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**Office of
Chief Medical Examiner
State of Maine**



**Annual Report
2020**

**Office of Chief Medical Examiner
State of Maine**

2020 Annual Report

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INTRODUCTION

The primary function of the Office of Chief Medical Examiner (OCME) is to support public health and safety by investigating deaths in the State of Maine. The facility occupies an 8,350 square foot building at 30 Hospital Street in Augusta.

The Office of Chief Medical Examiner was established in 1968 through the passing of the “Medical Examiner Act”, MSRA 22, Chapter 711. The office is administratively within the Department of the Attorney General and is empowered to take jurisdiction over all deaths that are not known to be due to exclusively natural processes. All violent, criminal, suspicious, and deaths of apparent undetermined causes or manners fall under the jurisdiction of the OCME. Other types of deaths (which may be due to natural causes), such as in infants, or people in custody, or any deaths whose causes may represent a potential risk to the public at large, are also investigated by the OCME. When the OCME accepts jurisdiction of a death, it is the OCME that requests or performs all the investigations and procedures necessary to determine the Cause of Death and the Manner of Death (*Manner of Death may be either: Natural, Accident, Homicide, Suicide, or Undetermined*).

The purpose of having the State (through the OCME) investigate these deaths is to ensure that the public is safe. Whether it is through the criminal justice system, the public health system, or the work-place safety systems, the purpose of investigating “non-natural” deaths is to prevent their recurrences.

This report summarizes the activities of the OCME for the period of January 1 - December 31, 2020 (some data sets may cover different time periods).

PERSONNEL

The OCME is staffed with twelve full time positions: one Chief Medical Examiner, one Deputy Chief Medical Examiner, one Office Administrator, two Medicolegal Death Investigators, one Planning and Research Associate II, three Planning and Research Associate I, one Director of Laboratory and Mortuary Services, and two Medical Examiner Assistants.

By statute, the Chief Medical Examiner is appointed for a seven year term by the Governor. The Chief then appoints the Deputy Chief and Office Administrator. The Chief Medical Examiner also appoints all field Medical Examiners and field Medicolegal Death Investigators.

In addition, the office has one full-time position funded by a grant from the National Violent Death Reporting System (NVDRS). This program is funded and administered by the Centers for Disease Control and Prevention (CDC). There are also two part-time Field Deputy Chief Medical Examiners, two contracted forensic pathologists and three contracted administrative staff to answer the phones overnight, on weekends, on holidays, and whenever else the office is officially closed.

In addition to the two full-time Medicolegal Death Investigators employed by the OCME, there are approximately 45 field Medical Examiners who conduct examinations and certify deaths on behalf of the OCME. They are physician volunteers who are reimbursed a statutorily set fee for their service. There are also three field Medicolegal Death Investigators who conduct examinations under the direction and guidance of the Chief or Deputy Chief Medical Examiner. The field Medical Examiners and field Medicolegal Death Investigators are appointed by and serve at the pleasure of the Chief Medical Examiner for a term of five years and can be renewed indefinitely. The OCME also utilizes medical consultants such as a forensic anthropologist or a forensic neuropathologist as necessary for case investigation.

OFFICE OPERATIONS

Notification of deaths: When a death is reported to the OCME the administrative staff collects the necessary information to document the details of death, to first determine whether the case will be accepted for investigation by the OCME, and if so, whether the investigation will require a complete autopsy, an external examination (with or without toxicology testing), or a paper review (of the medical records). Some of the initial intake information includes: decedent's demographics; medical and social histories; date, time, and location of death; pertinent scene findings; and next of kin information.

Scene Visits: There are times when law enforcement personnel request a scene visit by OCME. These are usually when the manner of deaths are suspicious or believed to be homicides. Scene visits are conducted by the Chief Medical Examiner, Deputy Chief Medical Examiner, or the Medicolegal Death Investigators. In 2020, the OCME performed 8 scene visits; the Medicolegal Death Investigators conducted the majority of them.

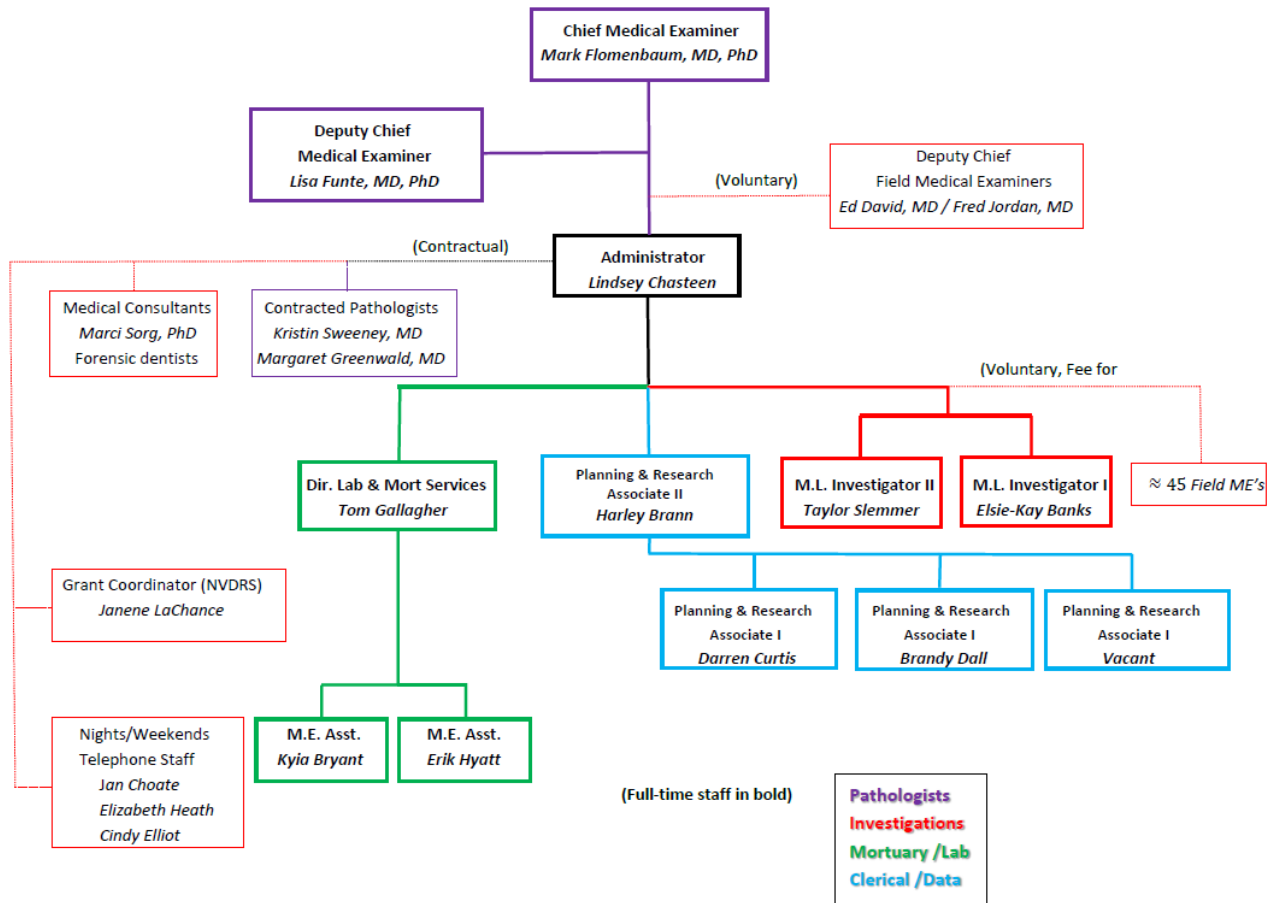
Mortuary Functions: The OCME is dedicated to treating all human remains with respect and dignity, and to expedite transport of bodies into and out of our facility for timely funerary arrangements.

Unidentified and Unclaimed Bodies: OCME policies apply equally to all decedents whether or not they are identified or claimed. When a body is unclaimed the OCME contacts the town of death to arrange for burial or other final disposition.

In addition to the resources available in state to aid in identifications of unknown bodies, especially by the Maine State Police Crime Laboratory, the OCME also participates in and utilizes The National Missing and Unidentified Persons System (NamUs) and The National Criminal Information Center (NCIC). These organizations share their data with other jurisdictions throughout the nation to help identify unknown decedents. At the conclusion of 2020 OCME was actively attempting to identify seven unidentified bodies and an additional 20 cases of unidentified partial skeletal remains.

On rare occasions, an exhumation may be required to pursue an investigation; authority for this can be granted only by court order for investigative purposes. The OCME did not conduct any exhumations in 2020.

ORGANIZATIONAL CHART for CALENDAR YEAR 2020



STATISTICS AND DEMOGRAPHICS OF CASES

All cases that are referred to the OCME are assigned a unique numerical identifier and then placed into one of several lettered categories that indicate the level of investigation that will be performed:

A = Autopsy: These are cases where jurisdiction is accepted by the OCME for investigation and a forensic autopsy is deemed necessary to determine the Cause and/or Manner of Death. The Chief or Deputy Chief Medical Examiner will complete the death certificate after all autopsy and laboratory studies are completed.

E = Examination: These are cases where jurisdiction is accepted by the OCME for investigation but do not require a full autopsy. They will receive a thorough external examination, usually by a field Medical Examiner, and may require additional testing or investigation. The field Medical Examiner usually completes the death certificate, especially if further studies are not necessary. The infrequent “partial autopsy” is usually categorized as an examination.

P = Paper Review: These are cases where jurisdiction is accepted by the OCME in order to properly certify the deaths, but the decedent has been in a hospital or other healthcare setting for a period of time, or the body is no longer available to be viewed. These investigations require reviewing all pertinent medical records, police reports, and emergency-services run sheets, but no examination of the body will be done. The Chief or Deputy Chief Medical Examiner will complete these death certificates.

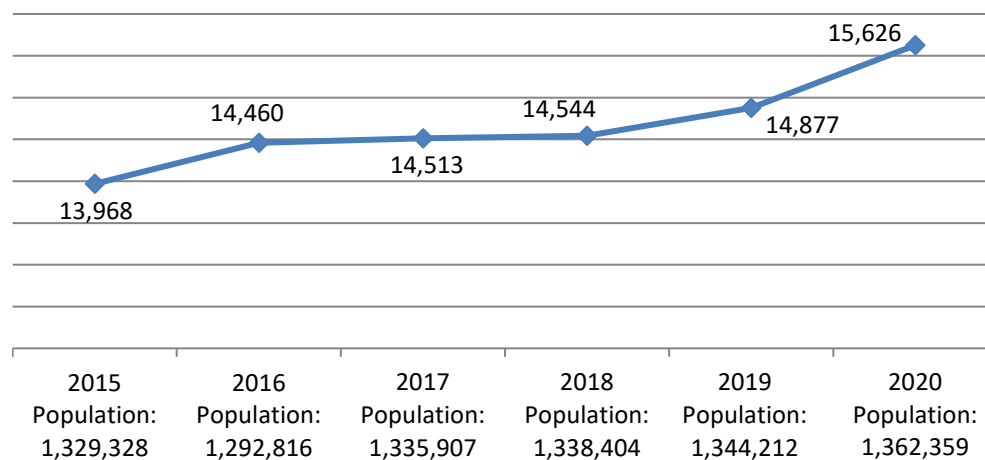
R = Released: In an unattended, natural death where the decedent's primary care physician or hospital physician is familiar with the patient and is willing to sign the death certificate, the OCME releases the case back to the doctor, essentially turning over (or "releasing") jurisdiction.

J = Jurisdiction Declined: If the OCME is notified of an attended, medically expected, natural death, the OCME declines jurisdiction and the attending physician completes the death certification.

O = Other: If bones or other suspected human remains are called into the OCME and we determine them to be of non-human origin, or discarded surgical specimens the case is categorized as "other".

C = Consult: On very rare occasion law enforcement or state prosecutors may ask the OCME to render a forensic pathology opinion or interpretation of injuries sustained by a living person. These files are kept in our case management system with all other cases but are distinguished as "Consults" because the victims are still alive. There are usually less than four of these cases per year.

NUMBER OF DEATHS IN MAINE

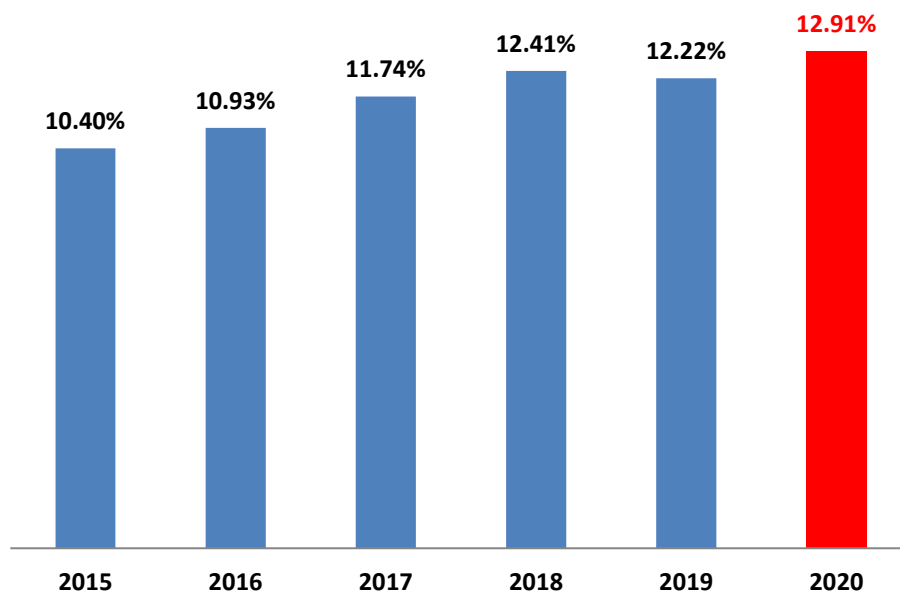


(Maine Department of Health - Vital Records)

In 2020, the OCME received over 3,400 reports of death or possible human remains. The office took jurisdiction and performed investigations on approximately 58.6% of those cases.

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
# of Deaths Reported to OCME	2,912	3,139	3,272	3,252	3,257	3,445
# of Cases OCME took Jurisdiction	1,453	1,581	1,704	1,805	1,817	2,018
# of Examinations Conducted	1,075	1,166	1,185	1,084	1,109	1,326
# of Autopsies Conducted	319	302	319	264	233	201
# of Paper Reviews	59	113	200	457	475	492

PERCENTAGE OF DEATHS INVESTIGATED BY OCME



ANALYSIS OF CASES BY MANNER OF DEATH

Manner of Death is typically defined as an explanation of how a death occurred, either natural or violent. There are currently five classifications for manners of death in Maine. These are: natural, accident, homicide, suicide, and undetermined.

A **natural** death is defined as one that is due entirely to disease or natural process(es).

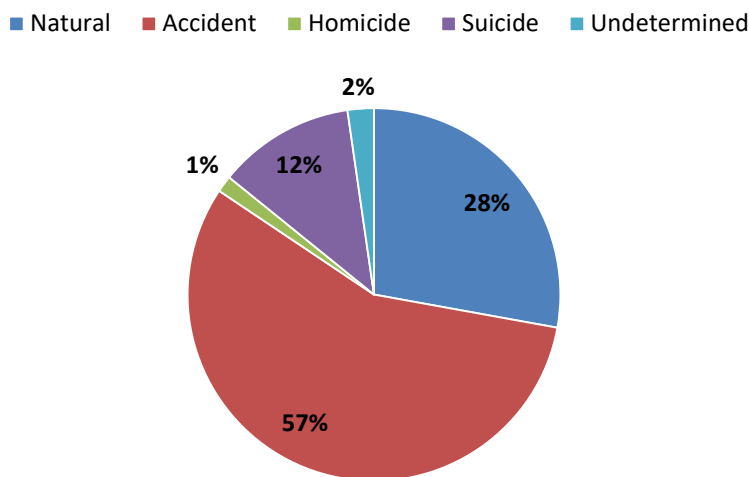
An **accident** is a death resulting from a chemically or physically traumatic event that usually was unanticipated by all parties involved; such as a motor vehicle crash, fall, drowning, or unintentional overdose.

A **homicide** is a death that occurs at the hands of another person or as a result of an illegal act. Intent to cause death is a common component but is not required to classify a death as a homicide. For the purpose of a death certificate, the classification of homicide is a “neutral” term and does not carry the judicial implication of whether the death was due to criminal intent or whether it was justified. (Other agencies in the state may use different working definitions of the term “homicide”.)

A **suicide** is a death where an individual intentionally took their own life and is psychologically competent enough to comprehend the significance of the act.

An **undetermined** death can be either of undetermined cause, undetermined manner or both. An undetermined cause of death may be of physiologic origin without anatomic findings. An unwitnessed seizure or death from an undiagnosed cardiac rhythm disturbance with no trauma or significant toxicologic findings may result in a designation of “undetermined” cause of death. A clear-cut drowning may have the cause of death listed as “drowning”, but if the circumstances of how the individual came to be submerged are not apparent after a thorough investigation, the manner of death may be listed as “undetermined”. If skeletonized remains are discovered without obvious trauma or known circumstances, the cause and manner of death may both be listed as “undetermined”. The Chief and Deputy Chief Medical Examiners are the only persons authorized to classify a death as undetermined.

MANNER OF DEATH FOR OCME CASES

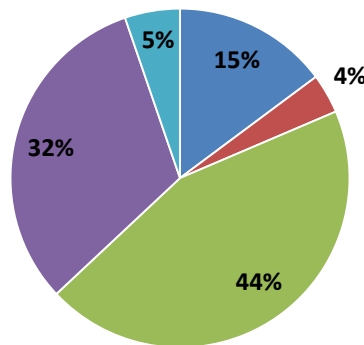


ACCIDENTS

The mode of death here refers to the type of event within a given category of Manner that led to an individual's death. Some common modes of death for Manner being Accident are: motor vehicle collisions, drug overdoses, falls, and drownings. Over half of all cases the OCME investigates are accidents. Of all accident cases, the most common mode is unintentional overdose, followed by falls, and then motor vehicle crashes.

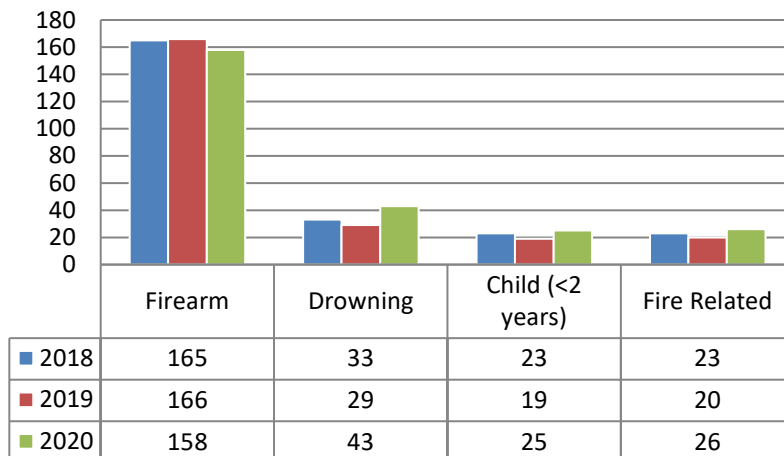
Breakdown of Accidental Deaths by Mode

■ Motor Vehicle ■ Drowning ■ Overdose ■ Fall ■ Other



Categorizations of Modes of Death

The OCME handles various modes of death, including but not limited to: firearm, drowning, child involved (< 2 years of age), and fire related deaths. These deaths may be accidents, suicides or homicides. In 2020, the OCME saw a decrease in deaths from firearms. The OCME saw increases in the number of drownings, child deaths, and fire-related deaths.



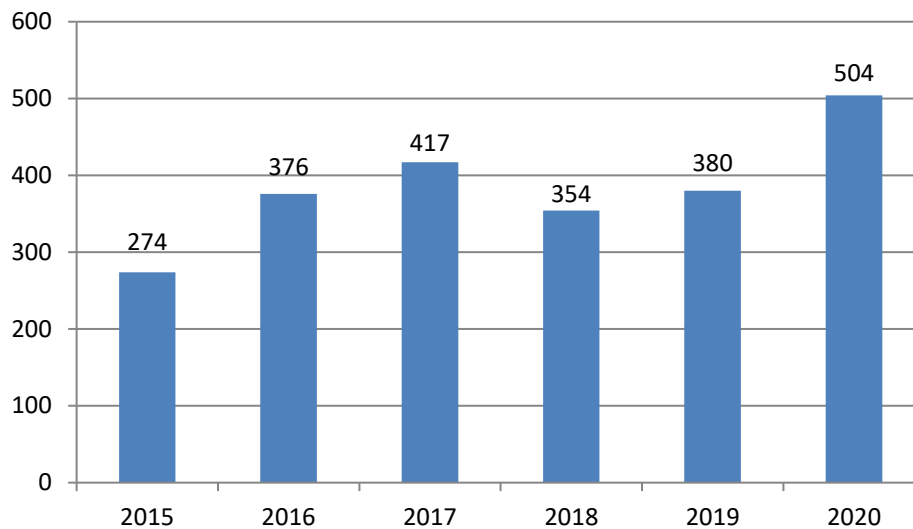
Drug Related Deaths

When a case requires toxicologic testing, the OCME sends body fluid samples to NMS Labs in Pennsylvania (an accredited forensic toxicology reference laboratory). The OCME does not perform toxicologic testing on every case; toxicology testing is performed primarily for suspected overdoses, individuals with little to no medical history, drivers of motor vehicles, and most cases where complete autopsies are performed. The OCME works closely with the Department of Highway Safety to report alcohol detected in drivers and pedestrians killed in motor vehicle incidents. As a part of this cooperative relationship, the Department of Highway Safety pays for those alcohol screens. For the year 2020, the OCME sent samples for alcohol testing in 111 cases of drivers and pedestrians killed in motor vehicle incidents.

Over the past few years Maine has experienced a sharp increase in the total number of unintentional deaths caused by drug overdoses. These deaths are from pharmaceutical or illicit drugs used alone or in combination. The drug epidemic is not unique to Maine. According to Center for Disease Control and Prevention, National Center for Health Statistics' most current data, the United States saw a 4.8% (3,390 deaths) increase in drug deaths between 2018 and 2019. Maine saw a 6.8% increase in the same time period; however, between 2019 and 2020 there was a 25% increase in Maine's drug deaths.

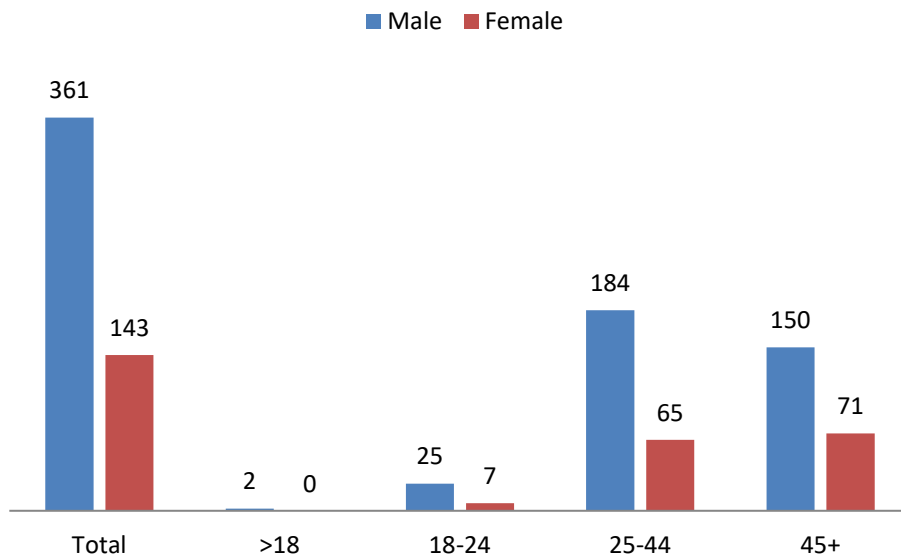
The Maine Office of the Attorney General

Drug Deaths 2015-2020



In 2020, the highest number of unintentional drug deaths in men occurred between the ages of 25-44, while in women it was those over 45 years of age.

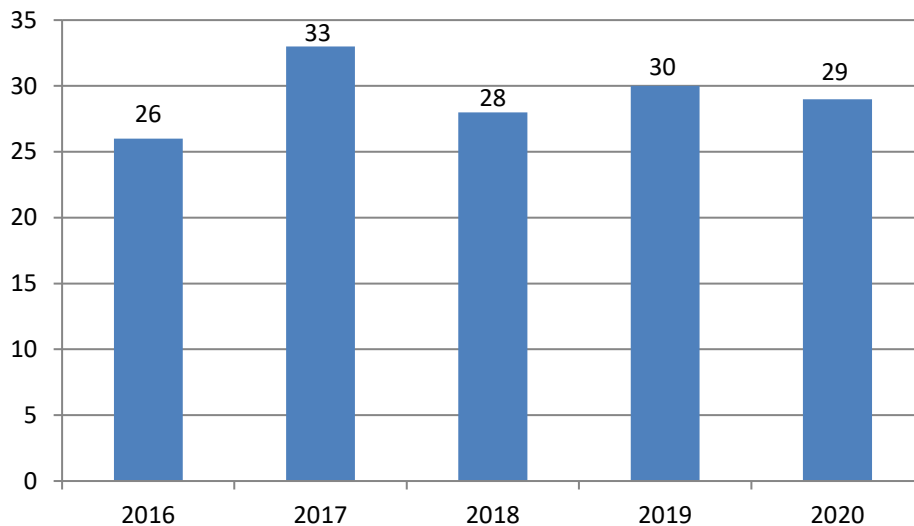
2020 Unintentional Drug Overdose by Age and Sex



HOMICIDES

Maine has had a relatively stable number of homicides over the past several years.

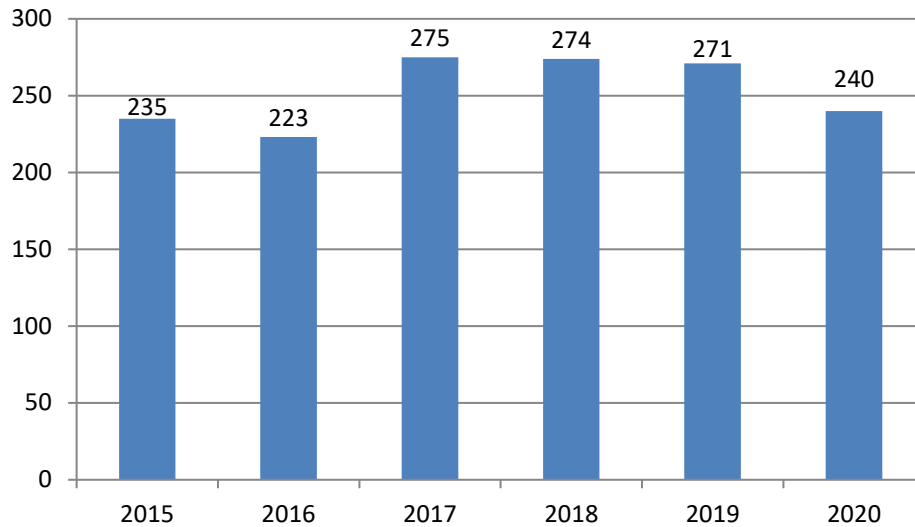
Number of Homicides 2016-2020



SUICIDES

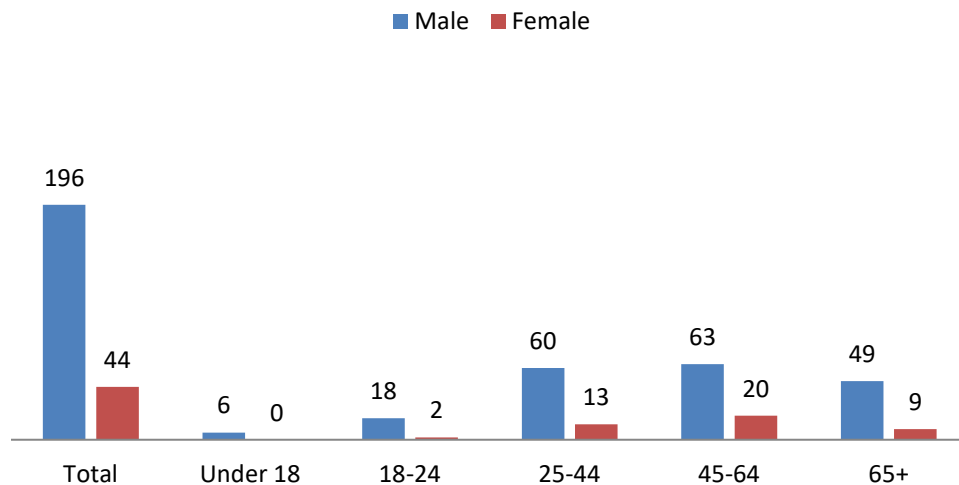
In the six-year period between 2015 and 2020 Maine had an average suicide rate of 253.5 deaths per year or 18.6 suicidal deaths per 100,000 citizens. According to the National Center for Health Statistics' most available data (2019), the United States had 14.5 suicidal deaths per 100,000 citizens.

Number of Suicides 2015-2020



There is a marked gender disparity in suicide deaths: 81.6% are male. There is also an age disparity: Maine has a higher suicide rate in people aged 45 and older than in any other age group. Of the 240 suicide deaths in 2020, 141 (58.8%) occurred in people 45 and older.

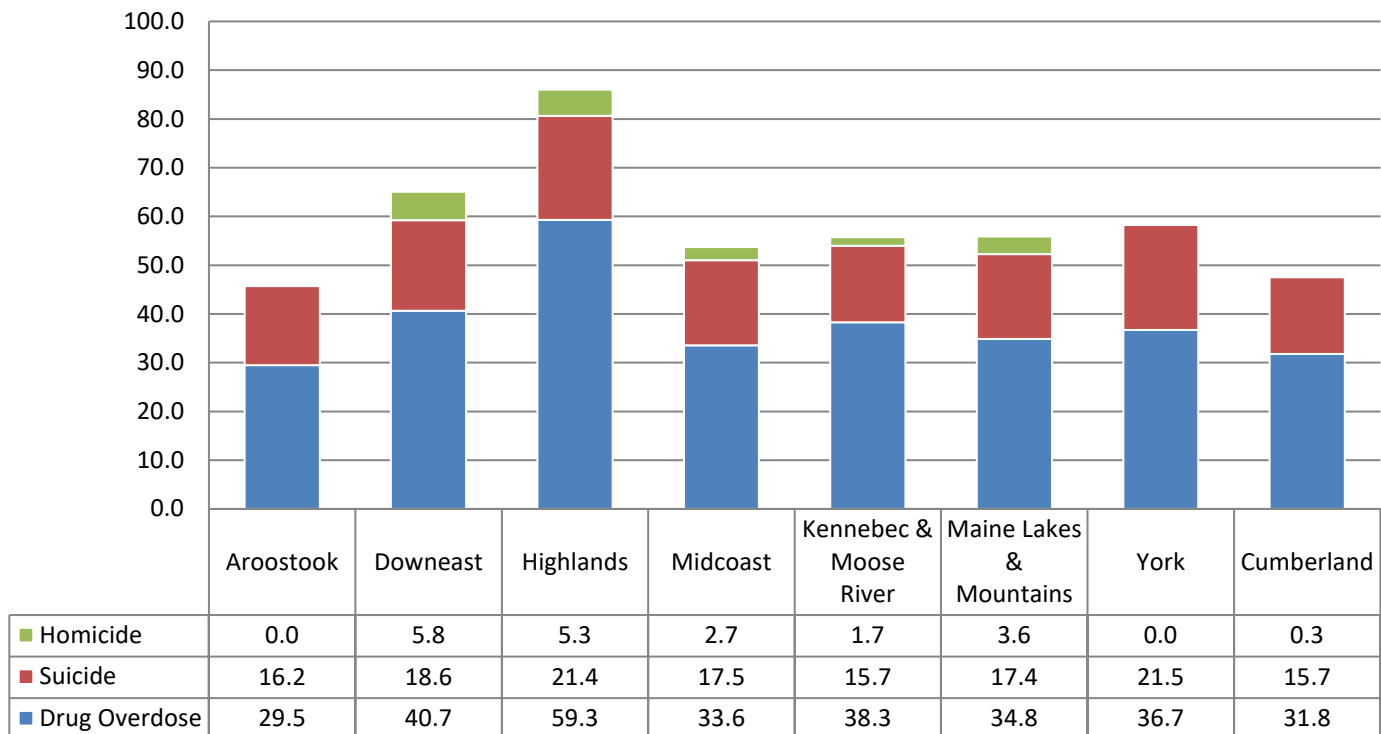
2020 Suicide by Age and Sex



ANALYSIS OF VIOLENT DEATHS BY REGION

For demographic purposes, Maine can be sub-divided into several regions; these include Aroostook, Downeast, Highlands, Midcoast, Kennebec & Moose River, Maine Lakes & Mountains, York, and Cumberland.

<u>Region:</u>	<u>County(ies) included within region</u>			
Aroostook:	<i>Aroostook</i>			
Downeast:	<i>Hancock</i>	<i>Washington</i>		
Highlands:	<i>Penobscot</i>	<i>Piscataquis</i>		
Midcoast:	<i>Knox</i>	<i>Lincoln</i>	<i>Sagadahoc</i>	<i>Waldo</i>
Kennebec & Moose River:	<i>Kennebec</i>	<i>Somerset</i>		
Maine Lakes & Mountains:	<i>Androscoggin</i>	<i>Franklin</i>	<i>Oxford</i>	
York:	<i>York</i>			
Cumberland:	<i>Cumberland</i>			

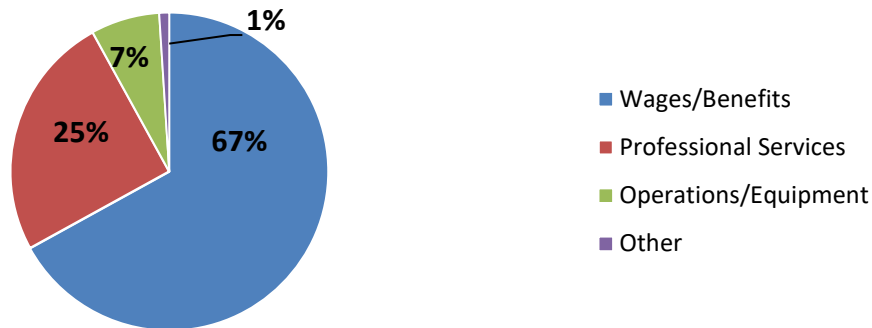


N.B.: Numbers are Rate per 100,000

OFFICE OF CHIEF MEDICAL EXAMINER BUDGET

The OCME 2020 annualized budget was \$2,406,921.00. The annual budget covers salaries/benefits (\$1,612,383.00), operational costs and equipment (\$168,277.00) and contracted services (\$601,968.00). The budget comes to approximately \$1.77 per citizen of Maine. According to the National Association of Medical Examiners, the average budget for Medical Examiner's Offices in the United States should be at least \$3.36 per citizen. In 2020 the OCME in Maine was operating with a budget that is approximately 53% of the recommended national standard.

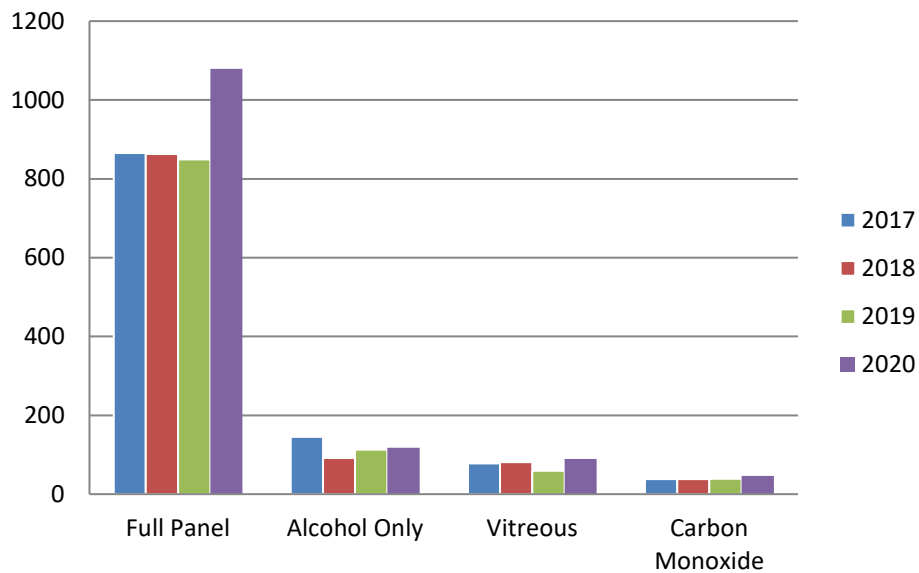
BUDGET BREAKDOWN



All violent deaths, drug related deaths, and unexpected natural deaths should be, and are, accepted for jurisdiction and investigation by the OCME. Ideally, most of these cases should be autopsied. But given the realities of staffing shortages and budgetary constraints the cases in which full autopsies are performed are usually only the ones necessary for criminal prosecution, unexpected deaths in persons under 55-60 years old and a variety of other special types where there are compelling issues of public safety or other concerns. The remaining cases are examined without autopsies by our field Medical Examiners and Medicolegal Death Investigators with external inspections and blood draws. In some instances, a partial autopsy (an autopsy confined to a specific body region) is conducted; this can be done at the office in Augusta, or by the field Medical Examiners. At times, the OCME conducts partial autopsies. This may be only opening an individual's cranium, or opening the trachea on a burn victim to determine if soot is in the airway. In 2020, the OCME conducted 9 partial autopsies.

In 2020, the OCME expense for toxicology testing was \$246,334.00. The numbers and types of drugs of abuse that must now be tested, and the cost of the routine and special tests are continuing to increase. In 2020, 58% of OCME cases received toxicology testing; this is 1,162 cases. The scope of the testing has also increased significantly.

TOXICOLOGY TESTING 2017-2020



When a body needs to come to Augusta for autopsy the OCME most often utilizes the transport services of local funeral homes for which we pay a standard minimum fee and mileage rate (set by statute). These transport fees are not trivial and alternative transport policies must be explored. In 2020, the OCME staff transported 28 bodies to Augusta for autopsy or examination, while funeral homes transported 244 bodies to the office in Augusta, and 1,356 bodies from death scenes to funeral homes by order of the office.

EXTRAMURAL AND COMMUNITY INVOLVEMENT

The OCME has progressed over the years to no longer be concerned primarily with just how and why people die; the emphasis has evolved much more into how the OCME can keep others from suffering similar fates and how to improve longevity and quality of life for all Mainers.

Public Health: Autopsies help identify natural disease that may have been preventable, and reporting deaths involving consumer products helps the U.S. Consumer Product Safety Commission identify potentially dangerous products and report them to the manufacturer. The OCME has partnered with the U.S. Consumer Product Safety Commission to report deaths that involve consumer products; these may include a ladder, wheelchair, baby-swaddles, bed rail, or even a car seat.

Education: Education is a large component of OCME's community involvement. The office has always been accommodating to school group tours and answering questions submitted by people looking to enter the fields of forensic science or forensic pathology. The OCME staff conducts trainings for the community as well. The OCME has developed a partnership with the Veterans Administration Clinical Neuropsychology Postdoctoral Residency Program; allowing residents to observe autopsies. The OCME Medical Examiners and Medicolegal Death Investigators also

conduct trainings with local and state law enforcement agencies when requested. The OCME hosted 1 educational guest in 2020.

The Chief Medical Examiner, Dr. Mark Flomenbaum, periodically conducts on-site lectures regarding topics relevant to forensic pathology for Field Medical Examiners, Medicolegal Death Investigators and law enforcement. These lectures are in addition to lecturing at the Annual New England Seminar in Forensic Sciences held at Colby College every summer. The Chief Medical Examiner also works to accommodate invitations to area colleges to lecture on any number of topics.

The OCME offers hands-on, real world experience to students in nursing programs at several universities in the state, including the University of Maine and the University of New England. The students are invited to the OCME where they can observe an autopsy. This opportunity allows the students to see the internal relationships of the human body and discuss any findings with the forensic pathologist. The office has received positive feedback from the medical programs that have participated and plans to continue offering this unique experience to interested students.

College students interested in an internship are welcome at the OCME; the office can accommodate one intern at a time. The internship usually runs during the summer months and is designed to fulfill the needs of the student based on how many credits they are looking to achieve and what the area of interest is. The OCME did not host an intern in the summer of 2020 due to the COVID-19 pandemic.

To fulfill the education mission, the OCME also hosts high school volunteers. Projects in the past have included building a digital database by uploading data electronically from archival material.

Tissue and Organ Transplants: The OCME works closely with New England Donor Services (NEDS) in accommodating requests for organ and tissue donation. When a person dies in the hospital, NEDS reaches out to the decedent's next of kin for consent to donate appropriate tissues or organs. If the family agrees to donation, and the death falls within the jurisdiction of the OCME, NEDS contacts the OCME to see if we have any restrictions on organs and tissues donations. The OCME works with NEDS and tries to accommodate every request made. Not all cases receive consent from the families to donate and not all decedents meet the medical criteria for donation.

<u>NEDS</u>
135 Referred Cases
15 Organ Donors
68 Tissue Donors
15 Organ & Tissue Donors

Cremations: Over 11,000 decedents are cremated in Maine annually. By statute, every request for cremation must be reviewed and approved by a Medical Examiner to ensure the death was either natural and did not need to be reported to the OCME or has been reported and was appropriately certified. In addition to the Chief and Deputy Chief Medical Examiners, the Field Medical Examiners and Medicolegal Death Investigators have the authority to sign cremation

releases. In 2020, the Chief and Deputy Chief signed a total of 1,728 cremation releases; all other cremation releases were signed by field Medical Examiners.

MISSING PERSONS

The OCME is the state clearinghouse for missing people in Maine. It is the office's statutory responsibility to gather pertinent medical, dental, and DNA information on a missing individual so a timely identification can be made in the event remains are found.

The missing person case management system utilized by the OCME is the National Missing and Unidentified Person System (NamUs), which is funded and administered by the National Institute of Justice. The office ensures dental and fingerprint classifications are entered into the National Criminal Information Center (NCIC) and that DNA is entered into the Combined DNA Index System (CODIS). Both systems (NCIC and CODIS) are national systems, used by every law enforcement agency in the country. Ensuring missing person information is entered improves the chances of a notification or identification if an individual is found out of state.

In 2020, the OCME continued to work on identifying several unidentified bodies. Partial skeletal remains were sent to the University of North Texas Center for Human Identification to extract DNA profiles and enter them into CODIS. The office continues to utilize the services of *DNA Doe Project*, a non-profit organization, in the hopes of identifying the remains.

Currently there are 139 people reported missing from Maine and 21 cases of unidentified remains.

STATE OF THE OFFICE

On October 31, 2017 the OCME was awarded full national accreditation by the National Association of Medical Examiners (NAME), for five years (maximum award). To maintain this status, the OCME must expand. Under NAME's standards, the U.S. range of number of autopsies completed per population is 1-2/100,000. Maine would need to complete 625-1,300 autopsies annually to meet these standards. The Chief Medical Examiner and Deputy Chief Medical Examiner are allotted 20-40% of their time for administrative responsibilities. In order for the OCME to meet the NAME standard for number of autopsies performed per population the office would need to employ at least one more full-time medical examiner, two more full-time Medicolegal Death Investigators, one or two more medical examiner assistants and one more administrative staff member.

Per NAME: U.S. range of number of autopsies per population..... 1-2/1000
Annual number of autopsies needed in Maine to reach U.S. norms..... 625-1,300

Per NAME: number of autopsies/year/non-chief full-time Medical Examiner 250-300
Total number of FTE Medical Examiners needed to meet national guidelines..... 3.0-3.5

The most recent NAME national survey indicates more than half of all offices do autopsies on both weekend days, and *except* for state systems, contracted services are used by most offices. With only two full-time forensic pathologists, the Maine OCME must use contracted services to meet the demands of forensic investigations. On average, state systems are funded at a lower per capita rate than county/district systems with ranges reported from \$0.44 to \$9.19. The average rate of funding per capita is \$2.58 per person; Maine's current funding rate per capita is \$1.77.

In 2020, the OCME hired an architecture firm to design a new OCME building and the office is on track for breaking ground in 2022. This is a crucial step in expanding operations and maintaining accreditation.