

# Medicolegal Death Investigation and Convicting the Innocent

Committee on Advancing the Field of Forensic  
Pathology: Lessons Learned from Death in Custody  
Investigations

National Academies of Science, Engineering, & Medicine

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USA



THE NATIONAL REGISTRY  
OF EXONERATIONS

# MEDICOLEGAL DEATH INVESTIGATION AND CONVICTING THE INNOCENT

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3,587 EXONERATIONS SINCE 1989  
MORE THAN 32,750 YEARS LOST



BROWSE CASES ▾

ISSUES ▾

REPORTS ▾

RESOURCES ▾

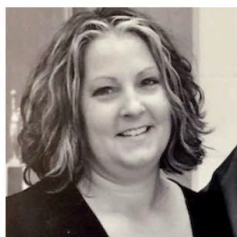
ABOUT US ▾

MAKE A GIFT



## CARRODY BUCHHORN

### Other Kansas exonerations



Carrody Buchhorn (Photo: Carrody Buchhorn)

On September 29, 2016, nine-month-old Oliver Ortiz was found unresponsive in his crib at the Sunshine Kids Group Daycare Home in Eudora, Kansas. While the owner called 911, 42-year-old Carrody Buchhorn, a worker at the home, began performing cardiopulmonary resuscitation. The child, however, died.

On April 14, 2017, Buchhorn was charged with first-degree murder—or in the alternative—second-degree murder.

The charge was based on the conclusion of the Douglas County Coroner, Dr. Erik Mitchell, that Oliver had died from a blow to the head.

At a preliminary hearing, Dr. Mitchell testified that Oliver had a skull fracture. However, there was no brain swelling, which would typically accompany such an injury. Dr. Mitchell testified that Oliver had died instantly following a blow to the head, which he claimed released mechanical energy into the base of the brain causing “temporary cessation of function at the base of the brain” or “depolarization of neurons.” Dr. Mitchell suspected that the baby had been stepped on.

State: Kansas

County: Douglas

Most Serious  
Crime: Murder

Additional  
Convictions:

Reported  
Crime Date: 2016

Convicted: 2018

Exonerated: 2022

Sentence: 10 years and 3  
months

Race/Ethnicity: White

Sex: Female

Age at the  
date of  
reported  
crime: 42



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# Exoneration

- Not a legal term
  - Our definition is based on state action
  - We do not exercise our own legal or scientific judgment
  - Criteria designed to capture actual innocence
  - Actual innocence is unknowable
  - We must make errors, but . . .
  - Definition is crafted to be conservative, minimizing classification errors of inclusion at the expense of many classification errors of exclusion
- ☐ Convicted
  - ☐ Relieved of all convictions (e.g., no guilty pleas to time served)
  - ☐ After new evidence of innocence became available
  - ☐ Without unexplained physical evidence of guilt

# The Study

- 151 exoneration cases to which medicolegal death investigation (MLDI) contributed
  - MLDI used by the prosecution
  - Must have concerned a contested fact

# Scope of report

Crime	Forensic pathologist	Non-forensic pathologist (doctor or non-MD coroner)	Total
Homicide	136	4	<b>140</b>
Abuse of vulnerable person (child, patient, dependent adult)	4	7 * All SBS cases rebutted by forensic pathologist	<b>11</b>
<b>Total</b>	<b>140</b>	<b>11</b>	<b>151</b>

- 31 cases are SBS/AHT

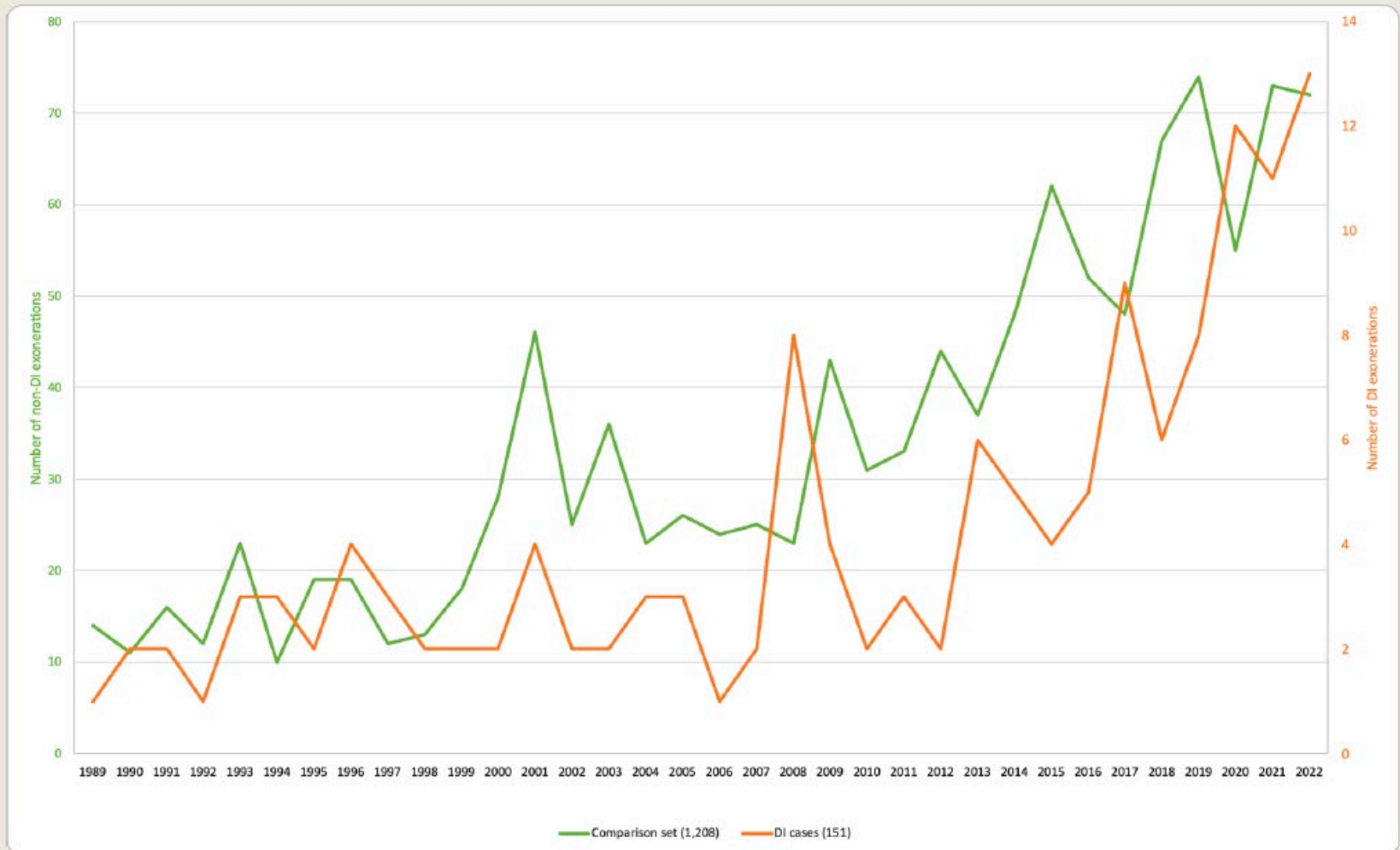
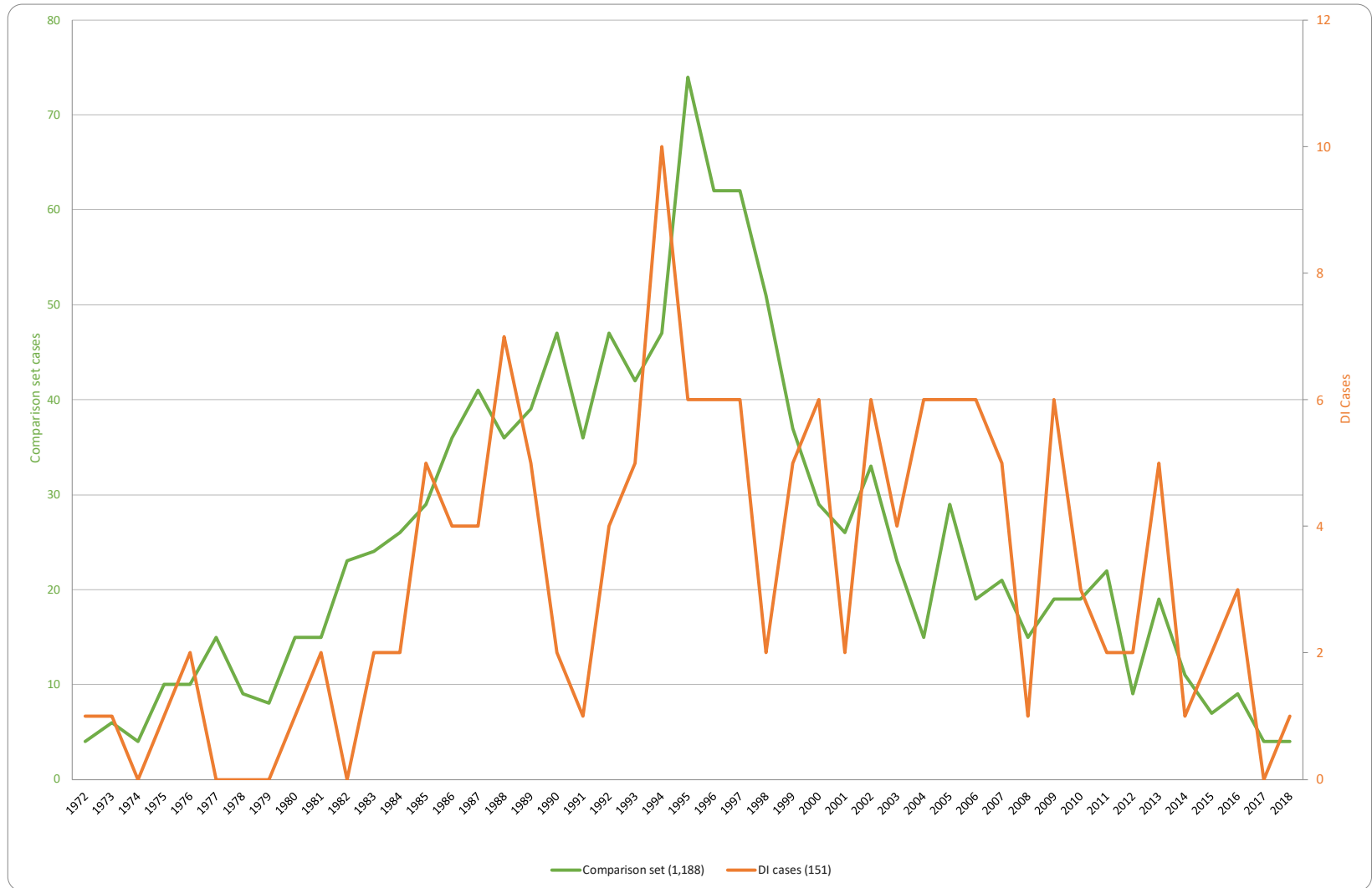


Figure 7. Year of exoneration in death investigation cases compared to the comparison set of homicide and child abuse cases, through 2022. Because analysis was done in 2023, data for that year is incomplete, and it is not shown. Data shown in Table 5.

# Year of conviction





# Demographics

- 26% of defendants were female
  - Compared to 5% of the comparison set (homicide and child abuse cases)
- 47% of cases involved death or injury to a child
  - Compared to 17% of the comparison set
- Child deaths may be particularly difficult to investigate, and investigators may rely more heavily on death investigators

# Type of evidence

Type of Evidence	Number of cases
Evidence consistent with prosecution theory	58
Cause of death	56
Time of death	17
Manner of death	16
Bitemarks	4
<b>Grand Total</b>	<b>151</b>

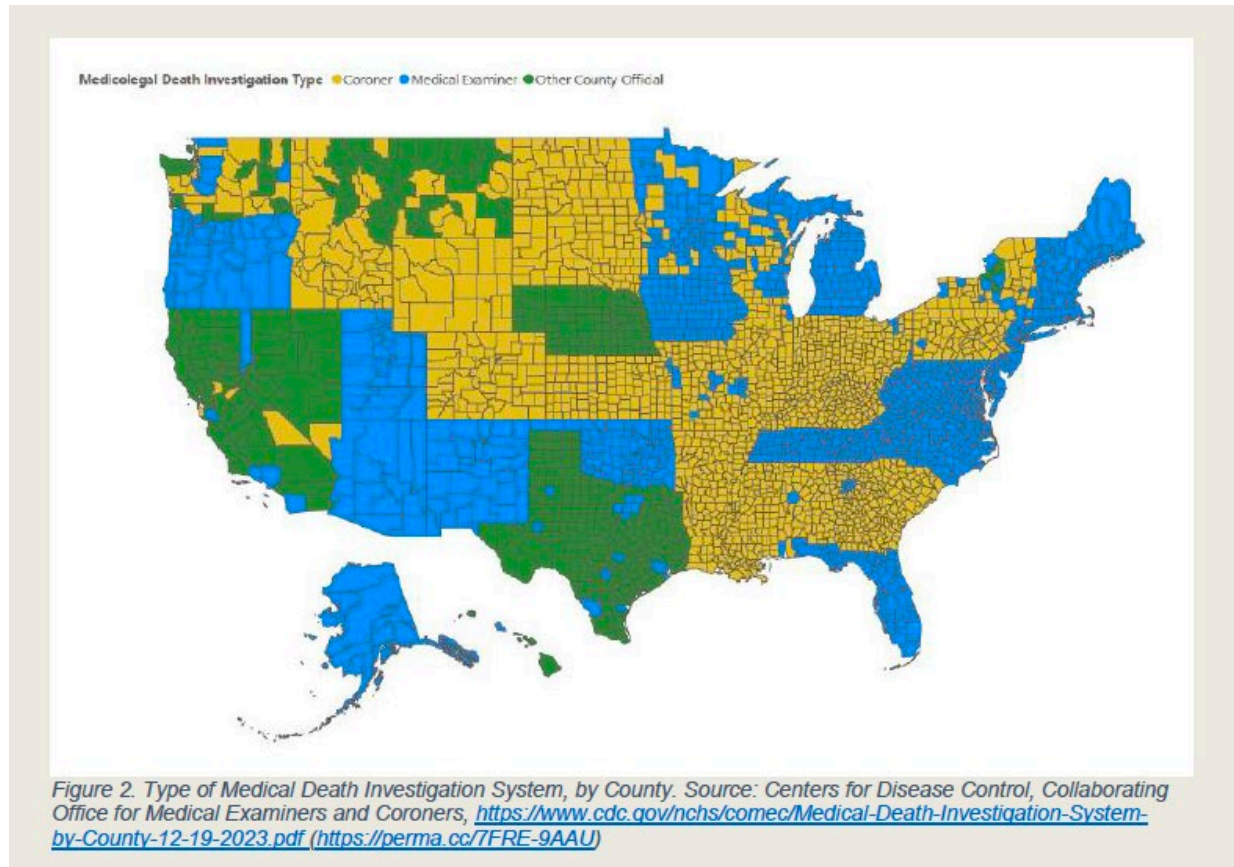
- Evidence consistent with . . . ?
  - [Santiago Ventura Morales](#) convicted of murder in 1986 in Oregon
    - Despite considerable blood that spurted from the wounds, a laboratory examination found no traces of blood on Morales' knife. State deputy medical examiner Dr. Karen Gunson testified that as Morales pulled out the knife, [the victim's] fat tissue wiped it clean.
    - Eventually, an expert hired by a lawyer who took Morales post-conviction case pro bono said that the idea of a knife coming out clean from a wound because of fat tissue was "contradictory, misleading, incomplete and incorrect."
  - Exonerated 1991
  - At the time of Morales's trial, Gunson was board certified in anatomic and clinical pathology, but not forensic pathology. However, she received her board certification in forensic pathology in 1988, two years after Morales's conviction and three years before his exoneration.

# Usual targets for reform

1. Death investigation system (coroner systems)
2. Qualifications of death investigators  
(American Board of Pathology certification)
3. Accreditation

# DI system – context

## Patchwork system



- 1928 – This body calls for abolishing coroner system

# Death investigation system

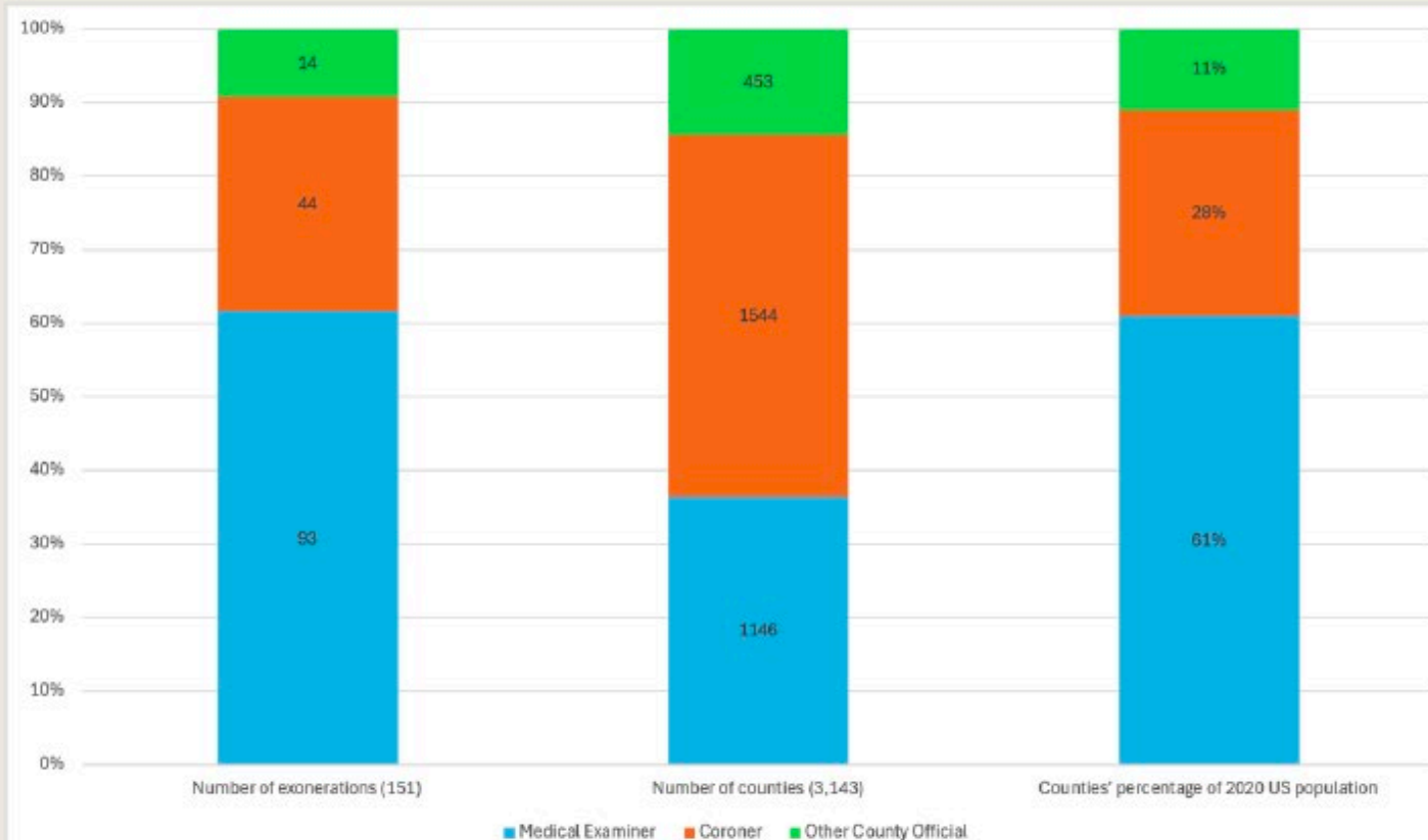
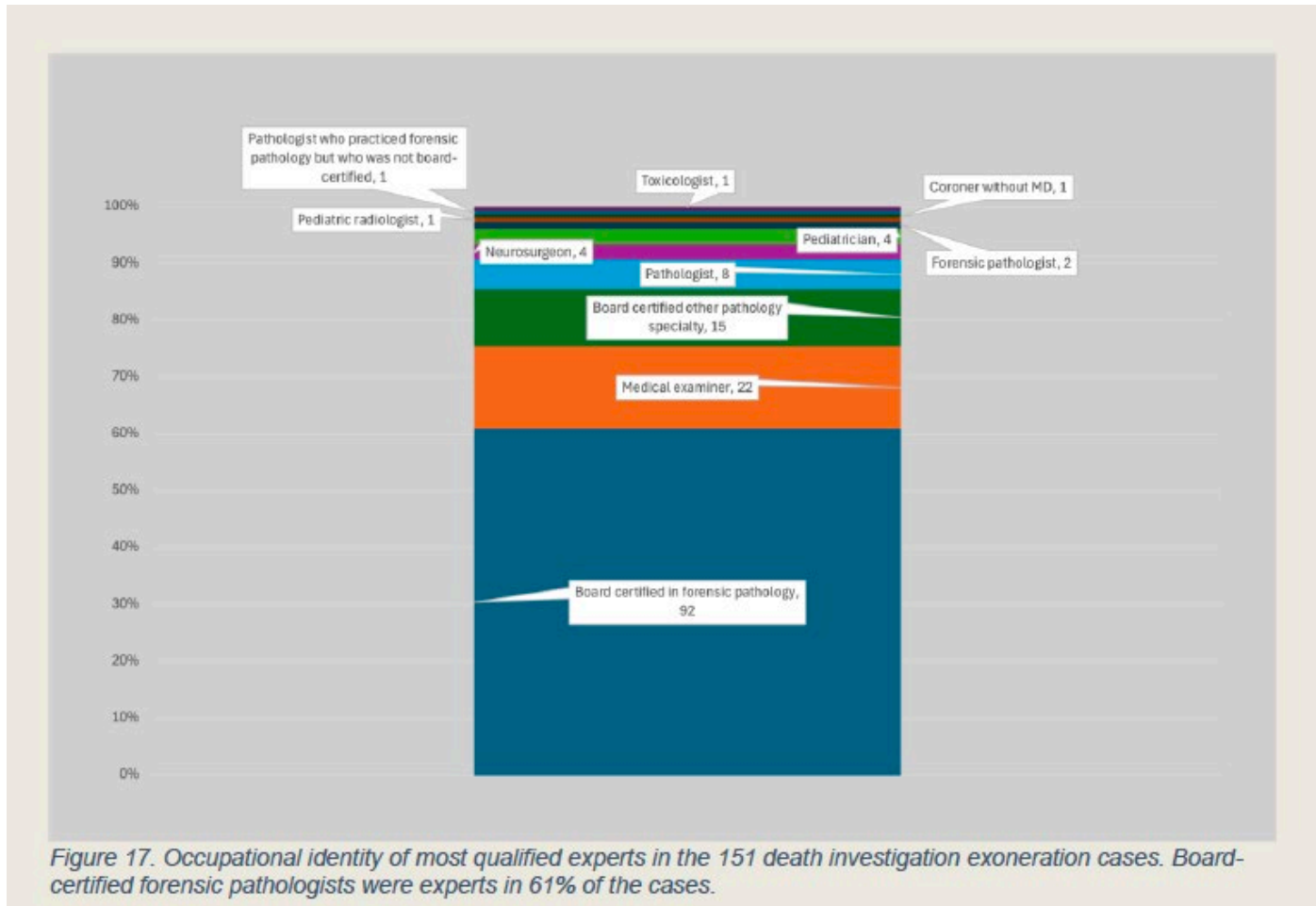


Figure 11. Exoneration cases by type of county death investigation system. Column totals shown in parentheses.  
Source: Centers for Disease Control.

# Qualifications – Context

- ~500 board certified forensic pathologists in the US today and during the period under study
- ~1200 pathologists needed to perform all the autopsies needed in the US

# Qualifications



# Accreditation

## Context

- ~2,000 DI facilities in the US
  - c. 2003 – ~41 National Association of Medical Examiners (NAME) accredited
  - 2013 – 60 accredited
  - 2015 < 100 accredited

## Findings

- 29 of 129 cases in which we were able to determine the name of the DI facility (22%) involved NAME-accredited facilities
- No cases involved International Association of Coroners & Medical Examiners (IACME) facilities



# Conclusions

## DI's potential to avert wrongful convictions

- Independent
- Highly credentialed
- Legal authority

## Takeaways

- Female defendants
- Child victims
- Bias issues
- Institutional reforms  
(system, qualifications, accreditation) not enough