

2017

Annual Report 2017

Office of the Chief Medical Examiner

Office of the Maine Attorney General

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



**Annual Report
2017**

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

2017 Annual Report

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INTRODUCTION

The 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, Augusta, Maine.

The office was established in 1968 through the passing of an act establishing procedures for state medical examiners and creating the Office of Chief Medical Examiner; now known as 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, such as in infants or people in custody, or any deaths whose causes represents 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 = Natural, Accident, Homicide, Suicide or Undetermined*).

The primary 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 period of January 1, 2017 – December 31, 2017 (some data sets may cover different time periods).

PERSONNEL

The OCME is staffed with twelve full time positions and has recently been reorganized to include: 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 I.

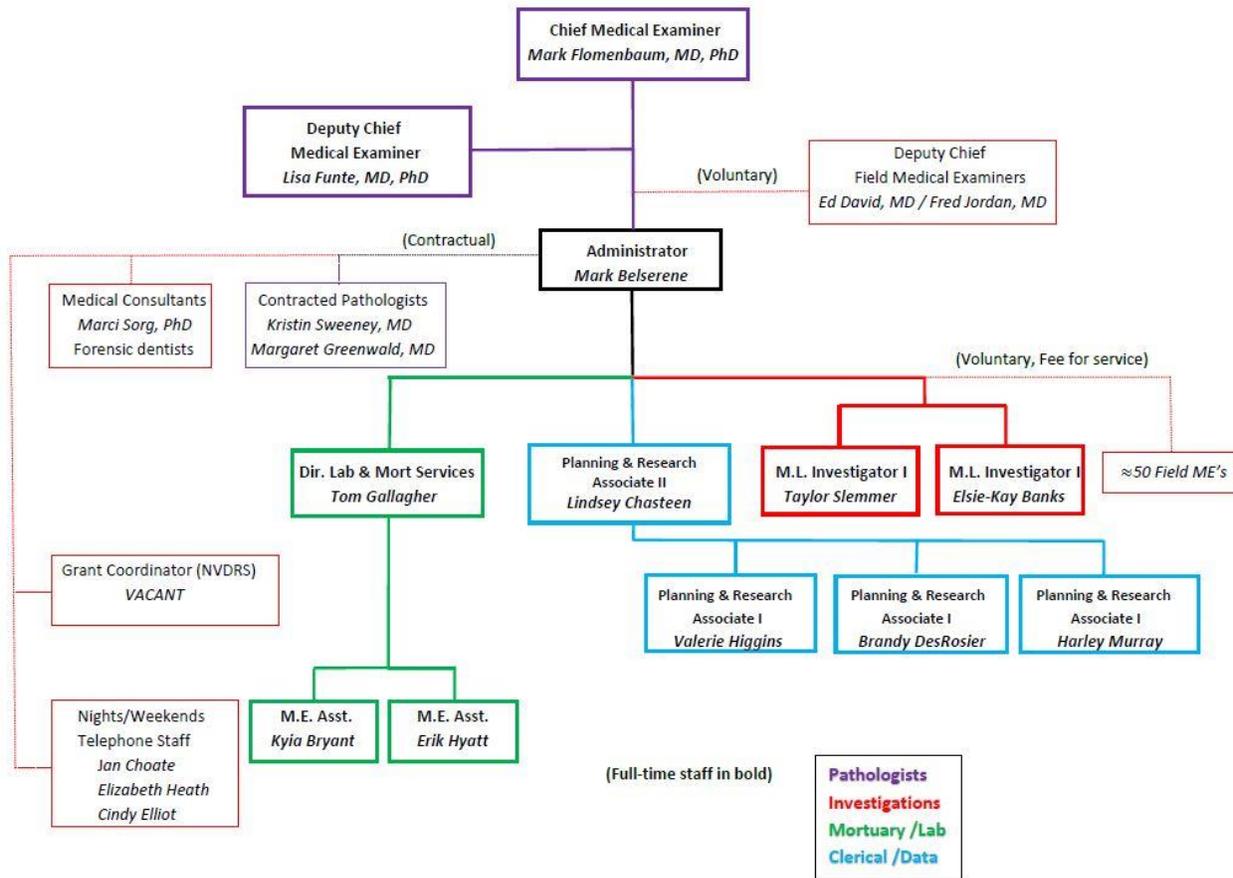
By statute, the Chief Medical Examiner is appointed for a seven year term by the Governor. The Chief then appoints the Deputy Chief and Office Administrator. The Chief Medical Examiner also appoints each field Medical Examiner (see below).

The office also has one part-time position funded by a grant from the National Violent Death Reporting System, two part-time Field Deputy Chief Medical Examiners, two contracted forensic pathologists, and three contracted 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 50 field Medical Examiners who conduct examinations and certify deaths on behalf of the OCME. They are physician volunteers who are reimbursed a very modest fee for

service. The field Medical Examiners are appointed by and serve at the pleasure of the Chief Medical Examiner for a term of five years and can be renewed indefinitely.

CURRENT ORGANIZATIONAL CHART



OFFICE OPERATIONS

Notification of deaths: When a death is called in to the OCME the administrative staff is responsible for collecting as much information as possible to document the report of death and to help make the determination of whether the case will be accepted for jurisdiction by the OCME, and if so whether it will be an autopsy, examination or paper review. Some of the information, including, but not limited to: decedent demographics, date, time and location of death, decedent medical and social history, next of kin information, and scene findings.

Scene Visits: There are times when a scene visit is requested by law enforcement. These are usually when deaths are suspicious or known to be homicides. The personnel authorized to conduct a scene visit are the Chief Medical Examiner, Deputy Chief Medical Examiner, the Medicolegal Death Investigators, and some of the Field Medical Examiners. In 2017, the OCME

conducted 22 scene visits, with the Medicolegal Death Investigators conducting 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: All office policies apply equally to decedents that are unidentified or go unclaimed. The National Missing and Unidentified Persons System (NamUs) is an organization that the OCME utilizes to help identify unknown decedents in Maine. At the conclusion of 2017 the OCME had five unidentified bodies that the office is actively attempting to identify; with an additional 15 unidentified partial skeletal remains. These cases are listed with NamUs and also with the National Criminal Information Center (NCIC) to assist with possible identification from other jurisdictions. The standard practice for the OCME is to contact the town of death to arrange the burial for a person who is unclaimed. On rare occasions, an exhumation may be required. The OCME did not conduct any exhumations in 2017.

STATISTICS AND DEMOGRAPHICS OF CASES

All cases that are referred to or investigated by the OCME are assigned a unique identifier and then placed into one of several categories:

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 studies are completed.

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.

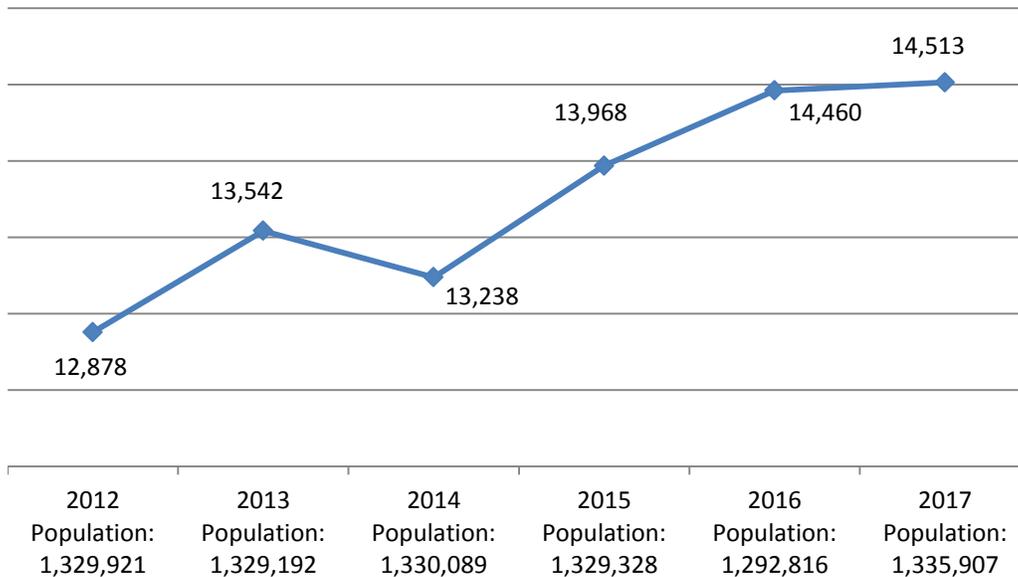
Paper Review: These are cases where jurisdiction is accepted by the OCME in order to properly certify the deaths, but the decedent has been in a hospital setting for a period of time, or the body is no longer available to be viewed. These investigations require reviewing all pertinent medical records, 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.

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

Jurisdiction Declined: If the OCME is notified of an attended, medically expected, natural death, the OCME declines jurisdiction.

Other: When bones or other suspected human remains are called into the OCME and identified as being of non-human origin, or surgical specimens the case category is “other”.

Number of Deaths in Maine

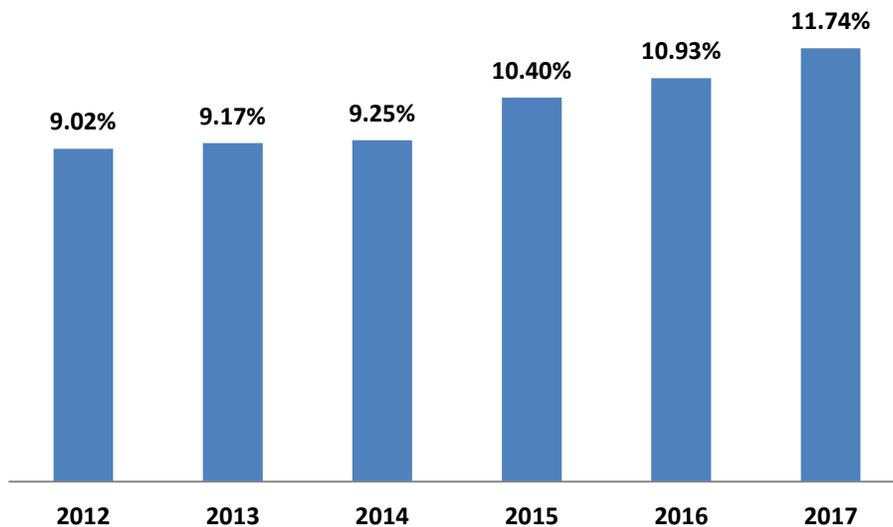


(Maine Department of Health - Vital Records)

In 2017, the OCME received over 3,000 reports of death or possible human remains. The office took jurisdiction and performed investigations on approximately 52% of those cases.

| | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| # of Deaths Reported to OCME | 2,637 | 2,731 | 2,688 | 2,912 | 3,139 | 3,272 |
| # of Cases OCME took Jurisdiction | 1,161 | 1,242 | 1,224 | 1,453 | 1,581 | 1,704 |
| # of Examinations Conducted | 778 | 910 | 897 | 1,075 | 1,166 | 1,185 |
| # of Autopsies Conducted | 313 | 304 | 282 | 319 | 302 | 319 |
| # of Paper Reviews | 70 | 28 | 45 | 59 | 113 | 200 |

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 accident, fall, drowning, or unintentional overdose.

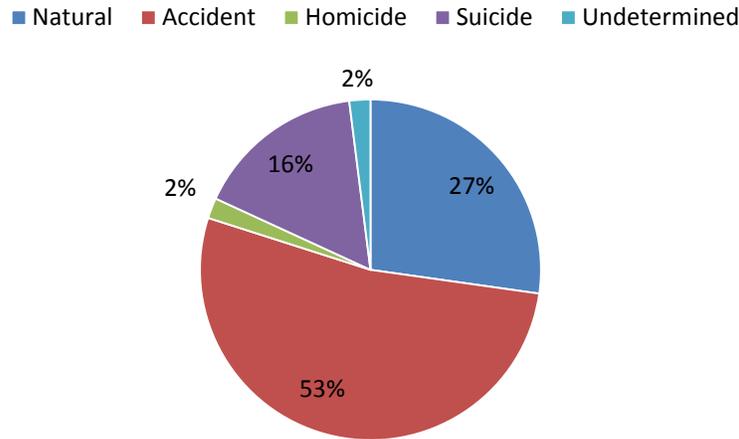
A **homicide** is a death that occurs at the hands of another person or as a result of an illegal act. Intent to cause death is a common component but is not required to classify a death as a homicide. For the purpose of a death certificate, the classification of homicide is a “neutral” term and does 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 took his or her own life intentionally 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 positive 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 body 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.

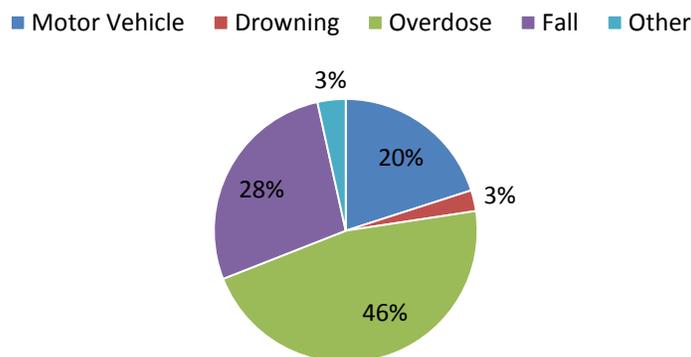
Manner of Death for OCME Cases



ACCIDENTS

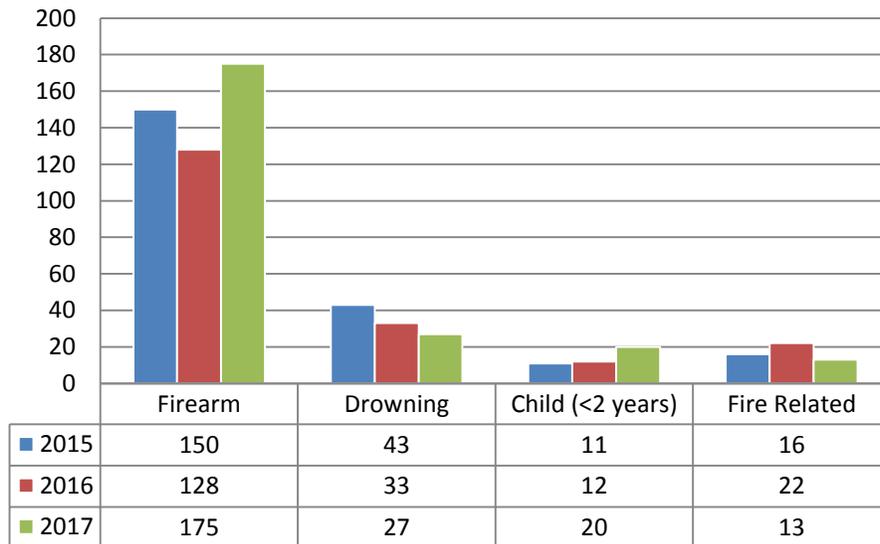
The mode of death here refers to the type of event within a given category of Manner that led to an individual’s death. Some common modes of death for Manner being Accident are: motor vehicle collisions, drug overdoses, falls, and drownings. Over half of all cases the OCME investigates are accidents.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

Breakdown of Accidental Deaths by Mode



Categorizations of Modes of Death

The OCME handles various modes of death, including but not limited to: firearm, drowning, child (< 2 years of age), and fire related deaths. These deaths may be accidents, suicides or homicides. In 2017, the OCME saw a decrease in deaths from drowning and fire related and an increase in firearm, and child deaths.

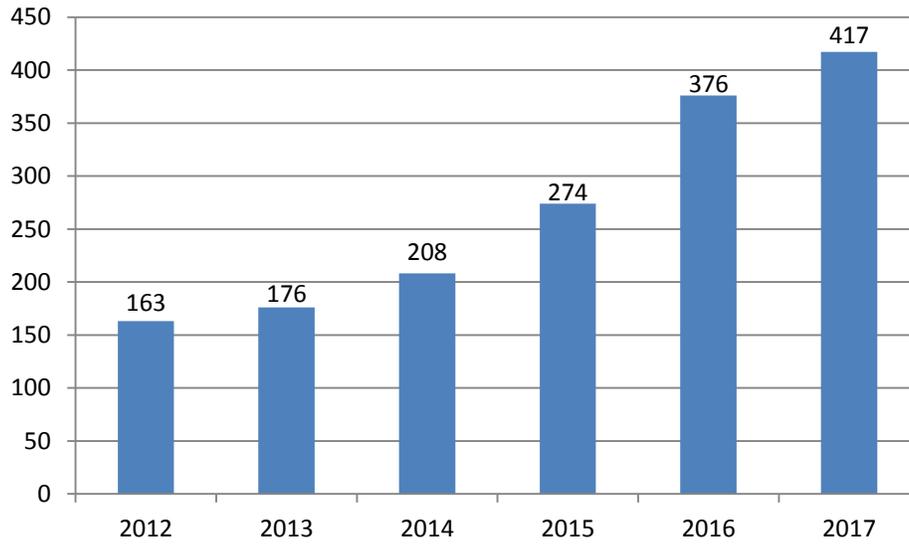


Drug Related Deaths

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 require toxicologic testing on every case; toxicology testing is performed primarily for suspected overdoses, individuals with little to no medical history, and drivers of motor vehicles. The OCME works closely with the Department of Highway Safety to report alcohol detected in drivers killed in motor vehicle accidents. As a part of this working relationship, the Department of Highway Safety pays for those implied consent alcohol screens. For the year 2017, the OCME sent samples for alcohol testing in 92 cases of drivers and pedestrians killed in motor vehicle accidents.

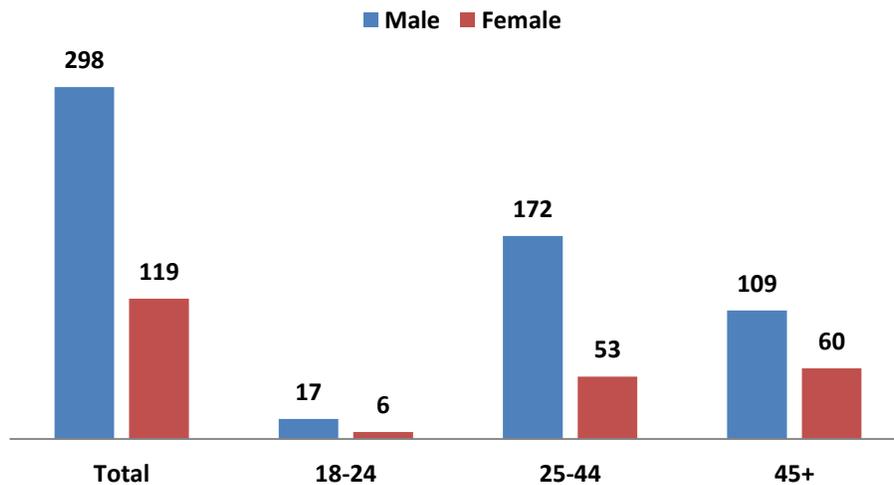
Maine has experienced a sharp increase in the total number of unintentional deaths caused by drug overdoses. These deaths are from pharmaceutical or illicit drugs used alone or in combination. The drug epidemic is not unique to Maine. According to the National Institute on Drug Abuse, the United States has seen an increase of 22,568 drug deaths over five years (2012-2016), which is a 35% increase. Maine has had a 56% increase over this same five year period.

Drug Deaths 2012-2017



In 2017, the highest number of unintentional deaths occurred in men between the ages of 25 and 44 years; and in women 45 and older.

2017 Unintentional Drug Overdose by Age and Sex

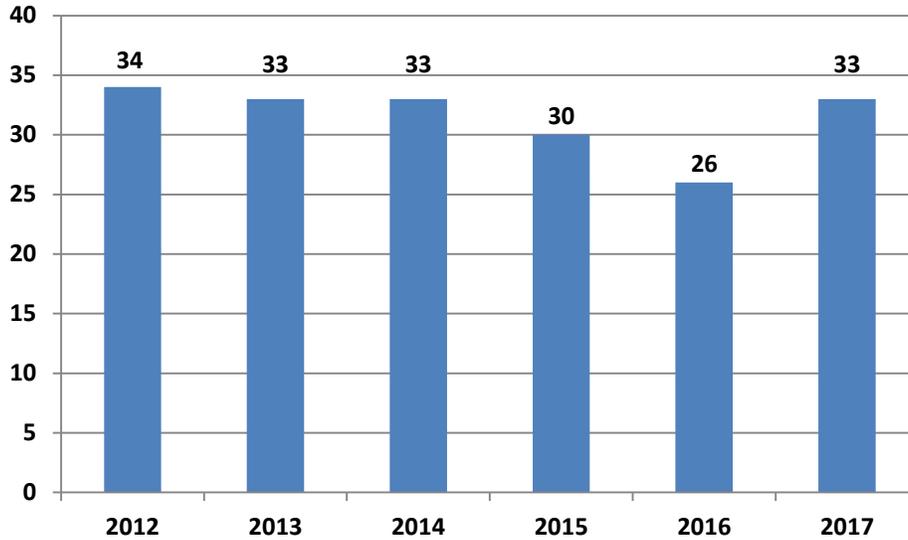


N.B.: There were no drug overdoses in children under age 18

HOMICIDES

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

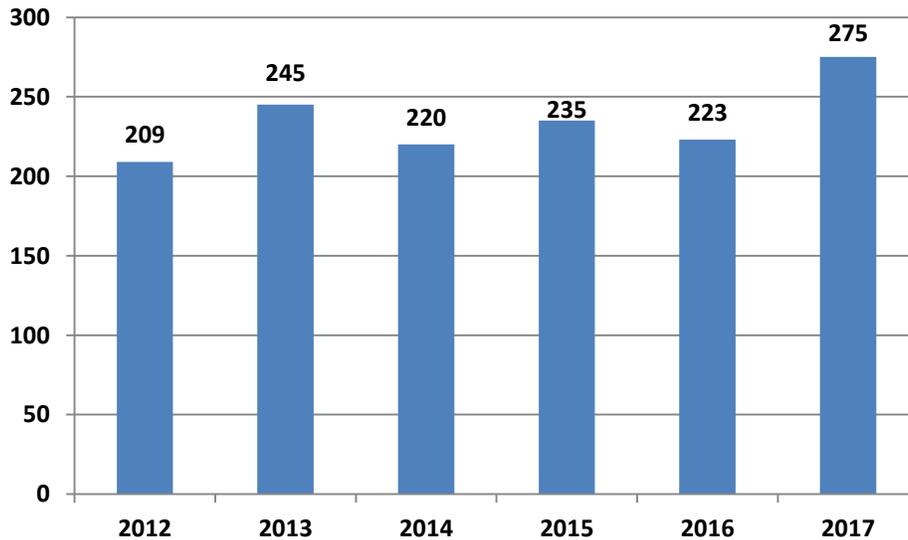
Number of Homicides 2012-2017



SUICIDES

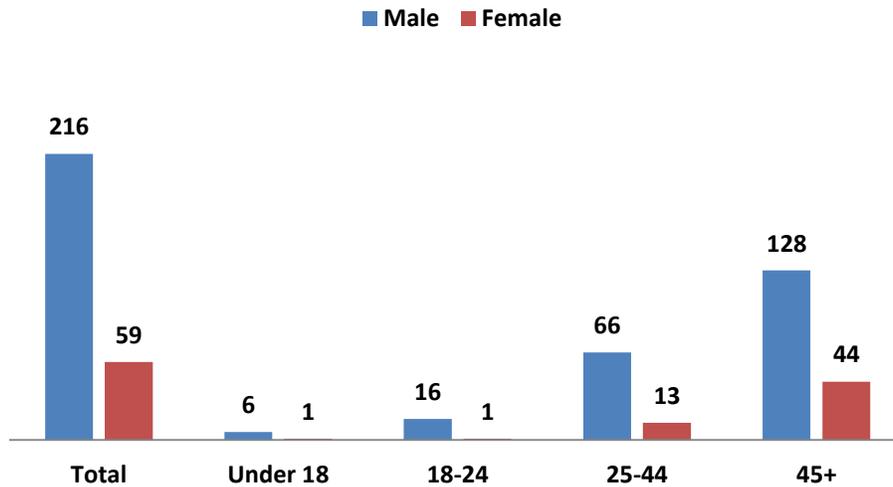
In the six year period between 2012 and 2017 Maine had an average suicide rate of 234.5 deaths per year, or 20.6 suicidal deaths per 100,000 citizens. According to the National Center for Health Statistics' most available data (2016), the United States had 13.42 suicidal deaths per 100,000 citizens.

Number of Suicides 2012-2017



There is a marked gender disparity in suicide deaths: 78% 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 275 suicide deaths in 2017, 172 (63%) occurred in people 45 and older.

2017 Suicide by Age and Sex

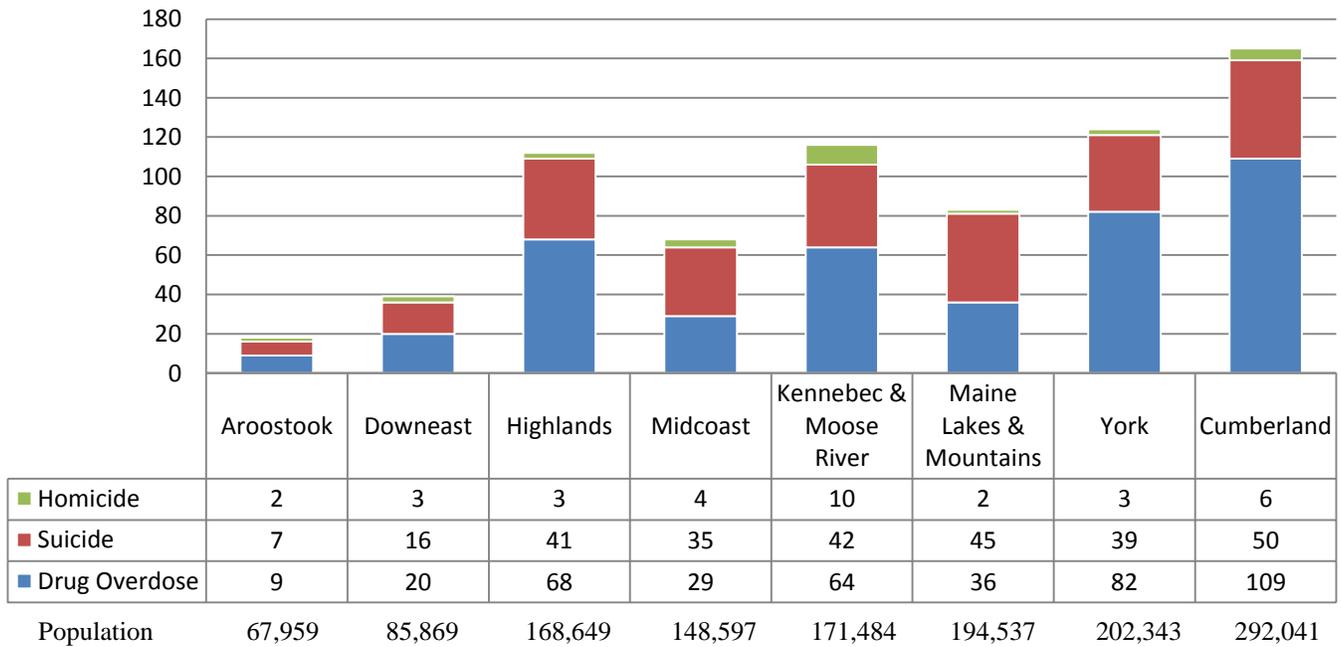


ANALYSIS OF DEATHS BY REGION

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> | | | |

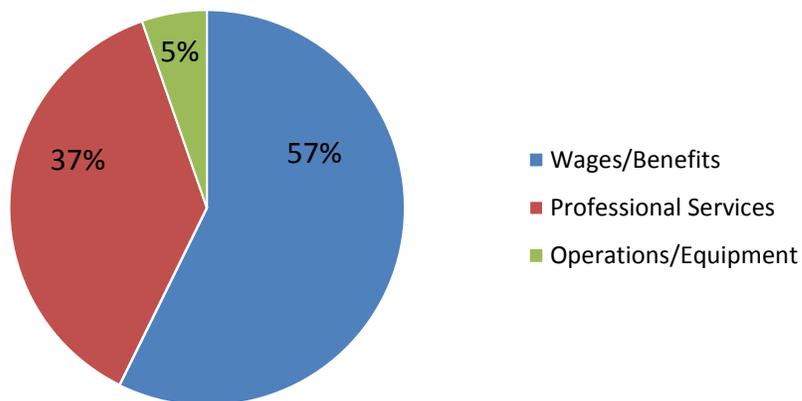
Analysis of Violent Deaths by Region



OFFICE OF CHIEF MEDICAL EXAMINER BUDGET

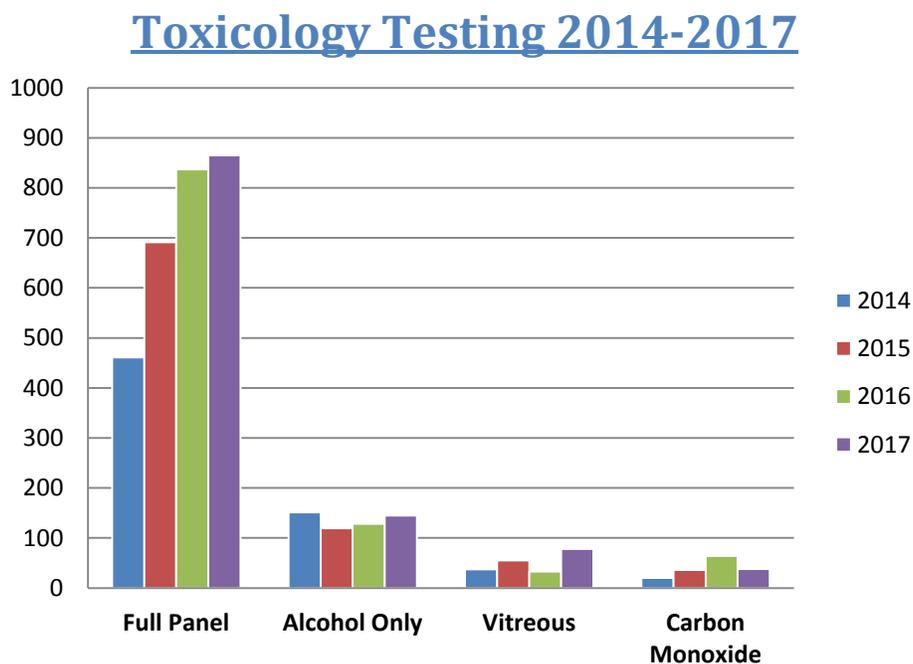
The OCME FY'17 budget was \$2,377,710.00. The annual budget covers salaries/benefits (\$1,362,029.00), operational costs and equipment (\$126,477.00), and contracted services (\$889,204.00). This total, \$2,377,710.00, comes to approximately \$1.78 per citizen of Maine. According to the National Association of Medical Examiners, the average budget for Medical Examiner's Offices in the United States should be at least \$3.36 per citizen. In 2017 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 50-55 years old, and a variety of other special types where there are compelling issues of public safety or concern. The remaining cases are being examined without autopsies by our field Medical Examiners 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. The OCME sometimes conducts partial autopsies on burn victims by opening the trachea to determine if soot is in the airway. In 2017, the OCME conducted 10 partial autopsies.

In 2017, the OCME expense for toxicology testing was \$208,325.90. The increase in numbers and types of drugs of abuse that must now be tested, and the increase in cost of the routine and special tests are skyrocketing. In 2017, 58% of OCME cases received toxicology testing; this is 986 cases. This is a 2% increase in the number of cases requiring toxicology testing. The scope of the testing has also increased significantly.



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. These transport fees are not trivial and alternative transport policies must be explored. In 2017, the OCME staff transported 11 bodies to Augusta for autopsy or examination, while funeral homes transported 338 bodies to the office in Augusta, and 1,033 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, 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 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 workings of the human body and discuss any findings with the forensic pathologist. The office has received positive feedback from the nursing programs that have participated and plan to continue offering this unique experience to interested students.

College students interested in an internship are welcome at the OCME; the office can accommodate two interns 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 he/she are looking to achieve and what the area of interest is. In 2017, the OCME hosted a summer intern from the University of New England.

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> |
| 145 Referred Cases |
| 15 Organ Donors |
| 42 Tissue Donors |
| 12 Organ & Tissue Donors |

Cremations: Over 10,000 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. Field Medical Examiners have the authority to sign cremation releases, and are usually the preferred source for most funeral directors. Often, however, the Field Medical Examiners are not available and the OCME assists local funeral homes and grieving families by reviewing the cases and signing cremation releases that are faxed or e-mailed directly to the office.

STATE OF THE OFFICE

The OCME has been awarded national accreditation by the National Association of Medical Examiners (NAME), as of October 31, 2017. 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 and neuropathology 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 and two more autopsy technicians.

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 fulltime 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 \$1.78.

To maintain national accreditation there will have to be a significant budget increase at OCME to accommodate an increase in staff, an increase in operations, and a major renovation or replacement of the physical facility.

Over the past three years, the OCME has worked to eliminate backlog, improve efficiency and develop a policy and procedure manual to maintain expected standards. Some of the office accomplishments over the past three years include:

- Reduced backlog of cases from several hundred over 4-5 years to 0.
- Reduced turn-around-time for case completion from 4-5 months to less than 3-4 weeks (including all toxicologic testing and histology).
- Compiled a comprehensive policy and procedures manual, updating protocols as necessary.
- Initiated protocol to immediately notify family or next-of-kin as soon as amended death certificate is issued, which finalizes an otherwise "pending" cause of death.
- Created and filled a new position to manage and track data for demographic, statistical, and other forensic purposes.
- Received acclaim from federal agencies for participation in the National Violent Death Reporting System (NVDRS) grant; Maine was number one in speed and thoroughness of data entry out of 34 reporting agencies across the nation.
- Starting utilizing rapid urine testing for illegal drugs by Field Medical Examiners in circumstances clearly indicating such abuse; when positive, blood samples are sent to the lab for qualitative forensic testing without the expense of body transport to Augusta and a full autopsy.
- Received a federal grant through the University of Maine Margaret Chase Smith Center for additional toxicology testing in the amount of \$60,000.
- Received a federal grant through the National Institute of Justice for equipment in the amount of \$39,000.
- Identified two previously unidentified remains, effectively closing two missing persons' cases while compiling a state-wide missing person list and unsolved homicide list in conjunction with State Police and the Attorney General's Office.