

COUNTY OF LOS ANGELES  
DEPARTMENT OF MEDICAL EXAMINER-CORONER



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2020 ANNUAL REPORT

Dr. Jonathan Lucas  
Chief Medical Examiner-Coroner

# LOS ANGELES COUNTY BOARD OF SUPERVISORS



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## MISSION AND VISION

### MISSION

The mission of the County of Los Angeles Department of Medical Examiner-Coroner is to provide independent, quality, death investigation using advanced forensic science with compassion and objectivity for families, communities, and public health & safety; working collaboratively with our partners to reduce preventable deaths.

### VISION

The Los Angeles County Department of Medical Examiner-Coroner seeks to be the premier medicolegal death investigation agency, nationally recognized as a leader in the forensic science community.

## HISTORY

The County of Los Angeles has had a Coroner in place since California became a state in 1850. At the time, the Coroner was an elected official who was tasked with determining the cause and manner of death in specific cases. Following the 1954 Model Postmortem Examinations Act, the Board of Supervisors amended the County Charter to require that the Coroner be a certified pathologist. They appointed the first Chief Medical Examiner-Coroner in 1957.

In 1990, the Board of Supervisors separated duties of the executive management and appointed the then acting Chief Medical Examiner-Coroner to oversee medical matters and a Director to be responsible for all other departmental functions. In 2013, the Board re-established a single Chief Medical Examiner-Coroner Department Head to lead the office.

Six years later, in November 2019, the Board approved a motion to change the name of the office to the Department of Medical Examiner; however, due to COVID-19 pandemic and an increase in cases in 2020, the name change was not officially changed during 2020.

The Department occupied its first permanent location at the Old Hall of Records in 1911 and moved to the Hall of Justice in 1926, before the Department moved to its current location on North Mission Road in 1972.

## JURISDICTION

California law requires the Department of Medical Examiner-Coroner to inquire into and determine the circumstances, manner, and cause of all sudden, violent, or unusual deaths, and those deaths where the decedent has not been seen by a physician 20 days prior to death. The cause of death is determined by a Deputy Medical Examiner and a death certificate is issued after the examination is completed.

## DEPARTMENT DESCRIPTION

The County of Los Angeles Department of Medical Examiner-Coroner (DMEC) is an independent entity, separate from any law enforcement agency. The Department reviews deaths that occur within Los Angeles County, and are sudden, unexpected, or violent, or when the deceased has not been attended recently by a physician (California Government Code 27491). Through forensic investigation and scientific means, the Department offers unbiased determinations of cause and manner of death.

The Department is comprised of five sections, including the Operations Bureau, Forensic Medicine Division, Forensic Sciences Laboratories Division, Public Services Division, and the Administrative Services Division.

### OPERATIONS BUREAU

The Operations Bureau is responsible for providing direct services of investigations and decedent services through a 24-hours-a-day, and 7-days-a-week operation. The Bureau includes two main sections: Investigations and Decedent Services.

In the Investigations Section, Coroner Investigators respond to death scenes anywhere in the County. As part of their death investigation, they will conduct a physical examination of the deceased, collect evidence and personal property, take photographs, and conduct interviews. They also are tasked with identifying the deceased and notifying the next of kin. Coroner investigators prepare investigative reports to aid the forensic pathologist in the determination of the cause and manner of death.

The Decedent Services Section is responsible for the transportation, processing, storage, and release of decedents' bodies, which includes the weighing and measuring of bodies, the collection of personal effects, and the collection of physical and medical evidence, fingerprinting and tagging of the decedent.

Additionally, the Operations Bureau oversees the Special Operations Response Team (SORT), emergency and disaster planning, homeland security grants, fleet management, and other ancillary programs, such as regional offices and the court-mandated hospital and morgue program.

## FORENSIC MEDICINE DIVISION

The Forensic Medicine Division is comprised of full-time, permanent staff who are board-certified forensic pathologists. Also referred to as Deputy Medical Examiners, the forensic pathologists are responsible for the professional medical investigation and determination of the cause and manner of each death handled by the Department. Also included in the Medical Division are Forensic Technicians, who assist doctors during autopsy, and photograph and x-ray decedents.

The physicians are experts in the evaluation of sudden, unexpected, natural deaths and unnatural deaths, such as deaths from firearms, sharp and blunt force trauma, etc. Physicians are frequently called to court to testify on cause of death and their medical findings and interpretations, particularly in homicide cases.

In addition, the Forensic Medicine Division has consultants in forensic neuropathology, odontology, anthropology, anesthesiology, pediatrics, ophthalmologic pathology, pulmonary pathology, cardiac pathology, psychiatry, psychology, and radiology to assist the deputy medical examiners in evaluating their cases.

Furthermore, the Forensic Medicine Division is one of few medical examiner offices in the nation that uses computed tomography, commonly known as a CT scanner. The instrument improves accuracy of diagnoses, improves turnaround time by conducting virtual autopsies, and minimizes operational costs. In addition to these applications, the CT scanner is utilized for cases where there is religious objection to autopsy.

## FORENSIC SCIENCES LABORATORIES DIVISION

The Forensic Sciences Laboratories Division is responsible for the identification, collection, preservation, and analysis of physical and medical evidence associated with Medical Examiner-Coroner cases and includes the following units: Toxicology, Histology, Human Genomics/DNA, Scanning Electron Microscope lab (which includes gunshot residue and toolmark analysis), Field Criminalistics and Evidence Control.

The Laboratories Division conducts a comprehensive scientific investigation into the cause and manner of any death within the Medical Examiner-Coroner jurisdiction. This is accomplished through the chemical and instrumental analysis of physical and medical evidence.

The goal is to provide medical examiners, families of decedents, outside investigating agencies, and the judicial system with timely, accurate, and advanced forensic analyses; and to provide expert interpretation of these analyses through testimony and deposition.



Additionally, the Forensic Sciences Laboratories Division is fully accredited by the prestigious ANSI National Accreditation Board (ANAB) in the following forensic science disciplines: Biology, Firearms and Toolmarks, Materials (Trace), Seized Drugs and Toxicology.

## PUBLIC SERVICES DIVISION

The Public Services Division offers compassionate, responsive, and efficient technical decedent processing services to the affected family members, involved law enforcement, mortuaries, medical personnel, and other county departments.

Staff in the division often handle sensitive functions related to the initial, midpoint, and close-out of Medical Examiner-Coroner cases. They offer these functions with utmost professionalism and in a caring manner.

The Public Services Division also manages the Medical Examiner-Coroner case records management and safekeeping and release of decedent personal property. Moreover, the division oversees decedent billing, responds to law enforcement agency inquiries, manages civil and criminal subpoena requirements, and issues death certificates to the mortuaries.

Internal departmental support services include expeditious transcription of all dictated autopsy reports, neuropathology reports, microscopic reports and clerical support to Deputy Medical Examiners.

## ADMINISTRATIVE SERVICES DIVISION

The Administrative Services Division is responsible for all departmental financial operations, departmental budget preparation, fiscal reports, personnel, payroll, procurement, accounting, revenue collection, marketing, volunteer services, contracts and grants, public records request processing, information technology, workfare programs, facilities management, and other related functions.

## OTHER SERVICES PROVIDED BY DMEC

### Special Operations Response Team (SORT)

Within the Operations Bureau is a specialized response unit called SORT (Special Operations Response Team). It is comprised of Medical Examiner-Coroner staff including investigators, criminalists, technicians, doctors and consultants in anthropology and entomology.

The SORT team responds to cases requiring specialized recovery and scene processing techniques, such as those required in aircraft crashes, buried bodies, and fires, and assists law enforcement agencies in general searches for scattered human remains or possible burial sites. They are the primary responders for mutual aid requests and multiple fatality incidents.

#### Organ & Tissue Donation

The Tissue Recovery/Organ Transplantation Program provides organs, corneas and other tissue to all in need in the community through coordinated efforts with various tissue banks and hospitals.

After consent is obtained, medical staff provide review of organ and tissue procurement in Medical Examiner-Coroner cases. In addition, the program makes tissue available to low-income and indigent patients at County medical facilities at no cost to the patients or hospitals.

#### Forensic Pathology Resident Training Program

The Department offers the opportunity for pathology residents from local university-affiliated hospitals (USC, UCLA, Cedars-Sinai, and others) to train at the DMEC facility with costs paid by the hospitals. This program fosters positive relationships with the university hospitals' pathology departments and improves the standard of practice of forensic medicine in general, as these pathology residents will be practicing in the community when they finish training.

#### Youthful Drunk Driver Visitation Program (YDDVP)

Since 1989, the Department of Medical Examiner-Coroner has conducted the Youthful Drunk Driver Visitation Program (YDDVP) program, which a judicial officer can consider as an alternative sentencing option. The program is designed to present the consequences of certain behavior to the participants in a manner that is both impactful and educational.

## EXECUTIVE SUMMARY

2020 was a historic year for Los Angeles County, which was marked with a tragic crash and noteworthy Los Angeles death, a worldwide pandemic, the early stages of a drug overdose epidemic, and heightened public outcries for transparency and accountability from government.

On the morning of Jan. 26, a helicopter with nine passengers, including NBA star Kobe Bryant, suddenly crashed in the Calabasas mountains. The Los Angeles County Fire Department responded to the aircraft crash, but no survivors were found in the fiery wreckage. DMEC responded and completed the recovery and identification over the next three days using fingerprints and rapid DNA technology.

As the frenzy quieted following the helicopter crash, a new challenge was approaching: Coronavirus. Also known as COVID-19, the disease caused by a virus called SARS-CoV-2 initially portrayed itself as the flu; however, it soon proved dangerous as older adults and people with certain underlying medical conditions began dying in large numbers.

As a result, on March 16, the Los Angeles County Health Officer issued an order to prohibit all indoor and outdoor, public and private events and gatherings within a confined space to prevent the transmission of COVID-19. DMEC closed its facilities to the general public, and facilities would not reopen until late 2021.

Although most deaths from COVID-19 occurred at the hospital and did not require involvement by DMEC, the large increase in community deaths overtaxed hospitals and mortuaries, requiring DMEC to assist by providing temporary refrigerated storage for the entire region. DMEC quickly acquired temporary refrigerated storage equipment raising capacity up to nearly 1,000 decedents. The excess storage was not utilized until December 28, but was extensively used over the next year in 2021.

On May 25, the death of George Floyd at the hands of Minneapolis police sent a shockwave through the nation. Social unrest and community outcry erupted throughout the country and in Southern California.

Three weeks later, on June 18, the death of Andres Guardado Pineda as a result of a Los Angeles County Sheriff Deputy-involved shooting in Gardena amplified local community outcry and demands for transparency from government. In response, the DMEC released the autopsy report, despite objections from the Sheriff's Department, under the premise that both the administration of justice and the public's right to know are not mutually exclusive ideals, especially in the setting of the community's response.

Following the release of the autopsy report, the Board of Supervisors directed the department to conduct an inquest, or explain why one was unwarranted, into the death of Andres Guardado

Pineda. On November 30, DMEC conducted the first inquest proceeding in Los Angeles County in more than 30 years. Although it did not reach any novel conclusions about cause and manner of death, the exercise demonstrated the DMEC's commitment to neutrality and transparency.

Furthermore, over a seven-week period between August and October 2020 in central Los Angeles, four additional Los Angeles County Sheriff-involved shootings of young people of color would occur. Each of these would have an inquest in the coming year.

Lastly and significantly, the department experienced a sudden 25% increase in caseload during 2020 compared to previous years driven primarily by drug overdoses, natural deaths, and homicides. Of note, the rapid increase in drug deaths was propelled primarily by illicit fentanyl, an opioid 50 times stronger than heroin.

Due to the economic impacts of the pandemic, county departmental budgets were reduced, and this fact, coupled with the rapidly increasing caseload and other unique challenges of 2020, resulted in one of the most difficult periods for DMEC.

Despite these challenges, the dedicated and hard-working staff of the DMEC pushed through, servicing the community with independence, objectivity, and most of all – compassion. They are commended for rising to meet the unprecedented challenge that was 2020.

## STATISTICS AND DATA

### INTRODUCTION

California statute mandates the Department to determine the cause and manner of death for each person that falls under the jurisdiction of the Medical Examiner-Coroner. However, another important function of the DMEC is to compile data regarding the deaths it investigates. Coupled with the right information from other agencies, it can potentially be used to reduce preventable deaths of those living in the community.

Keep in mind that this report represents investigation of only a certain subset of deaths in the county – 14.3% (11,836) of the 82,816<sup>1</sup> deaths in 2020. These are the deaths in which the Department is required to take jurisdiction and include all deaths due to non-natural causes countywide (injury, drugs/alcohol, homicides, suicides, etc.) and a relatively small proportion of natural deaths (7.2% of all natural deaths in the county).

Despite the increase in deaths in the county and the increase in jurisdictional deaths for the Department compared to previous years, the proportion of all county deaths investigated by the department (14.3%) is only minimally changed from 2019 (14.5%).

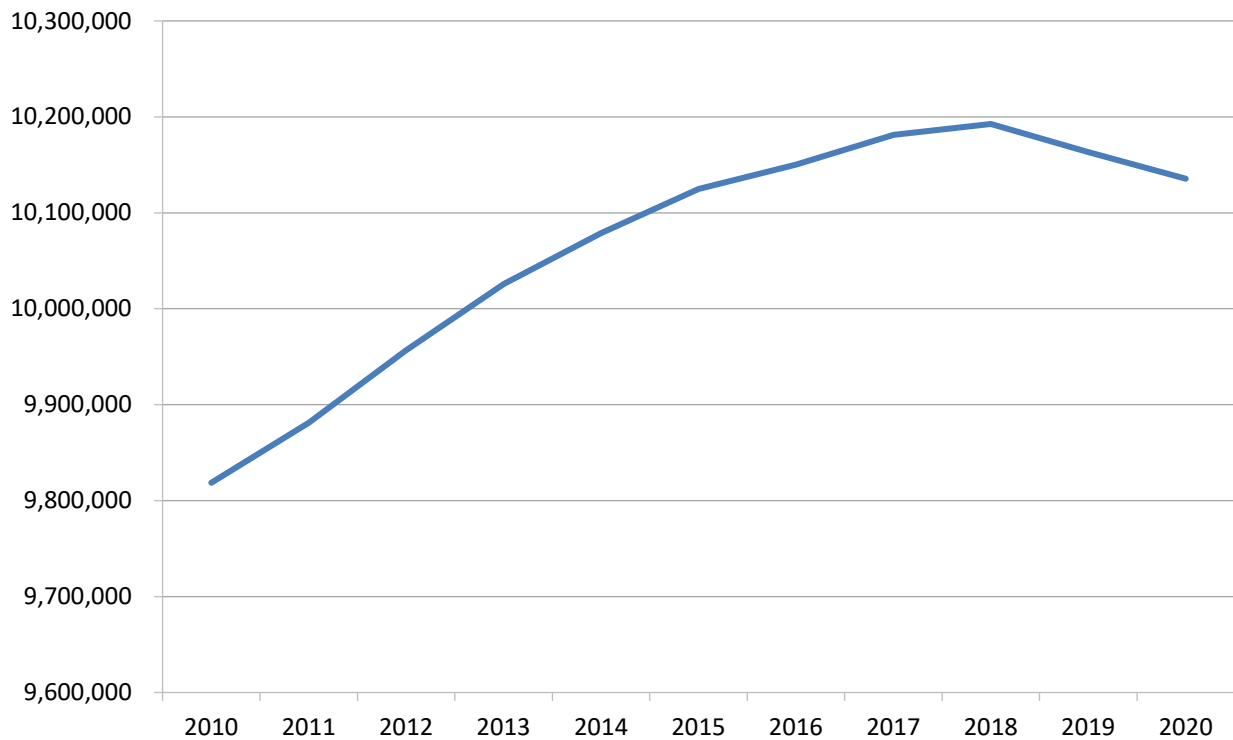
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<sup>1</sup><https://data.chhs.ca.gov/dataset/death-profiles-by-county>

## STATISTICS REQUIRED BY NATIONAL ASSOCIATION OF MEDICAL EXAMINERS

	<b><u>2020</u></b>	<b><u>2019</u></b>
Deaths Reported	22,445	17,940
Cases Accepted	11,836	9,489
Number of cases by manner of death		
Accident	4,603	3,608
<i>Drug related certified</i>	2,611	1,769
<i>Drug related autopsied</i>	1,541	1,107
<i>Non-motor vehicle, non-drug certified</i>	906	925
<i>Non-motor vehicle, non-drug autopsied</i>	209	252
Homicide	770	571
Natural	5,476	4,319
<i>(of which COVID-19)</i>	433	0
Suicide	866	871
Undetermined	121	120
Scene Visits	6,031	4,444
Number of bodies transported	8,693	6,976
External examinations		
By physician	4,386	3,430
By investigator	3,395	2,934
Partial autopsies	136	129
Complete autopsies	3,395	3,324
Infant deaths certified	68	78
Infants autopsied	61	74
Hospital Autopsies under ME Jurisdiction	4	1
Cases where toxicology was performed	6,580	4,992
Bodies unidentified after examination	76	22
Organ and tissue donations		
Organ only	80	95
Tissue only	357	328
Organ and tissue	71	92
Unclaimed bodies	860	715
Exhumations	0	0

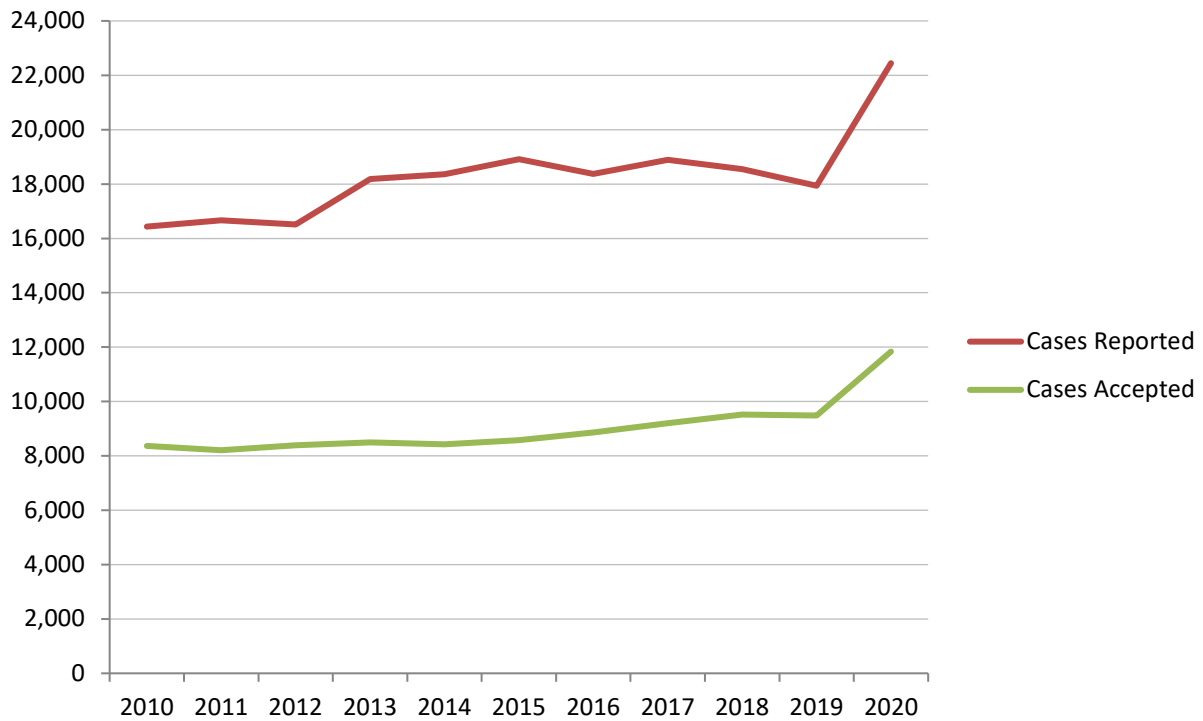
## POPULATION OF LOS ANGELES COUNTY, 2010-2020



Year	Population
2010	9,818,605
2011	9,881,070
2012	9,956,888
2013	10,025,721
2014	10,078,942
2015	10,124,800
2016	10,150,386
2017	10,181,162
2018	10,192,593
2019	10,163,139
2020	10,135,614

**Source:** State of California, Department of Finance

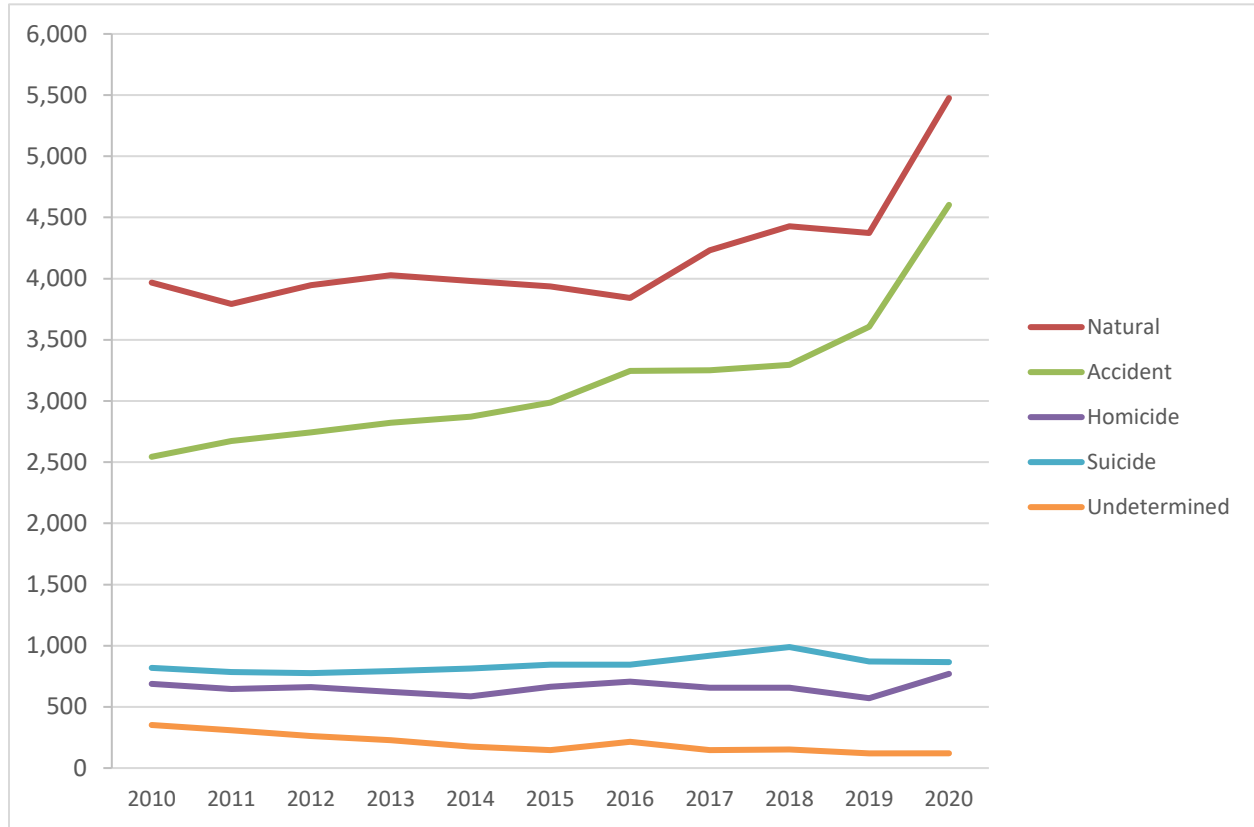
NUMBER OF REPORTED AND ACCEPTED CASES PER YEAR, 2010-2020



Year	Cases Reported	Cases Accepted
2010	16,434	8,371
2011	16,668	8,207
2012	16,508	8,390
2013	18,187	8,495
2014	18,365	8,428
2015	18,913	8,578
2016	18,367	8,856
2017	18,892	9,204
2018	18,551	9,523
2019	17,940	9,489
2020	22,445	11,836

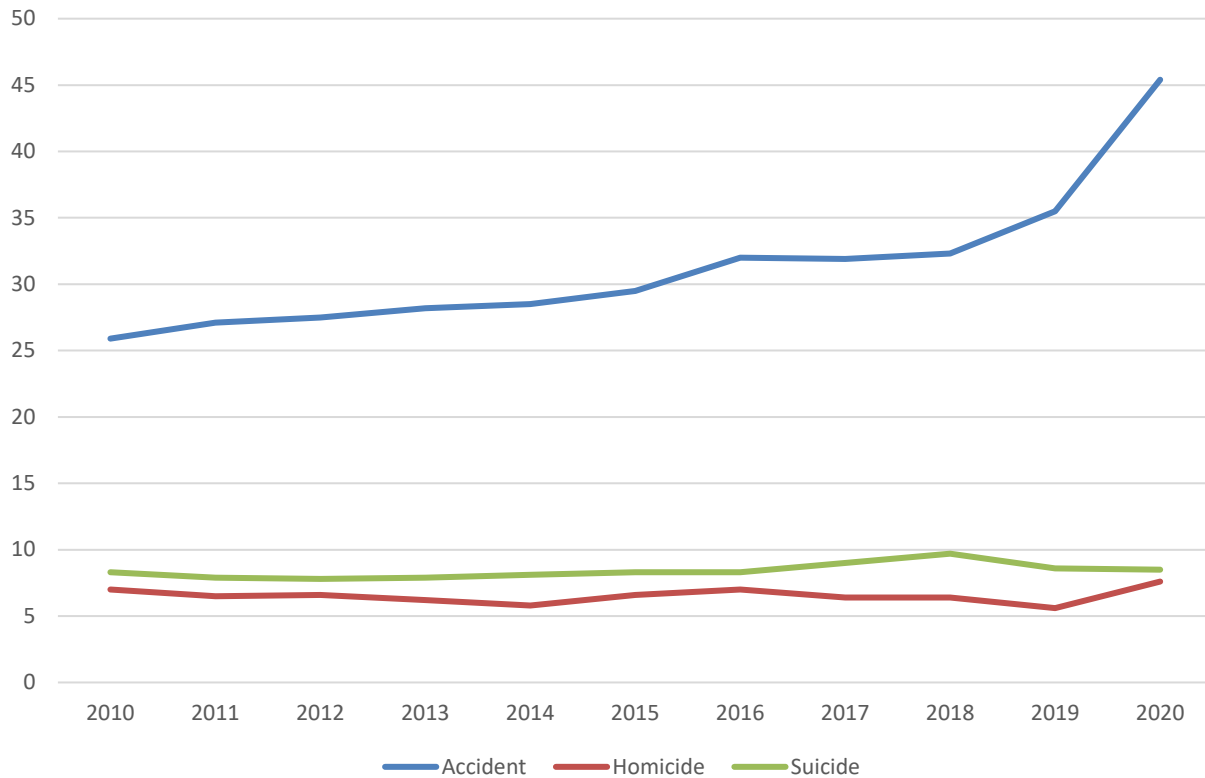


MANNER OF DEATH BY YEAR, 2010-2020



Year	Natural	Accident	Homicide	Suicide	Undetermined
<b>2010</b>	3968	2544	689	818	352
<b>2011</b>	3793	2673	647	784	310
<b>2012</b>	3947	2743	662	776	262
<b>2013</b>	4027	2823	624	793	228
<b>2014</b>	3981	2871	587	813	176
<b>2015</b>	3936	2987	664	845	146
<b>2016</b>	3842	3247	707	846	214
<b>2017</b>	4233	3251	656	917	147
<b>2018</b>	4429	3296	656	989	153
<b>2019</b>	4319	3608	571	871	120
<b>2020</b>	5476	4603	770	866	121

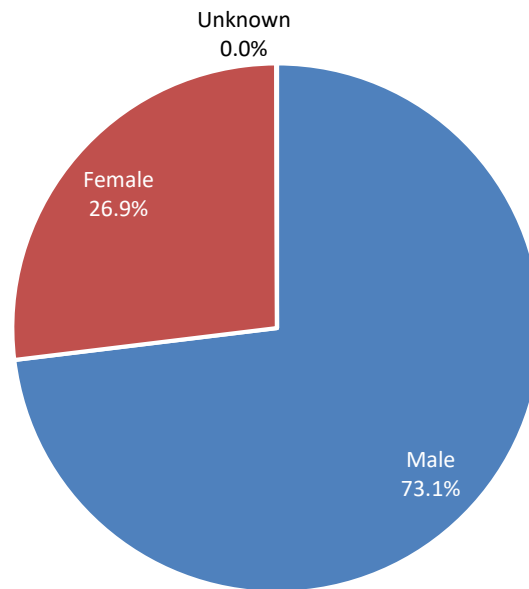
DEATH RATES\* BY MANNER PER 100,000 POPULATION, 2010-2020



\*crude rates

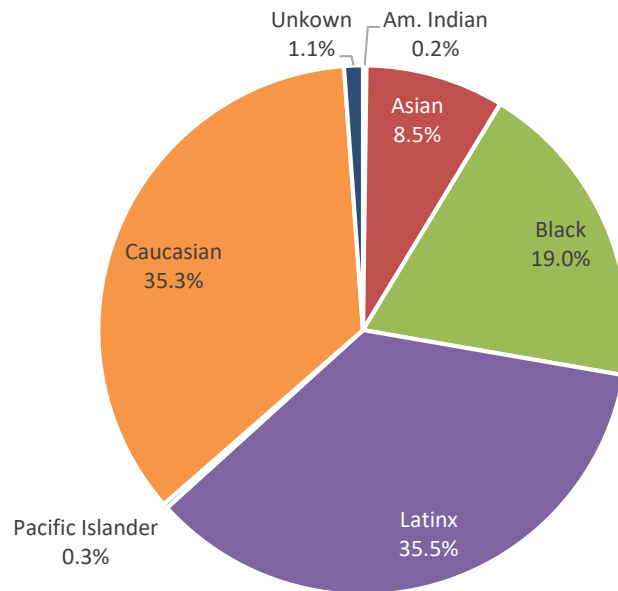
Year	Accident	Homicide	Suicide
2010	25.9	7.0	8.3
2011	27.1	6.5	7.9
2012	27.5	6.6	7.8
2013	28.2	6.2	7.9
2014	28.5	5.8	8.1
2015	29.5	6.6	8.3
2016	32.0	7.0	8.3
2017	31.9	6.4	9.0
2018	32.3	6.4	9.7
2019	35.5	5.6	8.6
2020	45.4	7.6	8.5

## MEDICAL EXAMINER-CORONER CASES BY GENDER, 2020



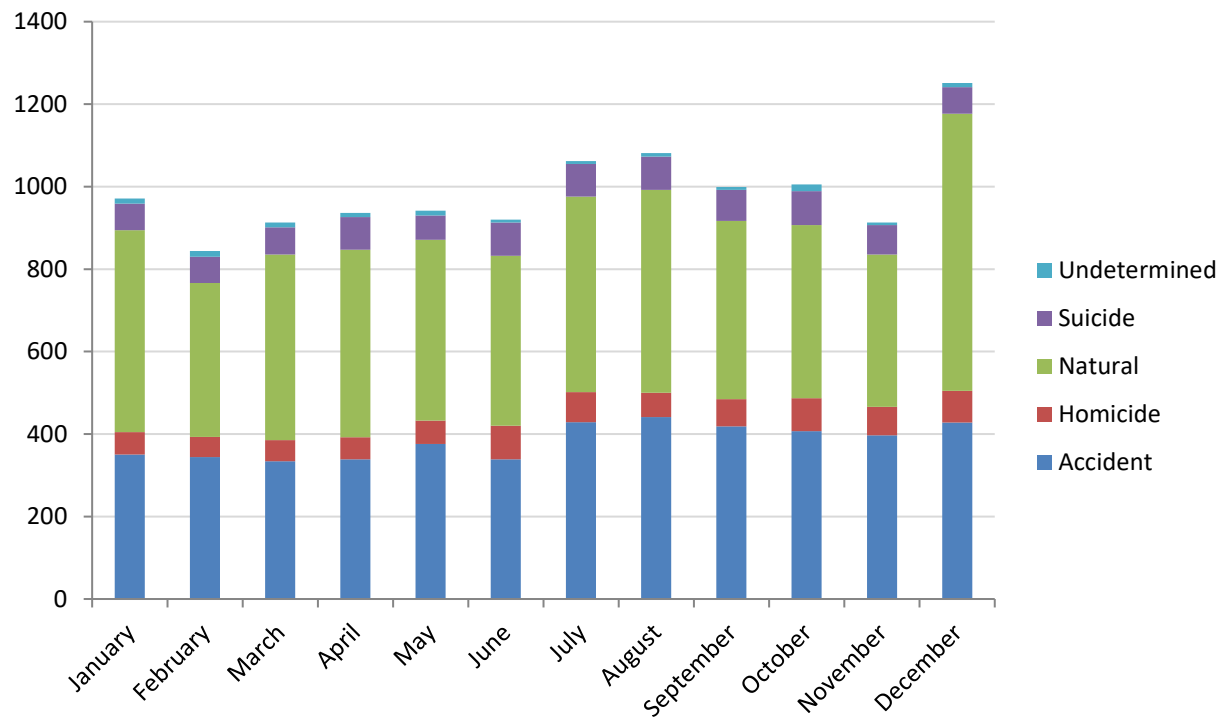
Gender	Number of Cases
Female	3,182
Male	8,649
Unknown	5
<b>Total</b>	<b>11,836</b>

MEDICAL EXAMINER-CORONER CASES BY RACE, 2020



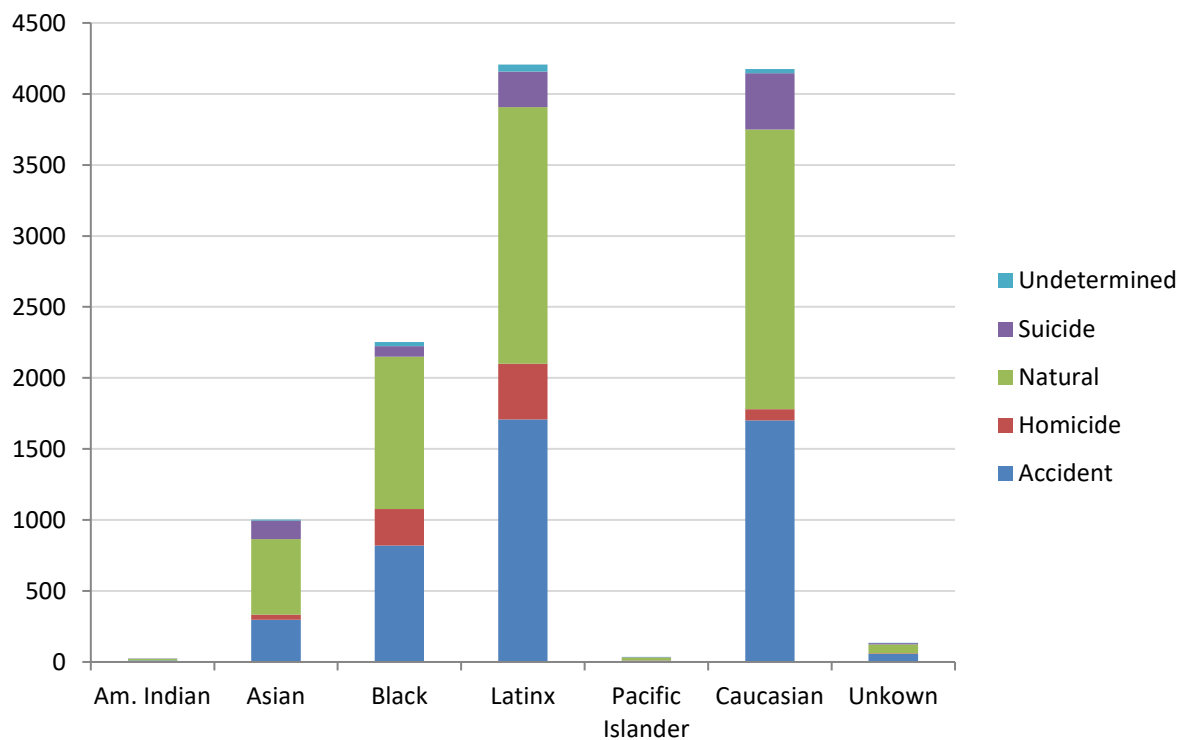
Race	Number of Cases
American Indian	25
Asian	1,003
Black	2,254
Latinx	4,207
Pacific Islander	35
Caucasian	4,176
Unknown	136
<b>Total</b>	<b>11,836</b>

## MANNER OF DEATH BY MONTH, 2020



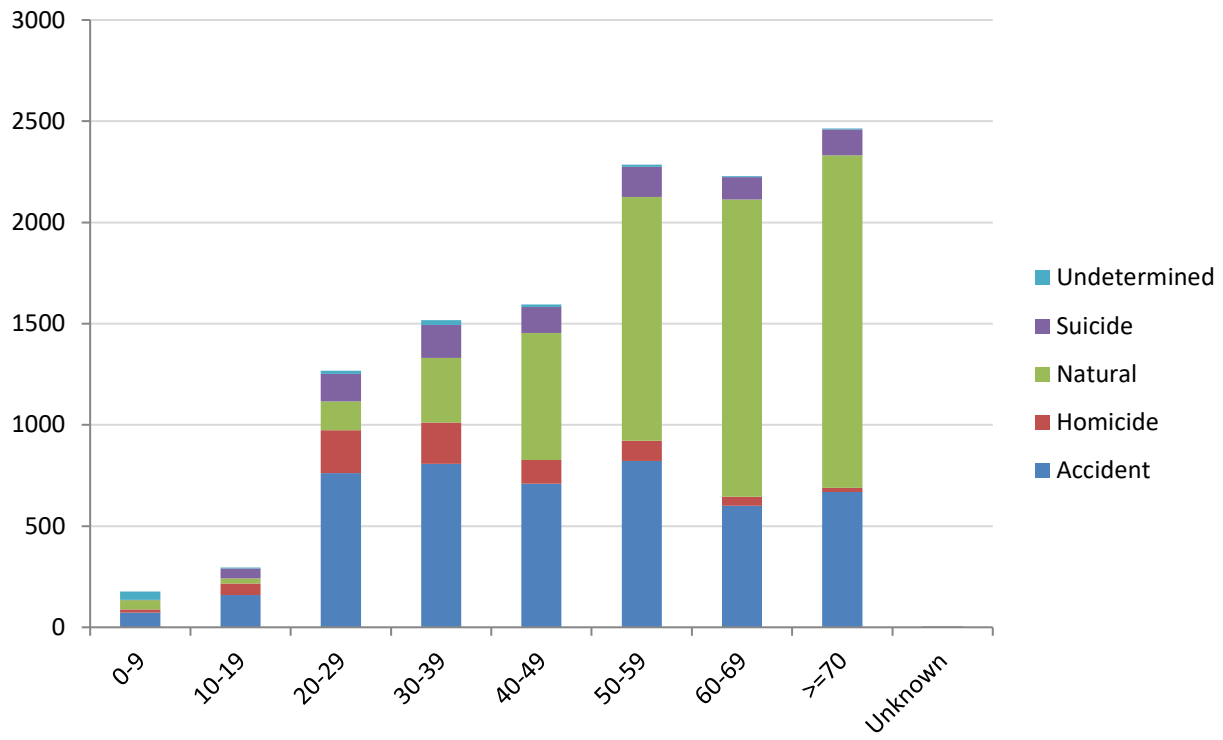
Month	Accident	Homicide	Natural	Suicide	Undetermined
January	350	55	489	65	12
February	344	49	373	64	14
March	334	51	450	66	12
April	339	53	455	79	10
May	376	57	438	59	12
June	339	81	412	81	7
July	429	73	474	79	7
August	441	59	492	81	8
September	419	66	432	75	7
October	407	80	420	82	16
November	397	69	369	72	6
December	428	77	672	64	10
<b>Total</b>	<b>4603</b>	<b>770</b>	<b>5476</b>	<b>866</b>	<b>121</b>

RACE/ETHNICITY DISTRIBUTION FOR EACH MANNER, 2020



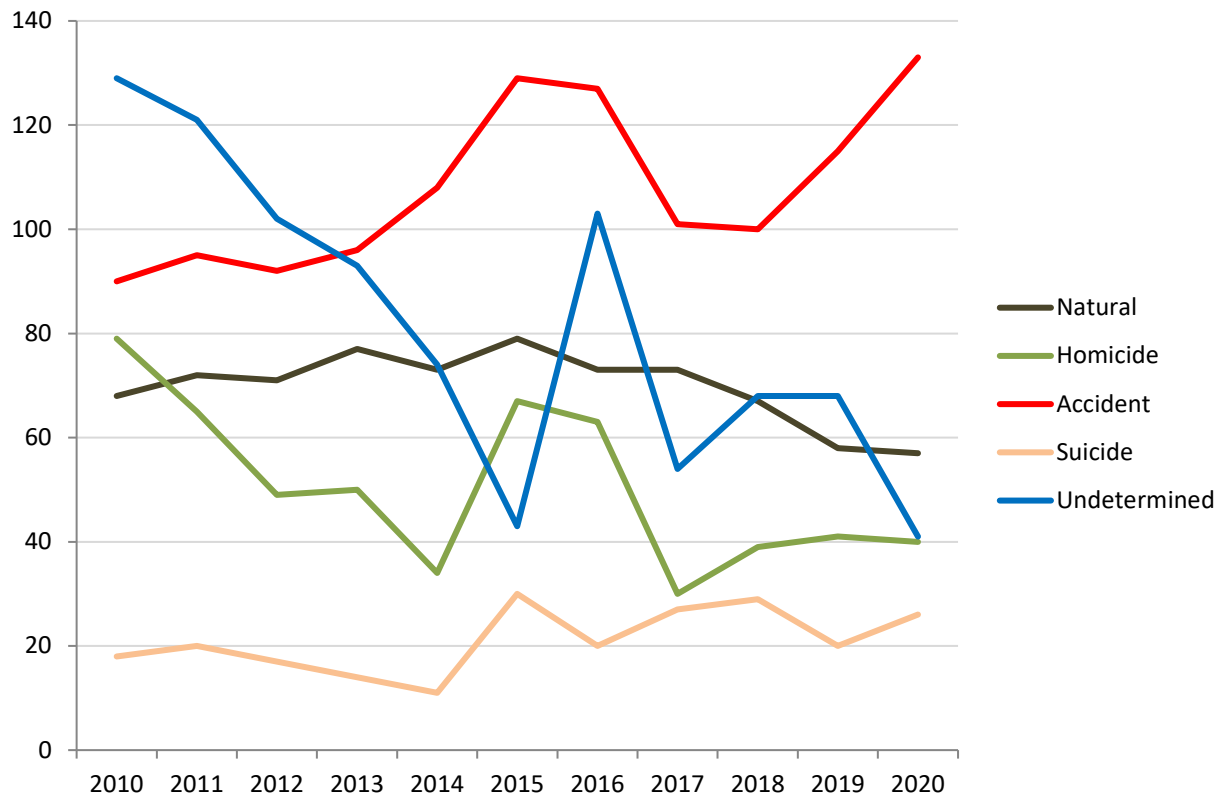
Race	Accident	Homicide	Natural	Suicide	Undetermined
Am. Indian	11	0	11	3	0
Asian	297	36	532	131	7
Black	819	259	1071	75	30
Latinx	1708	391	1809	249	50
Pacific Islander	10	1	20	2	1
Caucasian	1701	79	1969	398	29
Unknown	57	4	63	8	4
<b>Total</b>	<b>4603</b>	<b>770</b>	<b>5475</b>	<b>866</b>	<b>121</b>

MEDICAL EXAMINER-CORONER CASES BY AGE AND MANNER, 2020



Manner	0-9	10-19	20-29	30-39	40-49	50-59	60-69	>=70	Unknown
Accident	73	159	761	807	709	822	601	669	2
Homicide	16	58	213	204	117	99	43	20	0
Natural	45	25	142	319	628	1205	1469	1642	1
Suicide	1	49	135	163	128	149	111	129	1
Undetermined	41	5	17	24	13	11	5	4	1
<b>Total</b>	<b>176</b>	<b>296</b>	<b>1268</b>	<b>1517</b>	<b>1595</b>	<b>2286</b>	<b>2229</b>	<b>2464</b>	<b>5</b>

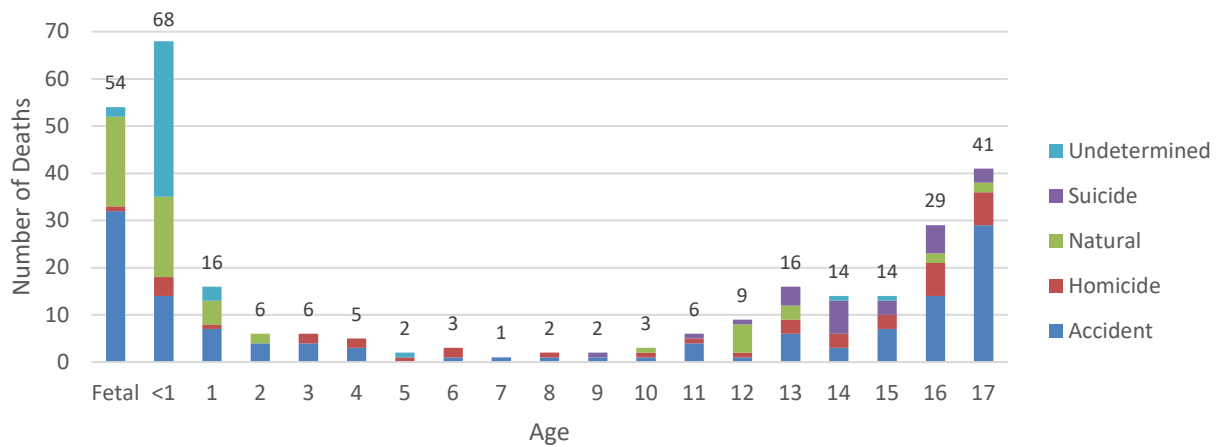
MANNER FOR CHILD DEATHS (AGES UNDER 18), 2010-2020



Year	Natural	Homicide	Accident	Suicide	Undetermined
2010	68	79	90	18	129
2011	72	65	95	20	121
2012	71	49	92	17	102
2013	77	50	96	14	93
2014	73	34	108	11	74
2015	79	67	129	30	43
2016	73	63	127	20	103
2017	73	30	101	27	54
2018	67	39	100	29	68
2019	58	41	115	20	68
2020	57	40	133	26	41



PEDIATRIC DEATHS BY AGE AND MANNER, 2020



	Age																	Total		
	Fetal	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
<b>Accident</b>	32	14	7	4	4	3		1	1	1	1	1	4	1	6	3	7	14	29	<b>133</b>
<b>Homicide</b>	1	4	1		2	2	1	2		1		1	1	1	3	3	3	7	7	<b>40</b>
<b>Natural</b>	19	17	5	2								1		6	3			2	2	<b>57</b>
<b>Suicide</b>											1		1	1	4	7	3	6	3	<b>26</b>
<b>Undetermined</b>	2	<b>33*</b>	3				1									1	1			<b>41</b>
<b>Total</b>	<b>54</b>	<b>68</b>	<b>16</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>6</b>	<b>9</b>	<b>16</b>	<b>14</b>	<b>14</b>	<b>29</b>	<b>41</b>	<b>297</b>

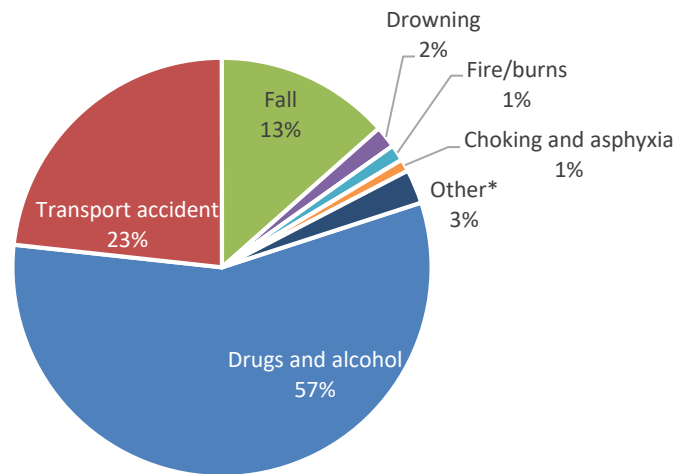
CATEGORIES OF NATURAL, ACCIDENT, AND HOMICIDE DEATHS IN INFANTS, 2020

<b>Natural</b>	<b>17</b>	<b>Accident</b>	<b>14</b>	<b>Homicide</b>	<b>4</b>
Congenital anomalies	8	Blunt trauma	4	Blunt trauma	4
Sepsis	4	Asphyxia/Suffocation	7		
Pregnancy related	4	Drug toxicity	1		
Other	1	Drowning	1		
		Therapy related	1		

\*FACTORS INVOLVED IN INFANT DEATHS, UNDETERMINED MANNER, 2020

<b>Factor Involved</b>	<b>Number</b>
Sudden Unexpected Infant Death (NOS)	15
Unsafe Sleeping Conditions	14
Unsafe Sleeping and coexistent infection	2
Undetermined	2
<b>Total</b>	<b>33</b>

ACCIDENT DEATHS, 2020



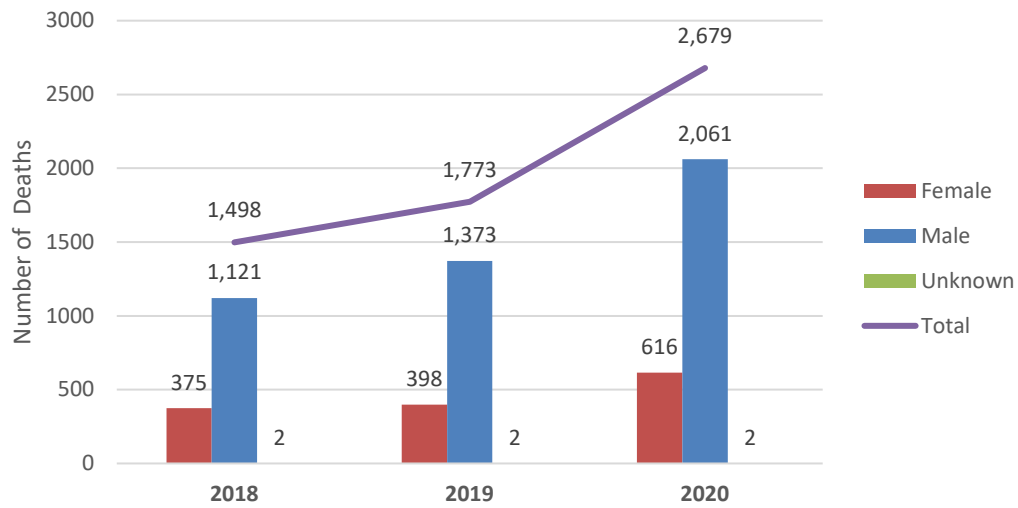
Type of Accident	Number of Cases
Drugs and alcohol	2,611
Transport accident	1,071
Fall	620
Drowning	78
Fire/burns	58
Choking and asphyxia	44
Therapeutic accident	28
Crushed or struck by objects	23
Carbon monoxide/other gas inhalation	20
Hyperthermia/hypothermia	20
Other	15
Firearm injuries	8
Electrocution	7
<b>Total</b>	<b>4,603</b>

*\*Included in Other in pie chart*

TRANSPORTATION ACCIDENTS, 2020

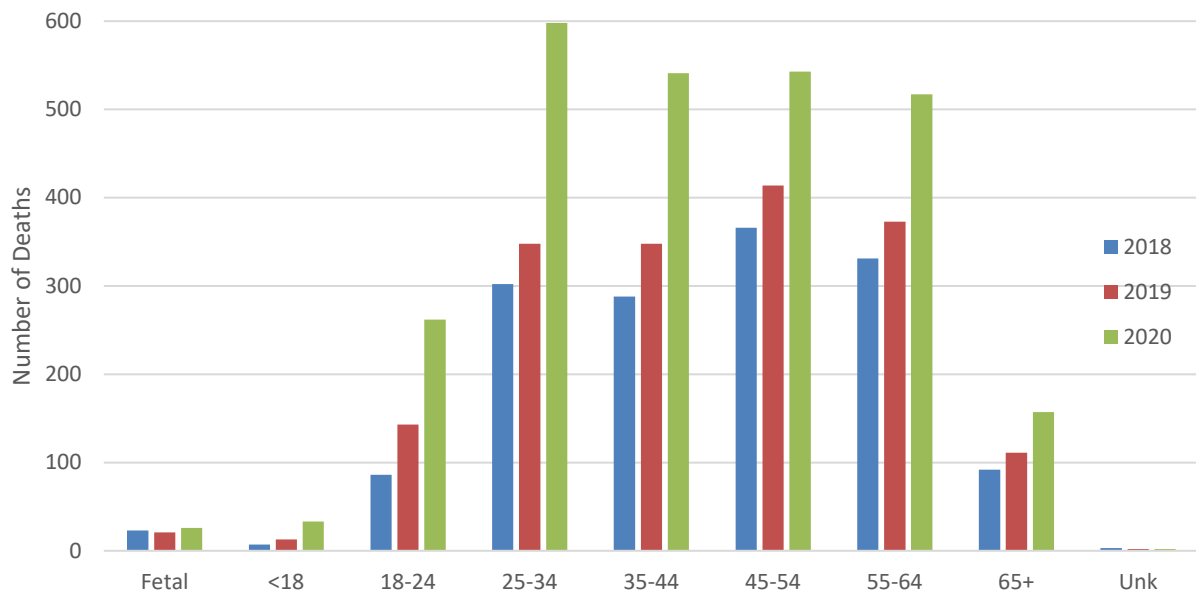
Type of Transportation Accident	Number of Cases
Auto/truck/van occupants	424
Pedestrians	394
Motorcyclists	155
Pedal cyclists	45
Other transport accidents	36
Air transport accidents	16
Water transport accidents	1
<b>Total</b>	<b>1,071</b>

### UNINTENTIONAL DRUGS/ALCOHOL DEATHS BY GENDER, 2018-2020



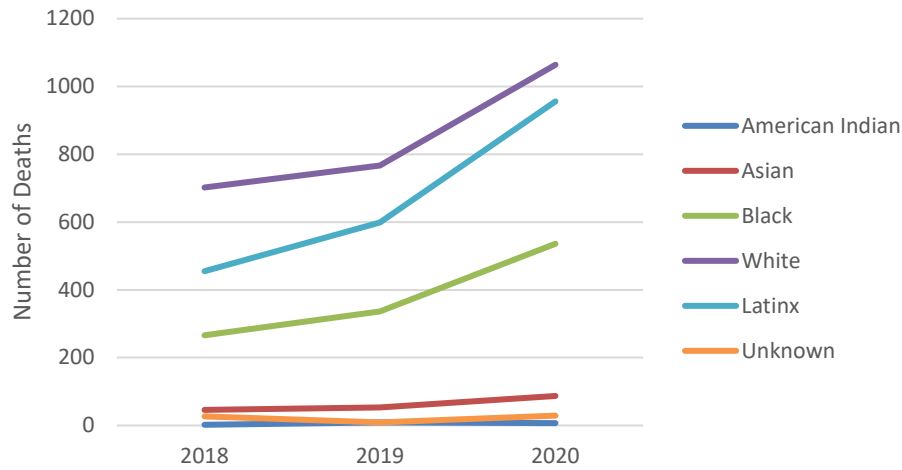
Note: Data for unintentional drug and/or alcohol deaths include any death with a manner of “accident” and cases where a substance was cited as contributing to the cause of death. Therefore, these totals are higher than the value listed on page 24, which only includes death where drugs and/or alcohol were the primary cause of death.

### UNINTENTIONAL DRUGS/ALCOHOL DEATHS BY AGE GROUP, 2018-2020



	Fetal	<18	18-24	25-34	35-44	45-54	55-64	65+	Unk	Total
<b>2018</b>	23	7	86	302	288	366	331	92	3	1,498
<b>2019</b>	21	13	143	348	348	414	373	111	2	1,773
<b>2020</b>	26	33	262	598	541	543	517	157	2	2,679

UNINTENTIONAL DRUGS/ALCOHOL DEATHS BY RACE/ETHNICITY, 2018-2020



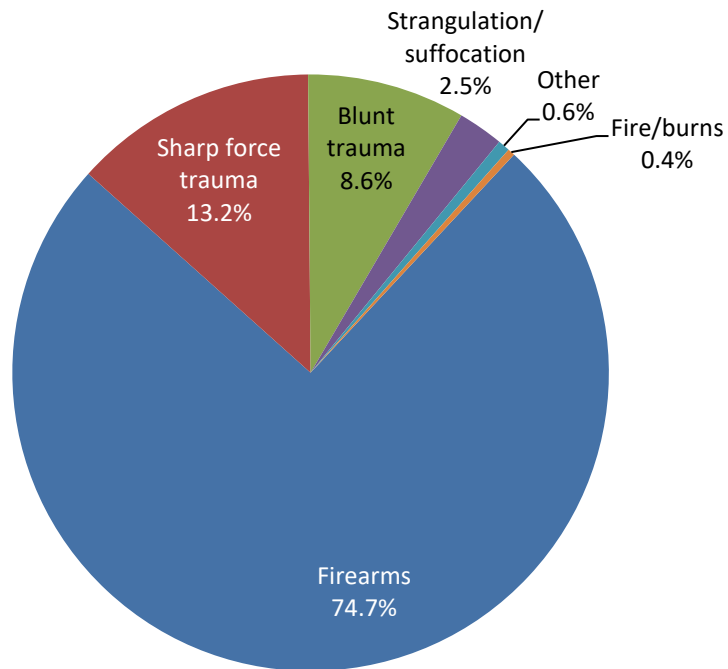
	American Indian	Asian	Black	White	Latinx	Unknown	Total
<b>2018</b>	2	46	266	702	455	27	1,498
<b>2019</b>	9	53	336	767	599	9	1,773
<b>2020</b>	7	87	536	1064	956	29	2,679

UNINTENTIONAL DEATHS, 20 TOP SUBSTANCES IN CAUSE OF DEATH, 2018-2020\*

	2018	2019	2020
<b>Methamphetamine</b>	755	867	1,429
<b>Fentanyl</b>	244	453	1,135
<b>Cocaine</b>	280	375	511
<b>Alcohol</b>	213	255	369
<b>Heroin</b>	264	297	366
<b>Alprazolam</b>	37	71	121
<b>PCP</b>	30	34	89
<b>Methadone</b>	45	37	59
<b>Oxycodone</b>	45	38	47
<b>Morphine</b>	66	35	46
<b>Hydrocodone</b>	35	39	42
<b>Opiate</b>	40	44	34
<b>Benzodiazepine</b>	14	17	34
<b>Etizolam</b>		7	28
<b>MDMA (Ecstasy)</b>	14	12	24
<b>Amphetamine</b>	23	22	19
<b>Clonazepam</b>	4	10	18
<b>Flualprazolam</b>	0	2	16
<b>Diphenhydramine</b>	12	15	15
<b>Citalopram</b>	10	10	15

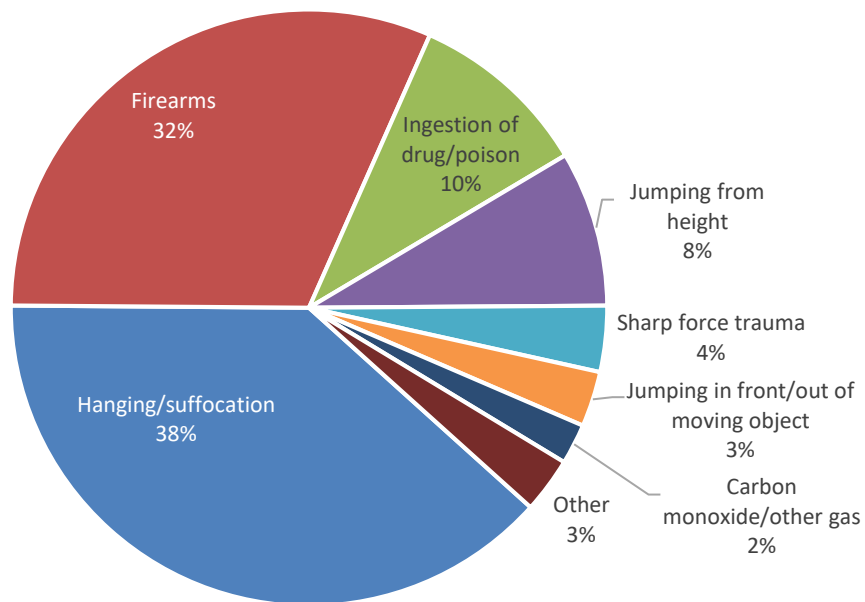
\*Each case may involve more than one substance. Therefore, one case may be counted in multiple substances

HOMICIDE DEATHS, 2020



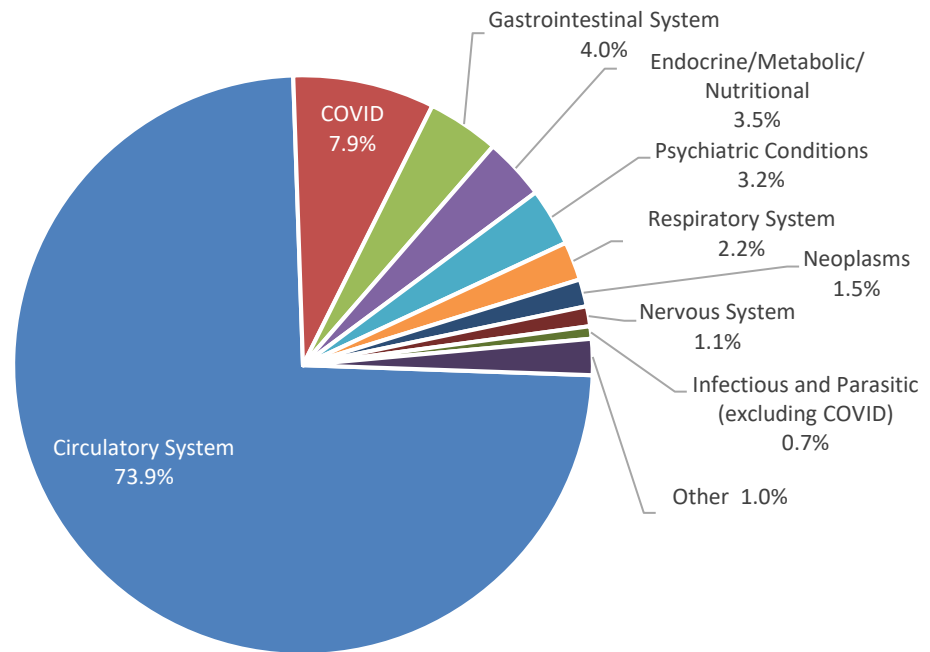
Type of Homicide Death	Number of Cases
Firearms	575
Sharp force trauma	102
Blunt trauma	66
Strangulation/suffocation	19
Other	5
Fire/burns	3
<b>Total</b>	<b>770</b>

SUICIDE DEATHS, 2020



Type of Suicide Death	Number of Cases
Hanging/suffocation	333
Firearms	273
Ingestion of drug/poison	85
Jumping from height	73
Sharp force trauma	31
Jumping in front/out of moving object	26
Carbon monoxide/other gas	19
Other ( <i>detailed below</i> )	26
<i>Drowning</i>	10
<i>Fire/Burns</i>	8
<i>Vehicle collision</i>	5
<i>Other</i>	3
<b>Total</b>	<b>866</b>

NATURAL DEATHS, 2020



Type of Natural Death	Number of Cases
Circulatory System	4,047
COVID	433
Gastrointestinal System	220
Endocrine/Metabolic/Nutritional	189
Psychiatric Conditions	177
Respiratory System	118
Neoplasms	83
Nervous System	61
Infectious and Parasitic (excluding COVID)	38
Other	110
<i>Perinatal Conditions</i>	25
<i>Congenital Anomalies</i>	24
<i>Genitourinary System</i>	15
<i>Musculoskeletal System</i>	14
<i>Other</i>	10
<i>Conditions of Pregnancy/Childbirth</i>	8
<i>Skin and Subcutaneous Tissue</i>	7
<i>Blood/Blood-Forming Organs</i>	6
<i>Eye and Adnexa</i>	1
<b>Total</b>	<b>5,476</b>

## PRESENTATIONS AND PUBLICATIONS

### PRESENTATIONS

Parks R, Nguyen L. A Case of Pulmonary Artery Dissection in a Woman with Chronic Pulmonary Hypertension. Presented at the meeting of the American Academy of Forensic Sciences, Anaheim, CA, February 2020.

Parks R, Huss-Bawab J. A Tale of Two Recreational Mummification Bondage Cases: Undetermined Versus Homicide. Presented at the meeting of the American Academy of Forensic Sciences, Anaheim, CA, February 2020.

Ashraf Z, Yim C, Thomas M, Ukpo OC. Comparing Sinus Fluid Density in Drowning Versus Non-Drowning Victims Using Postmortem Computed Tomography (PMCT). Presented at the meeting of the American Academy of Forensic Sciences, Anaheim, CA, February 2020.

Guan JJ, Wang Y. Recognizing Congenital Syphilis: The Consequences of the Return of an Epidemic. Presented at the meeting of the American Academy of Forensic Sciences, Anaheim, CA, February 2020.

Huss-Bawab J. Pediatric Sudden Cardiac Death – with a focus on SUDI/SIDS. Presented at the meeting of the Society of Cardiovascular Pathology USCAP Companion Meeting, Los Angeles, CA, March 2020.

### PUBLICATIONS

Reilly JM, Xing W, Levicky V, Souccar S, Rogers C, Sathyavagiswaran L. Postmortem Chikungunya Diagnosis: A Case Report and Literature Review. *Am J Forensic Med Pathol.* 2020 Mar; 41(1):48-51.

Prahlow JA, Ashraf Z, Plaza N, Rogers C, Ferreira P, Fowler DA, Blessing MM, Wolf DA, Graham MA, Sandberg K, Brown TT, Lantz PE. Elevator-Related Deaths. *J. Forensic Sci.* 2020 May;65(3):823-832.

Lacy JM, Brooks EG, Akers J, Armstrong D, Decker L, Gonzalez A, Humphrey W, Mayer R, Miller M, Perez C, Arango JAR, Sathyavagiswaran L, Stroh W, Utley S. COVID-19: Postmortem Diagnostic and Biosafety Considerations. *Am J Forensic Med Pathol.* 2020 Sep; 41(3):143-151.

Rogers C, Sathyavagiswaran L. Improving Contagious Disease Reporting in a Medical Examiner's Office. *Am J Forensic Med Pathol.* 2020 Sep; 41(3):160-162.