	5	2	11
	Undetermined	0	1	0	0	4	7	2	14
Undetermined	Female	0	0	0	0	0	0	1	1
	Male	0	0	0	0	0	0	1	1
Total		2	2	3	6	45	99	11	168

Milwaukee County Medical Examiner Annual Report 2016

Deaths by Manner: Undetermined

A death certified as undetermined is one in which manner cannot be determined after a full investigation. Circumstances in which the investigation may not reveal adequate findings include those in which there is a time delay between death and discovery of the body, or where there is no information as to the source or nature of the injuries or medical condition of the decedent prior to death. A death is certified as undetermined only after a complete investigation is concluded, including autopsy. Less than 3 percent of all deaths were certified as undetermined in Milwaukee County in 2016.

2016 Undetermined Deaths By Age and Sex

Death Type/Age Category		<1	1 - 5	13 - 17	18 - 25	26 - 55	56 - 74	75+	Total
Other	Female	1	0	0	0	0	1	0	2
	Male	1	1	0	0	0	1	0	3
		2	1	0	0	0	2	0	5
Asphyxia	Male	0	0	1	0	0	0	0	1
		0	0	1	0	0	0	0	1
Blunt Force Trauma	Male	0	0	0	1	2	0	0	3
		0	0	0	1	2	0	0	3
Drug Related	Male	0	2	0	0	0	0	0	2
	Female	0	1	0	1	0	0	0	2
		0	3	0	1	0	0	0	4
Fire Related Injury	Male	0	0	0	0	0	0	1	1
		0	0	0	0	0	0	1	1
Motorized Vehicle - Driver	Male	0	0	0	0	1	0	0	1
		0	0	0	0	1	0	0	1
Undetermined	Female	7	0	1	1	4	1	0	14
	Male	7	0	0	1	4	1	1	14
		14	0	1	2	8	2	1	28
Total		16	4	2	4	11	4	2	43

Milwaukee County Medical Examiner Annual Report 2016

Medical Examiner Activities

In addition to conducting death scene investigations, cremation investigations, autopsies and toxicology studies, a number of other activities are performed by medical examiner personnel as part of the death investigation process. These functions include:

- Death certification;
- Testifying at legal proceedings;
- Death notifications to next-of-kin;
- Body identification;
- Protection and legal disposition of property belonging to decedents;
- Burial arrangements for unclaimed bodies;
- Disinterment authorization; and,
- Lectures to law enforcement personnel, medical students, etc.

The statutory duties and responsibilities of the office are performed by the Medical Examiner, a licensed physician trained and board-certified in forensic pathology. Four full-time forensic pathologists, two toxicologists, three forensic chemists, a staff of twelve forensic investigators, as well as additional clerical, autopsy, and managerial personnel support the medical examiner function. A forensic pathology fellowship program through the Medical College of Wisconsin trains one to two pathologists annually in forensic pathology through the Medical Examiner's Office. In addition, two post-doctoral fellows in toxicology and therapeutic drug monitoring participate in a two-year training program through this office in conjunction with the Medical College of Wisconsin. The Medical Examiner's office gains the knowledge and expertise in modern toxicology methods through these fellowship programs without incurring any support costs, as these toxicology fellowship positions are funded through the Medical College of Wisconsin Department of Pathology.

Professional consultants in the specialized fields of forensic odontology (dentistry), forensic radiology, forensic anthropology, adult and pediatric cardiac pathology, and forensic neuropathology provide additional support. An autopsy facility and toxicology laboratory provide a secure facility for staff, visitors and evidence entrusted to our care.

The release and dissemination of medical and other information collected or retained by this office is another important activity. Autopsy reports, investigative reports and related data from individual investigations are provided to interested parties such as families, community-based health care providers, insurers, law enforcement, attorneys and others for their use. In addition, agencies such as the Drug Enforcement Administration, City of Milwaukee Health Department, Consumer Product Safety Commission, and Wisconsin Department of Transportation also receive periodic information from this office to further the data analysis and reporting of deaths investigated in Milwaukee County.

Milwaukee County Medical Examiner Annual Report 2016

Medical Examiner Activities (continued)

Below are other miscellaneous statistics that pertain to the activities of the Medical Examiner's Office:

Activity	2016
Scene visits by Medical Examiner Investigators	1,204
Bodies transported by office or order of the office	1,128
Bodies unidentified after examination	0
Organ and/or tissue donations	157
Unclaimed bodies	29
Number of exhumations	13
Autopsies performed for outside jurisdictions and private parties	347
Cases with toxicology testing performed	1,615

