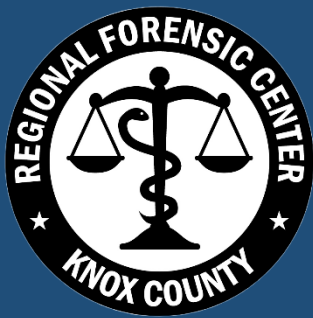


2022



# Annual Report

**Darinka Mileusnic-Polchan, MD, PhD**  
Chief Medical Examiner  
Knox and Anderson Counties

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Chief Administrative Officer  
Knox County Regional Forensic Center

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# Knox County Regional Forensic Center

## Mission Statement

The Knox County Regional Forensic Center seeks to:

- Provide accurate, timely, compassionate, and professional death investigative services for the citizens of Knox County and other counties it serves;
- Identify and develop an understanding of sudden, unexpected, and unnatural deaths then educate the public about those deaths;
- Assist law enforcement agencies with investigations;
- Consults for medical professionals and attorneys;
- Render unbiased opinions and testimony in court; and
- Extend research support for local and national medical, legal, academic, and law enforcement organizations.

## History

The Knox County Medical Examiner's Office has been in existence since the early 1950s when it operated out of a small, one-room morgue in the basement of the former University of Tennessee Hospital. In 1998, the Regional Forensic Center (RFC) moved to a new ground floor facility as University of Tennessee Medical Center expanded. In 2014, Knox County, with financial support from the State of Tennessee, built an 18,000-square-foot facility on Sullins Street in Knoxville, Tennessee, and officially began service as the Knox County Regional Forensic Center.



## Overview

The Knox County Regional Forensic Center is a department under the purview of the Knox County Mayor's Office. It serves as the Office for the Chief Medical Examiner for Knox and Anderson counties and provides autopsy and consultative services for 21 other counties in Middle and East Tennessee. The facility operates 24-hours a day, seven days a week, all year long; at least one autopsy technician is always at the facility, a Medical Examiner/Forensic Pathologist is always on duty or on-call, and a medicolegal death investigator is always available to respond to death scene investigations.

## Legal Jurisdiction

There are three areas of the Tennessee Code that dictate how deaths and decedents are reported in the State of Tennessee.

### [Tennessee Code Annotated §38-7-104 – County Medical Examiner](#)

*A county medical examiner shall be appointed by the county mayor, subject to confirmation by the county legislative body, based on a recommendation from a convention of physicians*

*residents in the county. A county medical examiner shall be a physician who is either a graduate of an accredited medical school authorized to confer upon graduates the degree of doctor of medicine (M.D.) and who is duly licensed in Tennessee, or is a graduate of a recognized osteopathic college authorized to confer the degree of doctor of osteopathy (D.O.) and who is licensed to practice osteopathic medicine in Tennessee, and shall be elected from a list of a maximum of two (2) doctors of medicine or osteopathy nominated by convention of the physicians, medical or osteopathic, residents in the county, the convention to be called for this purpose by the county mayor.*

#### Tennessee Code Annotated §38-7-104 – Medicolegal death investigators

*A medical investigator shall be a licensed emergency medical technician (EMT), paramedic, registered nurse, physician's assistant or a person registered by or a diplomat of the American Board of Medicolegal death investigators and approved by the county medical examiner as qualified to serve as medical investigator...The county medical investigator may conduct investigations when a death is reported, as provided in §38-7-108, under the supervision of the county medical examiner. The county medical investigator may make pronouncements of death and may recommend to the county medical examiner that an autopsy be ordered. However, the county medical investigator shall not be empowered to sign a death certificate. The county medical examiner may delegate to the county medical investigator the authority to order an autopsy.*

#### Tennessee Code Annotated §38-7-108 – Death under suspicious, unusual or unnatural circumstances

*Any physician, undertaker, law enforcement officer, or other person having knowledge of the death of any person from violence or trauma of any type, suddenly when in apparent health, sudden unexpected death of infants and children, deaths of prisoners or persons in state custody, deaths on the job or related to employment, deaths believed to represent a threat to public health, deaths where neglect or abuse of extended care residents are suspected or confirmed, deaths where the identity of the person is unknown or unclear, deaths in any suspicious/unusual/unnatural manner, found dead, or where the body is to be cremated, shall immediately notify the county medical examiner or the district attorney general, the local police or the county sheriff, who in turn shall notify the county medical examiner.*

### Function

The Knox County Regional Forensic Center serves citizens by investigating deaths that are unnatural and/or unexpected and determining the cause and manner of death; recognizing and collecting evidence needed for adjudication; defining public health and product safety risks; and providing compassionate services to families.

**Cause of death** refers to a disease, injury, drug toxicity, or combination of factors that causes a physiological derangement severe enough to result in death.

**Manner of death** refers to the circumstances surrounding how a death occurred and has five possible classifications including natural, accidental, suicide, homicide, or undetermined.

These investigations begin with the careful review of the scene of death and are supplemented, when appropriate, by physical examination, autopsy, toxicologic testing, and other studies.

The Center is responsible for the investigation and certification of cause and manner of death of all sudden, unexpected, violent, suspicious, and/or unnatural deaths or deaths without medical attendance that occur inside its jurisdictional counties.

The Knox County RFC also provides autopsy and consultative services for similar deaths occurring in 21 additional Middle and East Tennessee counties at the written request of local authorities. Knox and Anderson Counties are the RFC jurisdiction; the 21 other counties are not.

## National Missing and Unidentified Persons System (NamUs)

As part of Tennessee Code Annotated §38-6-1, Regional Forensic Centers are also charged with taking control of an unidentified body and coordinating efforts with law enforcement and NamUs to identify the decedent. The RFC serves as a regional resource for East Tennessee counties with a need to identify a decedent or assist in finding a missing person and partners with NamUs to work cases to identify missing and unidentified persons.

## Opioid Information

### Knox County Drug Related Death Task Force

The RFC partners with the Office of the District Attorney in the Sixth Judicial District, Knox County Government, Knoxville Police Department, Knox County Sheriff's Office, Drug Enforcement TBI, and the Appalachia High-Intensity Drug Trafficking Area as part of the Knox County Drug Overdose Task Force.

The force was formed to address the growing drug abuse issues and number of drug deaths in Knox County. The goals of the Task Force are:

- Identifying drug categories of interest, prosecutable street-level sources of illegal opiates and other drugs, and strategies to lower drug-related deaths, overdoses, and arrests;
- Developing best practices and a uniform data collection tool for local and regional use and a drug-related death data reference resource for medical and service professionals; and
- Creating a confidential and secure system (behind the Drug Related Death Task Force firewall) to collect law enforcement and medically sensitive information for quantification in order to analyze the information and data for use in redacted reports in collaboration with community partner agencies.

The RFC partners with the Drug Enforcement Agency (DEA) and participates in its DEA360 program and enhanced toxicology testing through collaboration with toxicology labs at the University of California, San Francisco; the focus of is coordinating education and community action for drug issues in Knox County locally and detection of novel substances flooding the illegal drug market regionally.

### Drug Related Deaths

In late 2020, the Knox County Regional Forensic Center began a partnership with DEA Tox, the UCSF Mt. Zion Cancer Research lab dedicated to serving the DEA. Through this

partnership, it has been possible to detect and quantify drugs new to our region. This process has saved thousands of local taxpayer dollars by providing these services at no charge.

The RFC produces an annual Drug Related Death Report for Knox and Anderson counties, where Dr. Darinka Mileusnic-Polchan serves as Chief Medical Examiner. This report is inclusive of only jurisdictional counties because the RFC feels more able to perform a thorough investigation of these possible drug related deaths which ensures a greater confidence that the decedents were properly examined.

The Drug-Related Death Report provides data on the number of drug deaths, demographic details about decedents, the location of injury and/or death, and the drugs involved therein. It also provides an overview of emerging drug trends.

For a copy of the most recent report, visit the Knox County Regional Forensic Center [website](#).

## **Community Involvement and Educational Activities**

The RFC prides itself in regular interaction with the local community and tries to ensure staff is well integrated in service communities.

In 2022, the RFC completed the following community service activities:

- Hosted pathology residents from the University of Tennessee Graduate School of Medicine and forensic dentistry fellows from Lincoln Memorial University's College of Dental Medicine.
- Held numerous virtual and in person conferences with high school and college students interested in the field of forensic pathology and medicolegal death investigations.
- Spoke to Criminal Justice Classes at Anderson County High School.
- Presented on medicolegal death investigation at educational conferences for regional medical examiners, medicolegal death investigators, law enforcement, emergency response personnel, others involved in death investigation, and emergency medical services.
- Hosted conferences in conjunction with the National Forensics Academy that focus on providing training to law enforcement on death scene investigation, autopsy techniques, and fingerprinting decedents.
- Hosted new Knoxville Police Department recruits for a tour of the facility and lectures on medicolegal death investigation and forensic pathology topics.
- Served on the Knox County Child/Infant Fatality Death Review Team, the Anderson County Child/Infant Fatality Death Review Team, the Elder Abuse Coordinated Community Response Committee, the Metro Drug Coalition, and the Overdose Fatality Review Team. As well as consulting for the East Tennessee District's Child/Infant Fatality Death Review Teams and the State of Tennessee Medical Examiner Advisory Council, and other regional infant death review teams.
- Shared lectures about RFC operations and death investigation processes with groups that include Knox County Emergency Management Agency, funeral home director groups, and others.
- Participated on committees with multiple state and regional government and non-government agencies focused on emergency preparedness and community development.

- Served with the 17 county Knox/East Tennessee Healthcare Coalition that includes hospitals, emergency management agencies, public health agencies, and healthcare organizations to address emergency medical management and healthcare planning within the region by holding tabletop and full-scale emergency preparedness exercises and training opportunities as well as working to seek grant opportunities for funding of regional and organizational needs.

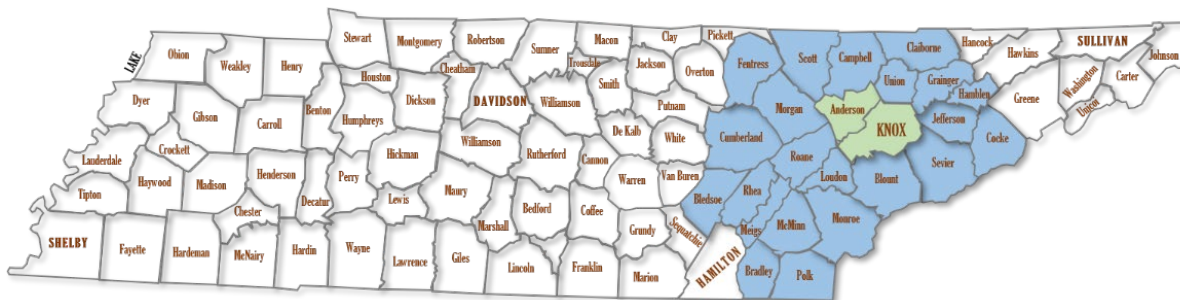
## Community Care

Meeting with family members to review autopsy findings is one of the most important interactions Medical Examiners/ Pathologists perform as it is often a sensitive part of a family’s grieving process. Staff is also available to consult with local physicians and hospitals, as needed, to discuss autopsy findings.

## Coverage

In 2022, RFC staff provided services—including personally requested private autopsies—to its two jurisdictional counties (Knox and Anderson) and 21 non-jurisdictional counties that include: Blount, Bradley, Campbell, Claiborne, Cocke, Cumberland, Fentress, Grainger, Hamblen, Jefferson, Loudon, McMinn, Meigs, Monroe, Morgan, Polk, Rhea, Roane, Scott, Sevier, and Union.

Jurisdictional counties (green on the map below) are those where Dr. Darinka Mileusnic-Polchan is the Chief Medical Examiner, and the RFC provides medicolegal death investigation. Non-jurisdictional counties (blue on the map below) are those where there is an appointed medical examiner—not Dr. Mileusnic-Polchan or one of the other RFC Deputy/Assistant Medical Examiners—who is a Tennessee-licensed physician responsible for conducting medicolegal investigative activities. These medical examiners may or may not also have medicolegal death investigators working for them in their respective counties.



It is important to note that many cases come to Knox County from non-jurisdictional counties because of the Level 1 and 2 Trauma Center and referral hospitals located in the community. When this happens, the Knox County RFC coordinates activities with the Medical Examiner from the county where the incident occurred due to their primary involvement in the incident investigation.

## Staffing

There are 36 full-time staff at the Regional Forensic Center including the Chief Medical Examiner, the Deputy Chief Medical Examiner, four assistant medical examiners/forensic pathologists, the Chief Administrative Officer, two forensic clerks, a manager for the ten medicolegal death investigators, a manager for the ten autopsy technicians, three night

morgue attendants, a physicians administrative assistant, two administrative assistants, and a part-time forensic intern. A forensic anthropologist, forensic odontologist and two forensic pathologist locums are also contracted.

## Medical Examiners/Forensic Pathologist

All five medical examiners/forensic pathologists and two locum forensic pathologist are board-certified by the American Board of Pathology in Anatomic, Clinical, and Forensic Pathology. They hold appointments as either Clinical Associate or Assistant Professors with the University of Tennessee and an affiliation with the board-certified Forensic Odontology group. They also assist with Lincoln Memorial University's Graduate School of Forensic Dentistry.

These staff members are responsible for the professional medicolegal death investigation and determining the cause and manner of death for cases handled at the RFC. They are experts in the evaluation of sudden unexpected natural deaths and unnatural deaths such as those caused by firearms, sharp and blunt force trauma, among others. They are frequently called to testify in court on cause of death and share their medical findings and interpretations, particularly in homicide cases. These individuals may consult neuropathologist, odontologist, anthropologist, toxicologist, and/or other disciplines to assist in their evaluations of cases.

Forensic Pathologists complete death certificates for cases in Knox and Anderson counties. At the request of the County Medical Examiners, they will also complete death certificates on certain cases sent to the RFC from other counties. When physicians in Knox and Anderson counties refuse to sign a Death Certificate for their patient or in unattended deaths, as defined by State Code, forensic pathologists will complete them, in order to ensure that the final act of patient/decedent care is completed to assist with all administrative needs in settling final affairs.

## Medicolegal Death Investigators (MDI)

The medicolegal death investigators are required to become certified by the American Board of Medicolegal Death Investigators; eight of the local investigators are Diplomats with the organization and two are in the process of earning certification.

These staff members have an initial responsibility for accepting or declining jurisdiction for death cases reported to the RFC. If jurisdiction is accepted, MDIs are responsible for a variety of activities to guarantee the case is properly investigated and recorded in the electronic case management system.

## Autopsy Technicians

Autopsy Technicians are responsible for coordinating anthropology assignments, X-rays, lab testing, and other activities for the decedent, and receiving/releasing them from the RFC; assisting Forensic Pathologists in conducting autopsies and external examinations; assisting in finger printing and evidence processing for law enforcement; and working with funeral homes and families to transition the decedent for their final disposition.

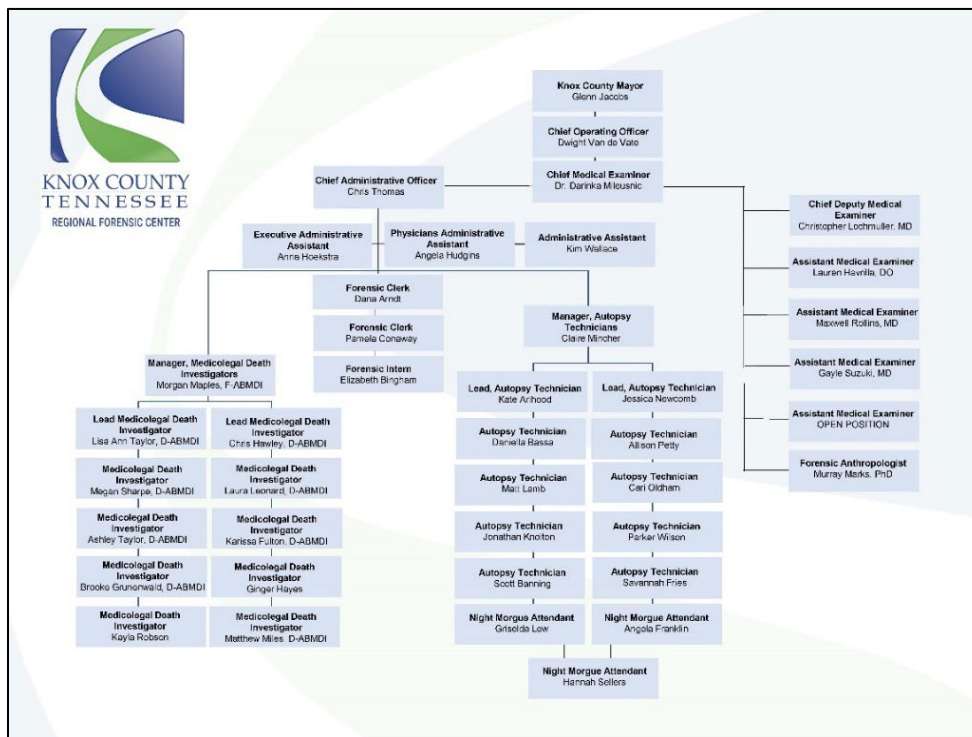
## Administration

Forensic Clerks and Administrative Assistants are responsible for coordinating Forensic Pathologists' schedules for depositions and court testimony, medical billing, tracking death



certifications, completing open records requests, assuring proper case closure, coordinating indigent internment, and other activities as assigned. They work with funeral homes, law enforcement, District Attorney's office, lawyers, families, media, and others to ensure requested information is provided in a timely manner. Forensic Clerks are also responsible for coordinating proper death certificate actions between the State of Tennessee Department of Vital Records, Funeral Homes, and the Regional Forensic Center.

The Center's organizational structure is as follows.



## National Association of Medical Examiners Accreditation

The National Association of Medical Examiners (NAME) is the national professional organization of forensic pathologists, physician medical examiners, medicolegal death investigators, death investigation system administrators and consultants who perform the official duties of medicolegal death investigation of deaths of public interest in the United States.

Accreditation is a rigorous process that requires a lengthy inspection by an independent Medical Examiner appointed by the NAME and includes extensive requirements and more than 360 items covering diverse points of quality ranging from how specimens are labeled to the professional qualifications/certifications of staff members.

The Knox County Regional Forensic Center achieved the distinction of Accreditation by the National Association of Medical Examiners in May 2010 and has maintained accreditation since that date. The Center undergoes an annual review of accreditation standards and an on-site inspection every four years. Receiving full accreditation with no deficiencies in June 2019 marked 10 years of continuous accreditation for the RFC. The most recent on-site visit occurred in July 2020 and earned the RFC full accreditation. The next on-site visit will take place in 2024.

Below is a table outlining the essential NAME data collected in 2022. For clarification, “in jurisdiction” references Anderson and Knox counties; “non-jurisdiction” refers to the other 21 service/referral counties the RFC serves. A “full autopsy” is classified as a complete external and internal examination of a decedent. An “external examination” is one focusing on the exterior of the decedent and review of medical records with or without ancillary studies. A “limited examination” is one focused on a specific organ or region of the body, and includes external examination.

<b>Measure</b>	<b>2022</b>	<b>2021</b>
Deaths in jurisdiction (all deaths including non-ME/C cases)	10,067	9,830
Deaths reported to the office	8,068	8,416
Deaths investigated (certified)	8,068	8,416
Scenes investigated by ME/C staff	1,624	1,556
Decedents brought to the facility	2,707	2,851
Inspections (external examinations)	1,150	1,237
Autopsies performed in jurisdiction	622	654
Autopsies performed outside jurisdiction	829	863
Hospital/Private Autopsies	80	76
Partial autopsies	31	23
Toxicology only	2	0
Microscopic studies	1,052	1,048
Formal neuropathologic studies	10	21
Formal cardiac pathologic studies	1	0
Deaths certified as homicide	94	111
Homicides autopsied	93	110
Death certified as suicide	223	210
Suicides autopsied	131	136
Non MVA-Accident deaths certified	1,325	1,379
Non MVA-Accident deaths autopsied	786	841
MVA Accidental deaths certified	192	218
MVA-Accidental deaths autopsied	88	79
Deaths certified as natural	885	913
Natural deaths autopsied	404	393
Deaths certified as undetermined or unclassified	51	44
Undetermined autopsied	50	42
Unidentified decedents	3	2
Unidentified decedents autopsied	3	2
Organ donations	281	230
Corneal and other tissue donations	198	176

Note: Homicides not autopsied were remanded to other jurisdictions for autopsy.

## Regional Forensic Center Cases in 2022

Based on the latest United States Census Bureau data, the approximate combined population of Knox and Anderson counties is 570,713. According to the reported provisional 2022 data from Tennessee Vital Statistics, 10,067 deaths occurred in the two counties, or 1.76% of the population; 7,130 (70.82%), were reported to the Medical Examiner.

Analysis of the circumstances and scenes of these reported deaths and the medical history of the decedents, shows the Regional Forensic Center performed autopsies on 1,775 of these reported deaths, which is 24.90% of all deaths within the RFC jurisdiction.

### Referrals

Every referral requires a preliminary screening by the RFC medicolegal death investigators to determine if the case falls within the jurisdiction of the Medical Examiner. The jurisdiction of some deaths reported to the Medical Examiner were released to another county.

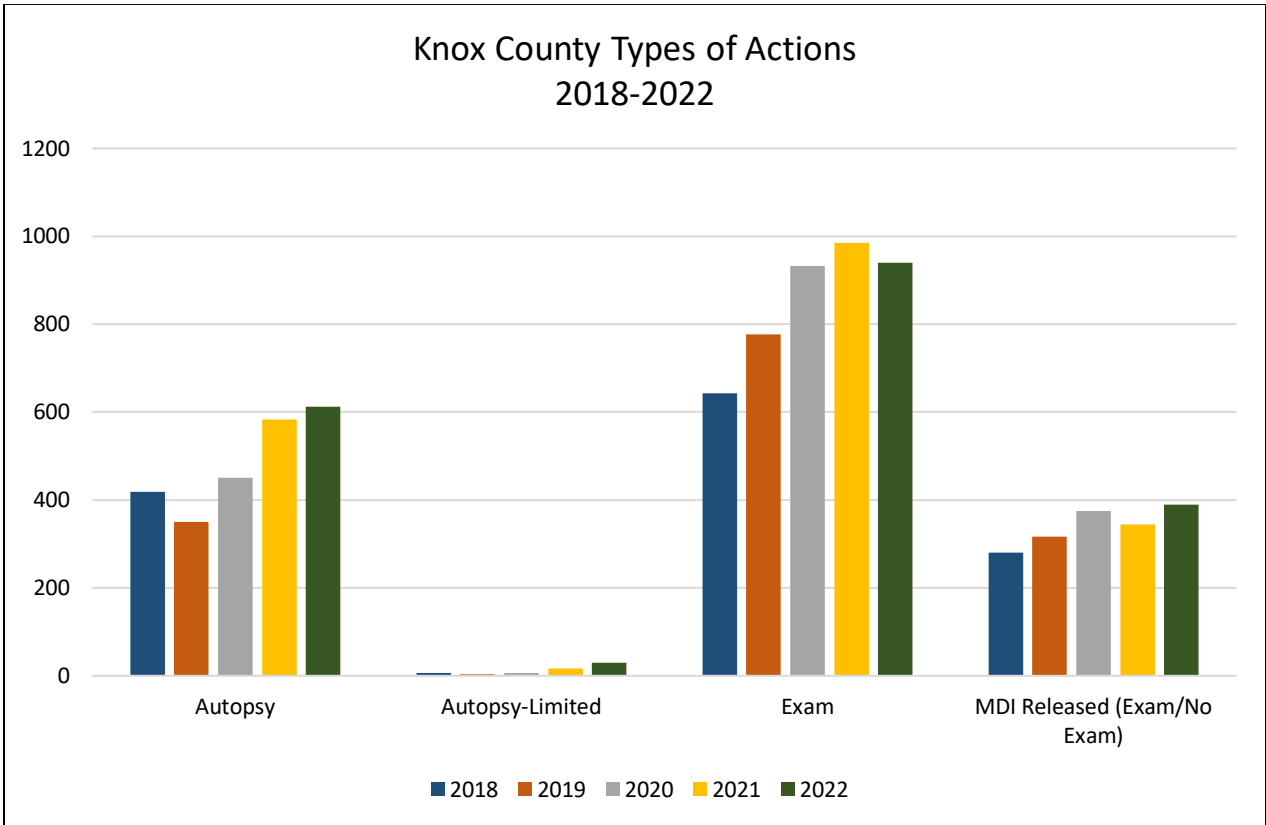
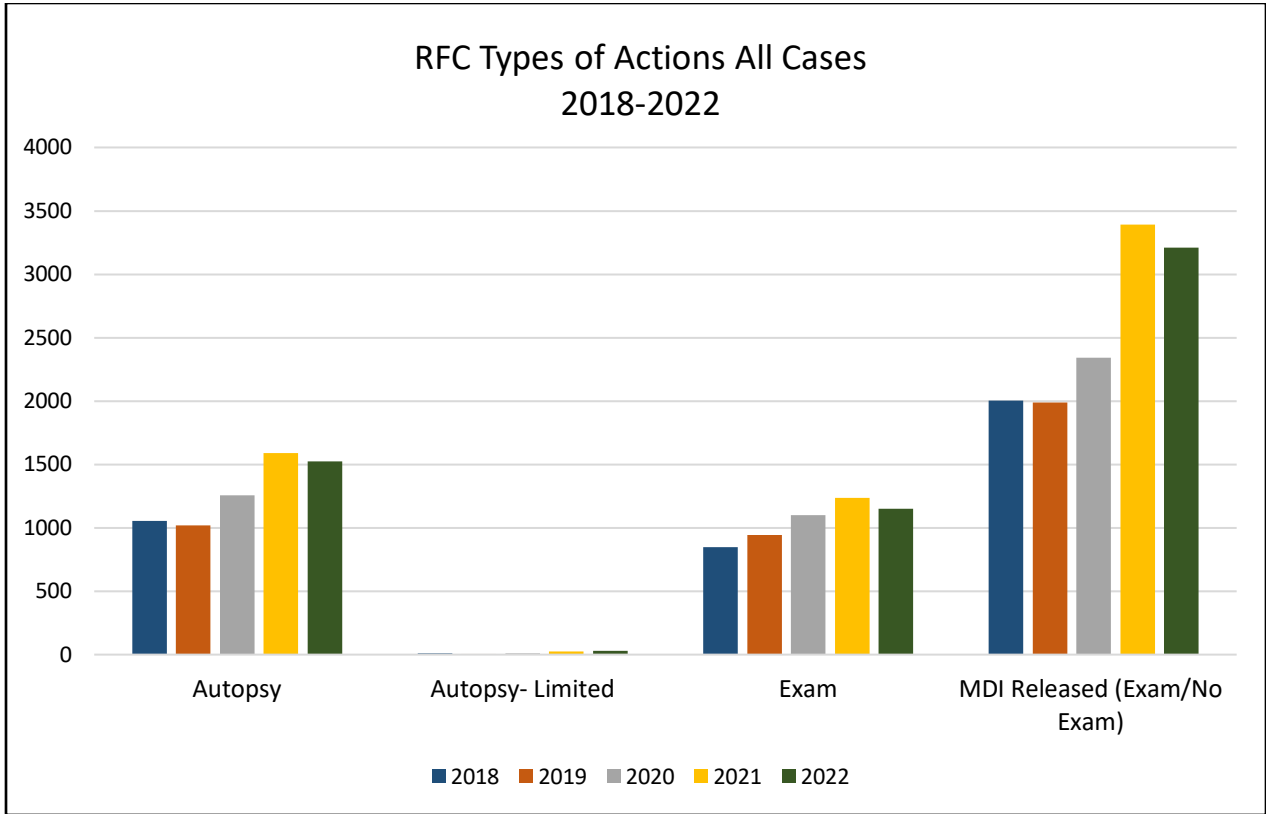
### Data

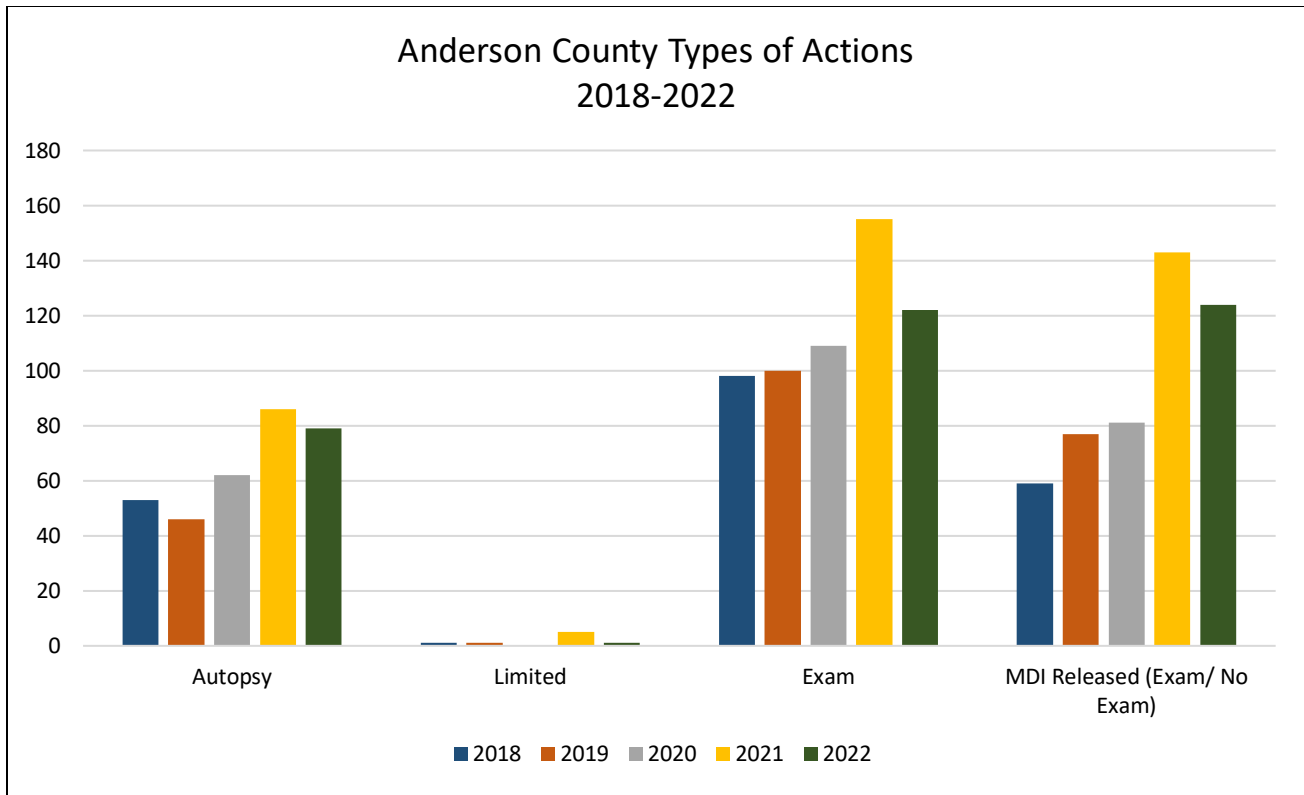
The graphics that follow will illustrate the number of procedures completed at the Regional Forensic Center. The data contained in the charts that follow represents a mix of jurisdictional and non-jurisdictional cases where Knox County provided autopsy or consulting services or completed work prior to a decedent being cremated. Note that a case can have more than one activity depicted in the charts.

### Number and Type of Actions Completed by the RFC Over 5 Years

These charts depict the amount and types of some of the activities handled by the RFC over a 5-year period.

<b>Types of Activities</b>					
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Autopsy	1,054	1,019	1,258	1,584	1,524
Autopsy - Limited	8	5	9	23	31
Exam	850	943	1,102	1,237	1,150
Toxicology Only	3	2	0	0	2
MDI Released (Exam/No Exam)	2,003	1,987	2,344	3,391	3,208
<b>Total</b>	<b>3,918</b>	<b>3,956</b>	<b>4,713</b>	<b>6,235</b>	<b>5,915</b>





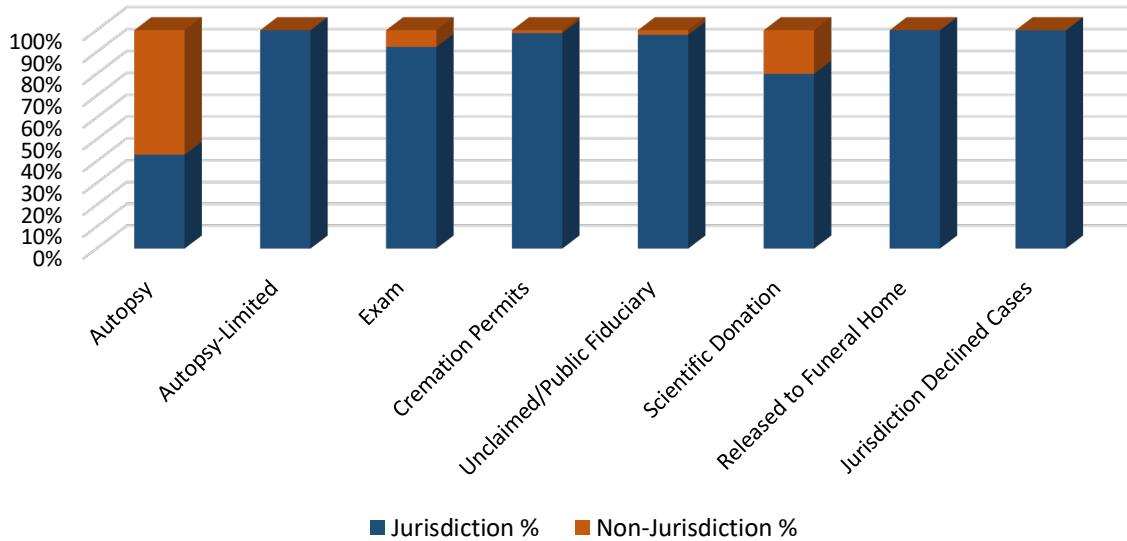
## Deaths Reported to the RFC

The following depict the amount/percentage and types of cases handled by the RFC in 2022 and denote how each case was jurisdictionally classified.

Types of Activities	Jurisdiction	Non-Jurisdiction	Other	Total
Autopsy-Full	625	830	0	<b>1,455</b>
Autopsy - Limited	21	0	0	<b>21</b>
Exam	1,061	88	0	<b>1,149</b>
Hospital/Private Autopsy	0	0	80	<b>80</b>
Cremation Permits	4,856	66	0	<b>4,922</b>
Unclaimed/Public Fiduciary	46	1	0	<b>47</b>
Scientific Donation	16	4	0	<b>20</b>
Release to funeral homes*	458	0	0	<b>458</b>
Jurisdiction Declined cases	2,749	1	0	<b>2,750</b>
<b>Total</b>	<b>9,833</b>	<b>990</b>	<b>80</b>	<b>10,903</b>

\*After an examination by an MDI at the scene

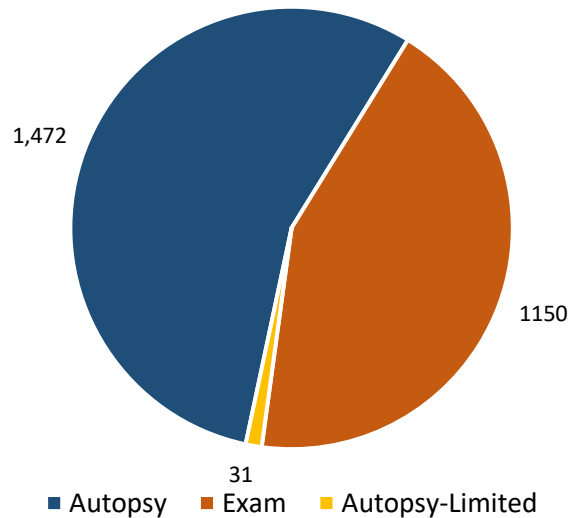
Percentage of Types of Activities by Jurisdiction 2022



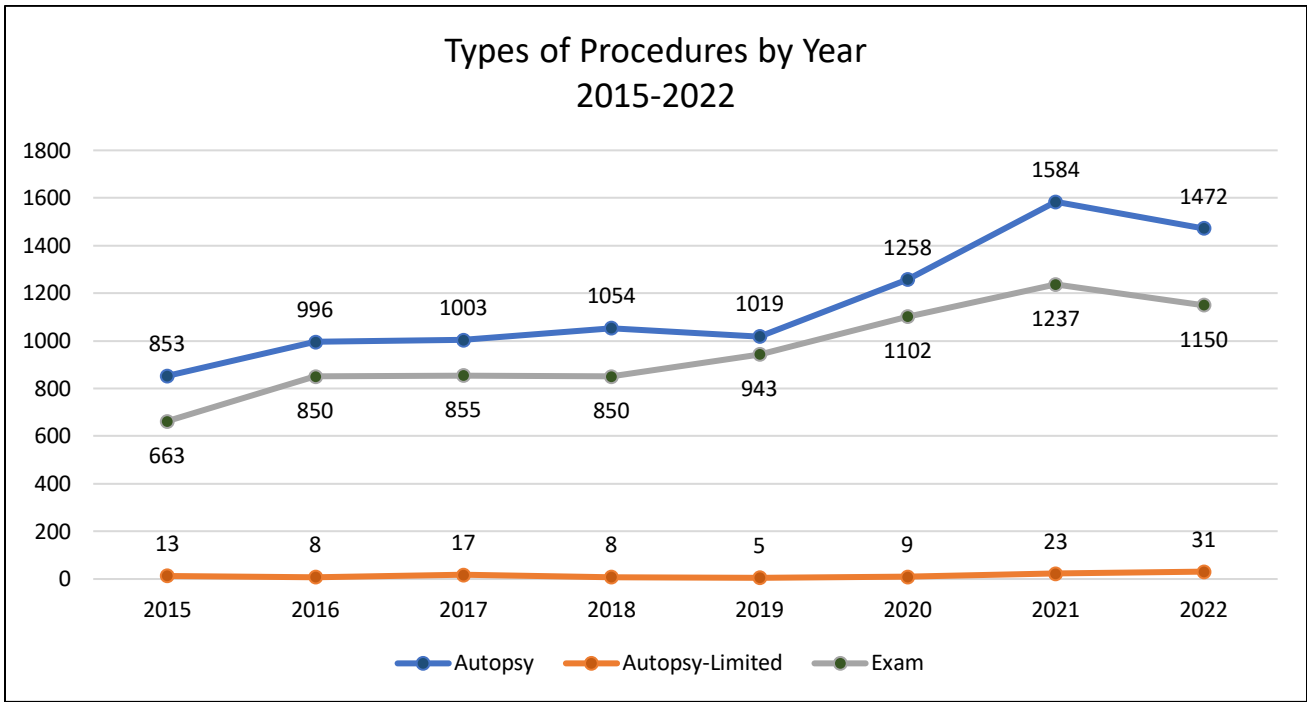
### Exam Types

The types of procedures completed by RFC Medical Examiners/Pathologists in 2022 are depicted below.

RFC Types of Procedures 2022



Procedure Type by Jurisdiction				
Procedure	Knox	Anderson	Non-Jurisdiction	Total
Autopsy-Full	563	79	830	1,472
Autopsy – Limited	30	1	0	31
Exam	940	122	88	1,150
<b>Total</b>	<b>1,533</b>	<b>202</b>	<b>918</b>	<b>2,653</b>



## Manner of Death Classification for Reported Cases

The charts that follow illustrates how the RFC classified Manner of Death for cases in 2022.

RFC Manner of Death All Cases 2018 – 2022					
Manner of Death	2018	2019	2020	2021	2022
Accident MVA	164	167	180	218	192
Accident - Non MVA	757	800	1,045	1,379	1,324
Suicide	189	200	203	210	223
Homicide	65	73	97	111	94
Natural	760	751	833	913	886
Undetermined	45	44	44	47	51
<b>Total</b>	<b>1,981</b>	<b>2,035</b>	<b>2,402</b>	<b>2,878</b>	<b>2,770</b>

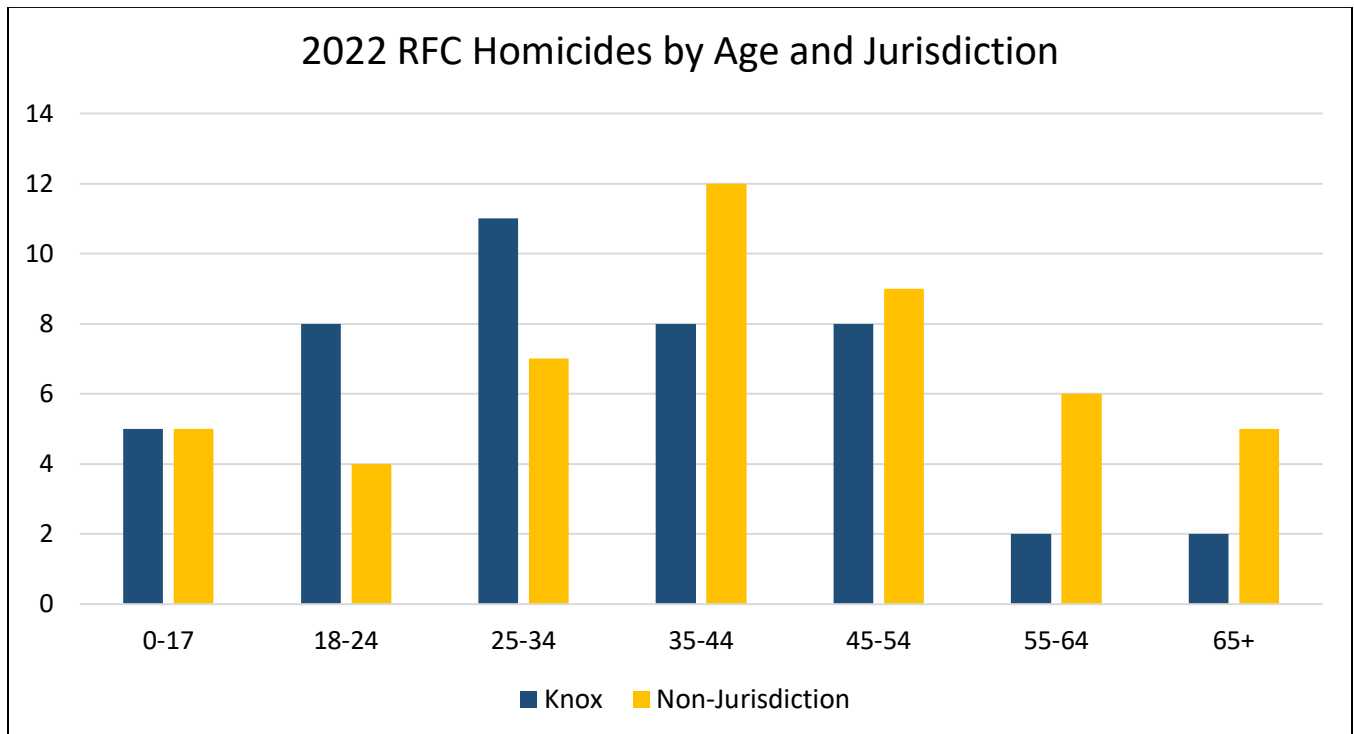
2022 Manner of Death Summary for All Counties by Jurisdiction				
Manner of Death	Knox	Anderson	Non-Jurisdiction	Total
Accident MVA	98	18	76	<b>192</b>
Accident - Non MVA	782	84	458	<b>1,324</b>
Suicide	114	18	91	<b>223</b>
Homicide	44	2	48	<b>94</b>
Natural	585	96	205	<b>886</b>
Undetermined	15	2	34	<b>51</b>
<b>Total</b>	<b>1,638</b>	<b>220</b>	<b>912</b>	<b>2,770</b>

## Homicides

Homicides in 2022 | Knox County decreased by 17% from 2021. Anderson County increased 200% in homicides.

RFC Homicides Jurisdiction and Non-Jurisdiction 2018 – 2022					
	2018	2019	2020	2021	2022
Knox	34	29	50	53	44
Anderson	3	2	3	0	2
Non-Jurisdiction	30	42	44	58	48
<b>Total</b>	<b>67</b>	<b>73</b>	<b>97</b>	<b>111</b>	<b>94</b>

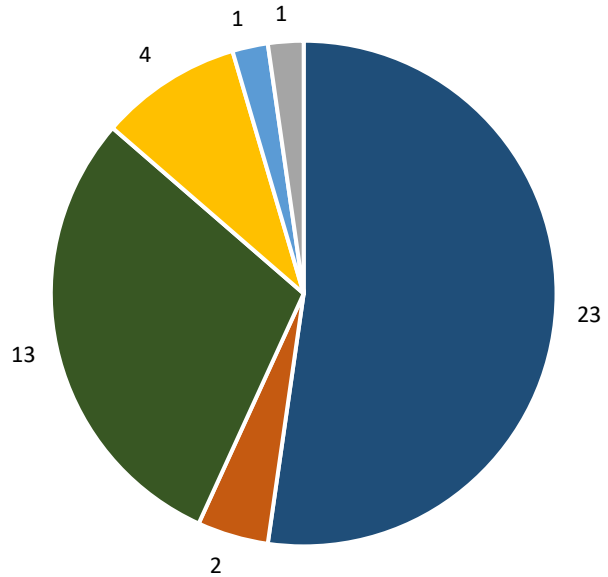
2022 Homicides by Cause and Jurisdiction				
Cause of Death	Knox	Anderson	Non-Jurisdiction	Total
Asphyxia	1	0	0	1
Blunt Force	3	0	7	10
Firearm	37	2	35	74
Sharp Force	2	0	4	6
MVC	0	0	2	2
Fall	1	0	0	21
<b>Total</b>	<b>44</b>	<b>2</b>	<b>48</b>	<b>94</b>





### 2022 Knox County Homicides by Race and Sex

- Black Male
- Black Female
- White Male
- White Female
- Other Male
- Other Female



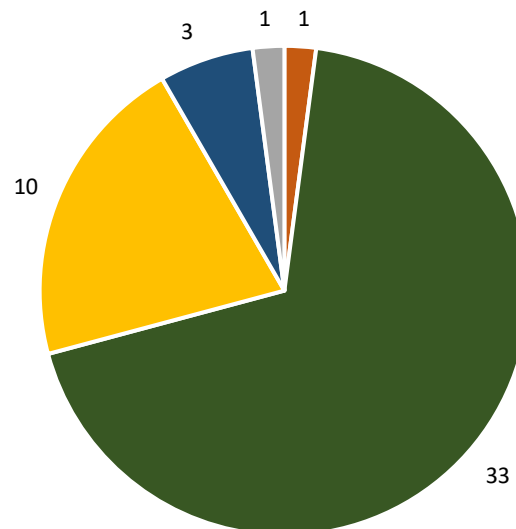
### 2022 Anderson County County Homicides by Race and Sex

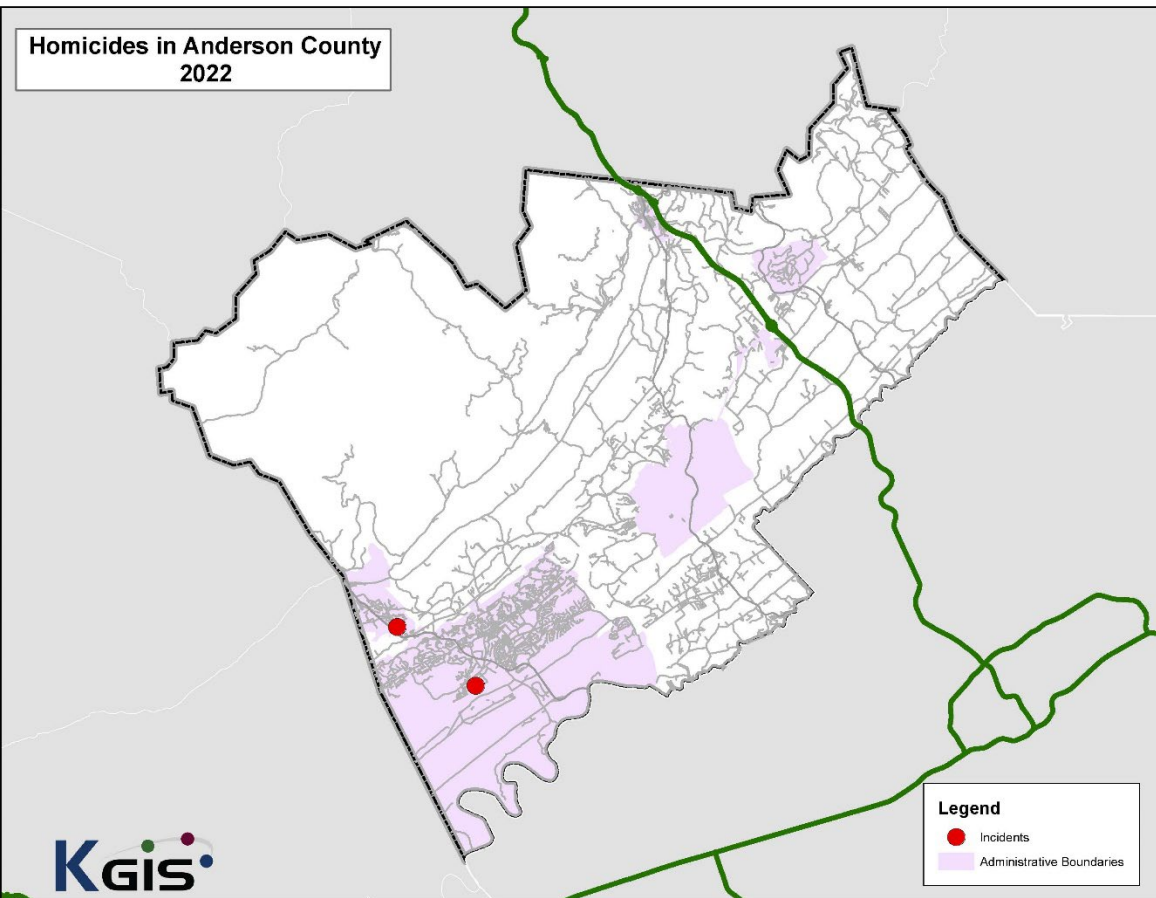
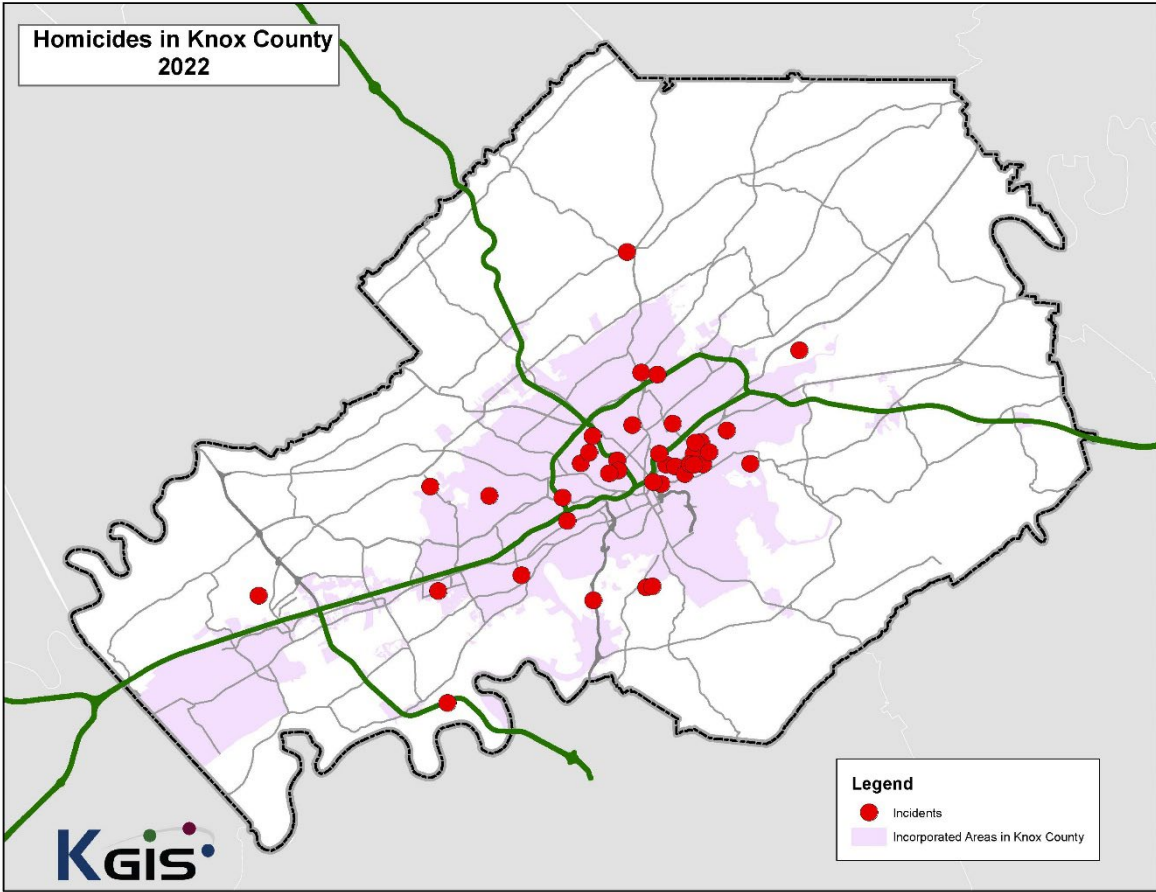
- Black Male
- White Female



### 2022 Non-Jurisdiction Homicides by Race and Sex

- Black Female
- White Male
- White Female
- Asian Male
- Other Female





## Suicides

In Knox County suicides increased by 30% in 2022. Suicides in Anderson County decreased by 5%.

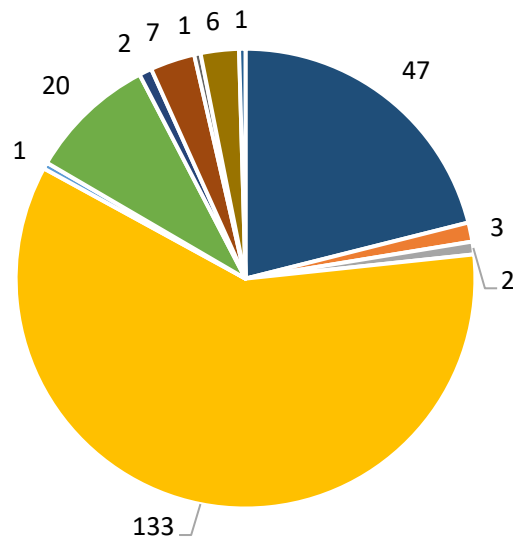
RFC Suicides Jurisdiction and Non-Jurisdiction 2018 – 2022					
	2018	2019	2020	2021	2022
Knox	95	83	95	88	114
Anderson	14	24	11	19	18
Non-Jurisdiction*	80	93	97	103	91
<b>Total</b>	<b>189</b>	<b>200</b>	<b>203</b>	<b>210</b>	<b>223</b>

\* This data is not reflective of all suicides in non-jurisdiction areas, only those that were sent for autopsy.

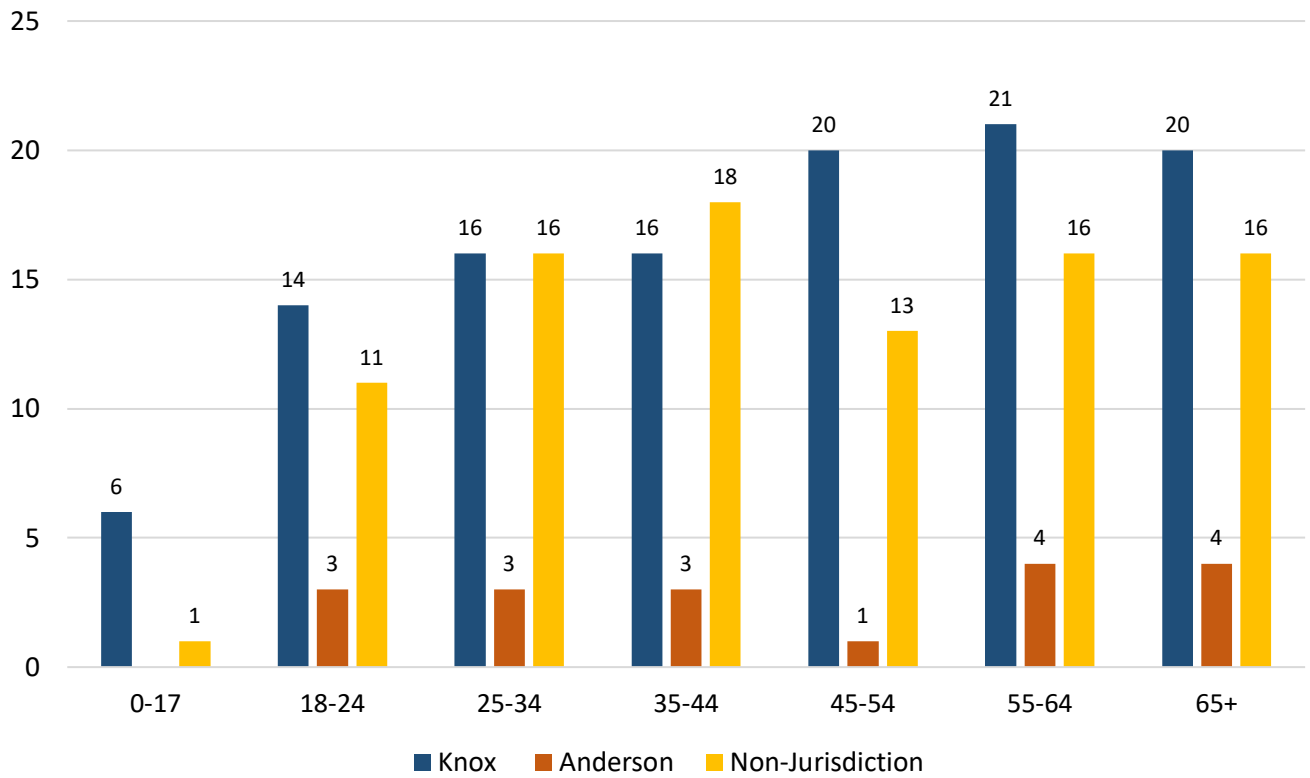
2022 Suicides by Cause and Jurisdiction				
Cause of Death	Knox	Anderson	Non-Jurisdiction	Total
Blunt Force	0	1	0	1
Carbon Monoxide	0	1	2	3
Drowning	1	1	0	2
Fall/Jump	3	0	3	6
Fire	0	0	1	1
Firearm	78	8	47	133
Hanging	17	5	25	47
Drug Overdose	10	2	8	20
Sharp Force	4	0	3	7
Suffocation	0	0	1	1
Train	1	0	1	2
<b>Total</b>	<b>114</b>	<b>18</b>	<b>91</b>	<b>223</b>

### 2022 Suicides by Method

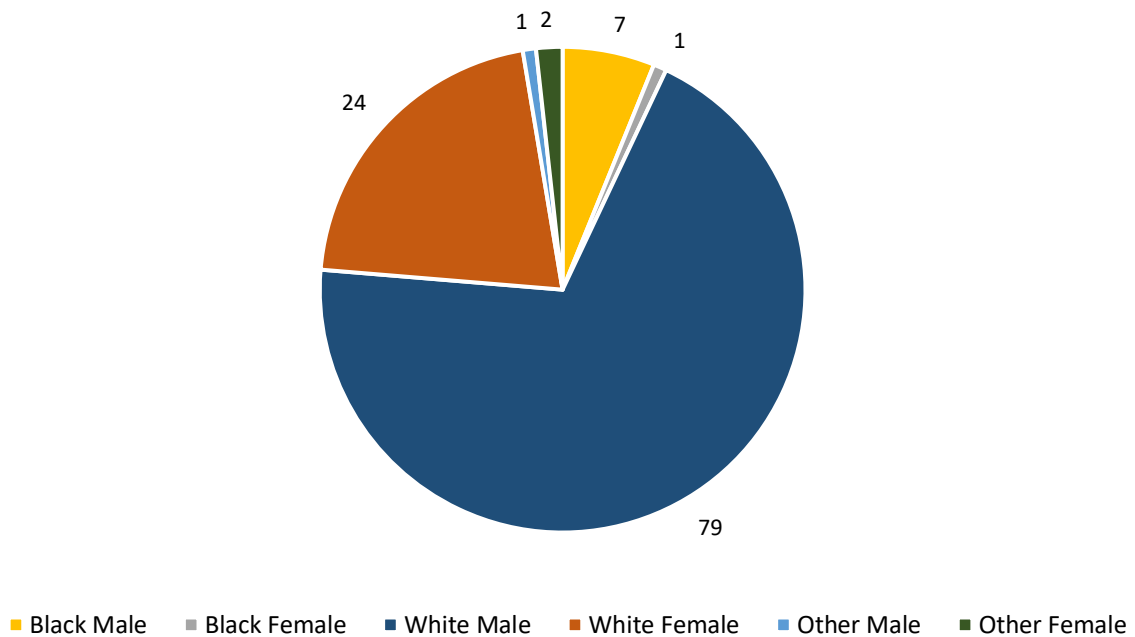
- Hanging
- Carbon Monoxide
- Drowning
- Firearm
- Blunt Force
- Drug Overdose
- Train
- Sharp Force
- Fire
- Fall/Jump
- Suffocation



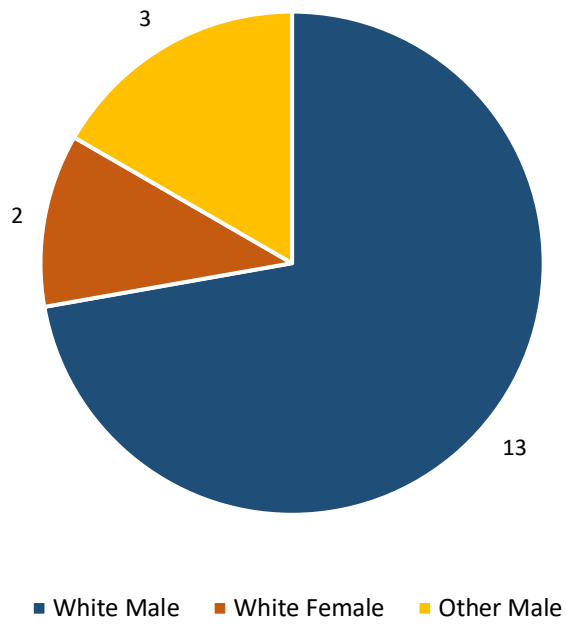
### 2022 RFC Suicides by Age and Jurisdiction



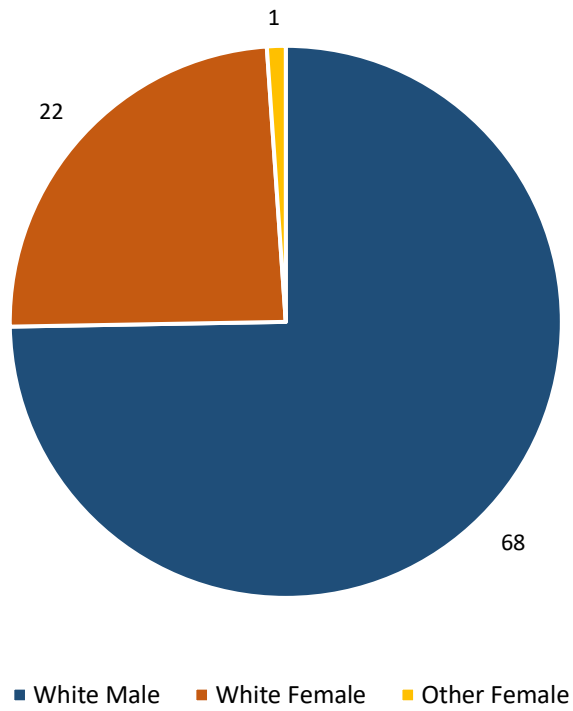
### 2022 Knox County Suicides by Race and Sex



### 2022 Anderson County Suicides by Race and Sex



### 2022 Non-Jurisdiction Suicides by Race and Sex



## Accidental Deaths

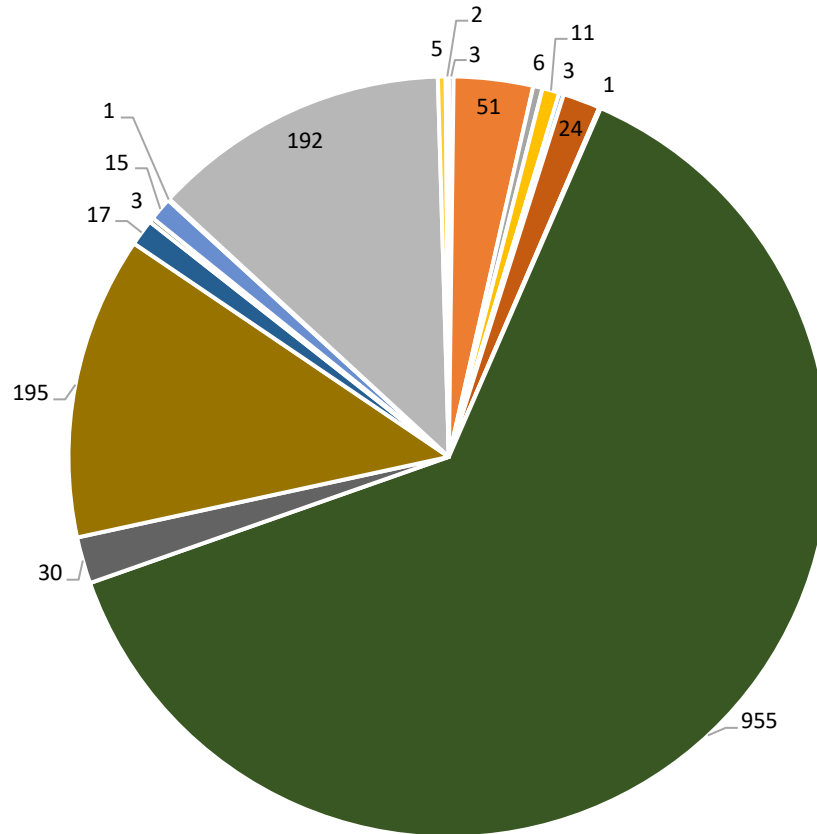
Accidental deaths in Knox County decreased 2% in 2022. Anderson County accidental deaths decreased by 25%..

<b>RFC Accidental Deaths Jurisdiction and Non-Jurisdiction 2018 – 2022</b>					
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Knox	506	597	706	897	880
Anderson	57	60	74	136	102
Non-Jurisdiction*	354	309	436	564	534
<b>Total</b>	<b>917</b>	<b>966</b>	<b>1,216</b>	<b>1,597</b>	<b>1,516</b>

\* This data is not reflective of all accidental deaths in non-jurisdiction areas, only those that were sent for autopsy.

<b>2022 Accidental Deaths by Cause and Jurisdiction</b>				
<b>Cause of Death</b>	<b>Knox</b>	<b>Anderson</b>	<b>Non-Jurisdiction</b>	<b>Total</b>
Aircraft	0	0	3	<b>3</b>
Aortic Dissection-Traumatic	1	0	0	<b>1</b>
Asphyxia	20	6	26	<b>52</b>
Blunt Force	4	0	2	<b>6</b>
Carbon Monoxide	0	2	9	<b>11</b>
Crushed-Pinned	2	0	1	<b>3</b>
Drowning	7	0	17	<b>24</b>
Drug Overdose	530	62	36	<b>957</b>
Fall – Under 65	23	1	6	<b>30</b>
Fall – 65+	179	10	7	<b>196</b>
Fire	7	1	9	<b>17</b>
Firearm	0	0	3	<b>3</b>
Hypothermia/Hyperthermia	8	1	5	<b>14</b>
MVA	99	18	75	<b>192</b>
Animal	0	1	4	<b>5</b>
Seizure Disorder-Post Trauma	1	0	0	<b>1</b>
SIDS/OID	0	0	1	<b>1</b>
<b>Total</b>	<b>881</b>	<b>102</b>	<b>533</b>	<b>1,516</b>

## 2022 Accidental Deaths by Cause



- Aircraft
  - Carbon Monoxide
  - Aortic Dissection/Trauma
  - Fall - 65+
  - Hypothermia/Hyperthermia
  - Animal Attack
- Asphyxia
  - Crushed-Pinned
  - Drug Overdose
  - Fire
  - SUID/SIDS/OID
  - Seizure Disorder/ Post-Trauma
- Blunt Force
  - Drowning
  - Fall - Under 65
  - Firearm
  - MVA

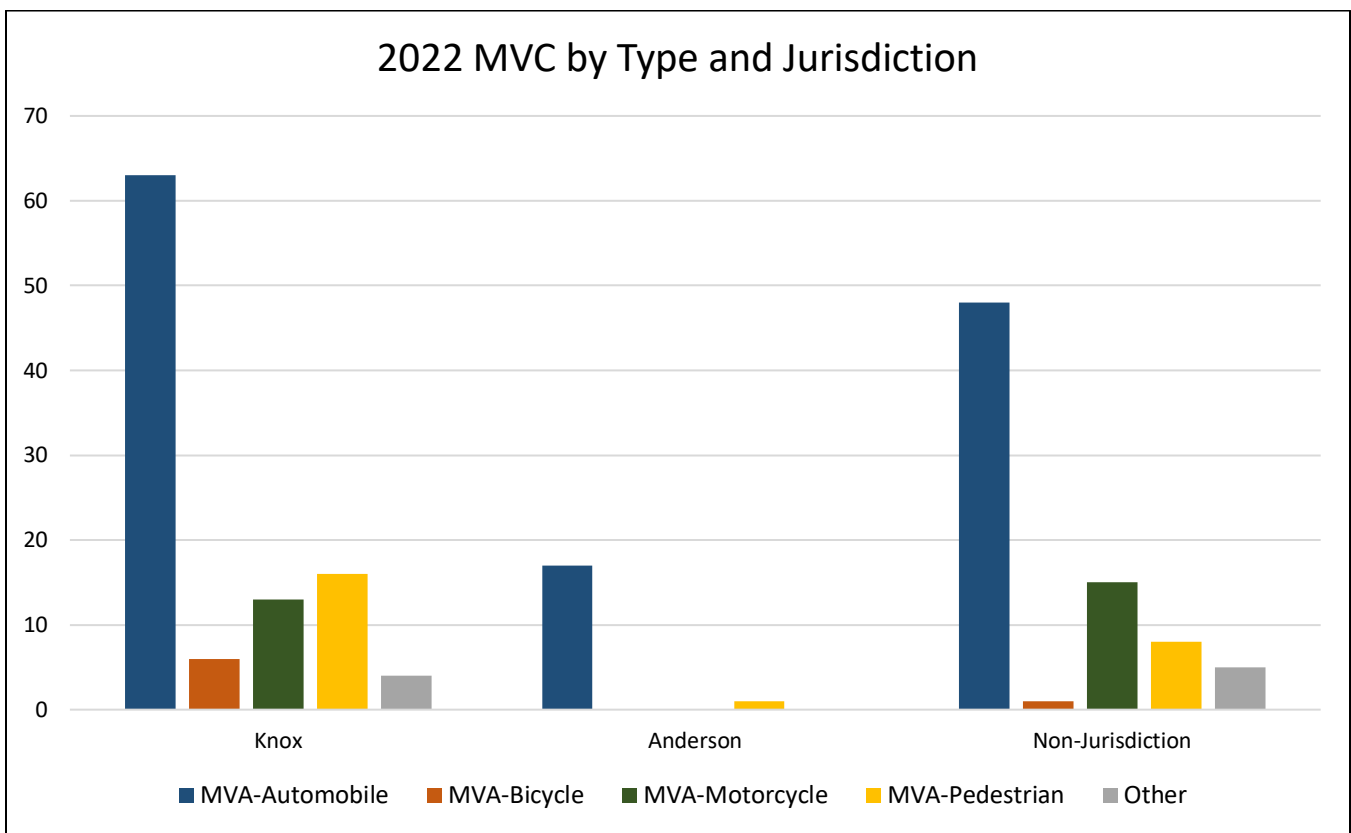
## Motor Vehicle Deaths

Motor vehicle deaths decreased in Knox County by 22% in 2022. In Anderson County motor vehicle deaths increased by 6%.

<b>RFC Motor Vehicle Deaths Jurisdiction and Non-Jurisdiction 2018 – 2022</b>					
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Knox	121	104	99	129	100
Anderson	7	10	13	17	18
Non-Jurisdiction*	36	53	71	72	77
<b>Total</b>	<b>164</b>	<b>167</b>	<b>183</b>	<b>218</b>	<b>195</b>

\* This data is not reflective of all accidental deaths in non-jurisdiction areas, only those that were sent for autopsy.

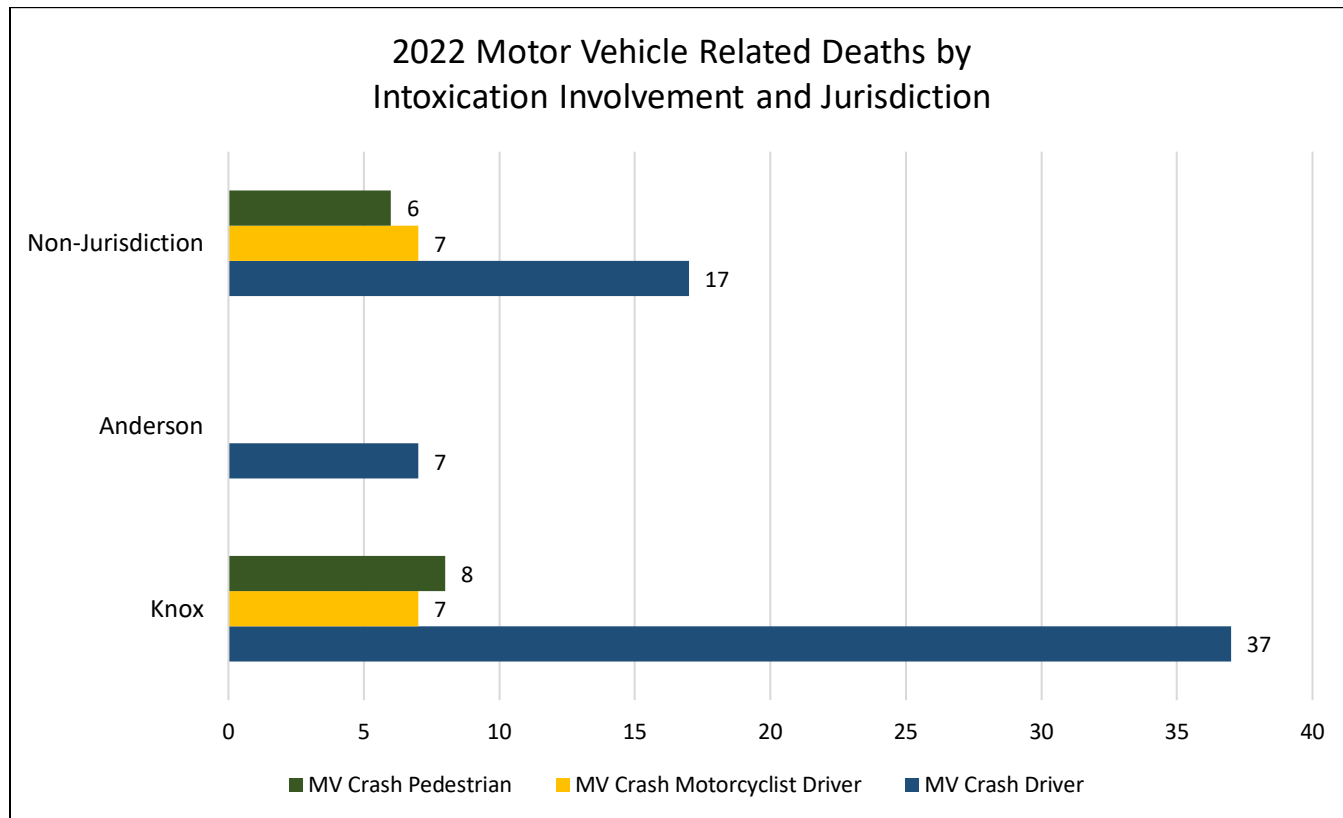
2022 Motor Vehicle Related Deaths by Decedent Location and Jurisdiction				
	Knox	Anderson	Non-Jurisdiction	Total
MCV-Driver	54	12	31	97
MVC-Occupant	9	5	17	31
MVC-Motorcyclist Driver	13	0	11	24
MVC-Motorcyclist Rider	0	0	4	4
MVC-ATV/Offroad	4	0	5	9
MVC-Bicyclist	6	0	1	7
MVC-Pedestrian	14	1	8	23
<b>Total</b>	<b>100</b>	<b>18</b>	<b>77</b>	<b>195</b>



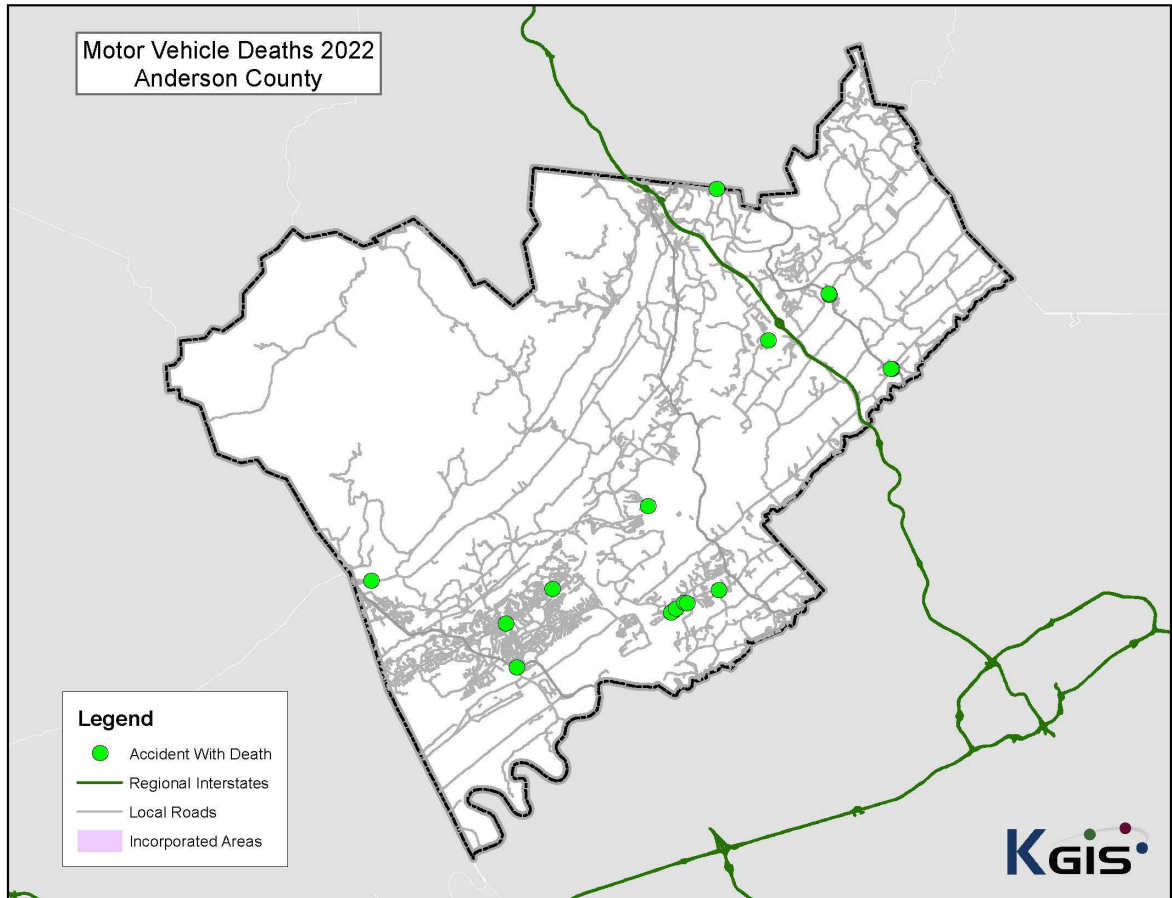
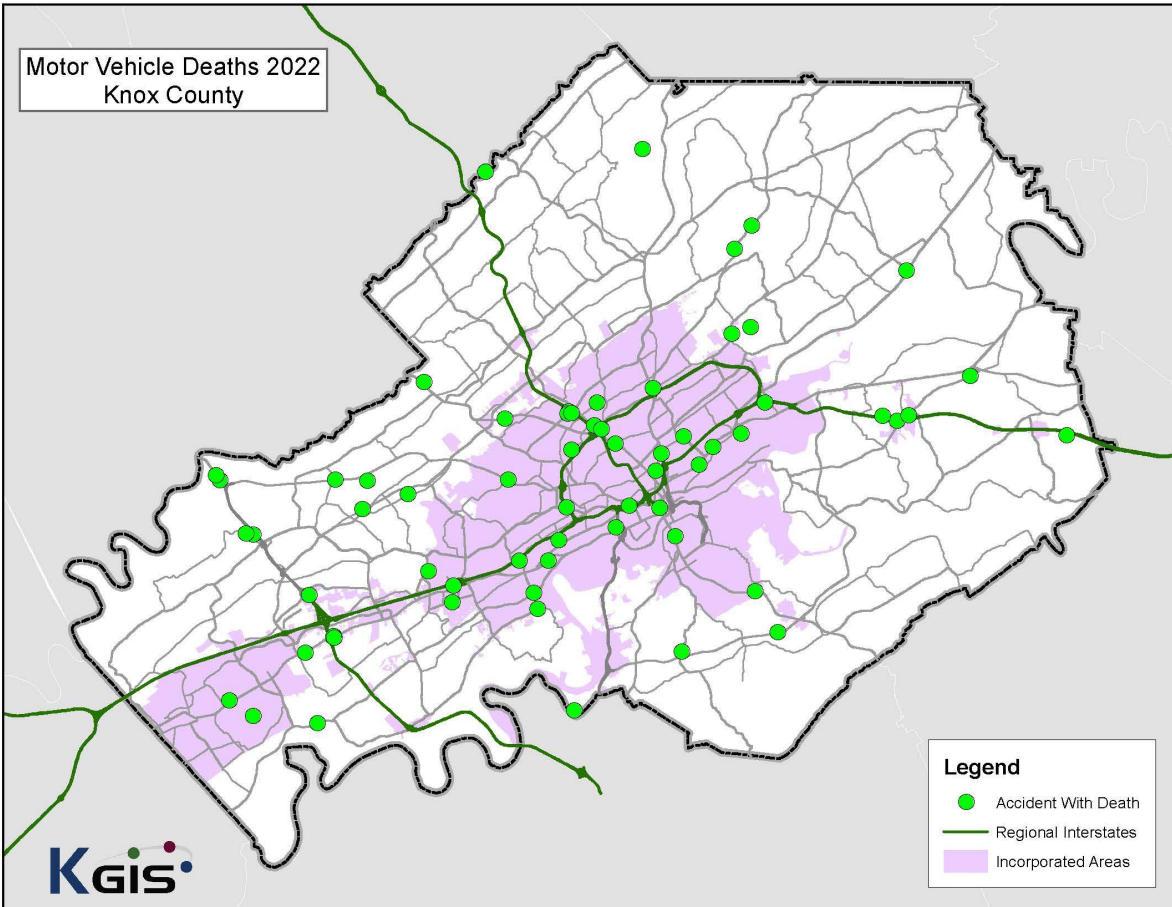
2022 Motor Vehicle Deaths by Manner of Death and Jurisdiction				
Manner of Death	Knox	Anderson	Non-Jurisdiction	Total
Accident	99	18	75	192
Homicide	0	0	2	2
<b>Total</b>	<b>99</b>	<b>18</b>	<b>77</b>	<b>194</b>



The graphs below show the motor vehicle related deaths where the operator or pedestrian had positive toxicology results for drugs, alcohol, or both.



2022 Percentage of Motor Vehicle Deaths Involving Intoxication by Decedent Location and Jurisdiction			
Decedent Location	Knox	Anderson	Non-Jurisdiction
MV Crash- Driver	70%	58%	54%
MV Crash-Motorcyclist Driver	54%	N/A	64%
MV Crash-Pedestrian	57%	0%	67%



## Undetermined Manner of Death

Deaths labeled undetermined are when the forensic pathologist is unable to determine a specific manner of death, this can be caused by number of circumstances.

<b>RFC Undetermined Manner of Deaths Jurisdiction and Non-Jurisdiction 2018-2022</b>					
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Knox	23	14	15	20	15
Anderson	3	1	4	3	2
Non-Jurisdiction	19	30	25	24	34
<b>Total</b>	<b>45</b>	<b>45</b>	<b>44</b>	<b>47</b>	<b>51</b>

In some cases, when the manner of death is undetermined, a pathologist is still able to determine the cause of death for a decedent. In these cases, there is a clear cause of death, but whether the death was intentional or unintentional cannot be determined.

<b>RFC Undetermined Manner of Deaths by Cause of Death</b>				
<b>Cause of Death</b>	<b>Knox</b>	<b>Anderson</b>	<b>Non-Jurisdiction</b>	<b>Total</b>
Asphyxia	0	0	1	1
Blunt Force	1	0	1	2
Carbon Monoxide	0	0	1	1
Cardiac	0	0	1	1
Drowning	0	0	3	3
Drug Overdose	3	1	0	4
Fire	0	0	6	6
Firearm	0	0	2	2
SUID/SIDS/OID	0	0	3	3
Undetermined	11	1	16	28
<b>Total</b>	<b>15</b>	<b>2</b>	<b>34</b>	<b>51</b>

## Natural Deaths

Natural deaths that were certified by an RFC forensic pathologist fell by 4% in Knox County in 2022. In Anderson County, natural deaths rose by 2%. This data is only reflective of deaths examined by the forensic center and is not reflective of all natural deaths in or outside of our jurisdiction.

<b>RFC Natural Deaths Jurisdiction and Non-Jurisdiction 2018 – 2022</b>					
	2018	2019	2020	2021	2022
Knox	470	496	595	611	585
Anderson	88	74	88	94	96
Non-Jurisdiction	198	174	153	208	205
<b>Total</b>	<b>756</b>	<b>744</b>	<b>836</b>	<b>913</b>	<b>886</b>

<b>2022 Natural Deaths by Cause of Death</b>				
<b>Cause of Death</b>	<b>Knox</b>	<b>Anderson</b>	<b>Non-Jurisdiction</b>	<b>Total</b>
Anaphylaxis	1	0	1	2
Aneurysm	0	0	1	1
Aorta Dissection	2	1	2	5
Autoimmune Disease	1	0	0	1
Cardiac	355	66	115	536
Chronic Alcoholism	50	3	12	65
Cirrhosis	4	2	2	8
Dementia/Alzheimer's	4	0	1	5
Diabetes	20	4	9	33
Drug Death-Chronic Abuse	7	0	2	9
Gastrointestinal	9	2	4	15
Genetic	0	1	1	2
Hematologic Disorder	7	0	0	7
Hepatic/Liver Failure	1	0	1	2
Infection	18	3	14	35
Infection-COVID-19	15	0	1	16
Infection-HIV-AIDS	1	0	0	1
Multi System Disease	0	1	1	2
Neoplasm	24	3	1	28
Nervous System	15	2	5	22
Nonspecific Natural	7	1	4	12
Obesity	3	0	4	7
Pancreatitis	3	1	0	4
Prematurity	7	0	0	7
Pulmonary	22	4	7	33
Renal Disease	4	1	0	5
Seizure Disorder-Idiopathic	1	1	7	9
Stillbirth	2	0	0	2
Thromboembolism	1	0	8	9
Treatment Complication	1	0	1	2
<b>Total</b>	<b>585</b>	<b>96</b>	<b>205</b>	<b>886</b>

Note: These numbers only reflect natural deaths that were certified by an RFC forensic pathologist.

## Infant Deaths

The charts below depict the Knox, Anderson, and Non-Jurisdictional counties' infant deaths in 2022. An infant death is a death that occurs from live birth to one year in age.

<b>2022 Jurisdiction and Non-Jurisdiction Infant Deaths by Procedure</b>				
Reported	Autopsy	Exam	Released-No Exam	Total
Knox	25	2	80	107
Anderson	2	0	4	6
Non-Jurisdiction	34	0	1	35
<b>Total</b>	<b>61</b>	<b>2</b>	<b>85</b>	<b>148</b>

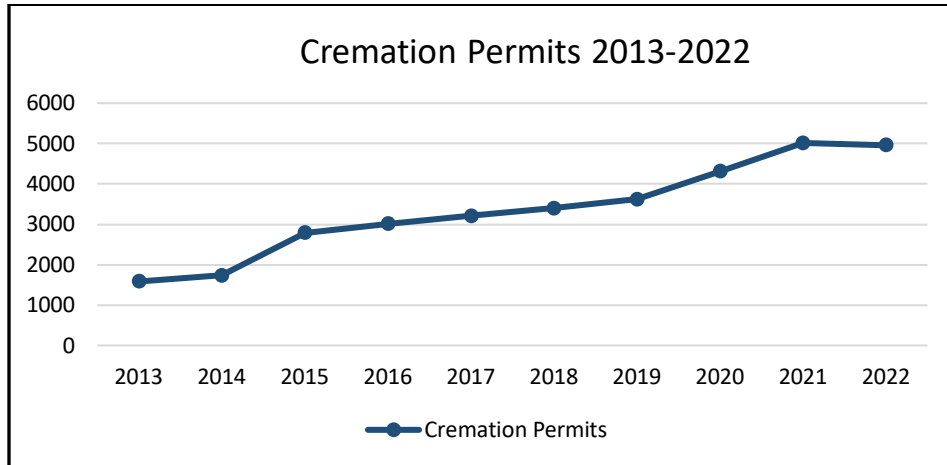
<b>2022 Infant Deaths by Manner of Death</b>					
Manner	Accident	Homicide	Natural	Undetermined	Total
Knox	11	1	8	4	24
Anderson	2	0	0	0	2
Non-Jurisdiction	17	2	7	7	33
<b>Total</b>	<b>30</b>	<b>3</b>	<b>15</b>	<b>11</b>	<b>59</b>

<b>2022 Infant Deaths by Cause of Death</b>				
Cause	Knox	Anderson	Non-Jurisdiction	Total
Asphyxia	10	2	16	28
Blunt Force	1	0	2	3
Cardiac	0	0	2	2
Genetic	0	0	1	1
Infection	1	0	2	3
MVC	3	0	0	3
Nervous System	0	0	1	1
Nonspecific Natural	0	0	1	1
Prematurity	6	0	0	6
Seizure	0	0	1	1
SUID/SIDS/OID	0	0	4	4
Still Birth	2	0	1	3
Undetermined/Other	4	0	3	7
<b>Total</b>	<b>27</b>	<b>2</b>	<b>34</b>	<b>63</b>

## Cremation Authorizations in 2022

The Medical Examiner has statutory responsibility to review and sign cremation authorizations prior to a decedent being cremated, which includes the review of the cremation authorization forms, sometimes medical records, and death certificates of each decedent by a Medical Examiner.

In 2022, RFC Medical Examiners authorized 4,964 cremations. The following chart depicts the 10-year history of cremation authorizations completed.

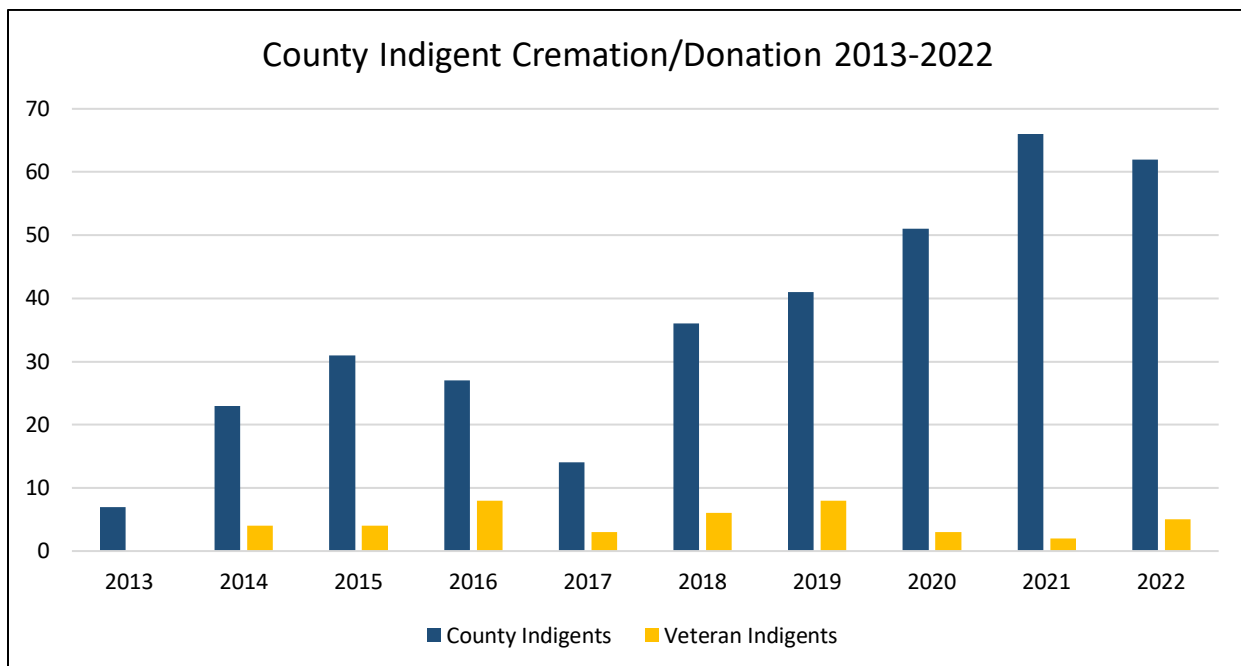


## Indigent Cremation/Donation

When a decedent from the Medical Examiner’s jurisdiction goes unclaimed, the decedent is declared indigent. In these circumstances, the RFC will either cremate and inter the unclaimed decedent in Knox County’s mausoleum or authorize the scientific donation of the decedent (this is done only for Medical Examiner’s cases). All unidentified individuals are defleshed and permanently retained until identified.

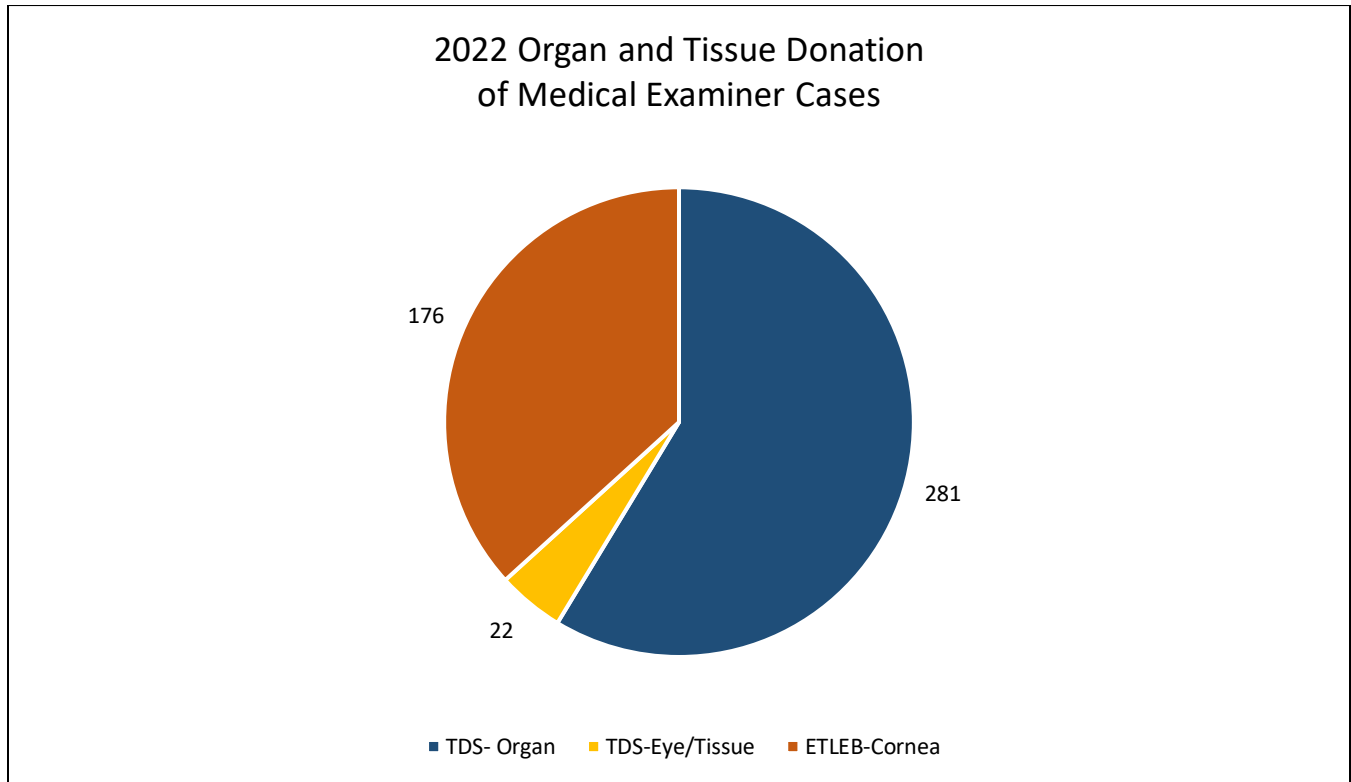
Before moving forward with indigent cremation and interment, the RFC also completes a check for veteran’s status. If the individual is determined to have veteran’s status, the RFC works with the local Homeless Veteran’s Burial Program to provide a proper military burial.

The following chart demonstrates the 10-year history of indigent cremations processed by the RFC.



## Organ and Tissue Donations

The Knox County RFC has statutory responsibility to review accepted jurisdiction cases for tissue and organ donation prior to donation; it must also coordinate with organ and tissue donation groups within the medical examiner's jurisdiction. The chart below includes data provided by Tennessee Donor Services and East Tennessee Lion's Eye Bank and depicts the number of tissue and organ donations completed in 2022.



## Staff-Specific Data

### Forensic Pathologists

The tables below illustrate the average case completion time by each physician in 2022 as well as case completion rate by days, number of cases, and percentage of complete cases.

<b>2022</b>	<b># of Cases</b>	<b>%</b>
Incomplete	0	0%
Cases Over 90 Days	558	20.62%
Cases Over 60 Days	576	21.30%
Cases Between 30-60 Days	855	61%
Cases Under 30 Days	716	26.47%
<b>Total</b>	<b>2,705</b>	<b>100%</b>

<b>Pathologist Activities Performed</b>								
<b>Pathologist</b>	<b>Exams</b>	<b>Autopsies</b>	<b>Hospital</b>	<b>Limited</b>	<b>Declined Cases</b>	<b>Releases</b>	<b>Cremation Permits</b>	<b>Total</b>
Dr. Danielsen*	83	96	5	4	213	37	241	<b>679</b>
Dr. Havrilla	189	211	7	7	403	58	509	<b>1,384</b>
Dr. Hawes**	36	96	1	0	132	15	57	<b>337</b>
Dr. Lochmuller	224	277	11	1	462	73	866	<b>1,914</b>
Dr. Mileusnic	144	171	5	6	416	77	1,458	<b>2,277</b>
Dr. Oliver**	40	74	0	0	121	26	25	<b>284</b>
Dr. Rollins	229	279	11	5	493	74	545	<b>1,634</b>
Dr. Suzuki	205	270	12	8	510	100	1,263	<b>2,368</b>
<b>Total</b>	<b>1,150</b>	<b>1,472</b>	<b>52</b>	<b>31</b>	<b>2,750</b>	<b>458</b>	<b>4,964</b>	<b>10,877</b>

\*Left the RFC in May 2022

\*\*Locum Tenant Pathologist



<b>Pathologist Average Turn Around Time in Days</b>					
<b>2022</b>					
<b>Pathologist</b>	<b>Exams</b>	<b>Autopsies</b>	<b>Hospital</b>	<b>Limited</b>	<b>Average</b>
Dr. Danielsen*	23	39	46	28	<b>42</b>
Dr. Havrilla	19	103	99	38	<b>63</b>
Dr. Hawes**	27	61	78	N/A	<b>52</b>
Dr. Lochmuller	43	78	108	222	<b>64</b>
Dr. Mileusnic	33	201	77	51	<b>122</b>
Dr. Oliver**	44	39	N/A	N/A	<b>54</b>
Dr. Rollins	49	91	91	48	<b>73</b>
Dr. Suzuki	27	41	45	22	<b>35</b>
<b>Average</b>	<b>34</b>	<b>87</b>	<b>79</b>	<b>43</b>	<b>64</b>

\*Left the RFC in May 2022

\*\*Locum Tenant Pathologist

<b>Pathologist</b>	<b>Autopsy Equivalent</b>
Dr. Danielsen*	124
Dr. Havrilla	269
Dr. Hawes **	106
Dr. Lochmuller	345
Dr. Mileusnic	215
Dr. Oliver **	84
Dr. Rollins	348
Dr. Suzuki	337
<b>Total</b>	<b>1,827</b>
<b>Average Equivalent per Pathologist</b>	<b>305</b>

\* Left the RFC in May 2022

\*\*Locum Tenant Pathologist

## Medicolegal Death Investigations (MDI)

The charts below depict the types of actions completed by MDIs in 2022.

Case by Disposition Category in 2022						
Case Administration - Investigator	Jurisdiction Declined- Autopsy	Jurisdiction Declined - No Autopsy	Cremation Permit Only	Released to Funeral Home	Sent to Autopsy Facility	Total
Morgan Maples (Manager)	4	111	7	2	74	198
Christine Hawley	9	194	23	59	229	514
Megan Sharpe	12	285	39	69	363	728
Karissa Fulton	5	364	84	45	265	763
Lisa Taylor	14	321	188	74	323	920
Corey Coppola *	6	297	4	18	231	556
Heather Cooke *	12	259	11	45	312	639
Laura Leonard	9	400	44	35	328	816
Brooke Grunenwald	2	218	5	43	166	434
Ashley Taylor	6	301	51	68	268	694
Other	0	0	1,697	0	108	1,805
<b>Total by Disposition</b>	<b>80</b>	<b>2,750</b>	<b>2,153</b>	<b>458</b>	<b>2,627</b>	<b>8,068</b>

\*Left the RFC in October and November 2022

2022 On-Scene Investigator Visits	
Investigator	Number
Morgan Maples (Manager)	16
Christine Hawley	165
Megan Sharpe	241
Karissa Fulton	157
Lisa Taylor	221
Corey Coppola *	116
Heather Cooke *	209
Brooke Grunenwald	131
Laura Leonard	166
Ashley Taylor	202
<b>Total</b>	<b>1,624</b>

\* Left the RFC in October and November 2022

## Autopsy Technicians

The chart below reports the types of actions completed by the Autopsy Technicians and how quickly autopsy or external examinations were completed once the decedent arrived at the RFC—which impacts how quickly the RFC can release the decedent to a funeral home for final disposition.

<b>2022 Days and Percentage of Cases Where an Autopsy/Exam was Performed from Time of Arrival at RFC</b>		
Within 48 Hours	2,678	99.14%
Within 72 Hours	2,696	99.81%
Over 72 Hours	4	.01%
<b>Total</b>	<b>2,705</b>	

Histology was ordered on a total of 1,052 cases, X-Rays were taken on a total of 1,507 decedents, and 383 test were ordered through LabCorp in 2022.

The chart that follows shows how many toxicology tests were performed at the Regional Forensic Center and where they were sent for testing.

<b>2022 Toxicology Locations</b>		
<b>Location Sent</b>	<b>Number</b>	<b>%</b>
NMS	2,220	92%
DEA Tox	82	3%
St. Louis University	90	3%
<b>Total</b>	<b>2,391</b>	<b>100%</b>

\*Toxicology can be sent to multiple testing facilities for one case.

Special thanks to Executive Administrative Assistant Anna Hoekstra for the creation of this report.