

Iowa Office of the State Medical Examiner Update 2023

Dennis Klein M.D.



USS Constitution “Old Ironsides”

World’s oldest commissioned warship still afloat

Mission now: “to promote understanding of the Navy's role in war and peace through educational outreach, historical demonstration, and active participation in public events”



Mission Goals

- Conduct high quality and professional medical legal death investigations
- Provide and Protect credible and useful information
- Serve the public ethically and compassionately

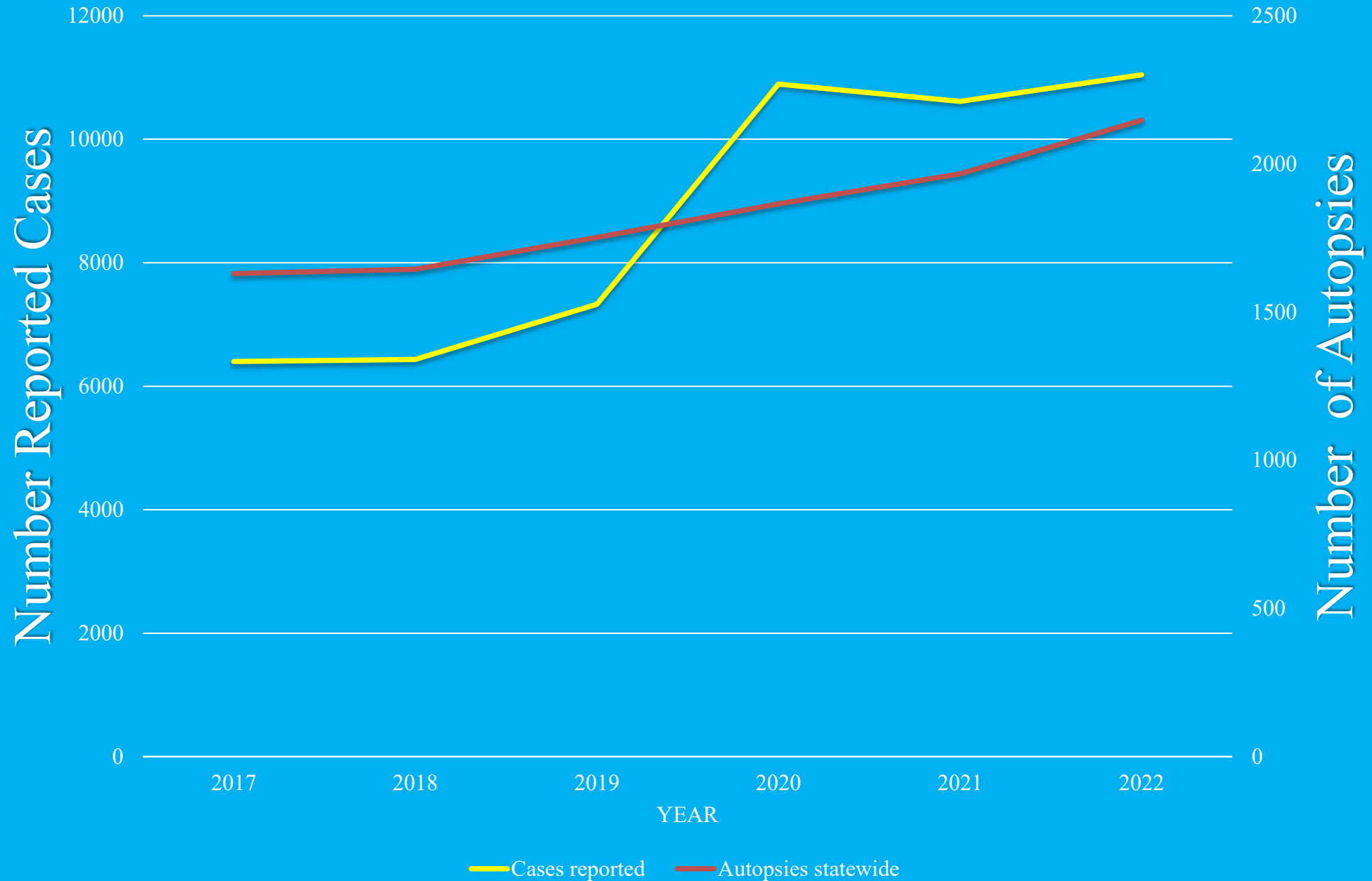
STATE OF IOWA DEPARTMENT OF
Health AND **Human**
SERVICES



IOSME now administrated
under recently realigned
IDPH and DHS



Cases Reported and Autopsied



2022 Iowa ME System

B. INVESTIGATIONS

B INVESTIGATIONS				
B	1	Acceptance and Declining of Cases	P	Result
	a	Does the office have a written and implemented policy or standard operating procedure, signed within the last two years, covering case notification, acceptance of, and declining of cases?	II	Y N/A N
	b	Is there an existing law (state, federal, county, or city) covering the medical examiner's (or coroner's) geographical area of jurisdiction that requires that deaths falling under the medical examiner's jurisdiction be reported promptly to the medical examiner's office by law enforcement agencies, physicians, hospital personnel, funeral directors, or other persons who become aware of a reportable case?	I	Y N/A N
	c	Does the medical examiner accept notification from any person who has become aware of a death that might fall under the jurisdiction of the office?	II	Y N/A N
	d	Is the medical examiner/coroner's office's contact information easily found on the internet and/or in a telephone book?	II	Y N/A N
	e	Is the phone number staffed 24 hours a day by a person able to answer the phone?	II	Y N/A N
	f	Are at least 20% of the deaths occurring within the office jurisdiction reported to the office?	I	Y N/A N
	g	Does the medical examiner, if it is required, arrange for a formal pronouncement of death?	I	Y N/A N
	h	Does the office attempt to notify the next-of-kin as soon as possible, if notification by another agency or individual cannot be confirmed?	I	Y N/A N
	i	Is the case reviewed by a medical examiner at the time jurisdiction is released, or at a minimum, within 24 hours of release?	I	Y N/A N
	j	Does the office have a written and implemented policy, signed within the last two years, covering the handling of objections made to the performance of autopsies on bodies falling under medical examiner/coroner jurisdiction based on personal, religious or cultural grounds?	II	Y N/A N

Cases Reported **33%** of total deaths
(33,996 Deaths)

Cases Autopsied **6.3 %** of total deaths

2022

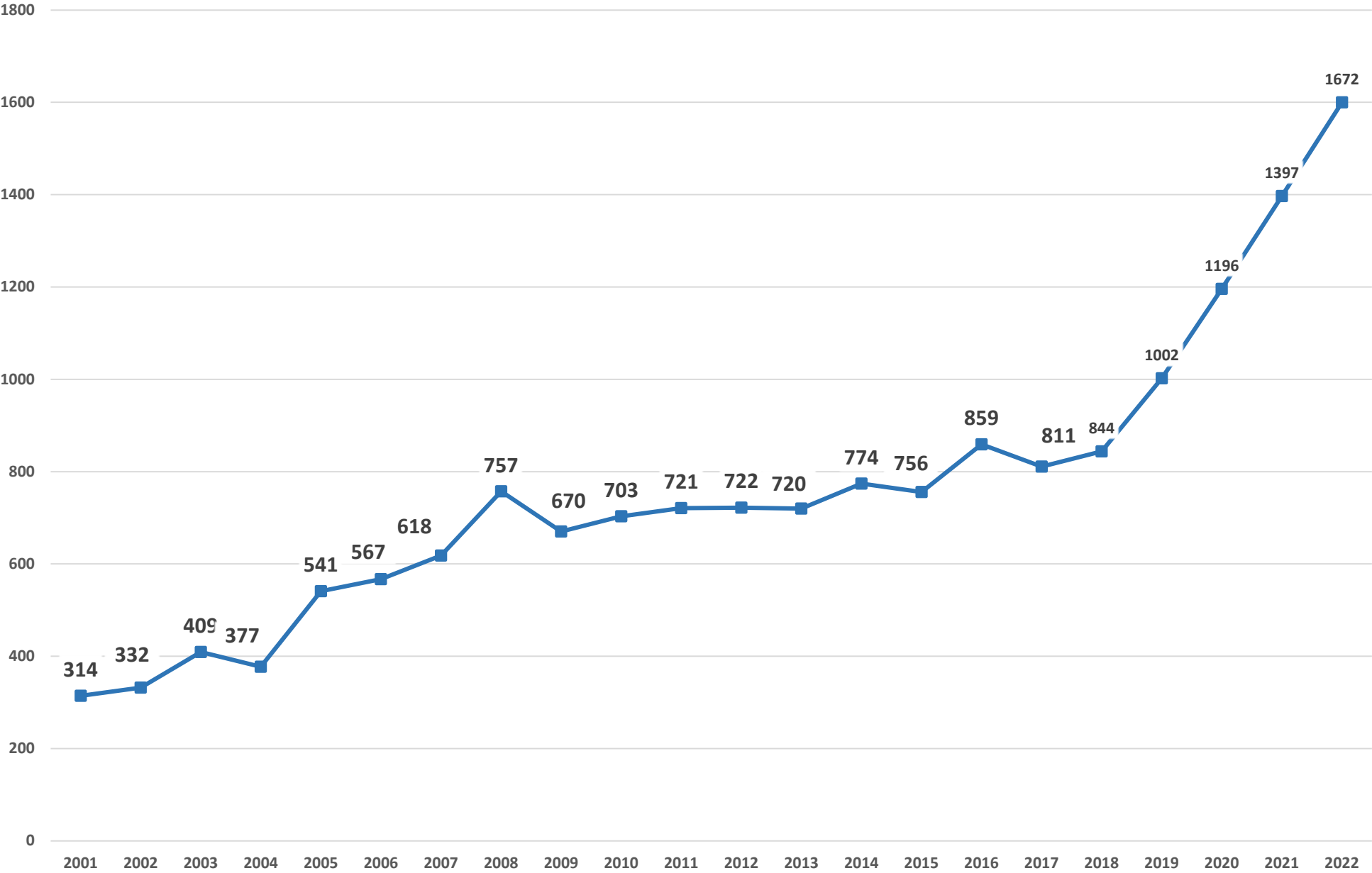
	Number Autopsied	% of Cases Autopsied
HOMICIDES	85	100%
ACCIDENTS	837	42%
SUICIDES	411	70%
NATURALS	624	15%
UNDETERMINED	125	92%

2021

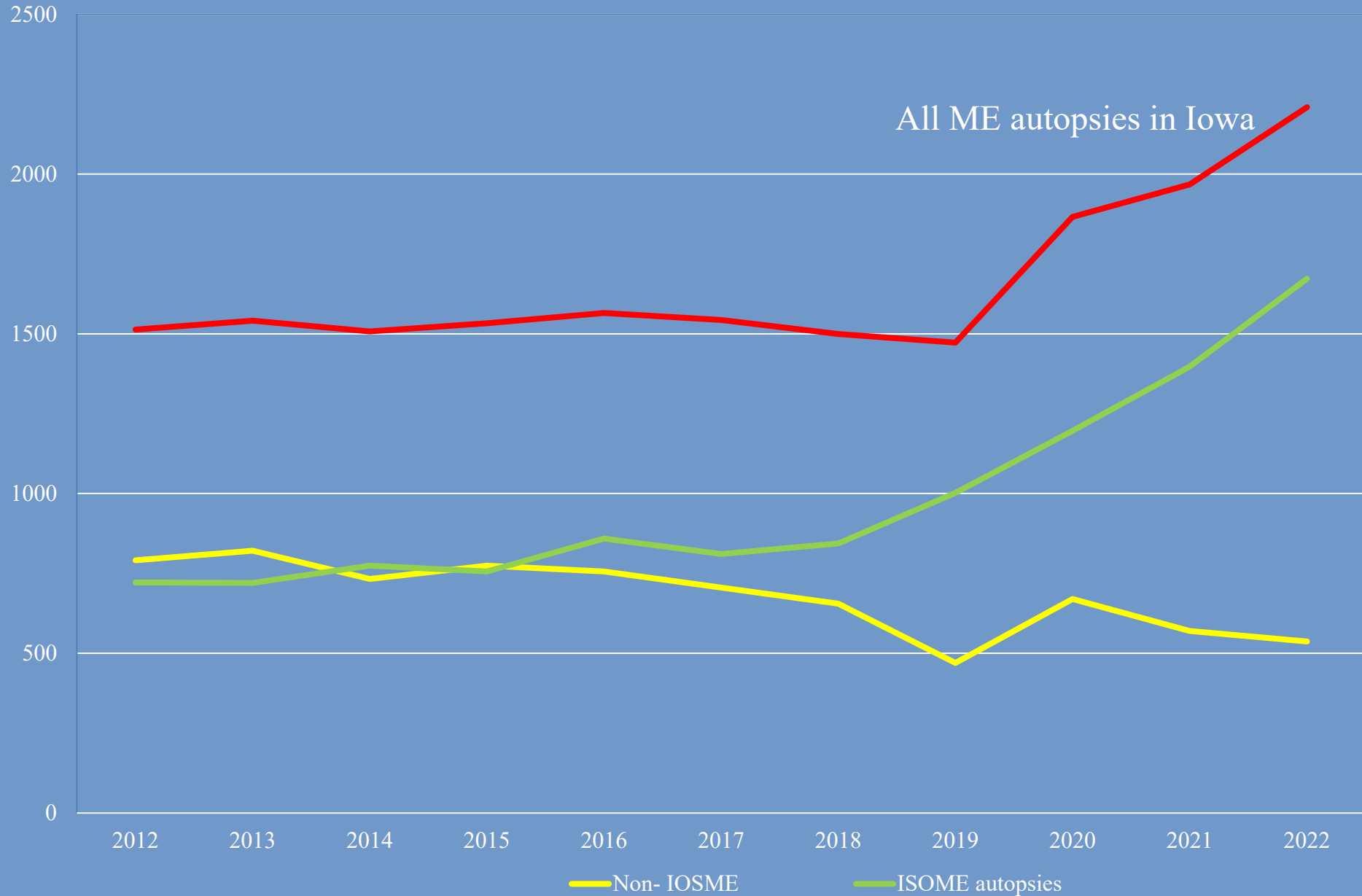
% of Cases Autopsied
100%
46%
69%
9%
94%

IOSME AUTOPSIES BY YEAR

* Projected
2020 for
2023



Autopsies State wide and at IOSME



Current IOSME Staffing

19.5 Full Time

- 4 Forensic Pathologists
- 1 Pathology Assistant
- 2 MEI liaisons
- 3 Medical Examiner Investigator
- 1 Office manager
- 4 Autopsy Technicians
- 2 Administrative Assistants
- 1 Radiology Technician
- 1 Morgue Attendant
- 0.5 VR liaison

30 Part Time

- Autopsy technicians
- Morgue Attendants
- Administrative Assistants
- Investigator (1)
- Pathologists (6)

Partnership

- 2 IDN Liaisons/investigators

New Staff

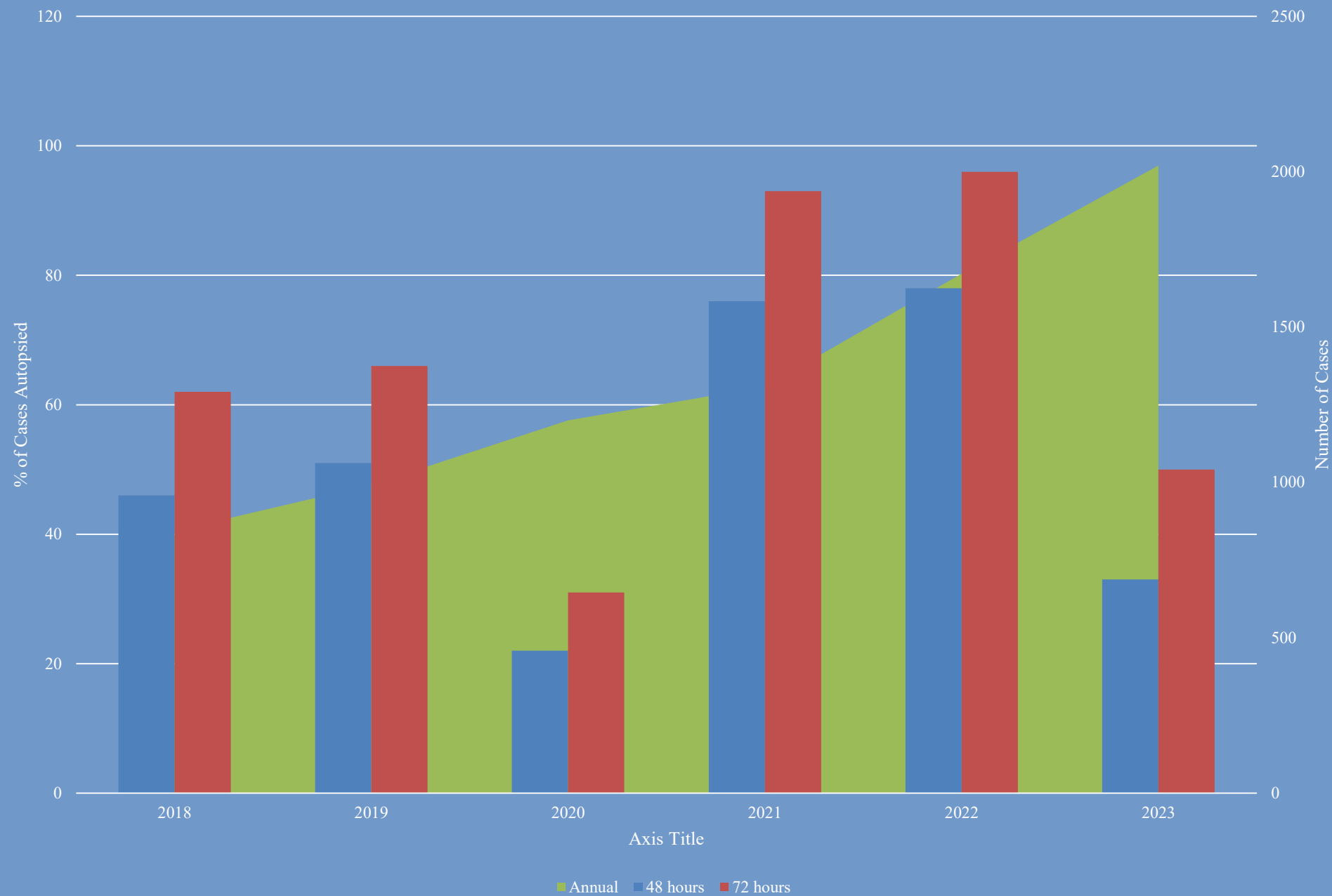
- Jamie Tennyson Pathology Assistant
- Kelly Wandishion MEI
- Lana King Administrative Assistant
- Deb Kussel Administrative Assistant

- Dr. Rory Deol Associate State ME January 2024
- Dr. Allison Hade Associate State ME July 2024

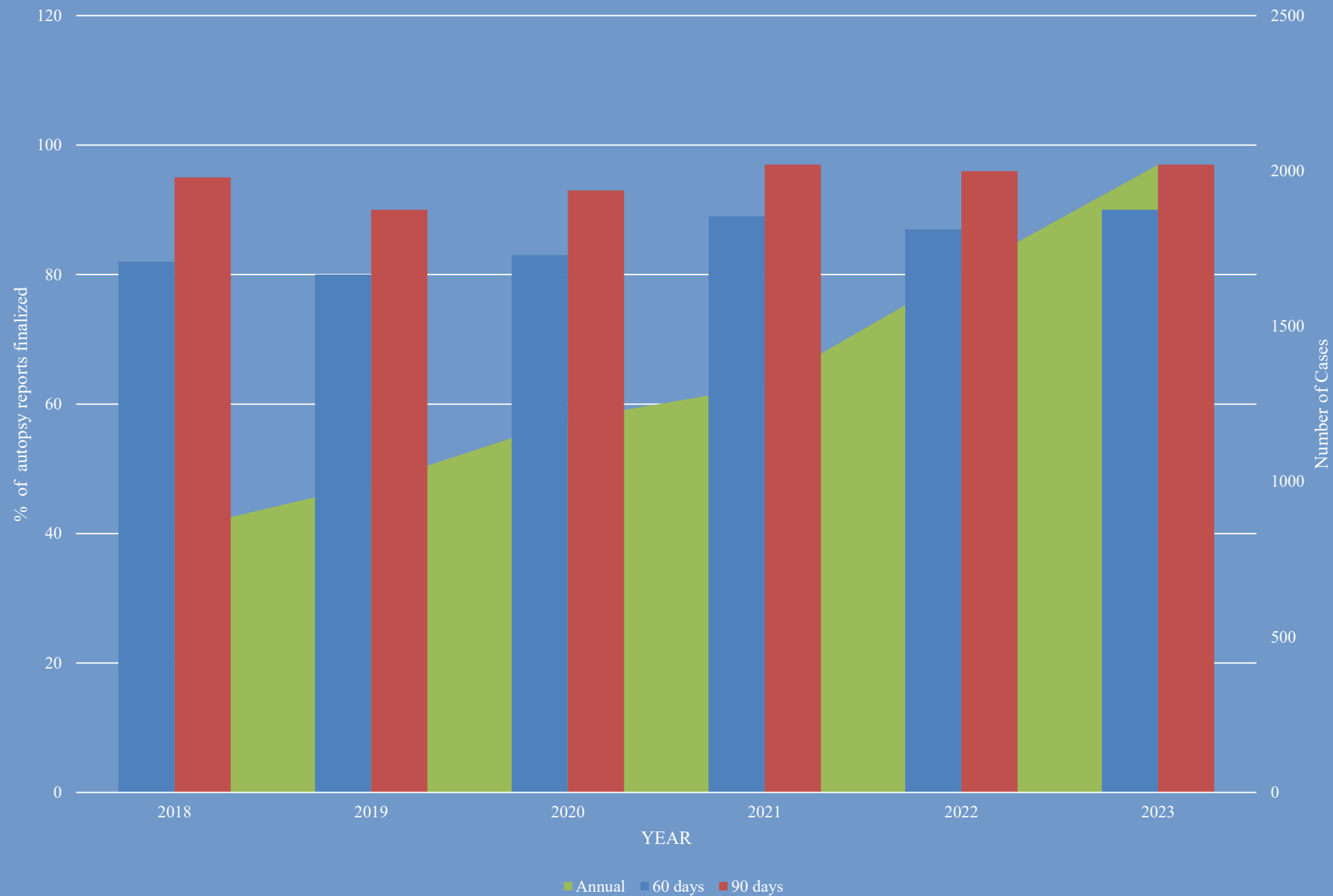
Part Time Staff

- 7 Part time Board Certified Forensic Pathologists
- Locum Tenens Forensic Pathology Staffing
 - Board Certified Forensic pathologists
- Part time Pathologists provided critical relief, to bridge vacant positions and manage case load increases and surges
- Part time Pathologists assigned to cases that have low probability of adjudication (eg No homicides, no pediatric cases)

48 hour, 72 hour Autopsy Completions at IOSME



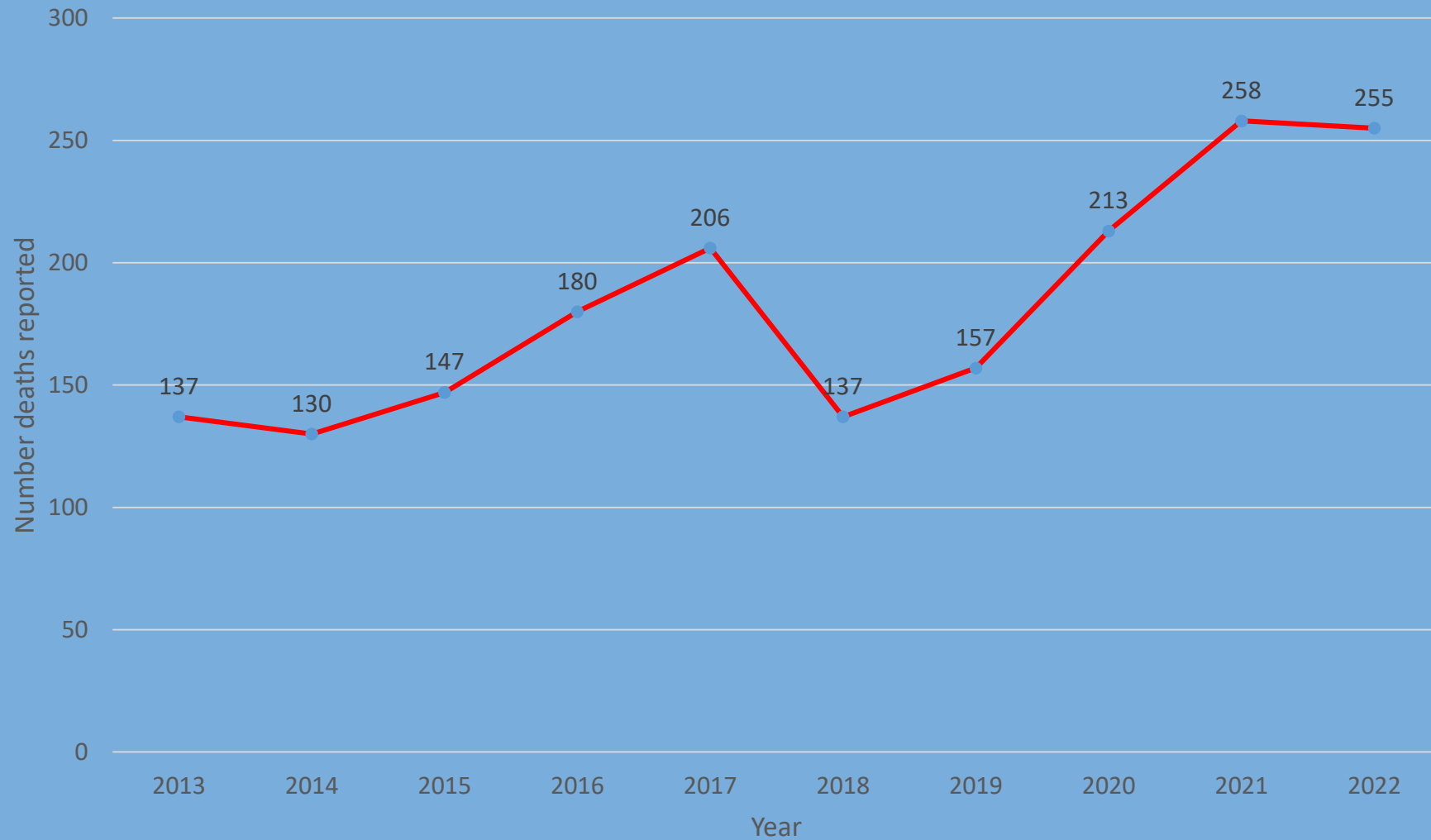
60 days, 90 days finalized autopsy reports at IOSME



NAME Accreditation

- Four year accreditation cycle
 - 2020 Downgraded to provisional status
 - 2021 Corrections and inspection
 - Regained full accreditation
 - 2022 Annual Review
 - No Phase II deficiencies
 - Phase I deficiencies in 48 hour autopsy turn around and Number of autopsies /path
 - 2023 Annual Review
 - No Phase II Deficiencies
 - Phase I Deficiencies
 - » 48 hour autopsy turn around
 - » Number of autopsies per pathologists

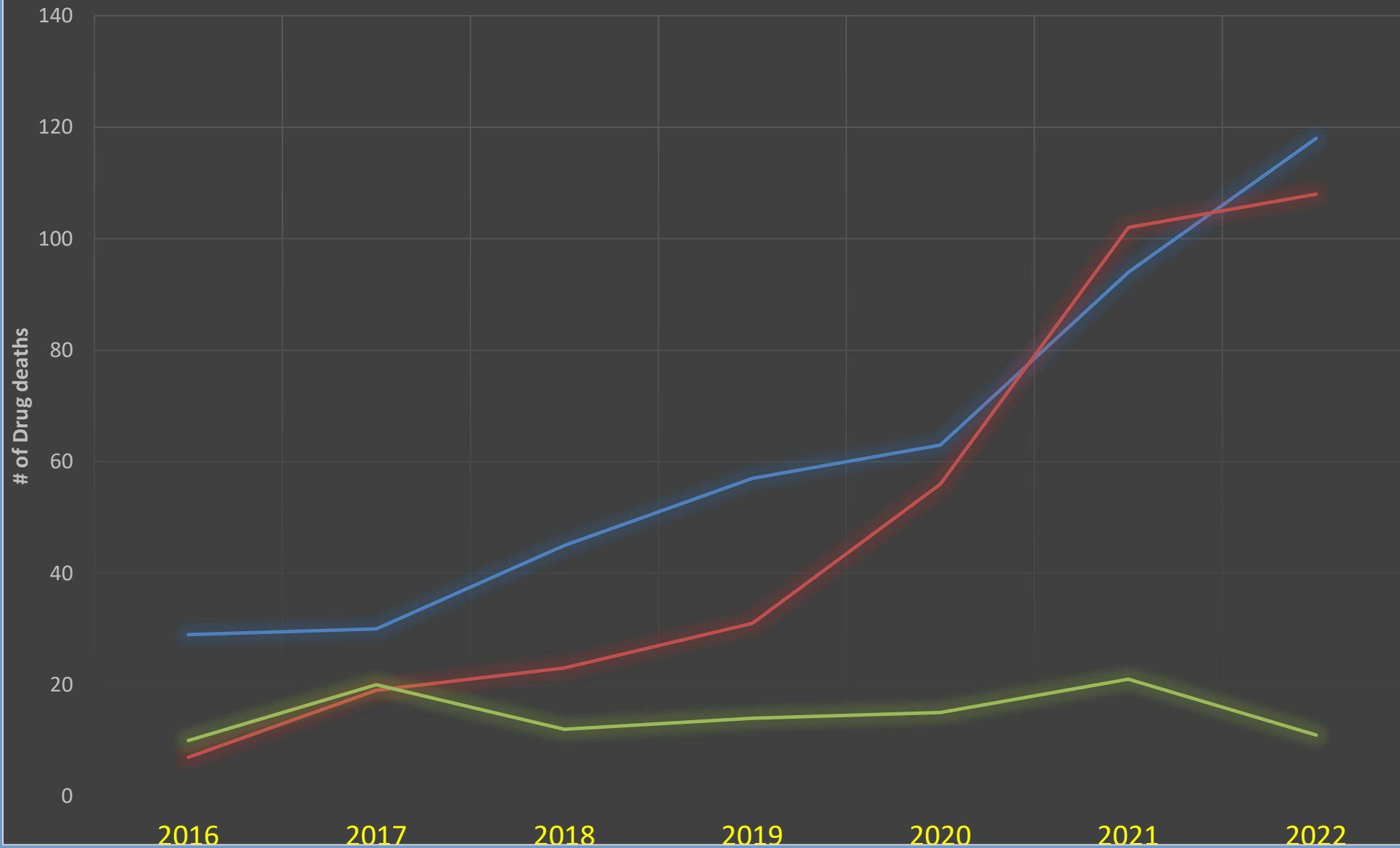
Opioid Deaths in Iowa



—●— Opioid deaths

Drug Deaths (Autopsied at IOSME)

Methamphetamine Fentanyl Heroin



Importance of Accurate Drug Death Reporting

- State and Federal policies rely on accurate and complete data
 - Data obtained from Death Certificate
 - List of drugs need to appear in Cause of Death statement

Example: “Mixed drug (fentanyl and methamphetamine) intoxication.”

Avoid: “Polysubstance use”, “Opioid overdose”

- Indicate in EMER presence or absence of drug paraphernalia (IVDRS)
- Actionable data for law enforcement
 - Timely reporting- Interdiction and Prevention
 - Accurate reporting- Prosecution

Considerations for Common Drug Intoxications in Iowa

– OPIOIDS

- Opioid deaths highest in Age group 25-34 (31%)
- 55+ Age group (18%)
 - Complex interpretation of Natural Disease and Toxicology
- Person may not know taking Fentanyl or novel drug

– METHAMPHETAMINE/stimulants

- Long $T_{1/2}$ (6-15 hr depending on route) - may not see drug at scene
- Age not a reliable discriminator



PUBLIC SAFETY ALERT

DEA Reports Widespread Threat of Fentanyl Mixed with Xylazine

WASHINGTON - The U.S. Drug Enforcement Administration is warning the American public of a sharp increase in the trafficking of fentanyl mixed with xylazine. Xylazine, also known as "Tranq," is a powerful sedative that the U.S. Food and Drug Administration has approved for veterinary use.

"Xylazine is making the deadliest drug threat our country has ever faced, fentanyl, even deadlier," said Administrator Milgram. "DEA has seized xylazine and fentanyl mixtures in 48 of 50 States. The DEA Laboratory System is reporting that in 2022 approximately 23% of fentanyl powder and 7% of fentanyl pills seized by the DEA contained xylazine."

Xylazine in Iowa

- Xylazine
 - Veterinary “tranquilizer” – not opioid (alpha adrenergic)
 - Dry mouth, hypertension, drowsiness
 - 5 cases in 2022, 3 cases thus far in 2023
 - All cases mixed with at least fentanyl

NAME standards for drug deaths

- The forensic pathologist shall perform a forensic autopsy when:
 - the death is by apparent intoxication by alcohol, drugs, or poison, unless a significant interval has passed, and the medical findings and absence of trauma are well documented.
 - WHY?
 - Interpretation
 - Prosecution
 - Sentinel novel drugs

Case

- 68 YO male, lives in Senior Apartment
- Found unresponsive in chair in living room
- PMHX: Hypertension and Muscular Dystrophy
- Presumed natural death
- Interview with family concerns for drug use
- LE: Son involved with Meth, drug arrest of individual known to be at residence
 - tox- methamphetamine

Factors with predicative value for presence of Methamphetamine

- Reviewed all cases at IOSME in 2022 with presence of Methamphetamine
- Many cases no drugs or paraphernalia at scene
- Factors that may be helpful in predicting Methamphetamine
 - Interview with Next of Kin who indicated suspicion of drug use
 - History of drug use
 - History of arrest for drug use

Deaths pronounced at Hospital

- Secure antemortem blood specimens (earlier the better)
 - Common practice in hospital labs discard in 72 hours
- Post mortem blood challenges
 - Fluid resuscitation dilution effect
 - Metabolism
 - Post mortem redistribution

Challenge of Drug Deaths- Autopsy Usually Indicated

- History and suspicion at the scene
 - Age is not a good discriminator
 - Absence of drug at scene, not a good discriminator (e.g. Methamphetamine)
 - Needle tracks and foam cones rare
- Data to properly certify death
 - Review of medical/medication and social history
 - Proper specimen collection and testing
 - Pathology to properly interpret toxicology
 - Accurate and complete toxicology testing including Novel drugs

Safe Infant Sleep



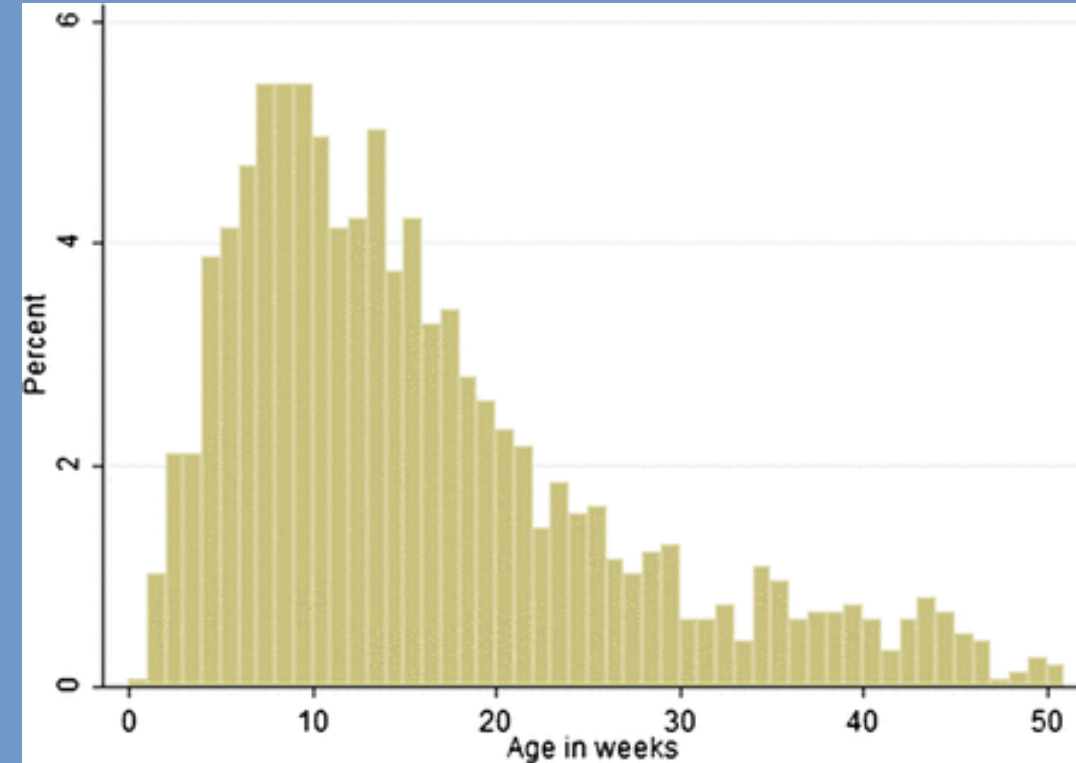
Alone. Back. Crib.

Sleep Related Deaths in Iowa

- 29 sleep related cases in 2022 at IOSME
 - 27 of 29 Sudden Unexpected Infant Death (SUID)
 - 2 of 29 “positional asphyxia”
 - 0 of 29 SIDS
- Approximately 35 Sleep related deaths each year in Iowa
- Rate persistently unchanged
 - **Why?**

Sleep Related Deaths

- Bed sharing independent risk factor
- Factors increase Sleep Related Deaths
 - Parental smoking
 - Parental alcohol consumption
 - Parental drug use

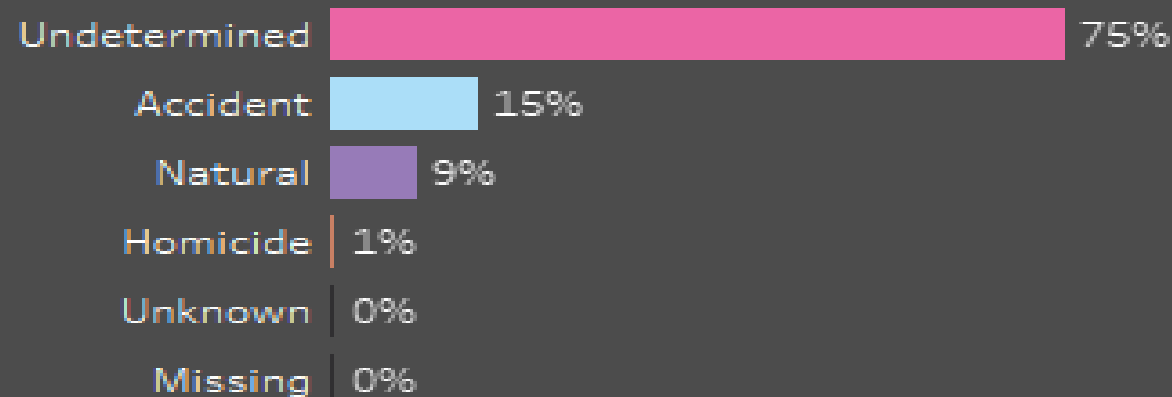


BMJ Vol issue 5

National Center for Fatality Review and Prevention

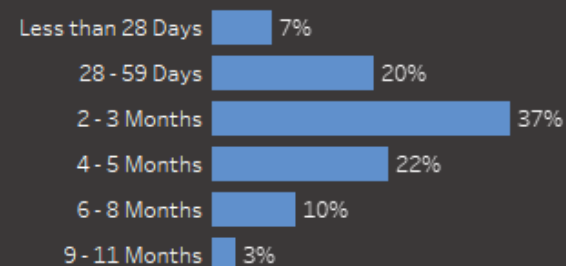
Sleep Related Infant Deaths in Iowa 2005-2019

Manner

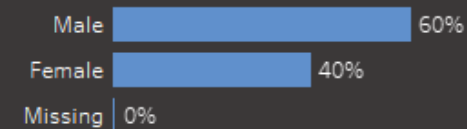


Demographics

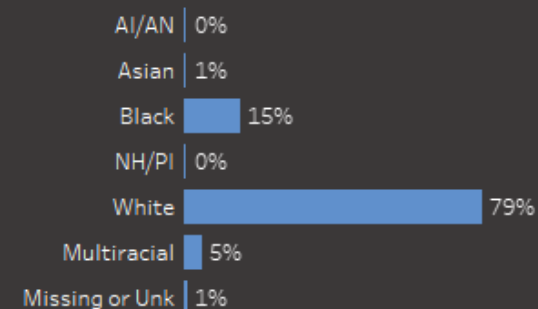
Age



Sex



Race



Investigation Data of Sleep Related Infant Deaths Critical For:

- Child Death Review Team (CDRT) reviews all infant deaths outside of medical care setting
- CDRT recommendations critical in HHS partner programs that support policies and programs to reduce infant deaths
- CDRT recommendations influence Iowa policy makers

Critical Steps in Investigation

- Timely interviews and doll reenactment
- Complete Infant section of EMER in IVES
- Scene photos
- Provide detailed narrative of circumstances surrounding death
- Send for autopsy

Doll Reenactment



IOWA OFFICE OF THE STATE MEDICAL EXAMINER

2250 South Ankeny Blvd. Ankeny, IA 515-725-1400

PRELIMINARY MEDICAL EXAMINER REPORT

Worksheet for EMER (Electronic Medical Examiner Reporting)

INFANT (0-3)

Mother Name Date of Birth: Address: City: County: State: Iowa Zip: Phone (inc area code): Other States Where Resided: History of: <input type="checkbox"/> Smoking <input type="checkbox"/> Drugs <input type="checkbox"/> Alcohol <input type="checkbox"/> Mental Illness	Father Name Date of Birth: Address: City: County: State: Iowa Zip: Phone (inc area code): Other States Where Resided: History of: <input type="checkbox"/> Smoking <input type="checkbox"/> Drugs <input type="checkbox"/> Alcohol <input type="checkbox"/> Mental Illness	Caregiver at Time of Death Name Date of Birth: Address: City: County: State: Iowa Zip: Phone (inc area code): Other States Where Resided: Relationship to Decedent: How Long Cared for Child: History of: <input type="checkbox"/> Smoking <input type="checkbox"/> Drugs <input type="checkbox"/> Alcohol <input type="checkbox"/> Mental Illness
Position at Time of Death Who Found Child? (parent, sitter, etc.) <input type="checkbox"/> Parent <input type="checkbox"/> Grandparent <input type="checkbox"/> Aunt <input type="checkbox"/> Uncle <input type="checkbox"/> Sibling <input type="checkbox"/> Sitter <input type="checkbox"/> Friend <input type="checkbox"/> Significant Other of Parent <input type="checkbox"/> Other Where Was Child Found? (bedroom, crib, etc.)	Bedding Sleep Environment? If On Mattress, Type? Covering Narrative: Bed Contents:	Home Where Found History of: <input type="checkbox"/> Smoking <input type="checkbox"/> Drugs <input type="checkbox"/> Alcohol Room Temperature (F): F Thermostat Setting (F): F Describe Heating and Cooling System:

NARRATIVE SUMMARY OF CIRCUMSTANCES SURROUNDING DEATH (add sheet if needed):

Brief Case Description (1 to 3 sentences):

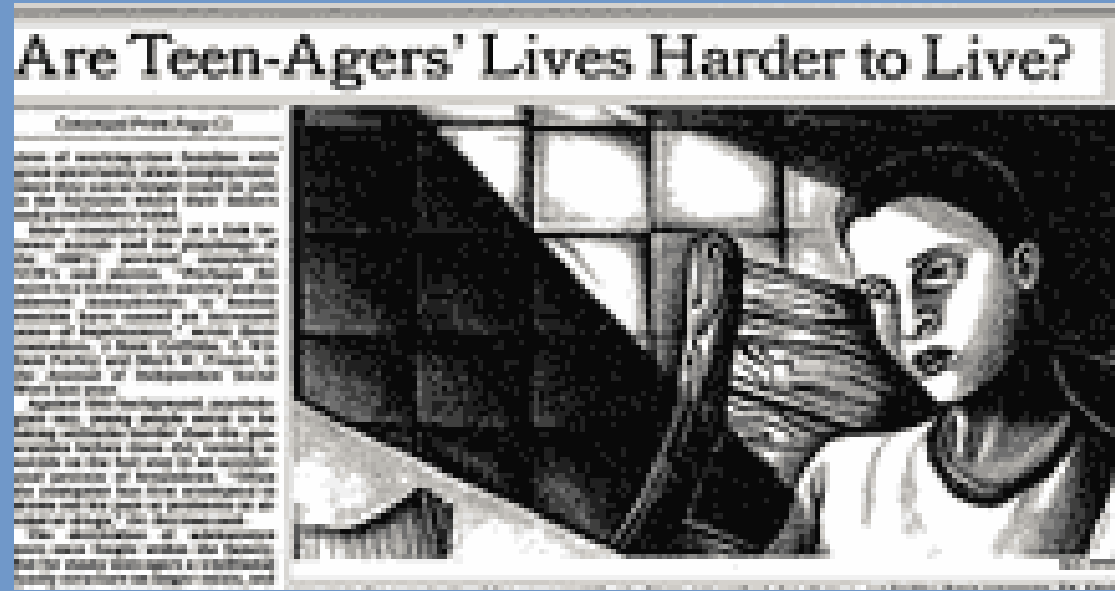
History/Circumstances (surrounding the death):

Scene Description (include location and position of body):

Please complete specialty tabs and narrative

Criteria for Infant Death Caused by Asphyxia

- Complete autopsy
- Toxicology, histology, vitreous electrolytes as necessary
- Review of medical history
- Obstruction of both nose and mouth or compression of neck or chest, reliably witnessed or demonstrated by doll reenactment
- No reasonable competing cause of death



Youth Suicide: New Research Focuses on a Growing Social Problem: The increase in suicides in young people.

In a town shattered by a series of teenage suicides, another young girl takes her own life

Teenage Suicide

“In Iowa, suicide is the second leading cause of death for people between the ages of 15 and 24 years old.”

Keri Neblett, Suicide Prevention
Director at the Iowa Department of
Public Health

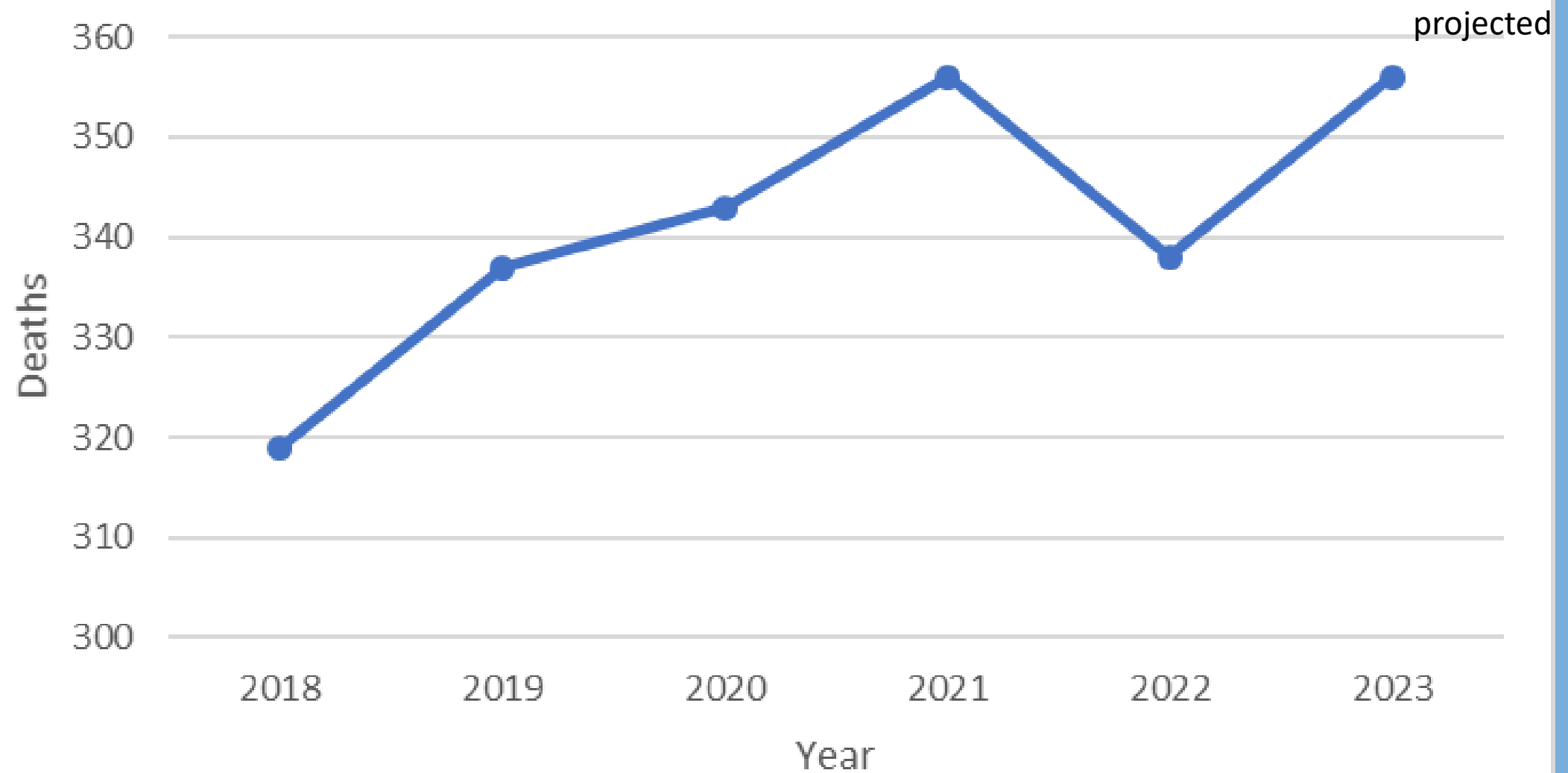
Risk Factors for Teenage Suicide

- Mental Health (depression, anxiety, and trauma)
- Family History of Suicide
- Substance abuse
- Break up with romantic partner

2019 CDRT report Teenage Suicides

- 24 cases in Iowa certified as Suicide
 - Firearms, Asphyxia, Overdose
- Home Environment and Relationship
 - **Access to Firearms**
 - Disagreements
 - Recent move, parents divorce
 - History of sexual abuse
 - Parent used illegal drugs, parent a felon

Traffic Fatalities in Iowa



Multidisciplinary Motor Vehicle Collision Quarterly Conference

- Factors identified that impact initiatives and prevention policies
 - Accurate toxicology
 - Seat belt use in back seat
 - Impact of weather and young inexperienced drivers
 - Railroad crossings
- Autopsies should be considered in MVCs for information that explains the cause of the accident

Data is the first step to Prevention

- CDRT and IAVDRS Abstract data and narratives
- EMER/ Autopsy reports most comprehensive and available data
- Policies and preventive programs rely on Data

Reminder: Deaths with Law Enforcement Interaction

IVES Entry Every case

Law Enforcement

Law Enforcement or Corrections Related Death

- ☐ Not a Law Enforcement or Corrections Related Death
- ☐ Not a Law Enforcement or Corrections Related Death but death within 30 days of unrestricted release from prison or jail
- ☐ Law Enforcement or Corrections Related Death
 - ☐ Pre-apprehension (pre-custody, before direct physical contact with law enforcement, e.g., vehicle pursuit, barricade)
 - ☐ Apprehension (direct physical contact between decedent and law enforcement, e.g., physical altercation)
 - ☐ Officer involved shooting
 - ☐ In custody (from arrest to sentencing)
 - ☐ Corrections custody (incarcerated in jail or prison post-sentencing), including death of prisoner in hospital

MEI Qualifications –Admin rule

- At least 2 years experience nurse or medical care provider
- Within 3 years
 - St Louis Basic course or its IOSME-approved equivalent
 - Obtain ABMDI certification
- Waiver if above not able to be achieved

Annual Midwest Death Investigation Course

- DMACC in Ankeny
- Second annual occurred May 1-3, 2023
- Lectures presentations and practicums in new Crime Scene House

Practicums in new DMACC facility



Mark Your Calendars

- 3rd Midwest Medicolegal Death Investigator Course (MDIC)
- When: June 3-5, 2024
- Where: DMACC Ankeny
- Cost: Tuition \$499
- Funding available: Tuition and lodging
- Meets MEI training qualification (Admin code 127.7)

IOSME MEI Liaison

- Mark Bethel MEI
 - County MEI and State MEI experience
- Training New Onboarding or Refresher
 - Travel to your county
 - Day long training at IOSME
 - View autopsy
 - In person lectures and practice
- Assistance and guidance with resource requests from county

Mass Fatality and Surge Preparedness

- Cooler capacity
 - High Density racks
 - Max capacity 70



Refrigerated trailer- New Electrical/Diesel Compressor



Parting Reminders and Requests

Tissue Donation

- Continue to refer EVERY death to IDN
 - Protocols are continuously changing
 - Case referred for possible corneal donation
- Transportation
 - If challenges in timely transport
 - Ask to speak with Funeral Director Donation Specialists
- Identification tags on body (not clothing)

Mass Fatality Preparedness

- Reach out to your County Emergency Management Administrator
- Review (create) Mass Fatality Plan

Reminder: Scene Photos

- Two or three properly exposed and in focus photos worth paragraphs of description
- Methods for sending photos
 - iosme.mel@idph.iowa.gov
 - Filecloud
- Do save on county servers
- Don't save on home computer





Thank you for attending.

Safe Travels!