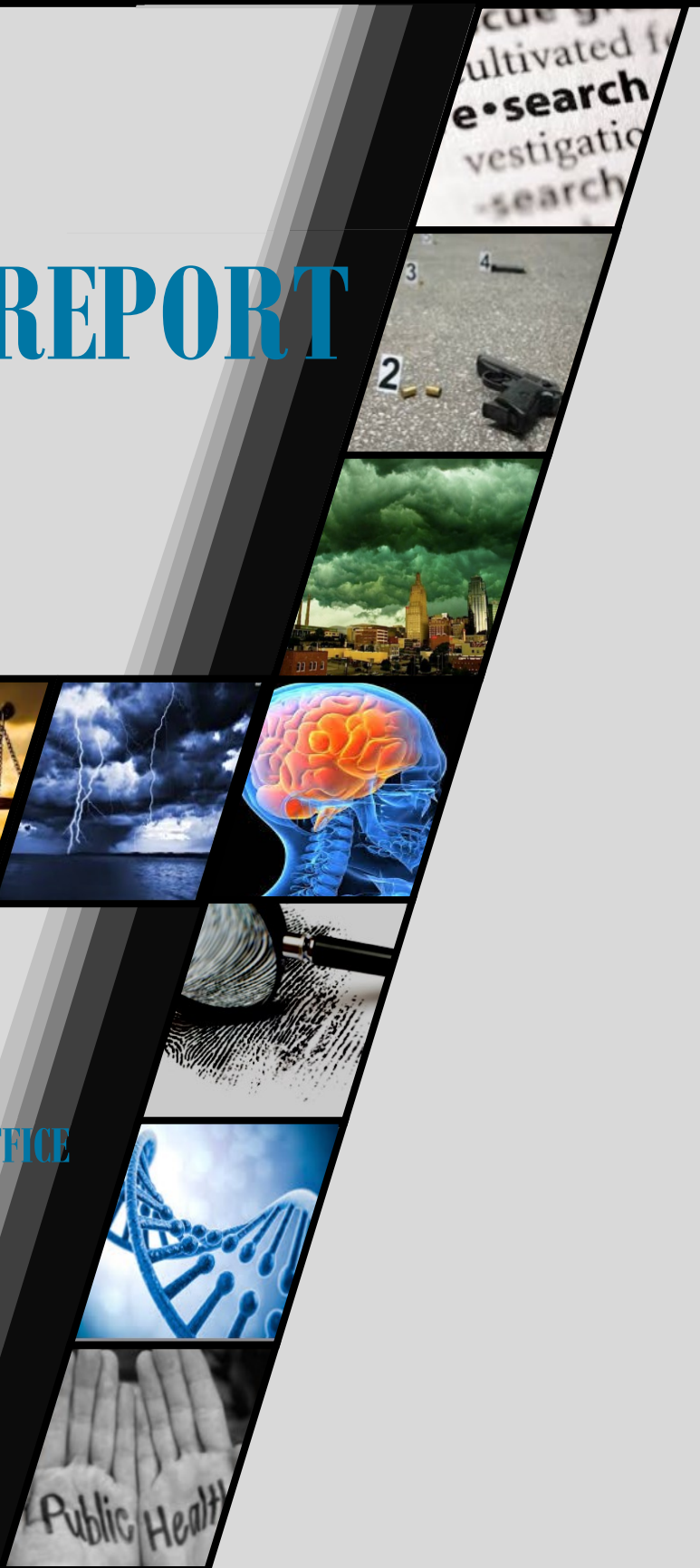


2016

ANNUAL REPORT



**THE JACKSON COUNTY
MEDICAL EXAMINER'S OFFICE**



2016 Annual Report
Jackson County Medical Examiner's Office

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What is the Jackson County Medical Examiner's Office?

The Jackson County Medical Examiner's Office (JCMEO) is the only National Association of Medical Examiners (NAME) Accredited Medical Examiner's Office in the State of Missouri. Staffed with American Board of Pathology (ABP) Certified Forensic Pathologists, American Board of Medicolegal Death Investigators (ABMDI) registered and certified Death Investigators, Forensic Technicians, and trained Administrative Staff who handle pathologists' dictations, death certificates, case files, and medical records.

Services offered by the Jackson County Medical Examiner's Office include expert pathology examination, death scene investigations, medical records review, locating next of kin, court testimony, body examinations, and police and attorney consultation. Accredited by the American Council of Graduate Medical Education (ACGME), JCMEO also provides pathology residency rotations as well as a 1 year Forensic Pathology Fellowship program to train future Medical Examiners.

Toxicology, Radiology, and Histology are additional services that assist in determining the cause & manner of death. Forensic services provided include expert Forensic Anthropology, Odontology, and Entomology consultations for cases where identification and time of death cannot be made by normal means. The JCMEO also takes reports of all Hospice and Nursing Home deaths and many attended hospital deaths that occur in Jackson, Clay, Cass, and Platte Counties.

The JCMEO provides 24/7 coverage and death scene investigation to Jackson, Clay, Cass and Platte counties by medicolegal death investigators with prompt contract transportation services, and completion of autopsy reports and death certificates within a timely manner. JCMEO is a state of the art resource for the Kansas City Metro area and also provides referral autopsy services to assist other counties in Missouri. The JCMEO supports recovery of organ and tissue donations, and works closely with the Child Death Review Board with documentation of all child deaths, and also works closely with Health Departments to report all potential and confirmed heat and cold related deaths.

The Jackson County Medical Examiner's Office is the lead agency for the Kansas City Regional Mortuary Operational Response Group (KCRMORG), a group created by the JCMEO in conjunction with the Mid-America Regional Council (MARC) in the area of Mass Fatality preparedness and response. A Mass Fatality Incident is described as any occurrence of multiple deaths that overwhelm the usual routine capacity of the local Medical Examiner or Coroner. KCRMORG consists more than 80 volunteer professionals from several aspects of forensic investigation. This team is responsible for the response and management of a mass fatality event and can be deployed by the Medical Examiner or Coroner to the incident area.

MISSION STATEMENT

The Jackson County Medical Examiner's Office (JCMEO) is governed by Missouri Revised Statutes. JCMEO is dedicated to providing exceptional death investigations services to Jackson County, the city of Kansas City, the surrounding counties of Platte, Cass, and Clay, as well as other Missouri counties on a referral basis.

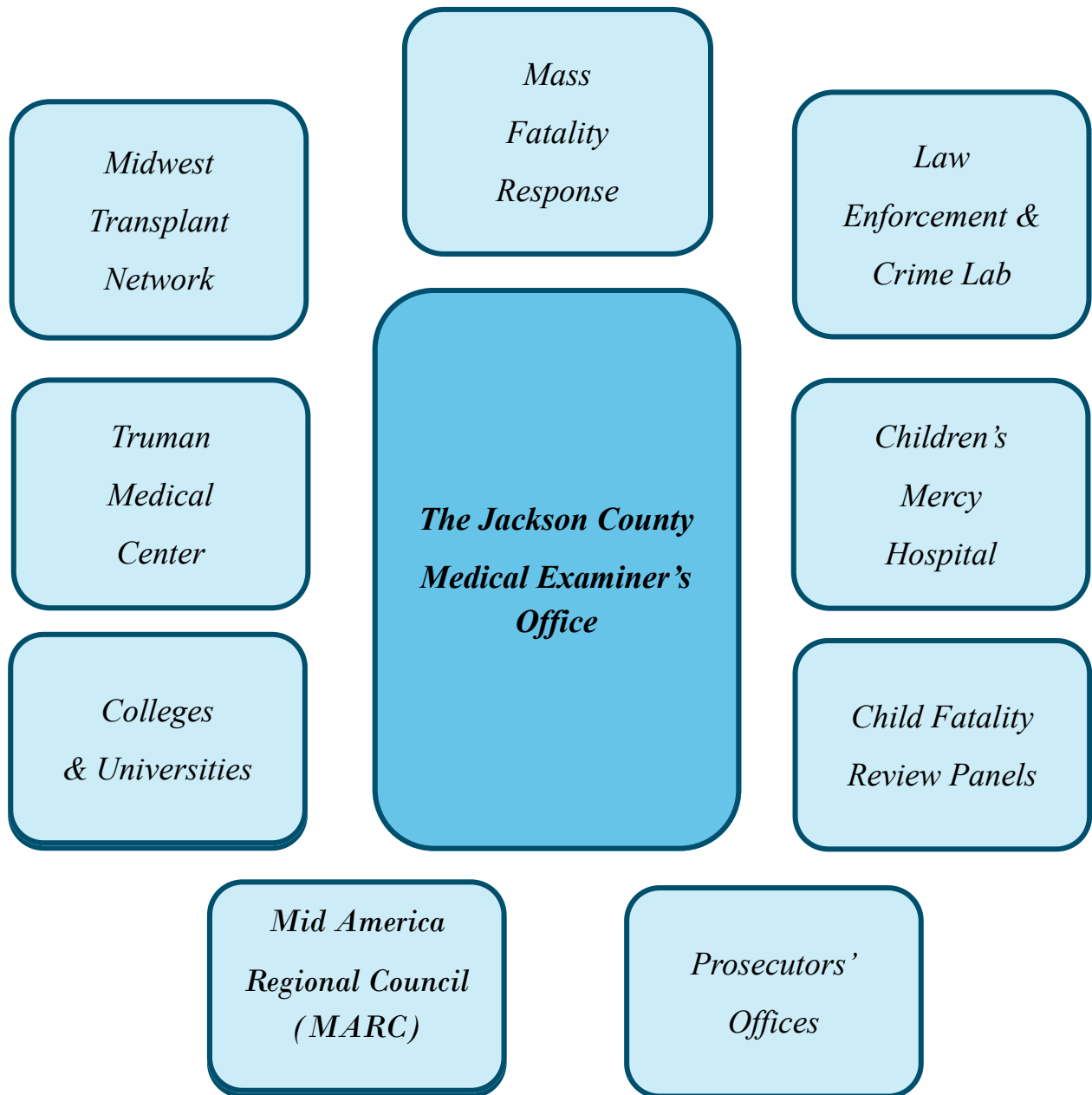
The JCMEO provides trained death investigators who conduct scene investigations of homicides, suicides, accidental and natural deaths under our jurisdiction as determined by State Statutes. Board Certified Forensic Pathologists (Medical Examiners) will provide skilled examinations of the deceased and conduct in-depth examinations utilizing the latest techniques in Forensic Pathology. The Medical Examiners will provide expert testimony in court and will remain neutral in their findings determining cause and manner of death.

The JCMEO will continue to work closely with all Federal, State, and local authorities and departments which interact with the JCMEO. The JCMEO will also continue to educate the county and surrounding areas for mass fatality preparedness and the possibility of a contagious diseases outbreak. The Chief Medical Examiner will continue to ensure that the JCMEO maintains National Association of Medical Examiners (NAME) and Accreditation Council for Graduate Medical Education (ACGME) accreditations and continues its high standards of dedicated forensic services, education and training.

GOALS

- ◆ Continued growth of the Medical Examiner's Office and professional death investigation in Jackson, Clay, Platte, and Cass Counties.
- ◆ Provide education and training to the communities we support.
- ◆ Provide Mass Fatality training and ensure community preparedness.
- ◆ Work with and train other support agencies in the community (Law Enforcement, Courts, Health, Funeral Homes, and others) to provide outstanding death investigation.
- ◆ Complete timely and quality investigative and autopsy reports.
- ◆ Maintain National Association of Medical Examiners (NAME) and Accreditation Council for Graduate Medical Education (ACGME) accreditation.
- ◆ Contribute to the public health and public safety of our community.
- ◆ Promote and support organ and tissue donation.

Local Affiliations



It has always been a high priority of The Medical Examiner's Office to create and maintain great working relationships with all outside agencies, including law enforcement, attorneys, organ and tissue agencies, and health departments. JCMEO has improved community relationships with associated agencies and has taken on additional responsibilities in education and training, public health and safety, and mass fatality preparation and prevention with our community partners.

Public Training and Service

The Jackson County Medical Examiner's Office plays a major role in public health, public safety, and public service. We are dedicated to providing education and training to our external agencies including law enforcement, fire departments, and Emergency Medical Services (EMS). Below is a list of just some of the lectures presented to outside agencies in 2016.

"Mass Fatality Management for Hospitals"

Audience-Cass County Health Department Nurses and Hospital Staff
Cass County Community Center – Harrisonville, MO

"Child Death Reporting"

Children's Mercy Hospital Audience-ER Nurses
Kansas City, MO

Regional Homeland Security Coordinating Committee

MARC, RHSCC Meeting, KCRMORG Overview and Capabilities
Audience- Emergency Management Mangers, Hospital Administrators, Fire Commanders
Kansas City, MO

"Death Scene Investigations"

Central Missouri State University
Law Enforcement Training Center
Warrensburg, MO

"Investigating Fire Death Scene"

Cass County Fire Task Force
Audience - Fire Chiefs, Fire Investigators, Law Enforcement Detectives, Sheriff Deputies
Kansas City, MO.

"Locating and Recovery of Buried Remains"

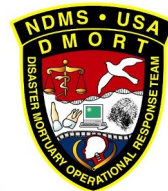
UMKC Dental School
Audience – Dental Students
Kansas City, MO

"Death Scene Investigation, Mass Fatality Management, and Case Studies of Death Scenes"

Missouri Western College Forensic Science Class &
Southern Institute of Forensic Science
Audience – Law Enforcement, Forensic Science Masters College Students
St Joseph, MO

National Affiliations

National Association of Medical Examiners (NAME)
American Academy of Forensic Sciences (AAFS)
College of American Pathologists (CAP)
American Society for Clinical Pathology (ASCP)
American Board of Medicolegal Death Investigators (ABMDI)
Kansas City Regional Mortuary Operational Response Group (KCRMORG)
Midwest Transplant Network (MTN)
Musculoskeletal Transplant Foundation (MTF)
American Medical Association (AMA)
United States and Canadian Academy of Pathology (USCAP)
The Mid-American Regional Council (MARC)
Disaster Mortuary Operations Response Team (DMORT)
State Technical Assistant Team (STAT)
Accreditation Council for Graduate Medical Education (ACGME)
Missouri Disaster Response System (MODRS)
National Institute of Standards and Technology (NIST)
Medical-Legal Death Investigation Subcommittee (OSAC)
Missouri Mortuary Operational Response Group (MOMORG)



College of American Pathologists



AMERICAN ACADEMY OF
FORENSIC SCIENCES



JCMEO Committees

JCMEO Committees

The Chief Medical Examiner, 3 Deputy Medical Examiners, and Medicolegal Death Investigators provide education and training to the communities and agencies we support. To better address certain priorities, the JCMEO has in-house committees to focus on both short-term and long-term needs. Select members of these committees often participate in public education or interagency informational seminars.

Child Fatality Review Panel Committee -According to RSMo 210.195, “The Director of the Department of Social Services shall appoint a state child fatality review panel, which shall meet biannually to provide oversight and make recommendations to the Department of Social Services, State Technical Assistance Team.” In this oversight role, the panel is encouraged to identify systemic problems and bring concerns to the attention of the State Technical Assistance Team. The composition of the State Panel mirrors that of the county panels; each multidisciplinary profession is represented by a recognized leader in the respective discipline.

Community / School Liaison Committee -formed to create educational materials to use at schools, colleges, etc. regarding careers in forensics. Select members of these committees often participate in public education or informational seminars.

Hospital Liaison Committee -created to educate local hospitals and physicians on forensic issues and proper death reporting methods.

Mass Fatality Committee -In the United States Medical Examiners have the legal authority for the management of mass fatality incidents Preparedness and operational capabilities through efforts lead by KCRMORG are communicated to staff in order to identify appropriate measures of preparedness.

Donor Committee -The committee shall provide advice on proposed organ procurement and transplantation policies and procedures.

CASES REPORTED TO THE MEDICAL EXAMINER:
MISSOURI STATUTES CHAPTER 58, SECTION 58.720

Duty and Authority of the Medical Examiner:

The Medical Examiner has direct jurisdiction for Jackson, Cass, Clay, and Platte Counties and is required by Missouri State Statutes # RSMo 58.720 to investigate deaths as a result of:

- ♦ Violence by homicide, suicide, or accident
- ♦ Thermal, chemical, electrical, or radiation injury
- ♦ Criminal abortions, including those self-induced
- ♦ Disease thought to be of hazardous and contagious nature or which might constitute a threat to public health
- ♦ Any person that dies suddenly when in apparent good health
- ♦ When unattended by a physician, chiropractor, or an Accredited Christian Science Practitioner, during a period of thirty-six hours immediately preceding death
- ♦ While in custody of the law, or while an inmate in a public institution
- ♦ In any unusual or suspicious manner
- ♦ All child deaths, involving individuals below the age of eighteen years

The Jackson County Medical Examiner's Office
consists of the following disciplines:

- (1) Full Time Board Certified Chief Medical Examiner
- (3) Full Time Board Certified Deputy Medical Examiners
- (1) Chief of Forensic Operations and Investigations
- (1) Deputy Chief Investigator
- (8) Full Time Medicolegal Death Investigators
- (3) Full Time Forensic Technicians
- (4) Full Time Administrative Staff
- (1) Executive Assistant to the Chief Medical Examiner
- (1) Forensic Pathology Fellow

The Jackson County Medical Examiner's Office is accredited through the National Association of Medical Examiners (NAME) and was reaccredited in 2016 receiving no deficiencies.

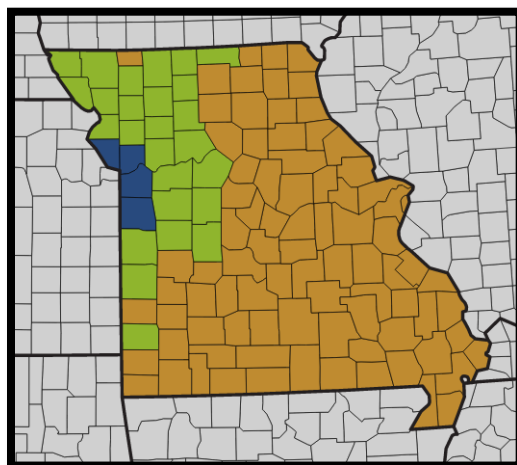
Regional Affiliations

Contract Services

- Cass County
- Clay County
- Platte County

Referral Services

- 26 counties have referred cases to us



2016 Executive Summary

The Medical Examiner's Office 2016 Annual Report reflects the activities in investigating jurisdictional deaths in Jackson, Clay, Cass, and Platte Counties. The mission of the Jackson County Medical Examiner's Office (JCMEO) is to investigate sudden, unexpected and unnatural deaths with the highest level of professionalism, compassion and efficiency, and to provide a resource for improving the health and safety of the community.

A total of 8,273 deaths were reported to our office in 2016. These include accepted jurisdiction, declined jurisdiction, and nursing home and hospice cases. Of the 8,273 cases, the Jackson County Medical Examiner's Office accepted jurisdiction of 6,478 reported deaths. The majority of those reported deaths were reported from nursing home and hospice. Nursing home and hospice deaths accounted for 4,856 of those reported. The remaining 1,622 accepted jurisdiction cases were determined as follows.

The Medical Examiner's Office performed a complete autopsy on 723 of the 1,622 cases. The 1,622 cases were determined as: 170 Homicides, 218 Suicides, 135 Traffic Deaths, 422 Accidental Deaths, 644 Natural Deaths, and 27 deaths due to undetermined causes. 3 cases still remain pending at the time of this report.

Since 2006 medical examiner cases have risen by 57%. In 2016, the highest percentage of accepted jurisdiction cases investigated were of people ages 56-65 at 21% of the total cases for 2016.

Firearms were the most frequently used instrument in homicides at 76% and 32% of suicides investigated. 13% of all cases autopsied were due to the use of a firearm.

Males comprised of 80% and women at 20% of the homicide victims in 2016. The majority of victims, 51%, were between the ages of 18 and 35 years. Of the 51% of homicides, 75% were black males.

The medical examiner investigated 135 traffic fatalities. Of them, 29% tested positive for the presence of alcohol in the blood. The majority of deaths occurred with levels of .018—0.25 at 45%. Drivers represented 53% of all traffic deaths, pedestrians 5%, passengers represented 10%, and 30% traffic fatalities were seated in an unknown position.

Of the 422 Accidental Deaths, 6% were less than the age of 18 and 6% were of infants less than two years of age. It should be noted that 58% of the infant deaths (less than 2 years of age) were due to co-sleeping.

For Medical Examiner Jurisdiction in 2016, of those autopsied, drugs and alcohol contributed to 238 deaths, approximately 31% of all suicidal, accidental, and traffic deaths combined.

This annual report presents an overview of the different manners of death. While the report tends to depict the more violent types of deaths, it is worth noting that 40% of the Medical Examiner cases were classified as natural deaths, and 26% were accident, 13% were suicides, 11% of cases were classified as homicides, and 8% were traffic deaths.

Organ & Tissue Donation

The JCMEO has worked diligently in conjunction with the Midwest Transplant Network (MTN) to support and obtain tissue and organ donations. Our office has worked very closely with MTN for several years and developed the tissue referral donor program which received national recognition as recipient of the 2002 National Association of Counties (NACO) Achievement Award. JCMEO has committed to contact MTN on all possible tissue donor cases. The investigators have been trained in the criteria for tissue donations and refer all possible cases to MTN. JCMEO was honored with 2 awards from MTN in 2009 and 2010 in recognition of outstanding achievements in tissue donation. This proactive program has increased referrals and donations greatly as records indicate that the JCMEO made only 6 referrals with 1 tissue donation on 2006 compared to 2016, MTN records indicate that the JCMEO made 36 tissue referrals and were able to recover 223 donor cases. In addition, there were zero denials of organ donation by the JCMEO since January 2007.

Jackson County Medical Examiner's Office Organ / Tissue Donor Data 2016

401 Total Potential Donor Activity with JCMEO

138 Recovered Donors

22 Organ / Tissue / Eye Donors

7 Organ / Tissue Donors

10 Organ / Eye Donors

103 Tissue / Eye Donors

33 Organ Only

13 Tissue Only

26 Eye Only



JCMEO National Accreditations

National Association of Medical Examiner's (NAME)

NAME provides a professional organization for medical examiners, or physicians who investigate sudden, violent and suspicious deaths and perform autopsies. NAME participates in educational, research and professional development activities, and promotes the exchange of professional experiences for the betterment of the overall profession. Encouraging excellence in medicolegal death investigation and the highest standard of medical professional and ethical conduct.

NAME began development of its accreditation process when the organization was formed in the 1960s. It recognized the importance of accreditation and quality assurance because of the isolation of most forensic pathology offices. By 1975, the first inspections by NAME were accomplished, and the accreditation process was revised to a checklist format in 1995.

The NAME checklist contains questions covering topics that include facilities; safety; personnel; notification, acceptance, and release; investigations; body handling; postmortem examinations; identification; evidence and specimen collection; support services; reports and records; mass-disaster plan; and quality assurance. Inspectors scrutinize facilities and provide a report to NAME for accreditation. Deficiencies cited by the inspectors can be of two types: phase 1 deficiencies, which are less serious; and phase 2 deficiencies, which bar accreditation. Full accreditation lasts 5 years. Provisional accreditation is possible if deficiencies are corrected within 1 year. NAME views its accreditation process as a catalyst for improving offices throughout the country.

JCMEO has received full NAME accreditation with zero deficiencies beginning in 2009, again in 2011, and 2014. Accreditation is renewed on a yearly basis and site visits are conducted every 5 years. Our accreditation is currently renewed through 2017.

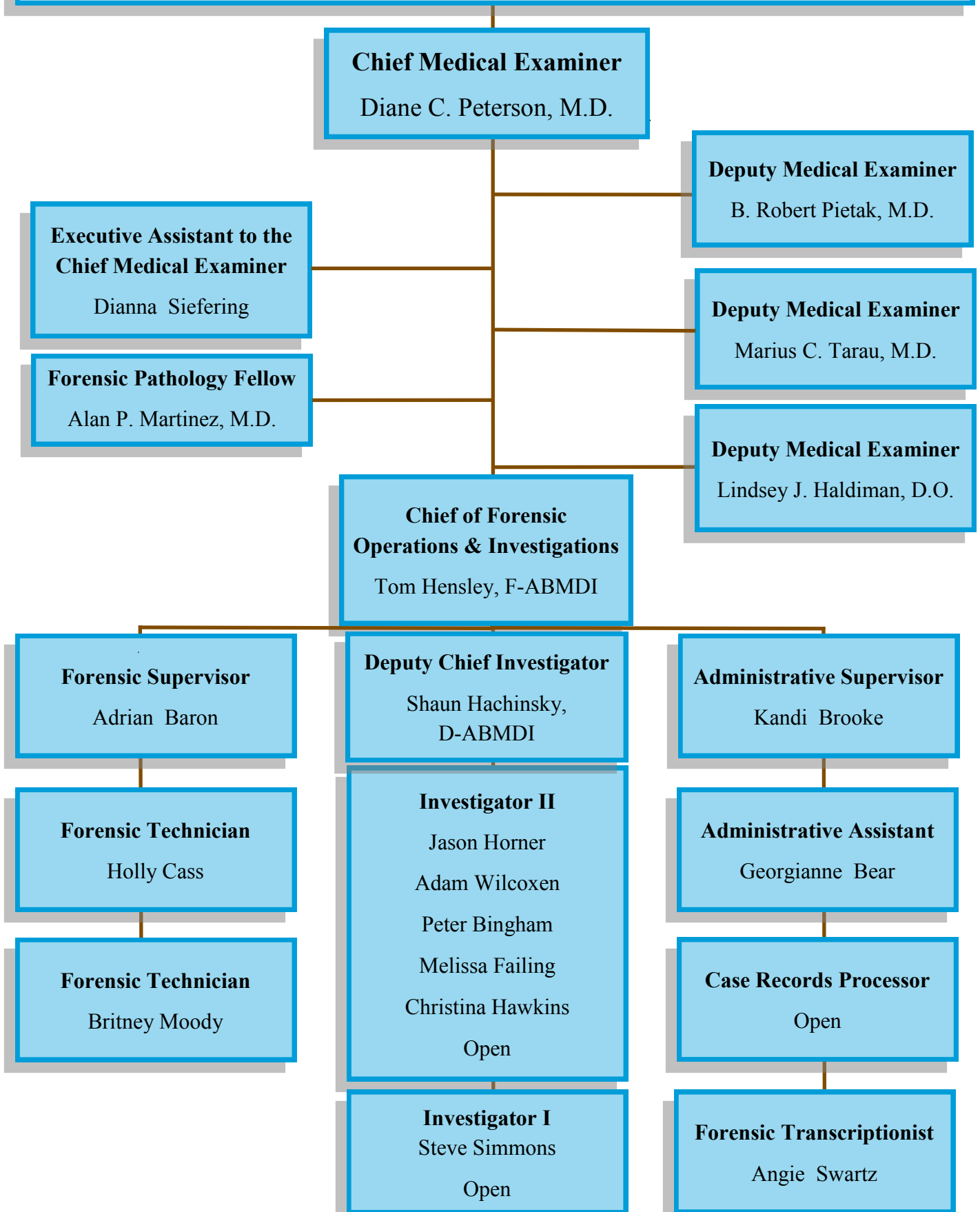
Accreditation Council of Graduate Medical Education (ACGME)

The Accreditation Council for Graduate Medical Education (ACGME) is an independent, not-for-profit, physician-led organization that sets and monitors the professional educational standards essential in preparing physicians to deliver safe, high-quality medical care.

The ACGME sets standards for effective training programs, and monitors compliance with those standards (the Institutional and Program Requirements).

- Specialty-specific committees (Review Committees) of volunteer physicians create a uniform set of high standards for each accredited specialty and subspecialty applied across all accredited US residency and fellowship programs educating and training physicians in those fields to ensure the highest quality physicians and patient care.
- Accredited residency and fellowship programs are continuously monitored for substantial compliance with the requirements set by the applicable Review Committee, including through data collection and evaluation, surveys, and site visits.
- The Review Committees regularly review the accreditation requirements to ensure they are based on current and best practices in the field.
- The ACGME sets standards designed to cultivate a team-based learning environment and culture in which residents and fellows serve as both learners and mentors in delivering high-quality patient-focused care. Residents and fellows provide regular feedback to the ACGME about their programs, offering an inside view that helps the organization to improve the overall quality of accredited programs.

Jackson County Medical Examiner's Office 2016



At A Glance

2016 Population Census of Jurisdiction Covered

Jackson County: 671,801

Clay County: 239,085

Platte County: 98,309

Cass County: 102,845

Outside Jurisdiction Coverage for: 1.9 million

Total Population coverage: 3 million

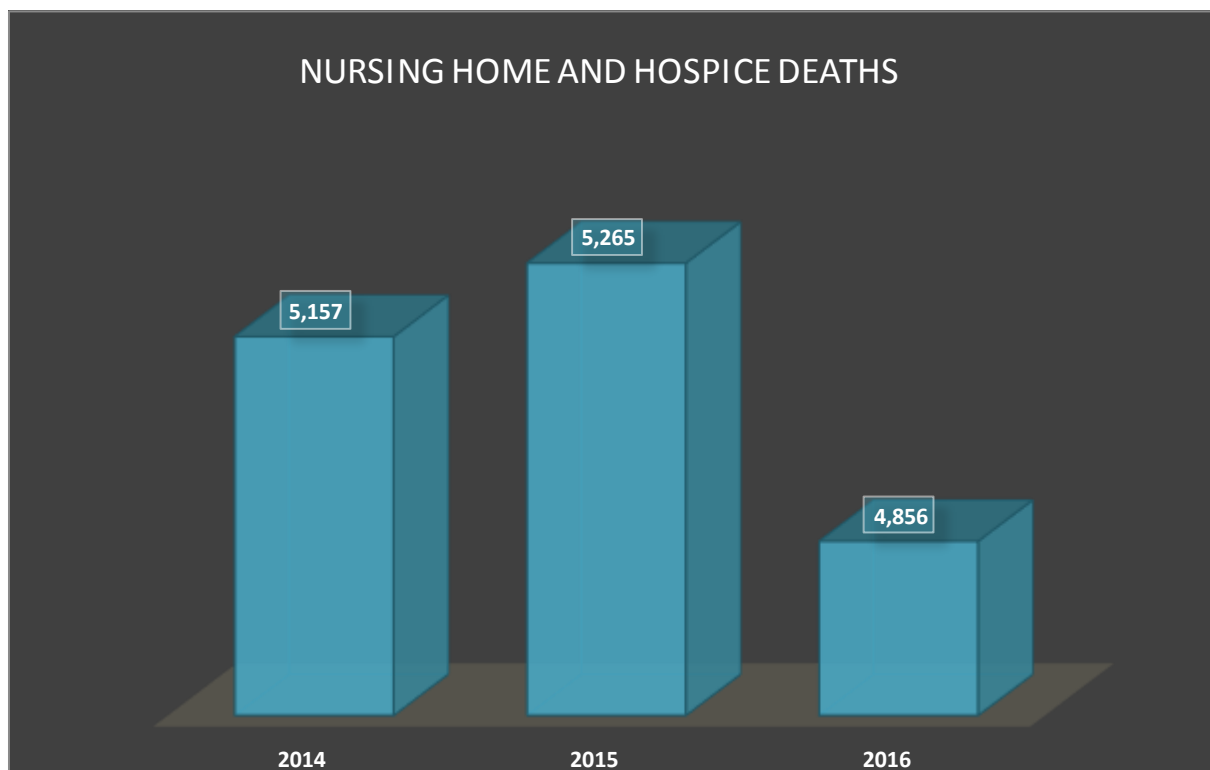
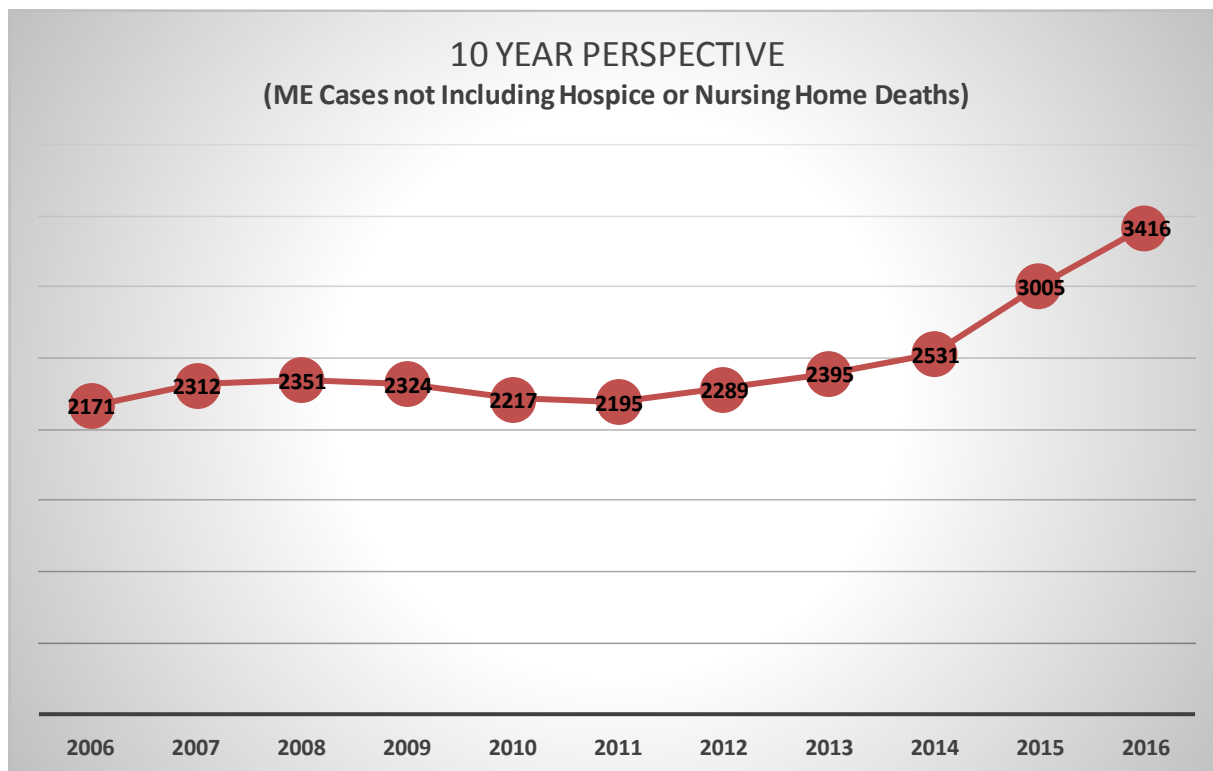
Medical Examiner 2015 Data Compared to	2015	2016	Increase/Decrease	
Total Deaths Reported	8,272	8,273	0%	Neutral
Jurisdiction Accepted	1,620	1,622	.12%	Increase
Scenes Visited by the Medical Examiner	1,467	1,537	5%	Increase
Bodies Transported to the Medical Examiner's Office	1,297	1,293	.30%	Decrease
Total External Examinations	436	470	8%	Increase
Complete Autopsies	743	724	3%	Decrease
Partial Autopsies	39	18	54%	Decrease
Exhumations	0	0	0%	Neutral
Unclaimed Bodies	27	27	0%	Neutral
Unidentified After Examination	0	0	0%	Neutral
Cases Where Toxicology was Performed	1,209	1,238	2%	Increase

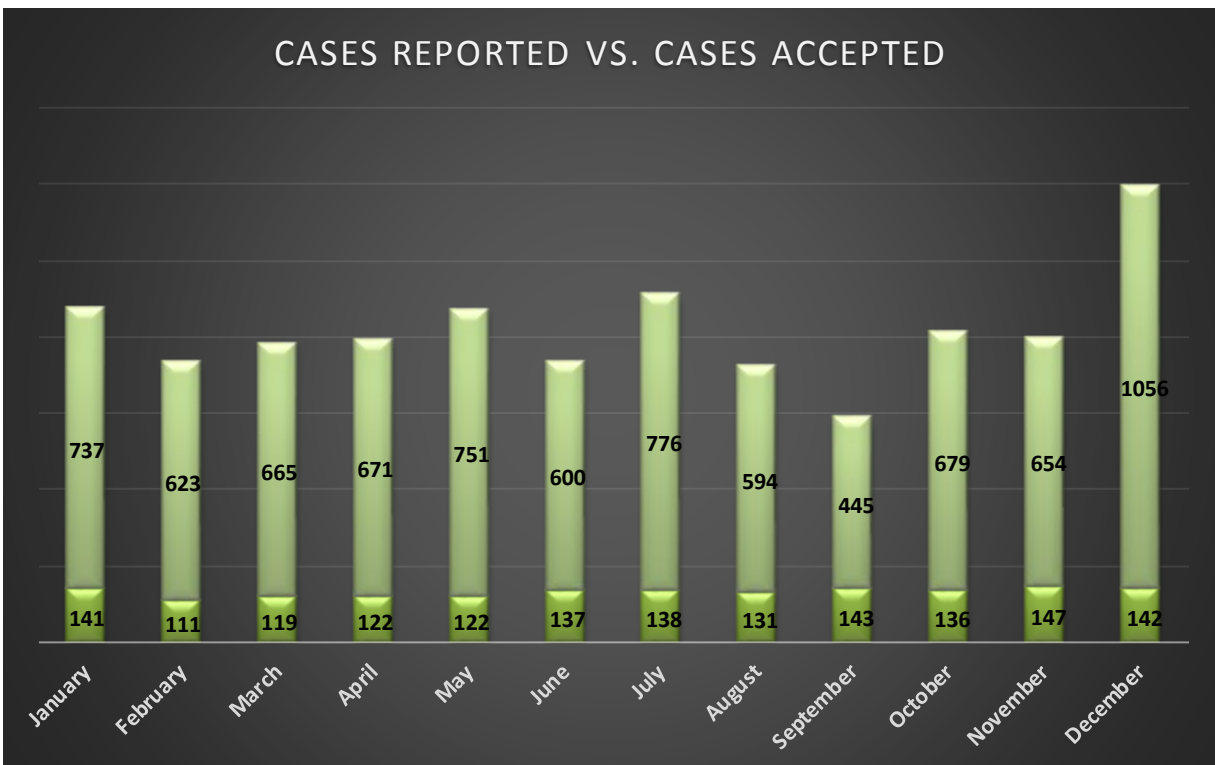
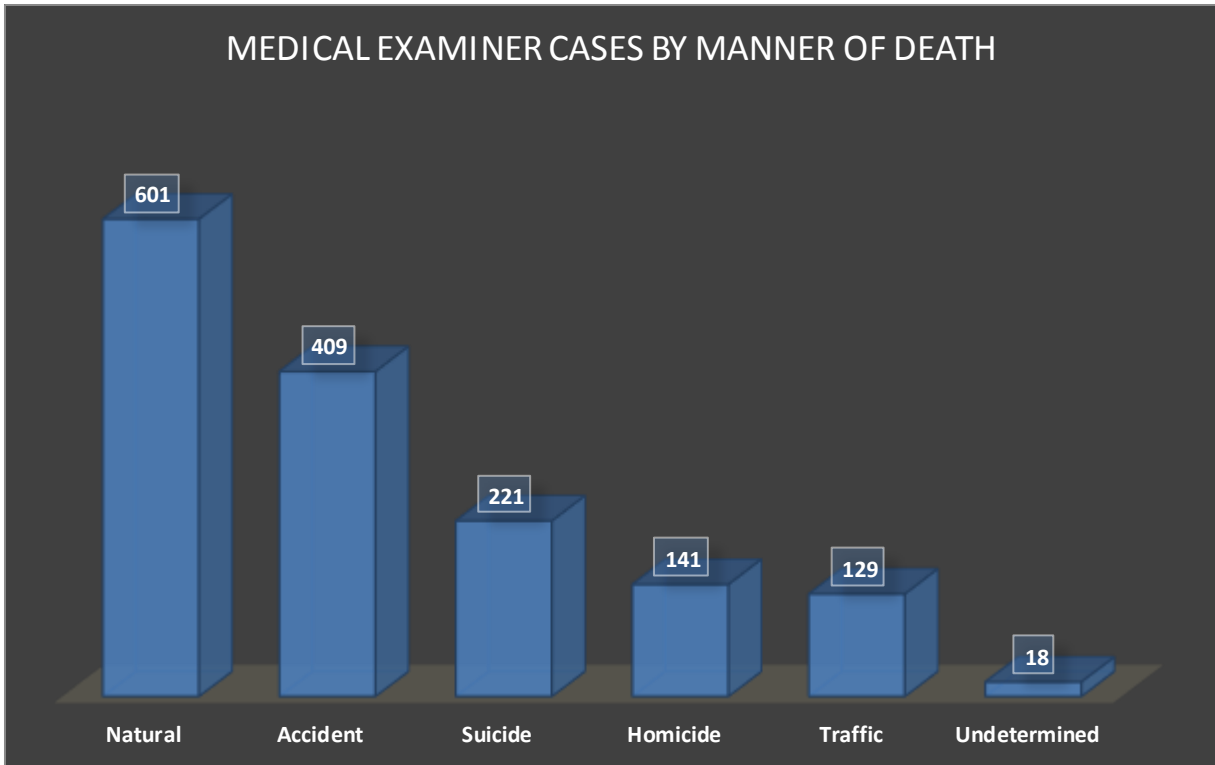
At A Glance

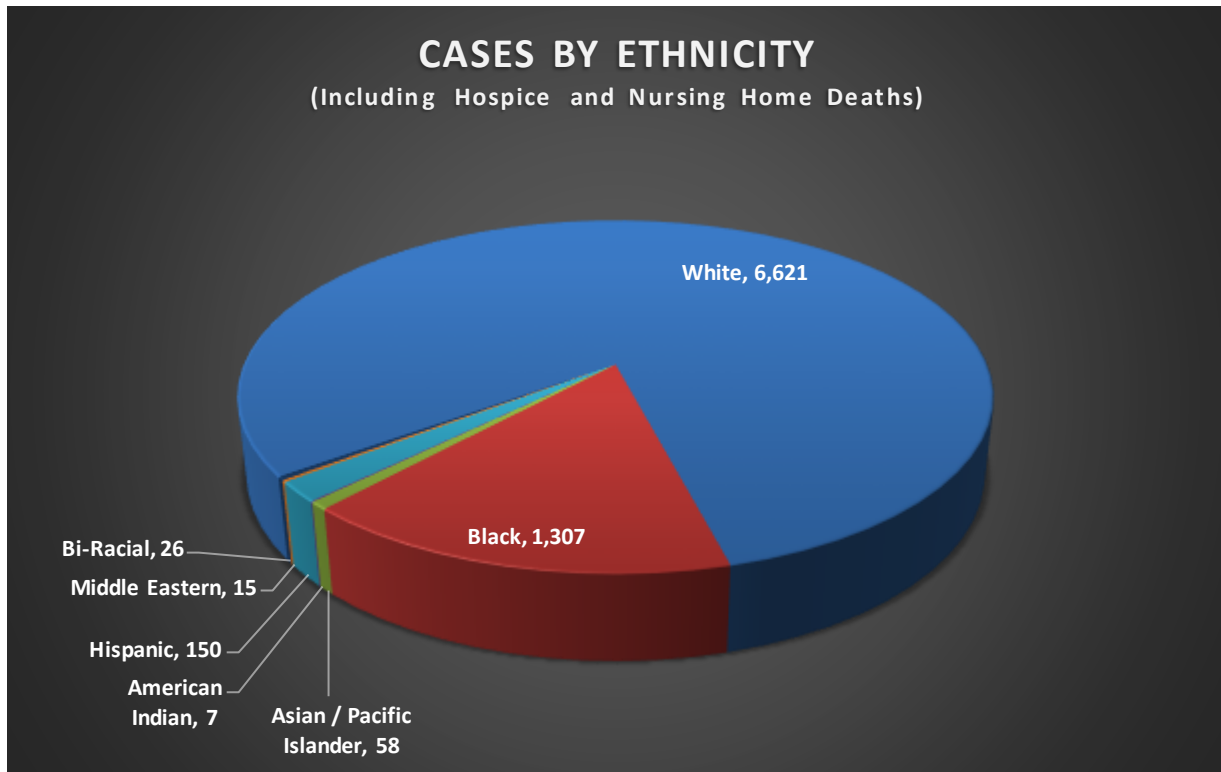
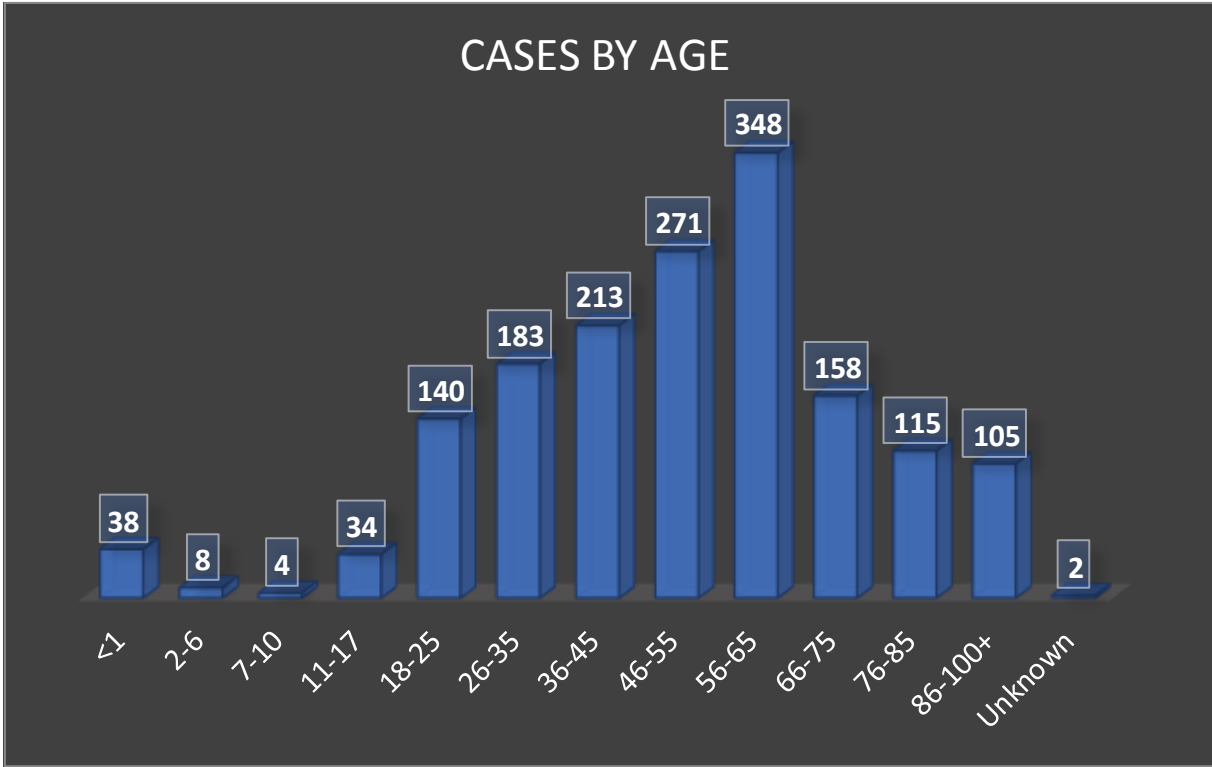
Medical Examiner Cases Reported for 2016 by Source	2015	2016	Increase/ Decrease	
Jackson County	1,838	2,146	17%	Increase
Clay County	456	459	1%	Increase
Platte County	200	203	1.5%	Increase
Cass County	189	228	21%	Increase
Referral Counties	250	306	22%	Increase
Nursing and Hospice Deaths	5,265	4,856	8%	De-crease
DC Kickbacks	21	30	42%	Increase
Total Deaths Investigated	8,266	8,272	1%	Increase

Manner of Death of Cases with Accepted Jurisdiction	2015	2016	Increase/ Decrease	
Homicide	141	170	21%	Increase
Suicide	220	218	1%	Decrease
Natural	603	644	7%	Increase
Accident	407	422	4%	Increase
Traffic	130	135	4%	Increase
Undetermined	18	27	50%	Increase
Pending	2	3	0%	Neutral

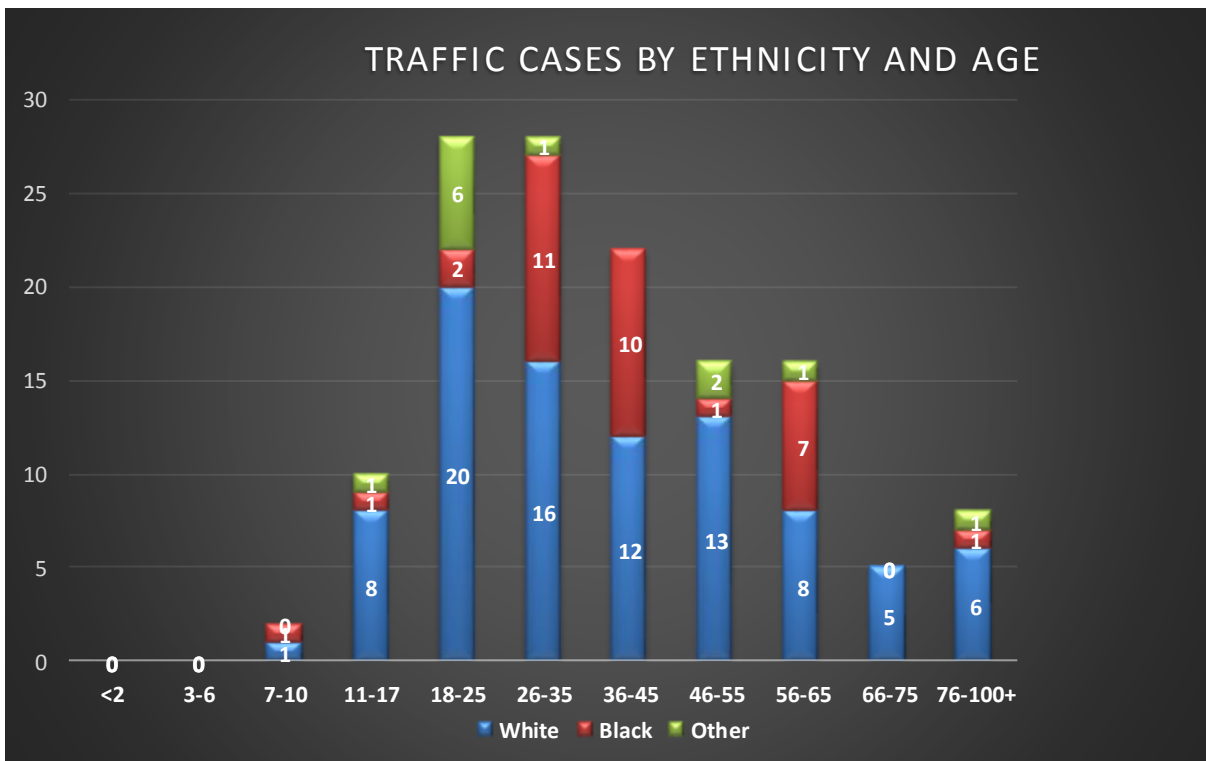
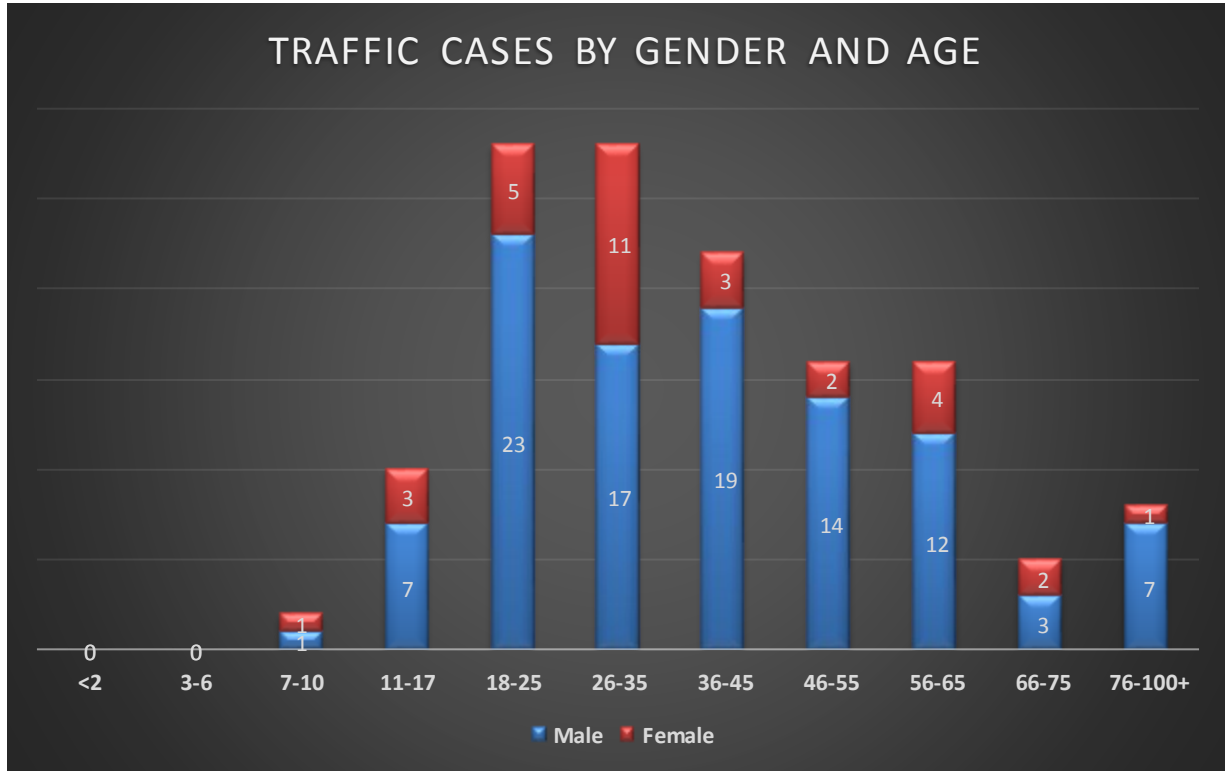
2016 Medical Examiner Graphs

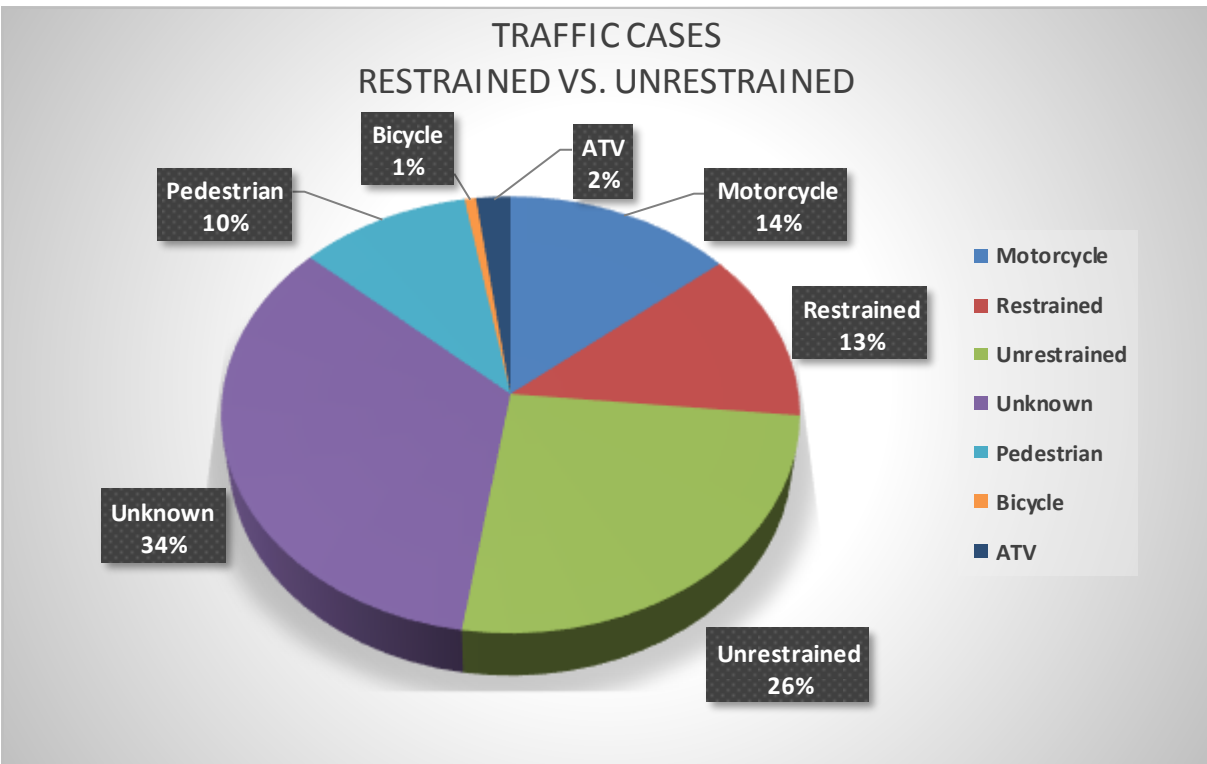
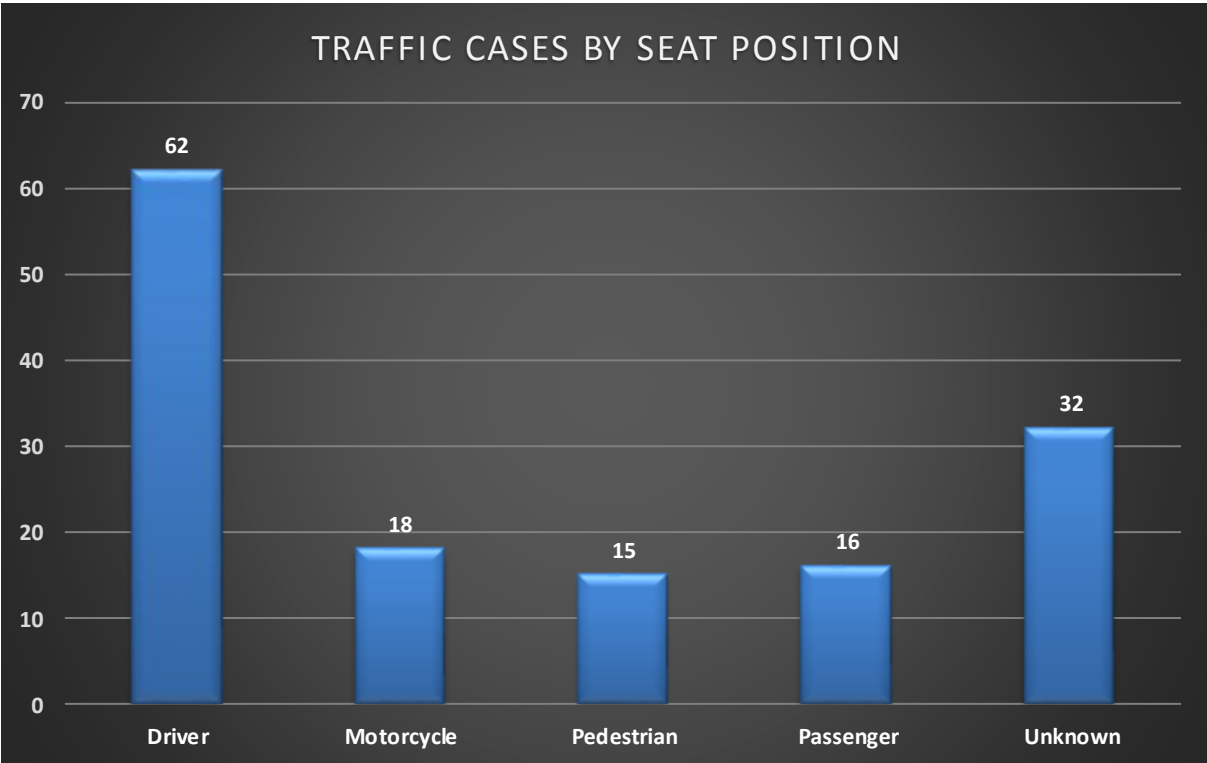


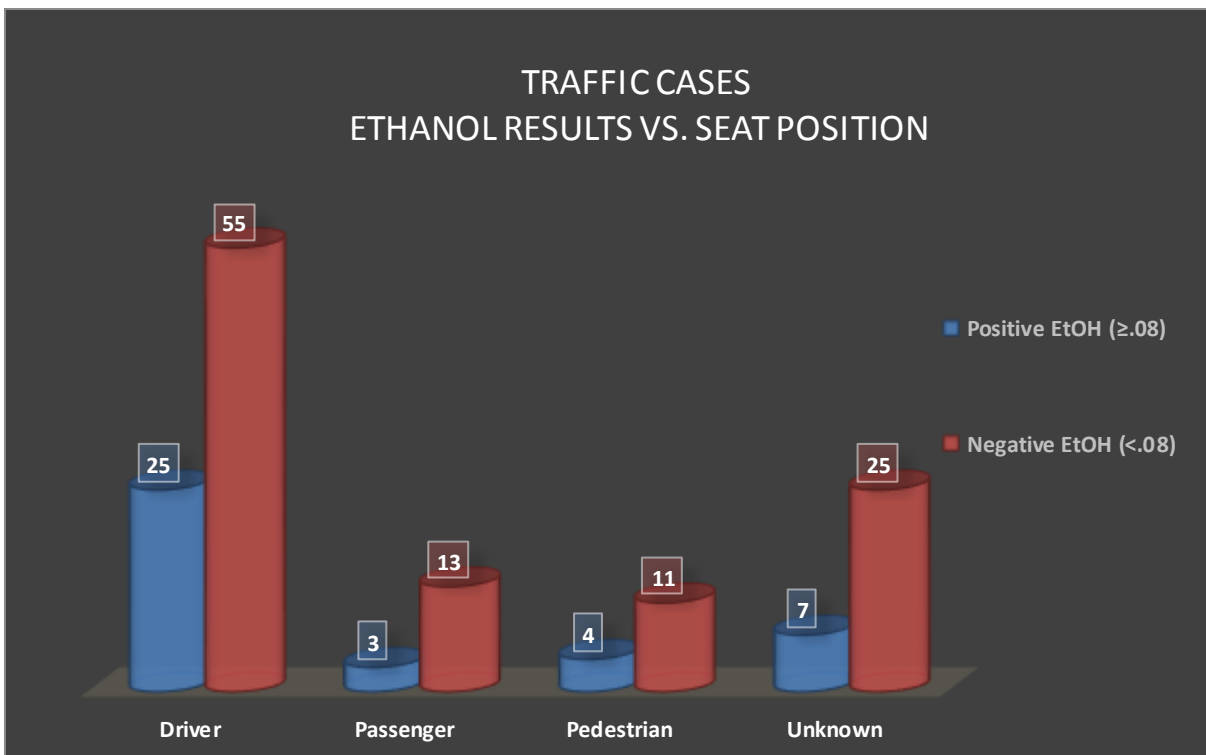
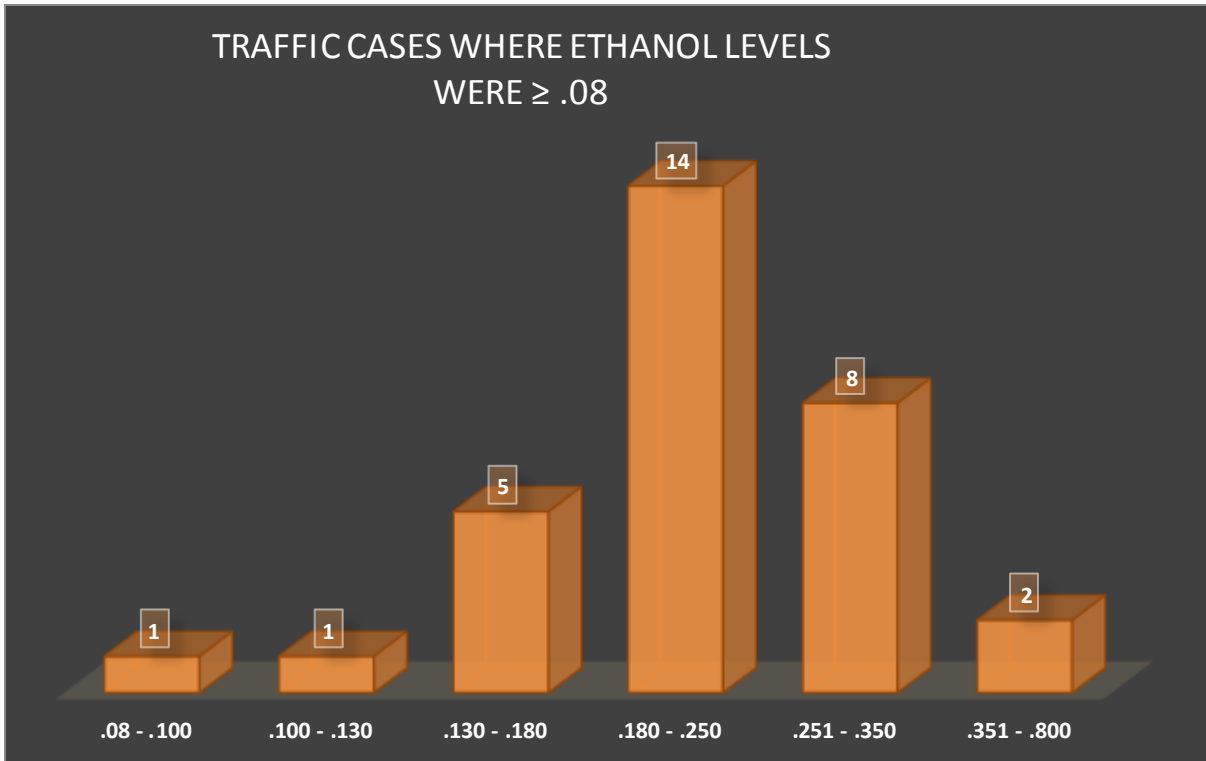




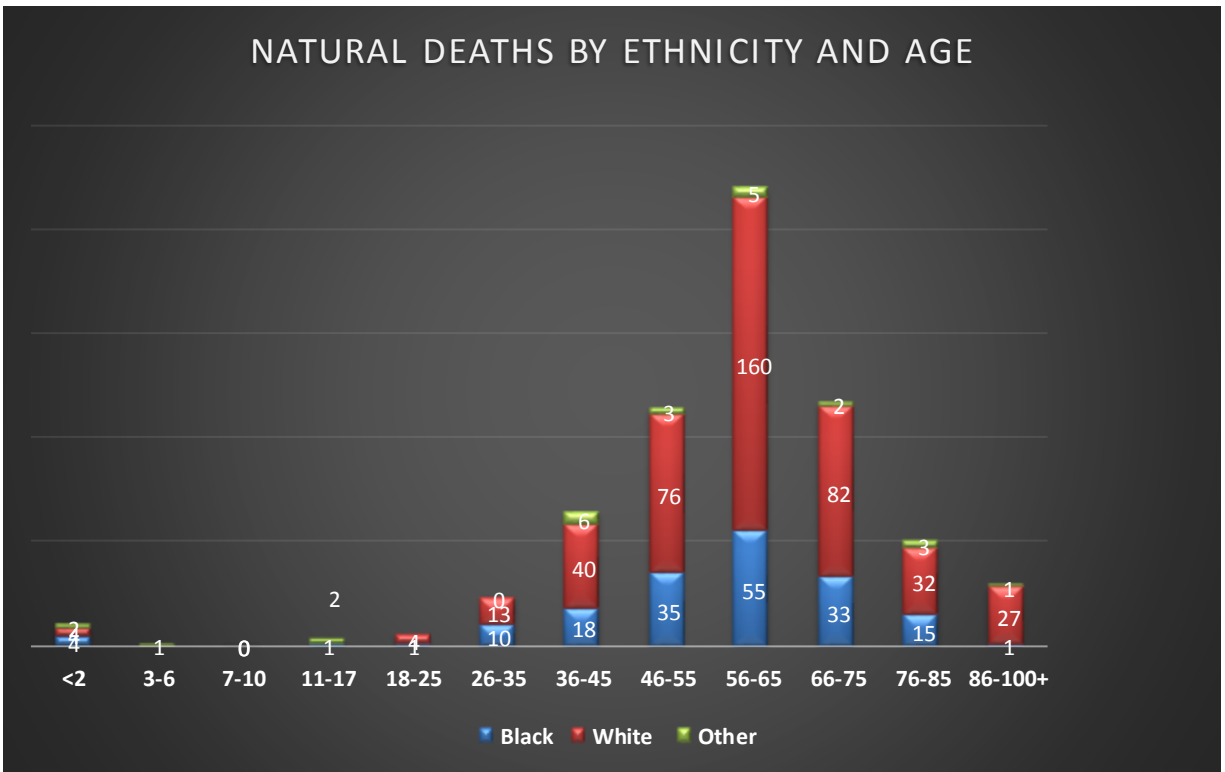
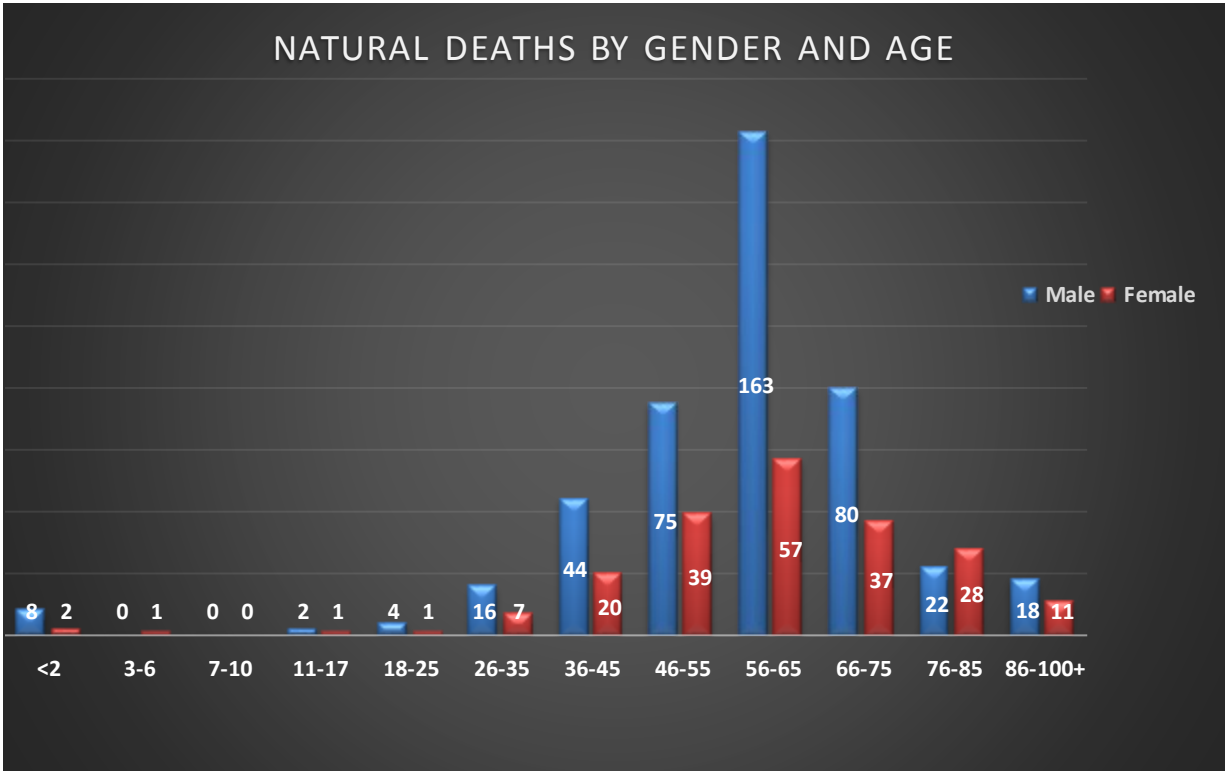
Traffic Cases



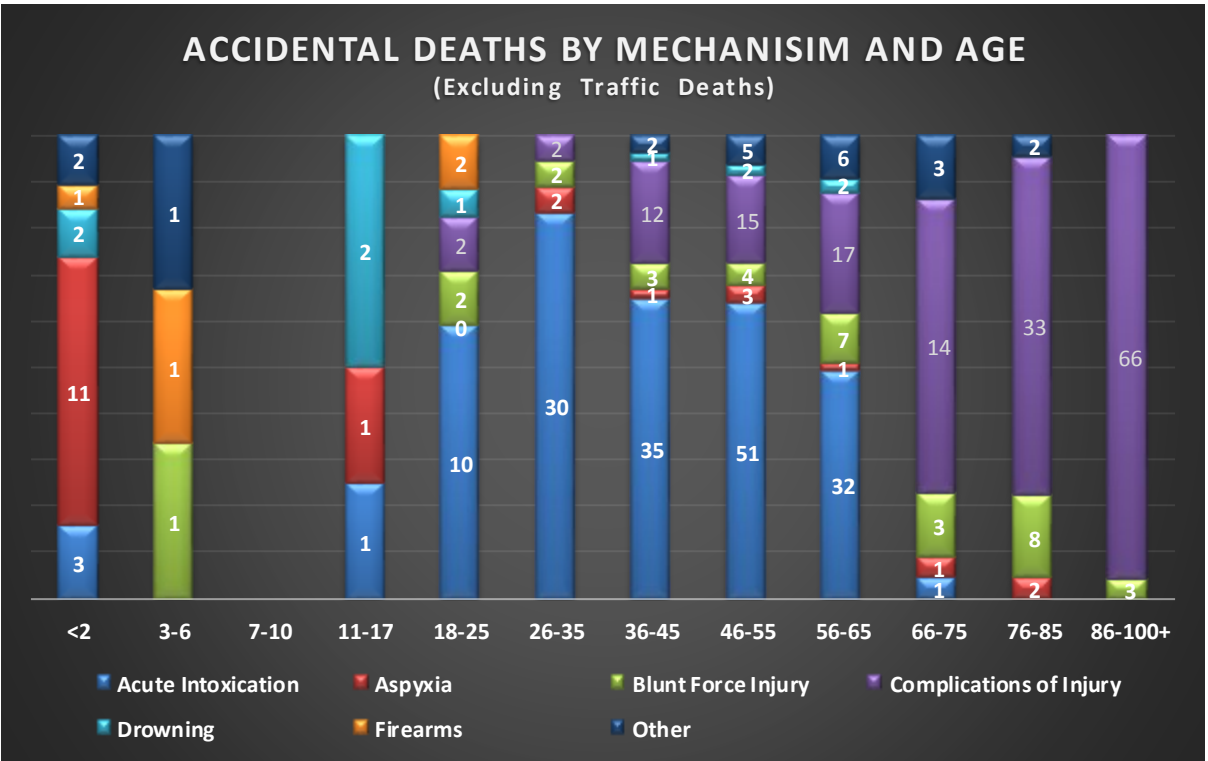
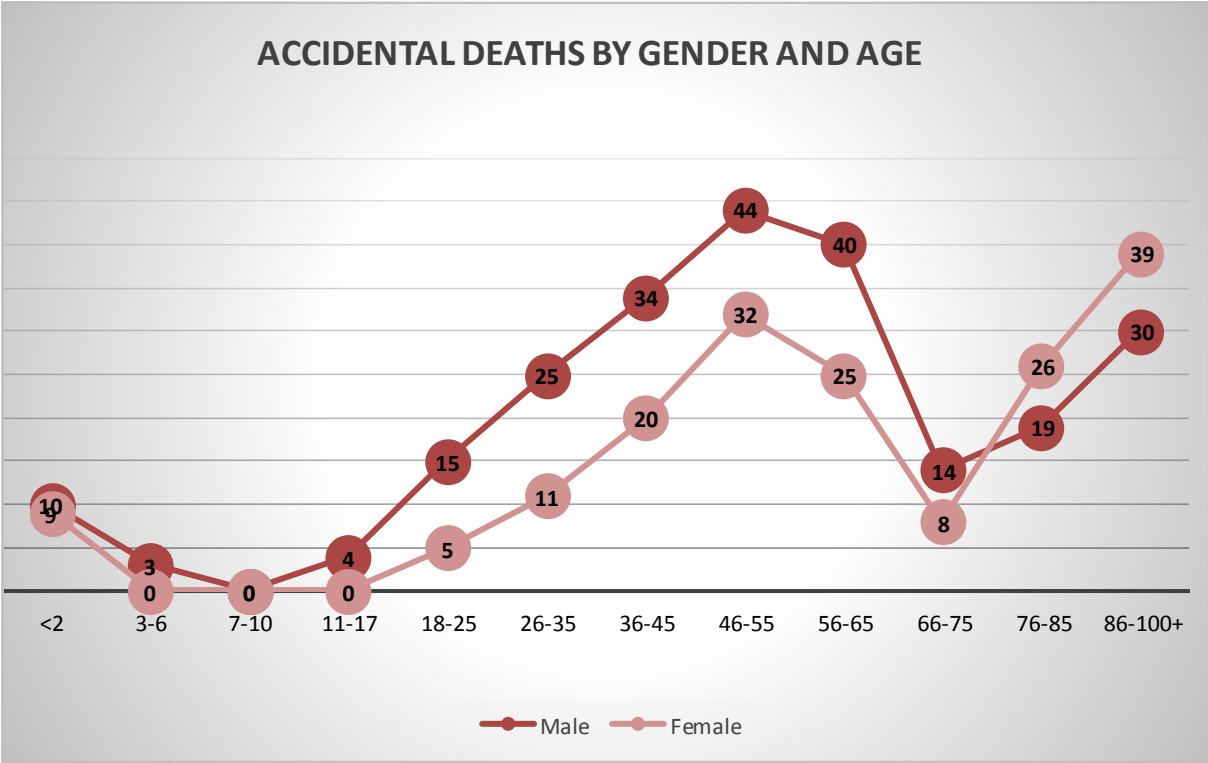


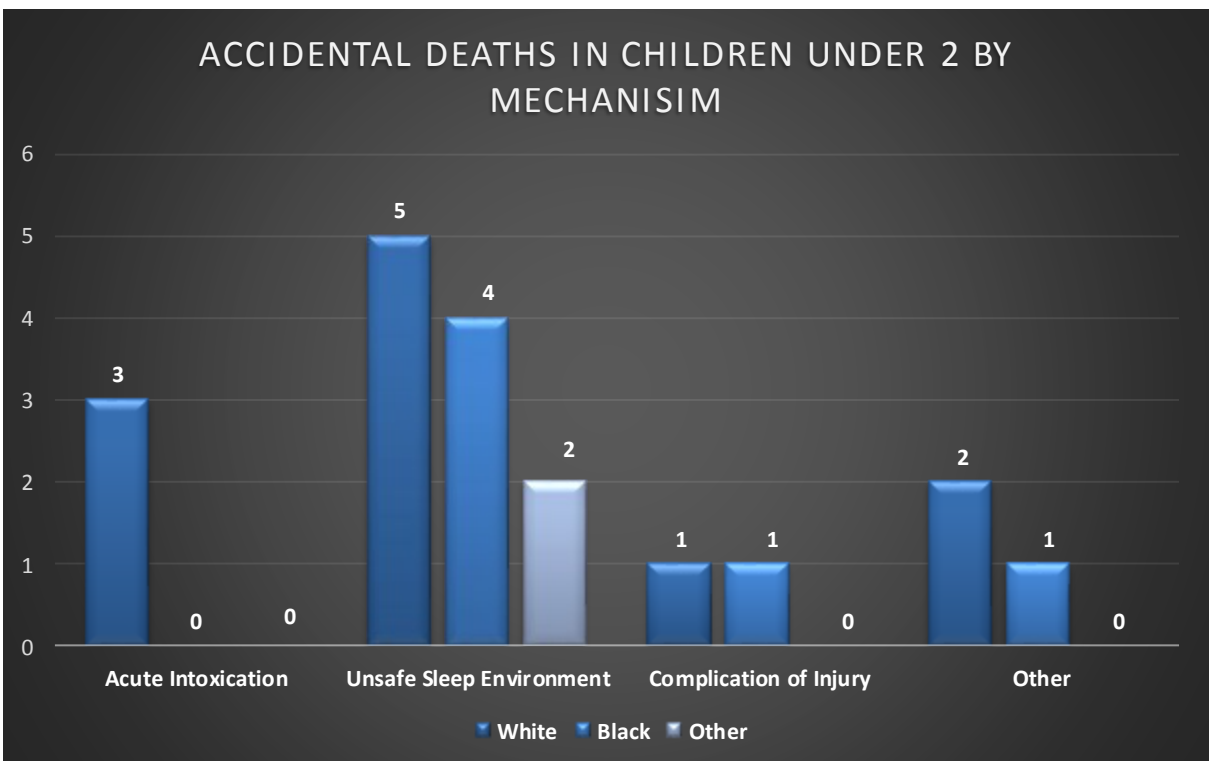
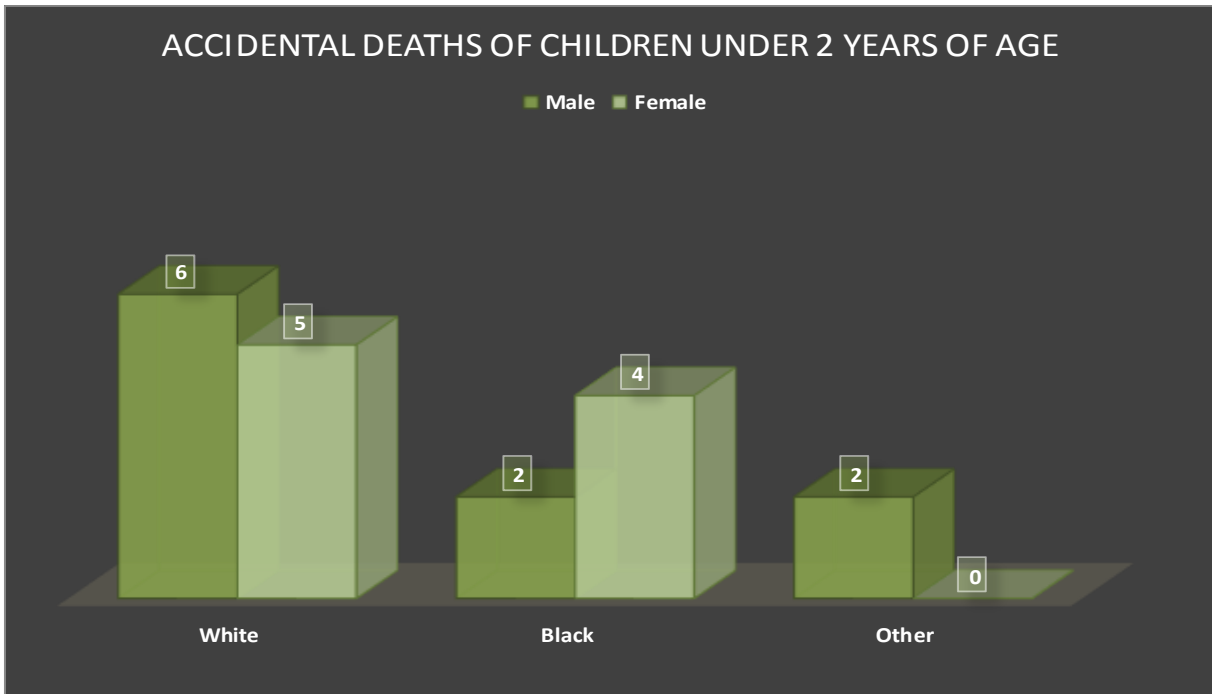


Natural Cases

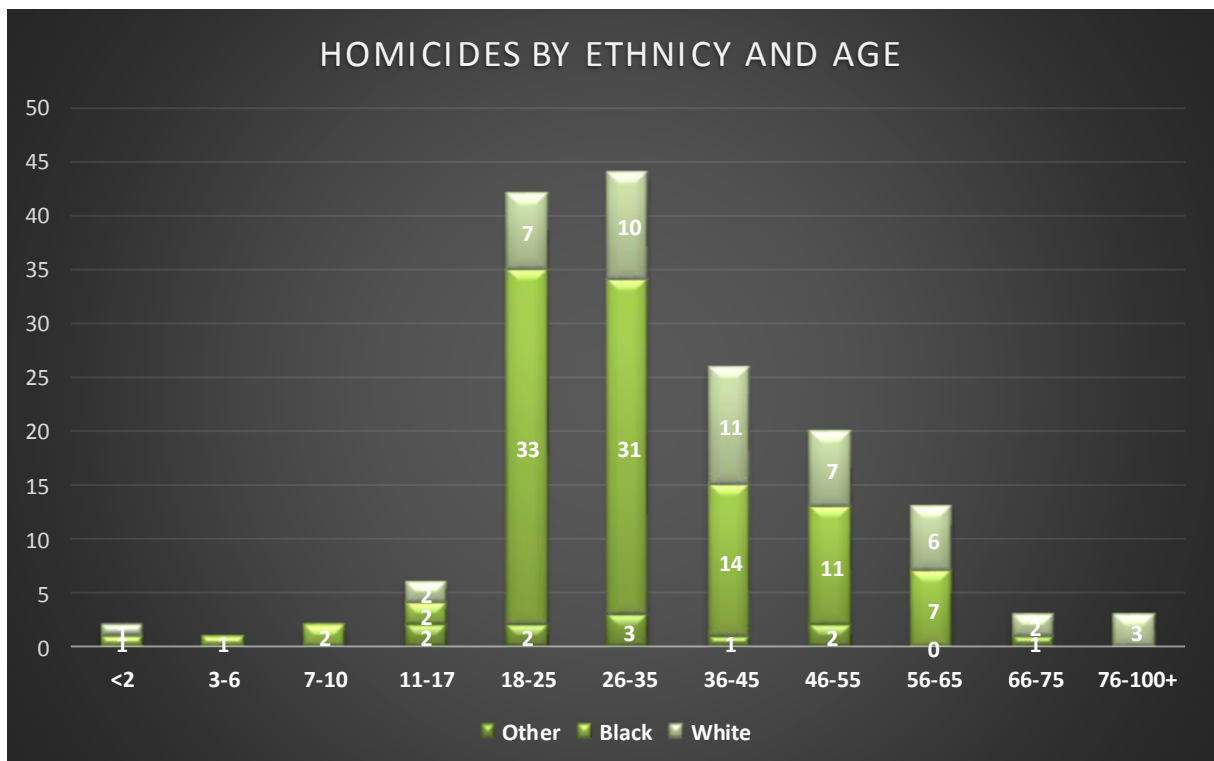
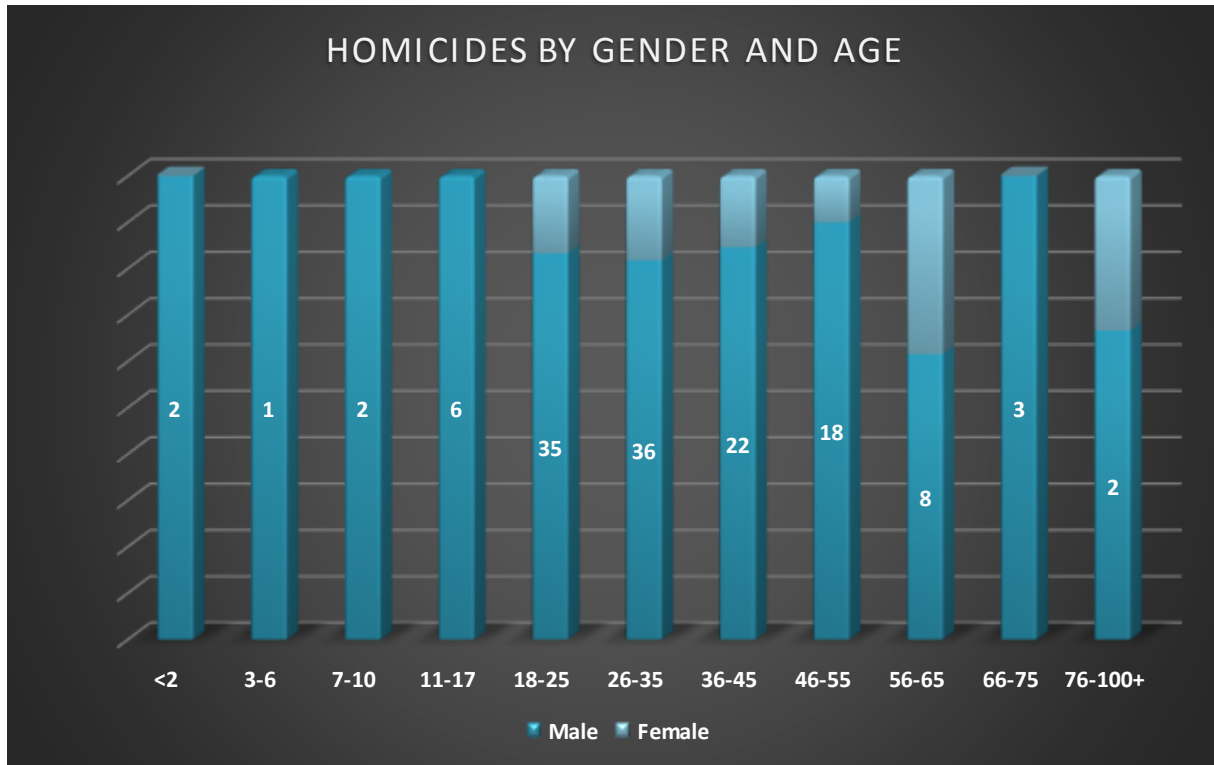


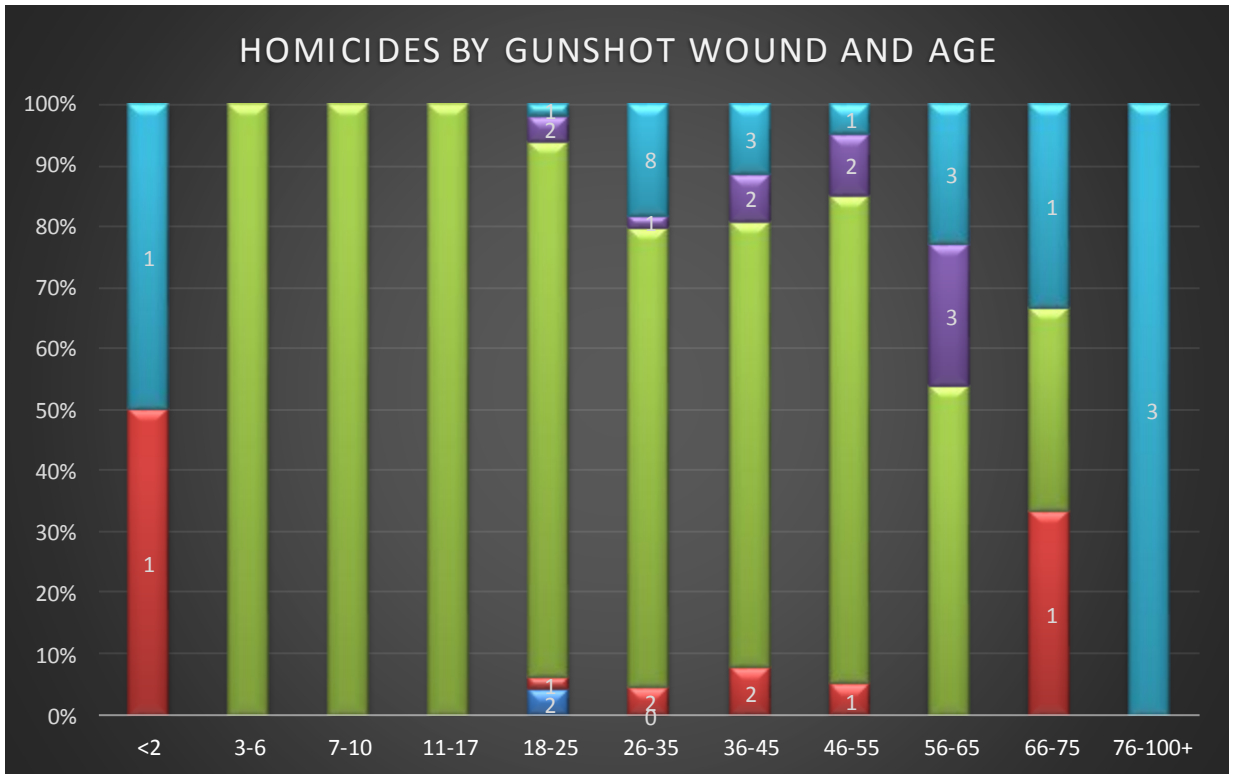
Accidental Cases

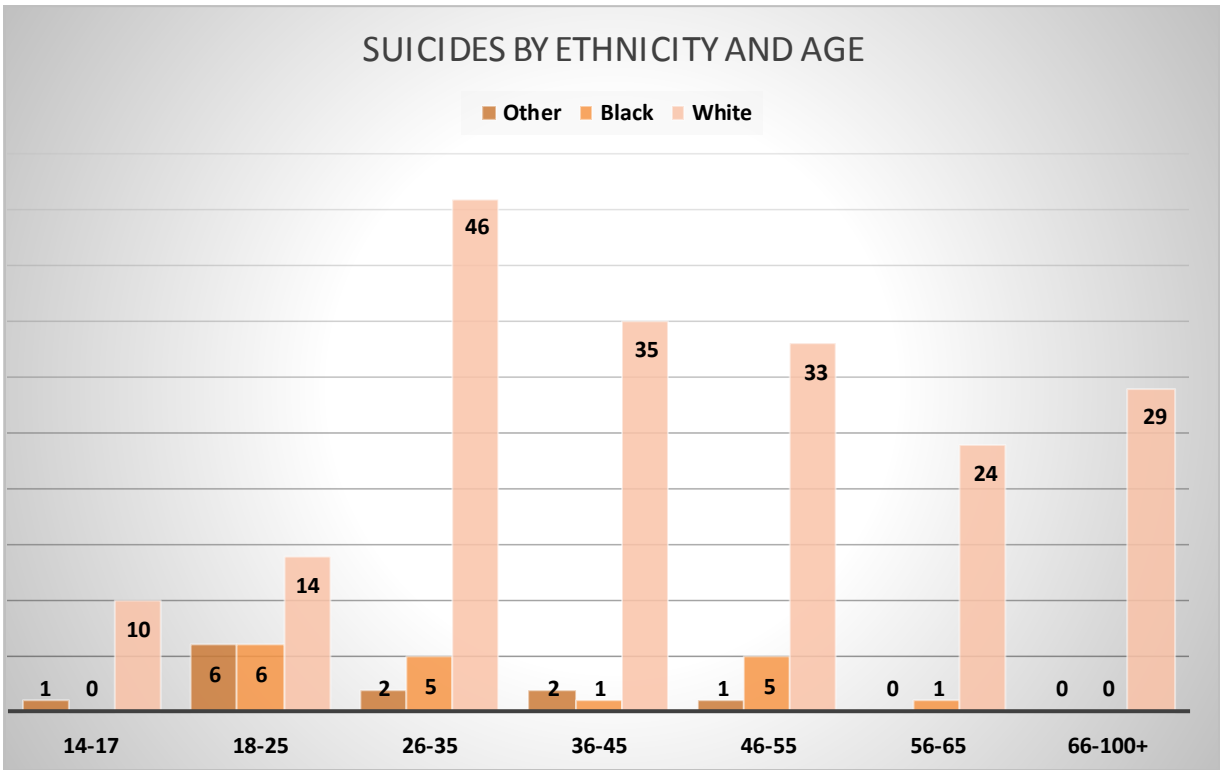
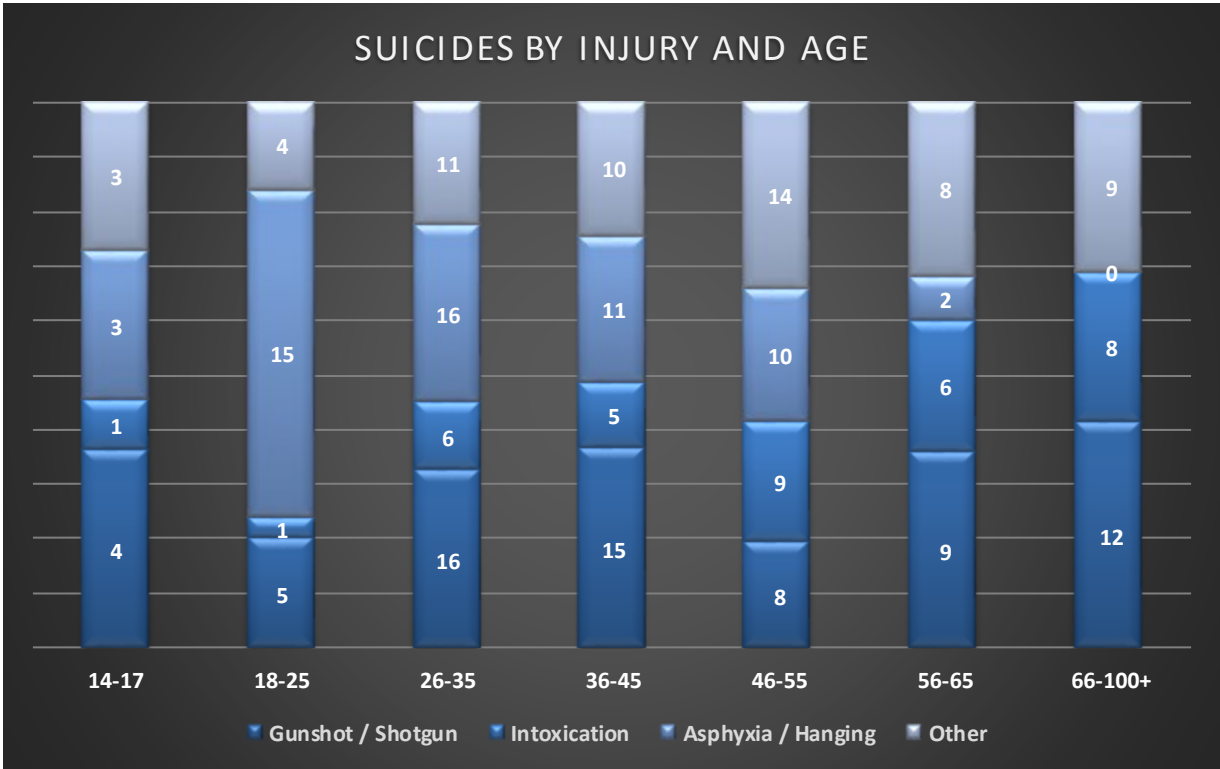




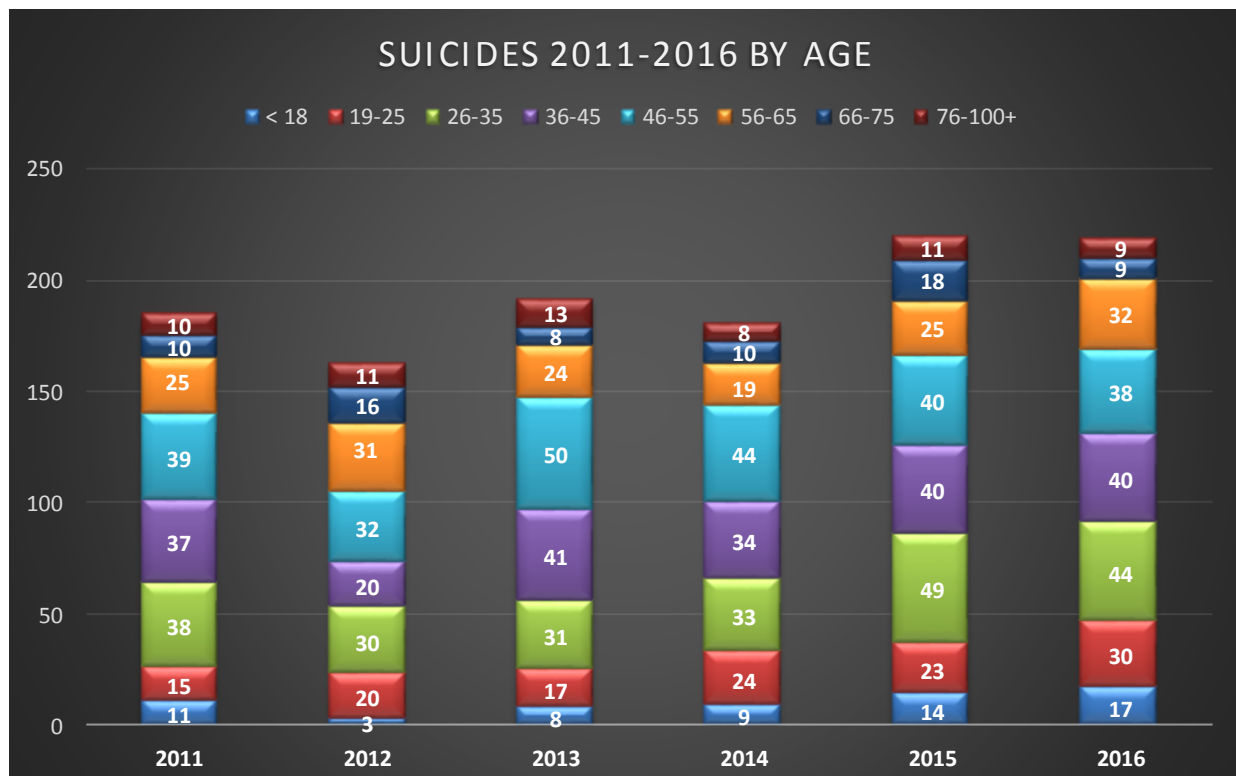
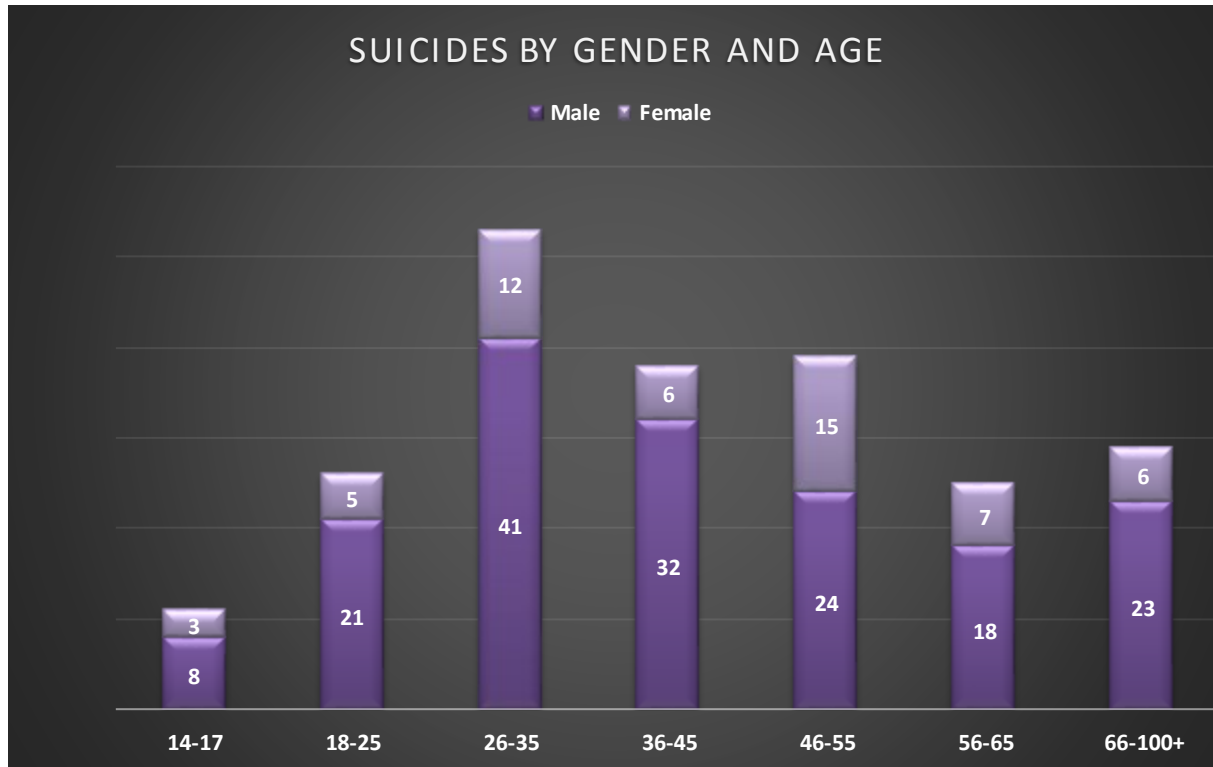
Homicide Cases







Suicide Cases



Chief Medical Examiner



Dr. Diane Peterson graduated with her B. S. majoring in Microbiology from Kansas State University in 2000. She went on to receive her doctorate from the University of Kansas School of Medicine in 2005. From 2005 - 2009, she completed her anatomic and clinical pathology residency at the University of Alabama at Birmingham and went on to complete a 1 year forensic pathology fellowship in 2009.

In 2010 Dr. Peterson moved to Kansas City, Missouri to accept a position with the Jackson County Medical Examiner's Office as a Deputy Medical Examiner. Dr. Peterson has joined several committees and professional organizations in addition to her positions at the medical universities including Clinical Assistant Professor for the Department of Pathology at the University of Missouri-Kansas City School of Medicine. In 2011 she added Clinical Assistant Professor for the Department of Pathology and Laboratory Medicine at the University of Kansas School of Medicine to her resume. From 2012—2013, Dr. Peterson performed as the Adjunct Instructor in the Division of Pharmacology and Toxicology at the University of Missouri-Kansas City School of Pharmacy.

Her professional affiliations include the College of American Pathologists Fellow (CAP), American Society for Clinical Pathology Fellow (ASCP), Academy of Clinical Laboratory Physicians and Scientists, Associate of the American Academy of Forensic Sciences (AAFS), and Fellow of the National Association of Medical Examiners (NAME) Fellow.

She also serves on several committees including the Child Fatality Review Panel for Jackson, Clay, Cass, and Platte Counties in Missouri, AAFS Pathology/Biology Section Best Resident Paper Award Committee, and several NAME Committees including: NAME Scientific Presentations Awards Committee, NAME Maintenance of Certification and Self-Assessment Modules, and NAME Inspection and Accreditation Committee.

She has co-authored several posters, abstracts, and publications and continues to facilitate community learning and education by presenting lectures to high schools, universities, hospitals, residents, and other community organizations and agencies.

Medical Examiners

Diane C. Peterson, M.D., Chief Medical Examiner

Board Certified AP/CP/FP Pathologist since 2009

Clinical Assistant Professor, Pathology KUMC

Academy of Clinical Laboratory Physicians and Scientists Member

College of American Pathologists Fellow

American Society for Clinical Pathology Fellow

American Academy of Forensic Sciences Associate Member

AAFS Pathology/Biology Section Best Resident Paper Award Committee

JCMEO Forensic Pathology Fellowship Faculty & Research Director

NAME Fellow

NAME Scientific Presentations Awards Committee Member

NAME Standards and Inspection Accreditation Certified Inspector

NAME Maintenance of Certification (MOC) and Self-Assessment Modules (SAMs)

United States and Canadian Academy of Pathology (USCAP) Member



B. Robert Pietak, M.D., Deputy Medical Examiner

Board Certified AP/FP Pathologist since 2000

Clinical Assistant Professor, Pathology UMKC

Clinical Assistant Professor, Pathology KUMC

NAME Member

MCMEA Member

American Academy of Forensic Sciences Member

JCMEO Forensic Pathology Fellowship Faculty & Curriculum Director

NAME Fellow

Medical Director of DMORT7



Medical Examiners

Marius C. Tarau, M.D., Deputy Medical Examiner

Board Certified AP/FP Pathologist

Clinical Assistant Professor, Pathology UMKC

Clinical Assistant Professor, Pathology KUMC

NAME Fellow

Member American Society for Clinical Pathology Member

American Academy of Forensic Sciences Associate Member

JCMEO Forensic Pathology Fellowship Faculty & Forensic In-Service Exam (FISE) Director



Lindsey J. Haldiman, D.O., Deputy Medical Examiner

Board Certified AP/FP Pathologist

Clinical Assistant Professor, Pathology UMKC

Clinical Assistant Professor, Pathology KUMC

NAME Member

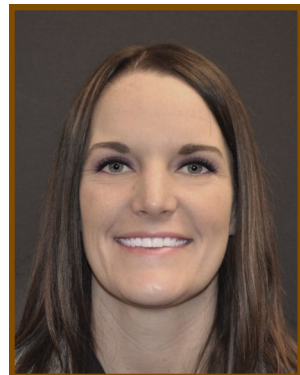
College of American Pathologists Member

American Society for Clinical Pathology Member

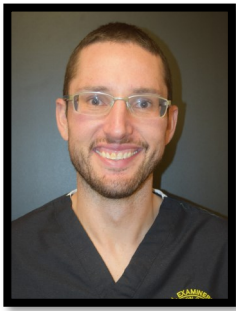
American Medical Association Member

JCMEO Child Fatality Review Committee

JCMEO Forensic Pathology Fellowship Faculty & Teaching Director



Forensic Pathology Fellow



Alan P. Martinez, M.D.

2016-2017

Forensic Pathology Fellow

Since 2002, the Jackson County Medical Examiner's Office has offered a 1 year ACGME accredited Forensic Pathology Fellowship. JCMEO has successfully trained 4 Forensic Pathology Fellows who are now practicing forensic pathology in Tennessee, Iowa, West Virginia, Oklahoma, and here at the Jackson County Medical Examiner's Office. The fellowship provides specialty training in the area of Forensic Pathology following 4 years of pathology residency training in Anatomic and Clinical Pathology. Fellows are expected to meet all ACGME Competencies lined out in its program requirements. Fellows must demonstrate competence in medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, system-based practice, scholarly activities, and program evaluation and improvement.

Dr. Alan Martinez received his medical degree in 2012 from the University of Kansas School of Medicine in Kansas City, Missouri. He then completed 4 years of residency at the Department of Pathology at the University of Kansas Medical Center from 2012—2016.

In July of 2016, Dr. Martinez began his 1 year Forensic Pathology Fellowship with the Jackson County Medical Examiner's Office. During Dr. Martinez's training, he has attended the resident lecture series, Children's Mercy Hospital Journal Clubs, and Fellowship/Deputy Medical Examiners' meetings. Dr. Martinez presented forensic lectures to Truman Medical Center pathology residents, JCMEO staff, and students interested in forensic pathology. Dr. Martinez received lectures from JCMEO Faculty covering 31 various fellow-focused topics throughout his fellowship. Dr. Martinez training at JCMEO also included developing a quality assurance performance project on improvement of the Investigator Data Information Protocol process by ensuring necessary information on decedents is collected.

To conclude his fellowship experience, in 2017, Dr. Martinez will attend 4 clinical rotations with outside agencies to further his experience and education. Those rotations include a 1 week toxicology rotation with Children's Mercy Hospital, a 2 week crime lab rotation with The Kansas City Police Department Crime Lab, a 1 week neuropathology rotation at The University of Missouri, in Columbia, MO, and a 1 week anthropology rotation at The Oklahoma Office of the Chief Medical Examiner in Tulsa, OK. Upon completion of the program, Dr. Martinez will have completed a minimum of 200 autopsies, attended 10 - 20 death scenes, and sat in on several pretrial meetings and testimonies by one of our 4 board certified forensic pathologists.

Supervisory Staff



Tom Hensley, F-ABMDI

Chief of Forensic Operations and Investigations

Member of DMORT 7

ABMDI Fellow

NAME Board Member

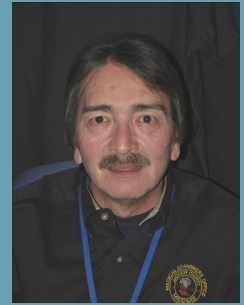
NAME ad hoc-Protocols for Interagency

Interactions in Mass Fatality Incidents

NAME Membership and Credentials Affiliate

NAME Finance Committee Member

Federal OSAC-Medicolegal Death Investigation Subcommittee



Shaun Hachinsky, D-ABMDI

Deputy Chief of Investigations

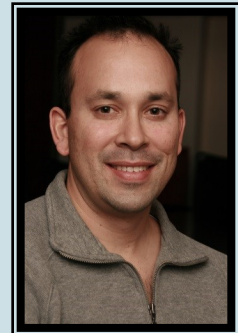
Member of DMORT 7

KCRMORG Deputy Commander

Adrian Baron, MD.

Forensic Technician

Supervisor



Kandi Brooke

Administrative Supervisor

Missouri Notary

Dianna Siefering

Executive Assistant to the Chief Medical Examiner

Missouri Notary



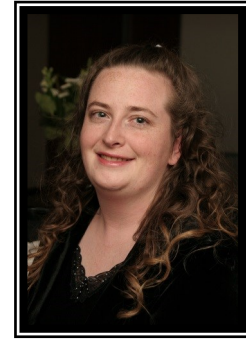
Administration Division



Georgianne Bear
Administrative Assistant



Open
Case Records Processor



Angela Swartz
Forensic
Transcriptionist
Missouri Notary

The administrative personnel of the Jackson County Medical Examiner's Office are responsible for all forensic administrative functions of the office. Daily, our staff prepares payroll, maintains account payables and receivables, sends autopsy reports to families, law enforcement agencies, hospitals, and attorneys, performs filing duties, and maintains case files and records. Personnel are also responsible for entering data from the investigator's intake form, the doctor's information, death certificates, autopsies, and drug and alcohol findings on each case. The transcriptionist types all autopsy reports for the Medical Examiners, the forensic pathology fellow, and rotating pathology residents. The case records processor handles all death certifications both manually and electronically filed with the state. The administrative assistant and receptionist provides information to callers or visitors regarding office policies and procedures, death certificate and burial handling. Prerequisites for forensic administration include forensic and medical terminology, clerical typing skills, and the ability to handle distraught families with compassion and empathy.



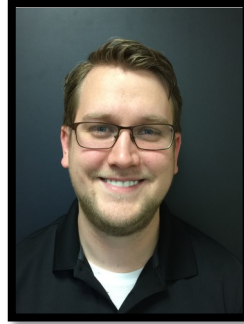
Forensic Death Investigators



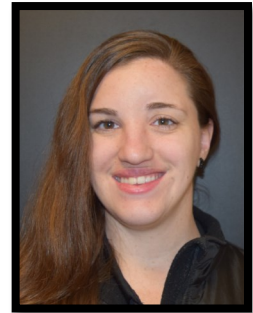
Jason Horner
Investigator II



Adam Wilcoxon
Investigator II



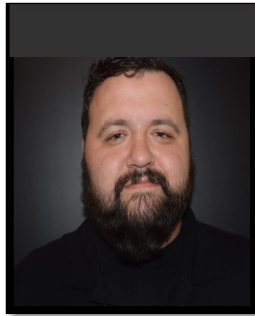
Peter Bingham
Investigator II



Melissa Failing
Investigator II



Christina Hawkins
Investigator II



Steve Simmons
Investigator I



Open
Investigator II



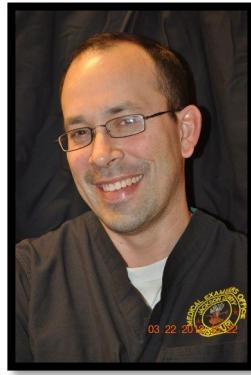
Open
Investigator I

- 24/7 telephone coverage for reported deaths.
- Prepares intake form on reported deaths.
- Conducts scene investigations, documenting circumstances of death through photographs, diagrams, narrative, and witness interviews. (In 2016 investigators visited 1,330 scenes)
- Conducts external and post-donation body exams.
- Acts as family liaison.
- Reports findings to the Forensic Pathologist to assist in determining the cause and manner of death.
- Documents injury and natural disease.
- Attends all homicide scenes.
- Refers cases for tissue recovery to Midwest Transplant Network (MTN).
- Reports all child deaths to State Technical Assistance Team (STAT).
- Involved in mass fatality preparedness.
- Releases bodies to funeral homes.
- Processes homicides.
- Evidence Collection and Packaging.

Autopsy División



Holly Cass
Forensic Technician

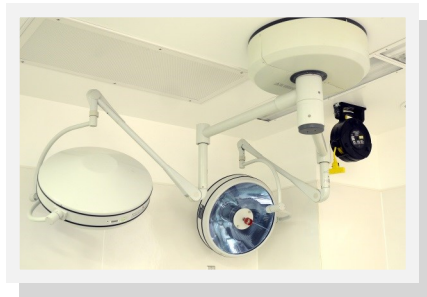



Adrian Baron
Forensic Technician
Supervisor



Britney Moody
Forensic Technician


- Assists with Forensic Autopsy
- Obtains digital X-Rays
- Collection of evidence
- Collection of toxicology specimens
- Collection of histology and microbiology specimens
- Documentation of clothing and property
- Releases bodies to funeral homes
- Organizes and maintains storage of tissue, microscope slides, and paraffin blocks.
- Keeps autopsy suites well stocked with supplies.
- Maintains a clean work environment in the autopsy suites.





A Case of Suicide Using Diphenhydramine

Andrea Ho, MD,¹ Lindsey J. Haldiman, DO², B. Robert Pietak, MD², Marius Tarau, MD²,
 C. Clinton Frazier, III, NRCC-TC², Uttam Garg, Ph.D., DABCC, DABFT, FACB², Diane C. Peterson, MD²,
¹ Truman Medical Center, Kansas City, Missouri; ² Jackson County Medical Examiner's Office, Kansas City, Missouri;
³ Children's Mercy Hospitals and Clinics, Kansas City, Missouri



INTRODUCTION:

We present a case of a 22-year-old Native American male with a history of anxiety, depression, suicidal ideation, and drug abuse who was found deceased in his apartment. Scene investigation revealed empty diphenhydramine and dextromethorphan bottles. Pink balloons were scattered throughout the apartment (Figure 1). Notes to family and friends were written on various objects including the refrigerator (Figure 2) and bathroom mirror (Figure 3). Autopsy revealed cerebral and pulmonary edema and a mass of blue pills within the stomach. Toxicological analysis of heart blood revealed diphenhydramine (DPH) and dextromethorphan at concentrations of 110 mg/L and 0.27 mg/L, respectively. The concentration of diphenhydramine was well above the lethal level. The cause of death was diphenhydramine overdose. The manner of death was suicide.

CASE REVIEW:

In addition to our current case presentation, we wished to determine the frequency of DPH involved suicides in our own jurisdiction. We reviewed all cases of suicide involving DPH from the years 1997 to 2016 at the Jackson County Medical Examiner's Office in Kansas City, MO. A total of 18 cases were identified. Of those, 14 were mixed drug intoxications whereas four cases involved only DPH. One case involved DPH intoxication with subsequent suffocation using a plastic bag. The blood concentrations of DPH ranged from 0.246–110 mg/L with our presented case having the highest level. A review of literature reporting DPH overdose reveals only one other case with a blood concentration higher than that seen in our presented case at 119 mg/L.

RESULTS:

Date	Age	Gender	Race	Cause of Death	DPH Concentration (source)
5/2/97	28	M/W		DPH and Zolpidem toxicity	1.8 mg/L (Heart blood)
12/13/97	35	F/W		Drug toxicity (DPH and Acetaminophen)	23.6 mg/L (Femoral blood)
7/15/00	20	F/W		DPH toxicity	8.6 mg/L (Heart blood)
					9.6 mg/L (Femoral blood)
7/7/04	46	M/W		Diphenhydramine and DPH toxicity	0.243 mg/L (Femoral blood)
7/7/04	32	M/W		DPH toxicity	2.46 mg/L (Heart blood)
3/1/05	35	M/W		DPH toxicity and suffocation by plastic bag	18.9 mg/L (Heart blood)
3/1/05	28	F/B		DPH and Mirtazapine toxicity	10.8 mg/L (Heart blood)
5/3/06	73	F/W		DPH and Ethylene Glycol toxicity	1.08 mg/L (Femoral blood)
1/29/07	62	M/W		Mixed drug (Acetaminophen and DPH intoxication)	0.72 mg/L (Femoral blood)
9/23/08	19	F/W		Mixed drug (Oxycodone, DPH, and Tramadol)	12.0 mg/L (Femoral blood)
10/6/09	44	F/B		Mixed drug (Zolpidem, DPH, and Quetiapine) intoxication	10.0 mg/L (Heart blood)
11/6/10	39	M/W		Ethanol, Acetaminophen, and DPH toxicity	2.90 mg/L (Femoral blood)
9/8/12	26	F/W		Combined Ethanol and acute drug (DPH) intoxication	0.88 mg/L (Chest fluid)
2/24/13	17	F/B		DPH intoxication	33 mg/L (Heart blood)
6/12/15	61	M/W		Combined Ethanol and multiple drug intoxication (Diphenhydramine and Quetiapine)	9.9 mg/L (Femoral blood)
6/22/15	56	F/W		DPH, Hydrocodone, Atomoxetine, and Alprazolam intoxication	4.2 mg/L (Femoral blood)
7/1/15	46	F/W		Acute Methamphetamine and DPH intoxication	2.20 mg/L (Femoral blood)
2/1/16	22	M/M		DPH intoxication	110 mg/L (Heart blood)




Figure 1




Figure 2




Figure 3

DISCUSSION:

DPH is an over-the-counter histamine H1-receptor antagonist. It is routinely used as an allergy, cold, and sleep aid and is considered safe when taken according to the recommended dosage, with serum concentrations rarely exceeding 0.1 mg/L. Overdose of DPH can result in anticholinergic effects such as mydriasis, dry mucous membranes, ileus and urinary retention. DPH can also penetrate the blood brain barrier, exhibiting muscarinic receptor blocking properties, leading to sedation, anti-emesis, and hypotensive effects. Mild symptoms are noted after ingestion of 300 mg of DPH. Ingestion of 1,000 mg of DPH can lead to psychosis, seizures, coma, and death. A blood concentration of 8.0 mg/L is considered to be lethal. In the case we present, the DPH concentration in the decedent's heart blood was nearly 14 times greater than the lethal concentration.

CONCLUSION:

Although DPH has been available since the 1940s, it continues to be popular because of the wide variety of pharmacologic properties and easy accessibility. It has been occasionally used as a drug of abuse. Studies have shown that yearly, there are over 2 million fatal and nonfatal cases of overdose and of those, 23,000 involve anticholinergics. DPH has been implicated in both intentional and unintentional overdoses, and continues to be found on postmortem toxicological analyses regularly. Most anticholinergic overdoses involve multiple drugs. However, overdoses involving only DPH have been reported. This case report and review of literature emphasizes the importance of identifying the significance of DPH during toxicological analysis, and pursuing quantitation in the event of a suspected drug-related death.

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- 12) Vannier D, Curtis JA. Case Files of the Medical Toxicology Fellowship at Drexel University. *Journal of Medical Toxicology*. 2011; 7(3): 215-9.
- 13) Vyas D, Lackey G, McCulloh RJ. Acute Overdose. *Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare*. 2013; 8(4): 272-8.

Deputy Medical Examiner, Dr. Lindsey Haldiman submitted an abstract to NAME for the 2016 NAME Annual Meeting. Her abstract entitled “A Case of Suicide Using Diphenhydramine” was accepted by NAME, cited by NAME as a “surfeit of riches with a very high overall level of quality and worthiness.” Dr. Haldiman presented her poster in Minneapolis, MN in September of 2016 at the 2016 National Association of Medical Examiner’s 50th Anniversary Meeting.

Mass Fatality Preparedness

Many mass fatality events have occurred over just the last few years. The shooting rampage at Sandy Hook Elementary which occurred in December 2012 resulted in 26 fatalities was the 2nd worst school shooting in United States history. In October 2012, Hurricane Sandy roared through the upper east coast and within 48 hours, the region had 6 -12 inches of precipitation, 8 million without power, 20,000 people in shelters, and ended up causing a total of 117 deaths. The Joplin Tornado of May 22, 2011 produced EF5 winds in excess of 200 mph and killed 154 people, making it the nations' seventh deadliest tornado in 64 years.

The Medical Examiners and Coroners throughout this country have tried to prepare for other such events. Any natural, accidental, or terrorist disasters have a high potential for occurring in the Kansas City Urban Area. Jackson County is home to numerous chemical plants, airline companies, railroad companies, and highways that transport numerous hazardous materials and is located in a high risk area for natural disasters such as tornadoes, high winds, hail, heavy snow, and ice. These types of disasters could cause critical infrastructure damage. Other events that could overwhelm the local medical examiners/coroners is the possibility of a cemetery wash out during a flood at which time possibly hundreds of displaced caskets and vaults would have to be recovered and the decedents identified. This has happened on numerous occasions in the United States including the Hardin Cemetery in Ray County, Missouri and during Hurricanes Katrina, Rita and Ike. All of the above listed events could also cause substantial injury or death to the citizens of Kansas City's metro area.

Effective preparedness is key to minimizing injury and death. The Kansas City Urban Area must also be prepared to operate under the worst-case events concerning multiple injuries and mass fatalities. With the amount of responsibility the Medical Examiner's Office has during a Mass Fatality event, it is necessary for the metropolitan region to be well-equipped and well-staffed to handle such an event.

The JCMEO is responsible for the handling of Mass Fatalities that occur in Jackson, Platte, Clay, and Cass Counties. A Mass Fatality Incident is described as any occurrence of multiple deaths that overwhelms the usual capacity of the Medical Examiner or Coroner. Recent events and the emergent threat of continued terrorist activity emphasize the need for public sector agencies to plan for a coordinated response to a mass fatality event. Agencies small and large, urban and rural, need to be prepared for an event that will exceed their operations capacity. Medical Examiners are responsible for processing and identifying the victims of the incident at a temporary morgue site, if needed, locating and dealing with family members of the victims through the family assistance center, assisting with recovery of bodies at the incident site, and participating in the Emergency Operations Center (EOC) to update information regarding recovery efforts. The Jackson County Medical Examiner's Office currently employs 3 members of the National Disaster Mortuary Operational Response Team and the region VII.

Kansas City Regional Mortuary Operational Response Group

Members are from the Kansas City Regional area from both Missouri and Kansas. This team is called the Kansas City Regional Mortuary Operational Response Group (KCRMORG) and rosters more than 100 professionals from several aspects of forensic investigation. This team is responsible for the response and management of a mass fatality event and can be deployed by the Medical Examiner or Coroner of the incident area. The Jackson County Medical Examiner's Office is responsible for this equipment, team training and is the lead agency for the KCRMORG. Members of the Kansas City Crime Lab, Johnson County, KS Crime Lab, Kansas City Fire Department, Jackson County Sheriff's Department, Kansas City, Missouri Police Department, Mid-America Regional Council, UMKC Dental School, First Call Morgue, Speaks Funeral Home, and the Jackson County Medical Examiner's Office make up this response team. This team will be able to respond within a short notice and will be under the jurisdiction of the local Medical Examiner or Coroner.

Having the resources within the region, and being able to respond and complete a mass fatality event with little assistance from the Federal Agencies, demonstrates the hard work and dedication that the local and regional government authorities have put forth for the preparedness and management of a mass fatality event.



Kansas City Regional Mortuary Operational Response Group



Kansas City Regional Mortuary Operational Response Group

For the past 8 years the Jackson County Medical Examiner's Office has been working in conjunction with the Mid-America Regional Council in the area of mass fatality preparedness and response. In 2011 the Jackson County Medical Examiner's Office received over \$200,000.00 in mass fatality equipment from the Mid-America Regional Council. The equipment consisted of a customized 53ft refrigerated trailer and several components of morgue equipment that will allow us to set up mortuary operations outside the Medical Examiner's Office during a mass fatality event.

This equipment included generators, power cords, autoclave, lights, body bags, freezer, tarps, hot water heaters, plastic utility tables, PVC pipe for morgue wall construction, autopsy tables, and other operating equipment. The Jackson County Medical Examiner's Office added to the equipment by purchasing personal protective equipment (PPE), administrative supplies, pathology, anthropology, x-ray, dental x-ray and several other operating supplies. With the equipment purchased by the Mid-America Regional Council and the Medical Examiner's Office, there is approximately \$500,000.00 worth of mortuary equipment which will enable an emergency mortuary response team.

Glossary of Terms

Blood Alcohol Level:

The concentration of ethanol (alcohol) found in blood following ingestion. Measured in grams per 100 ml of blood or grams %. In the State of Missouri, 0.08 grams % is considered the legally intoxicated level while driving.

Cause of Death:

Any injury or disease that produces a physiological derangement in the body that results in the death of an individual.

Drug:

Therapeutic drug: A substance, other than food, used in the prevention, diagnosis, alleviation, treatment, or cure of disease.

Recreational drug: A drug used non-medically for personal stimulation/depression/euphoria.

Drug-related death:

Death directly caused by a drug or drugs in combination with each other or with alcohol.

Fetal Death:

Category of deaths that occur within the uterus. The Medical Examiner assumes jurisdiction over fetal deaths that meet the criteria.

Jurisdiction:

The jurisdiction of the Medical Examiner extends to all reportable deaths occurring within the boundaries of Jackson, Clay, Cass, and Platte Counties, whether or not the incident leading to the death (such as an accident) occurred within the county. Not all natural deaths reported fall within the jurisdiction of the Medical Examiner.

Manner of Death:

A classification of the way in which the events preceding death were causal factors in the death. The manner of death as determined by the forensic pathologist is an opinion based on the known facts concerning the circumstances leading up to and surrounding the death, in conjunction with autopsy findings and laboratory tests. The manners of death are natural, accident, suicide, homicide, and undetermined.

Glossary of Terms

Manner: Accident

Death other than natural, where there is no evidence of intent, i.e., unintentional. In this report, traffic accidents are classified separately.

Manner: Homicide

Death resulting from intentional harm (explicit or implicit) of one person by another, including actions of grossly reckless behavior.

Manner: Natural

Death caused solely by disease. If natural death is hastened by injury (such as a fall or drowning in a bathtub), the manner of death is classified other than natural. The Natural category may include complication of therapy deaths.

Manner: Suicide

Death as a result of purposeful action with intent (explicit or implicit) to end one's own life.

Manner: Traffic

Unintentional deaths of drivers, passengers, and pedestrians involving motor vehicles on public roadways. Accidents involving motor vehicles on private property (such as driveway) are not included in this category and are classified non-traffic, vehicular accidents. This is not an official manner of death for death certification purposes but is used by the Medical Examiner's Office for statistical purposes.

Manner: Undetermined

Manner assigned within there is insufficient evidence or information, especially about intent, to assign a specific manner.

Race:

The racial categories used in this report are: White, Black, American Indian/Alaska Native, Asian/Pacific Islander, and Other.



*Love is Intended to Last Longer Than Time, To Span The Veil of
Death, and Continue Everlastingly.*

~ Unknown

