

# Medical examiners and coroners and public health

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**National Academies of Sciences**  
**June 17, 2023**



**COME C**

Collaborating Office for **Medical Examiners** and **Coroners**

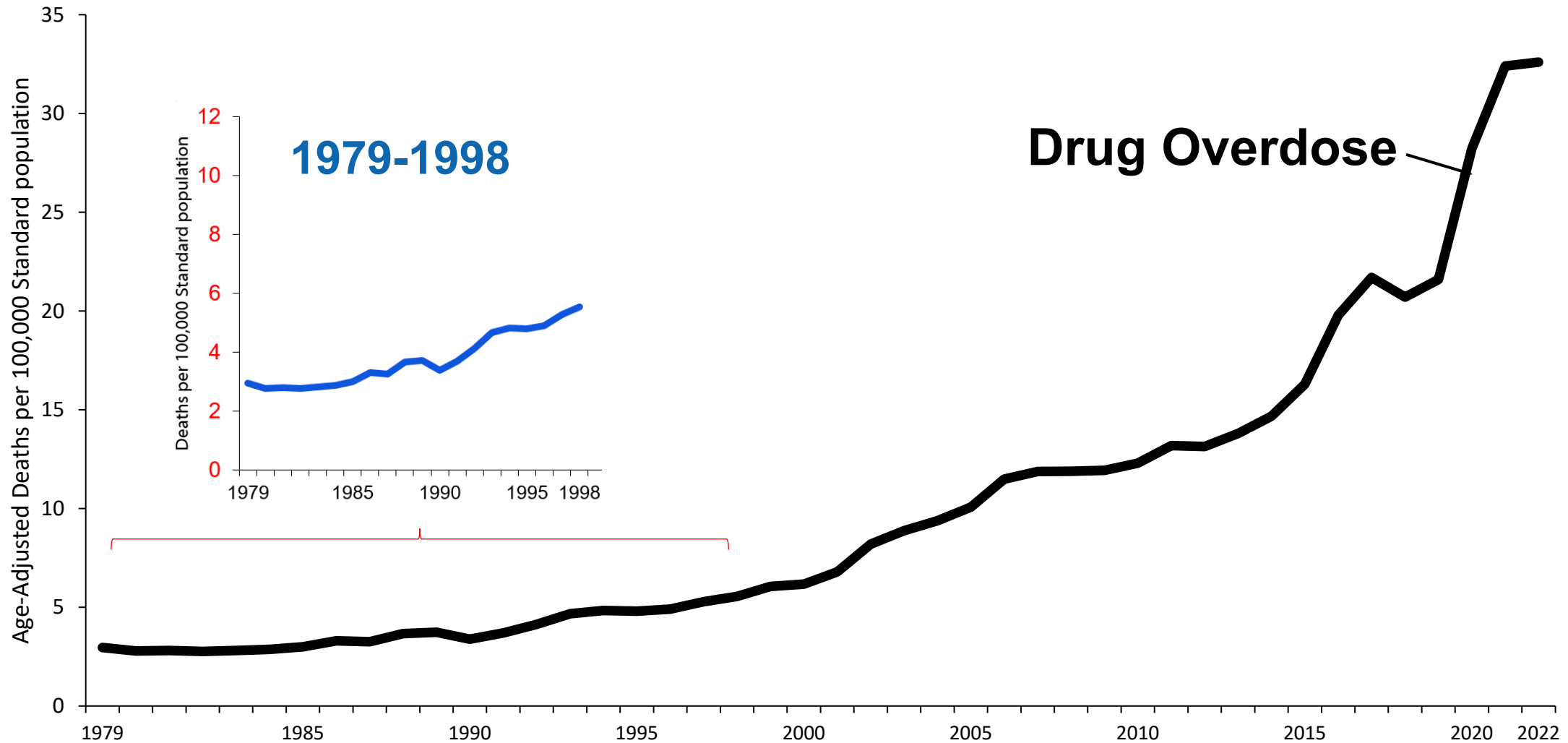
# Medicolegal Death Investigation (MDI) Role in Public Health

- ✓ Provide mission-critical data for public health
- ✓ Investigate deaths of high interest, including homicides, suicides, drug overdoses, infant, and occupational deaths
- ✓ Often first to encounter new health threats
- ✓ Actively engaged during disasters and mass fatality events, including COVID-19
- ✓ Address complex deaths with difficult to determine causes-of-death

# Public Health Impacts

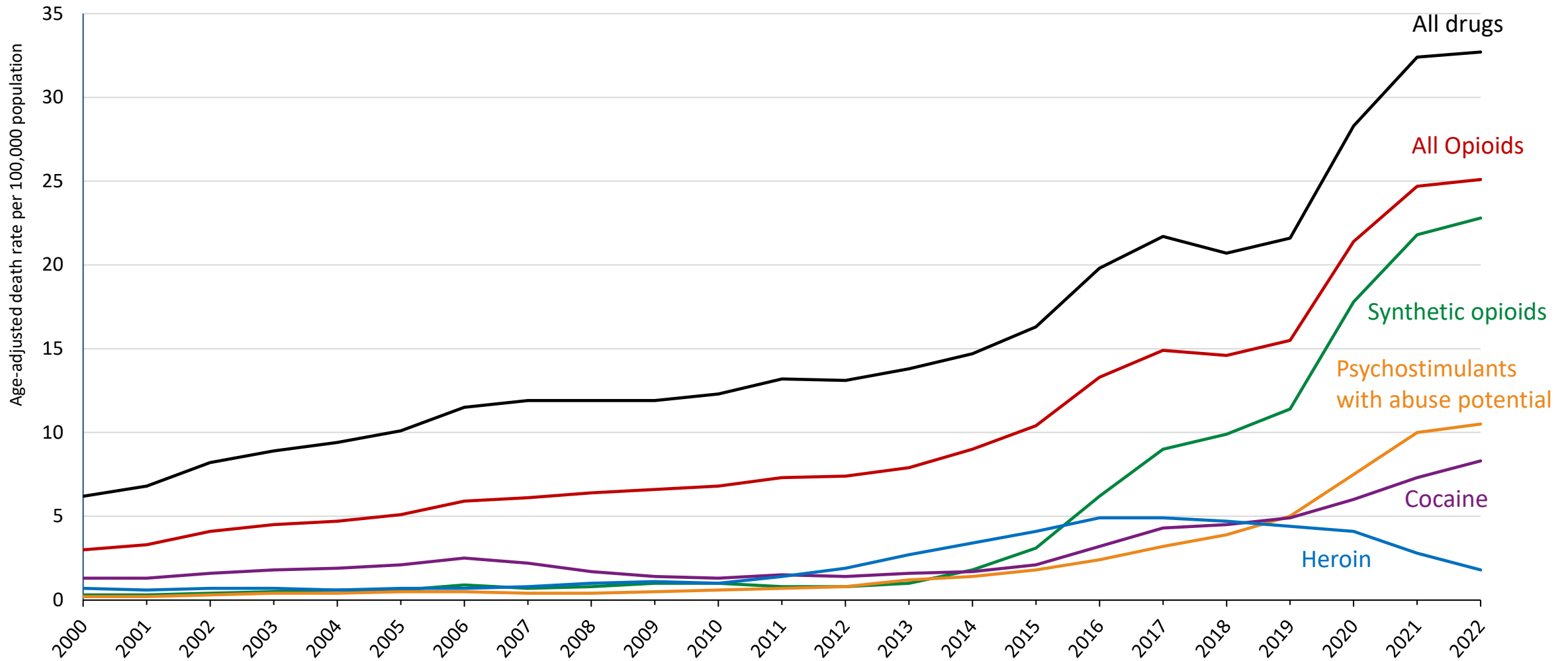
- Early warning system for impending public health and safety emergencies
- Monitoring health and safety and public health surveillance
- Preparing for and managing disasters and other emergencies
- Informing policy
- Setting priorities
- Evaluating the impact of interventions

# Drug Overdose Crisis: Early Indications from Death Certificate Data and MEC



Source: CDC/NCHS, National Vital Statistics System, Mortality File.

# Drug Overdose Death Rates: US 2000-2022

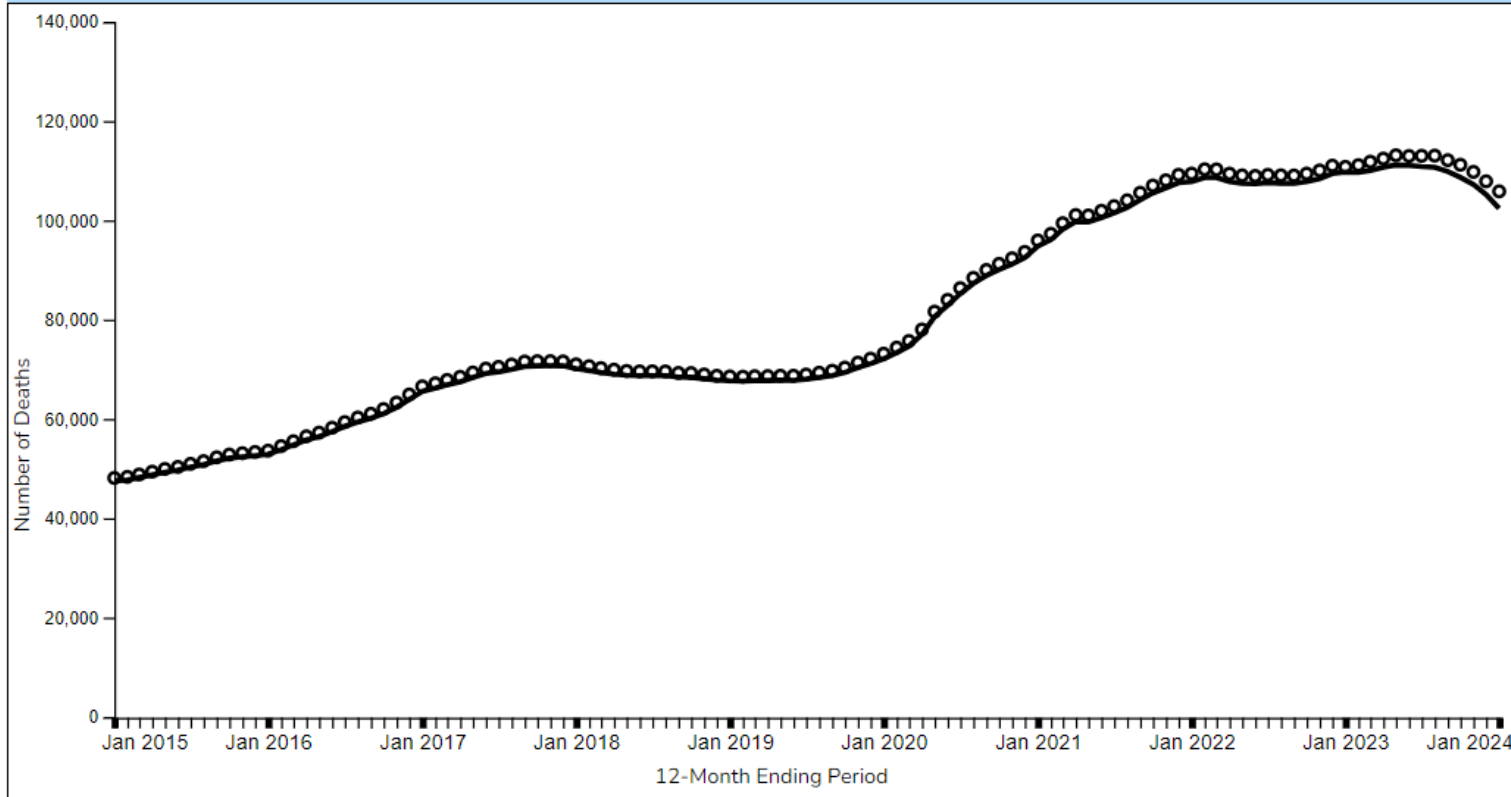


Source: CDC/NCHS, National Vital Statistics System, Mortality File.

# Provisional Counts of Drug Overdose Deaths

Based on data available for analysis on: June 2, 2024

Figure 1a. 12 Month-ending Provisional Counts of Drug Overdose Deaths: United States



## United States

month ending period: Jan 2024

Reported number of deaths: 102,384

Predicted number of deaths: 105,843

Percent pending investigation: 0.36

\* Underreported due to incomplete data

NOTES: *Reported* provisional counts for 12-month ending periods are the number of deaths received and processed for the 12-month period ending in the month indicated. Drug overdose deaths are often initially reported with no cause of death (pending investigation), because they require lengthy investigation, including toxicology testing. These data are not comparable with final data and subject to change. *Predicted* provisional counts represent estimates of the number of deaths adjusted for incomplete reporting

SOURCE: National Center for Health Statistics, Vital Statistics Rapid Release, Provisional Drug Overdose Counts, see <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

# Statistics from MEC Offices

## Connecticut Accidental Drug Intoxication Deaths Office of the Chief Medical Examiner

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
<b>Accidental Intoxication Deaths*</b>	357	495	568	729	917	1038	1017	1200	1374	1524	1452	1329
<b>Opioids</b>												
-Opioid in any death	298	419	513	663	861	961	948	1127	1273	1413	1339	1217
-% intoxication deaths with an opioid	83%	85%	90%	91%	94%	93%	93%	94%	93%	93%	92%	92%
-Fentanyl in any death	14	37	75	189	483	677	760	979	1159	1312	1253	1124
-% intoxication deaths with fentanyl	4%	8%	13%	26%	53%	65%	75%	82%	84%	86%	86%	85%
-Fentanyl + Cocaine	2	16	14	42	143	220	270	393	447	561	599	620
-Fentanyl + Heroin	1	9	37	110	279	333	303	339	243	153	119	103
-Analogues of Fentanyl/Opioid**				13	70	142	254	146	58	131	76	179
-Heroin, Morphine, and/or Codeine	195	286	349	446	541	498	407	400	274	176	138	112
-Heroin in any death	174	258	327	417	508	474	391	387	262	165	125	106
-Heroin + Fentanyl	1	9	37	110	279	333	303	339	243	153	119	103
-Heroin + Cocaine	50	69	73	107	153	169	134	143	100	58	43	45
-Morphine/Opioid/Codeine NOS	21	28	22	29	33	24	16	13	12	11	13	6
-Methadone in any death	33	48	51	71	84	99	88	92	120	128	124	140
-Oxycodone in any death	71	75	107	95	110	95	62	92	95	83	73	67
-Hydrocodone in any death	15	19	15	20	20	15	14	14	13	10	8	6
-Hydromorphone in any death	1	0	12	17	22	16	9	14	12	5	11	10
-Any Opioid + Benzodiazepine	41	60	140	221	232	313	249	269	286	275	246	204
-Buprenorphine			5	13	25	19	24	35	51	34	26	35
-Xylazine (veterinary tranquilizer)							0	71	140	301	351	286
<b>Stimulants</b>												
-Cocaine in any death	105	147	126	177	274	347	345	463	529	656	684	724
-Amphetamine/Methamphetamine	7	5	11	20	19	37	56	70	95	87	74	71
-MDMA	0	0	2	1	1	3	4	4	3	1	1	2

Source: <https://portal.ct.gov/-/media/ocme/statistics/calendar-years.pdf>

# Current CDC Activities Supporting MEC Community

## Ways CDC supports MECs

- **Providing resources and training**
- **Providing services**
- **Serving to promote health and safety**
- **Assisting with streamlining data collection**
- **Providing funding opportunities**
- **Conducting or funding relevant research**

## Current examples

Trainings on drug overdose investigation; Sudden Unexpected Infant Death; Disaster mortality

Diagnostic testing for a wide range of infectious etiologies on formalin-fixed tissue specimens

Health and safety guidance for potential exposure to COVID-19 and fentanyl

Data modernization initiatives, model data sharing agreements

Adding MEC as examples in NOFOs, MEC offices as a designated agent

Public Health Law review of MEC-enabling statutes



# COMEC

Collaborating Office for Medical Examiners and Coroners

- To strengthen ties between medical examiners and coroners and public health
- To serve as a resource for MEC
- To assist public health researchers and practitioners engaging with MEC

# CDC Gateway Website for MEC

# COMEC

Collaborating Office for **Medical Examiners** and **Coroners**

Medicolegal death investigations conducted by medical examiners and coroners are crucial to understanding causes of death, monitoring evolving health challenges, and – ultimately – saving lives. The Collaborating Office of Medical Examiners and Coroners (COMEC) works to bring together resources from across the Centers for Disease Control and Prevention (CDC) to support the work in the medical examiner and coroner community. Content is continuously updated as new materials are developed or identified.



**About COMEC**

Contact us | Events



**Death Certification**



**Training and Forms for  
Death Investigations**



**Health and Safety**



**National Vital Statistics  
System**



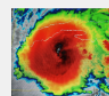
**National Violent Death  
Reporting System**



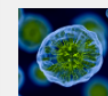
**State Unintentional Drug  
Overdose Reporting System**



**Sudden Unexpected Infant  
Death & Sudden Death in  
the Young**



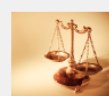
**Disaster and Preparedness**



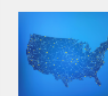
**Infectious Diseases**



**Modernizing Medical  
Examiner and Coroner Data  
Systems**








**Medical Examiner/Coroner  
Laws, by State**



**State Medical Examiner and  
Coroner Organizations**

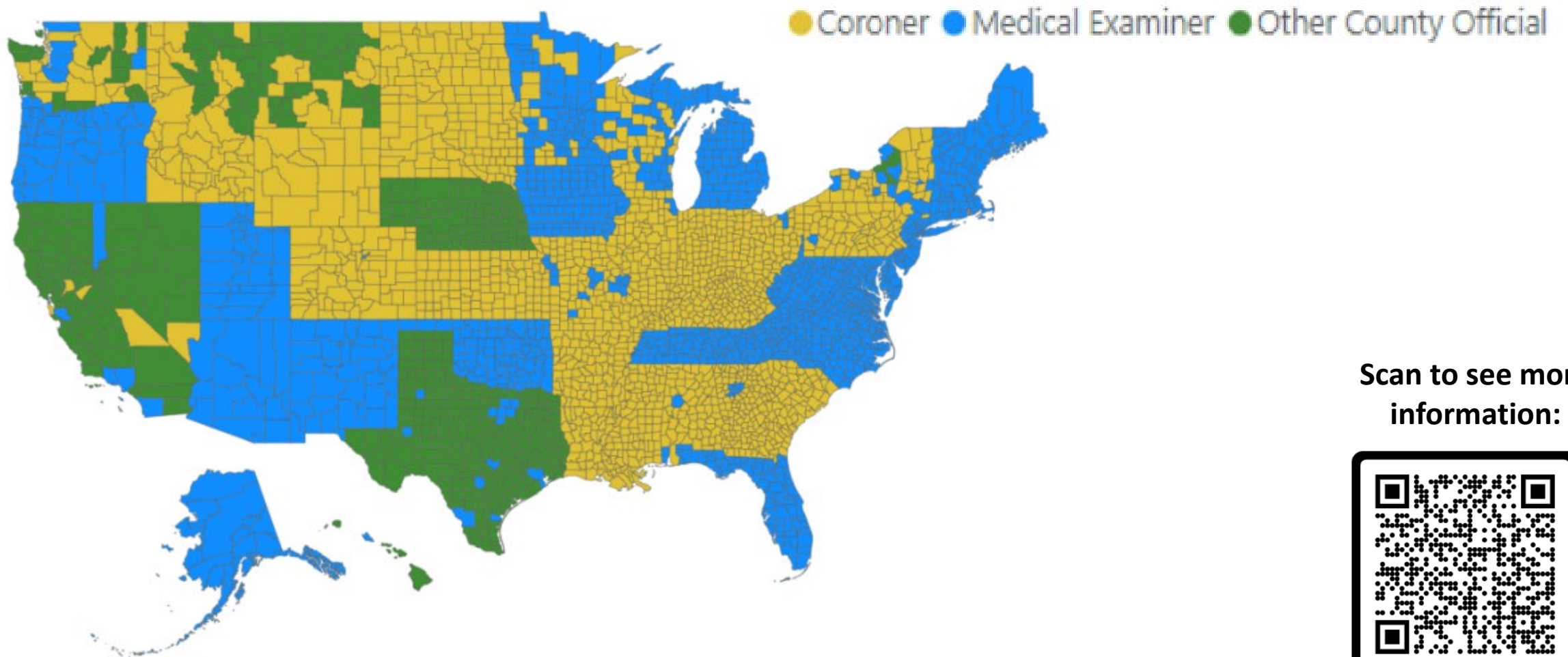
URL: [www.cdc.gov/nchs/comec/](http://www.cdc.gov/nchs/comec/)

# Objectives of Office

-  - Coordinate public health surveillance efforts
-  - Promote collection, automation, and distribution of medicolegal death investigation (MDI) data
-  - Promote quality and consistency in MDI data
-  - Facilitate information sharing
-  - Analyze and compile information about MDI infrastructure

# Medicolegal Death Investigation Infrastructure

## Chief MDI official by county

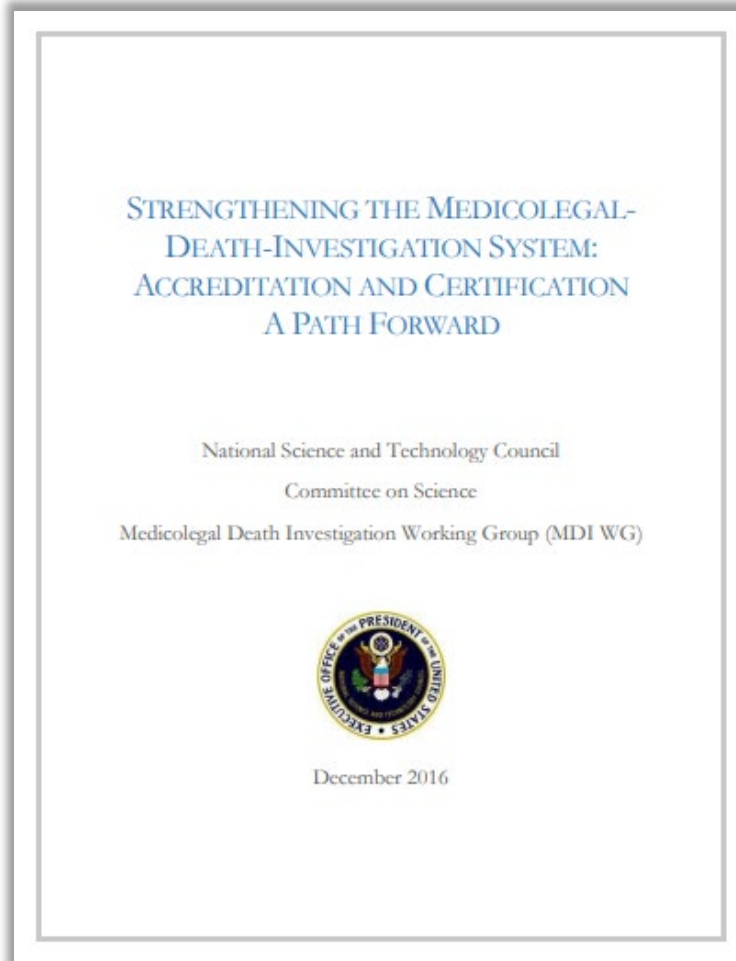


Scan to see more  
information:



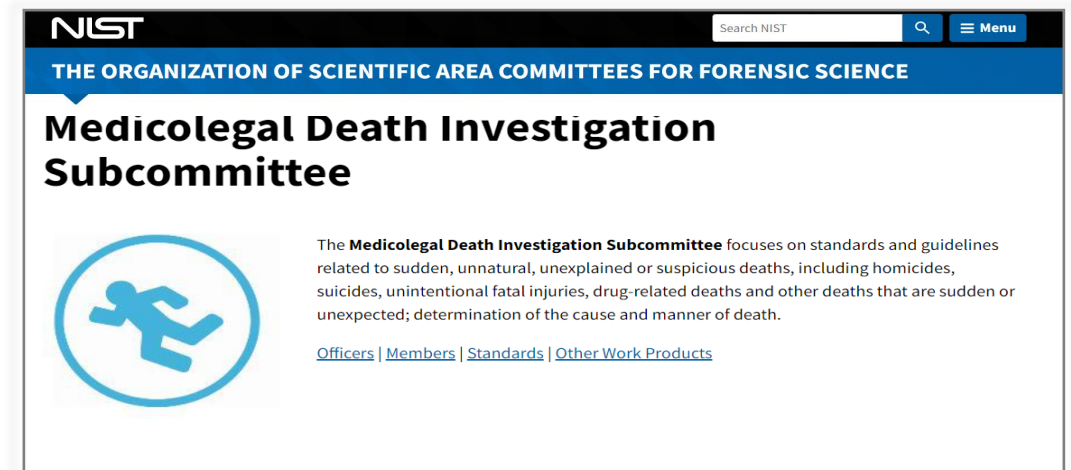
\* Other county officials include Justice of Peace, County Attorney and Sherriff-Coroner

# Accreditation and Certification



**Accreditation of MDI offices** ensures that offices are operating competently with necessary facilities and equipment.

**Certification of personnel** ensures that staff are qualified and have obtained the requisite knowledge, skills, and abilities to perform their jobs.



# Public Health Law 50 State Assessment of MEC Laws

## States indicating MEC investigation by category

Requires investigation by the ME/C	Number states	States
Jail/police custody	40	AK, AZ, AR, CA, CO, DE, DC, FL, GA, HI, IA, KS, KY, LA, ME, MA, MI, MN, MS, MO, MT, NE, NH, NJ, NM, NY, NC, ND, OK, OR, PA, SC, SD, TN, TX, UT, VT, VA, WA, WV, WY
<b>Requires autopsy</b>		
Jail/police custody	3	IL, NE, NY
Jail/police custody, non-natural death*	4	FL, IA, WI, NJ

CDC's Public Health Law Program assessed coroner and medical examiner laws across the 50 states and the District of Columbia in 2013. For additional detail see : <https://www.cdc.gov/phlp/publications/topic/coroner.html>



# MDI Data Modernization Initiative

## Modernizing Medical Examiner and Coroner Data Systems

[Print](#)



### What data modernization is and why it matters

Data modernization refers to the reshaping of data to create modern, integrated, and real-time data systems. More timely and accurate data facilitate health surveillance that can protect us all from any health threat. It is not just about technology, but about putting the right people, processes, and policies in place. The goal is to move from siloed data systems to connected, resilient, adoptable, and sustainable systems that can help solve problems before they happen and reduce the harm caused by the problems that do happen.

### Goals

For the Medicolegal Death Investigation (MDI) Office:

- Reduced data entry efforts for death certification process
- Reduced effort exchanging data with others, such as NVDRS, organ procurement organizations, state health departments
- Increase access to data for office functioning and research
- Allow comparisons with other MDI offices who have adopted the MDI data standard

For users of Medicolegal Death Investigation data:

- Increased timeliness and reduced effort for data exchange
- Standard data elements from MDI offices

<https://www.cdc.gov/nchs/comec/modernizing-mec-data-systems.htm>

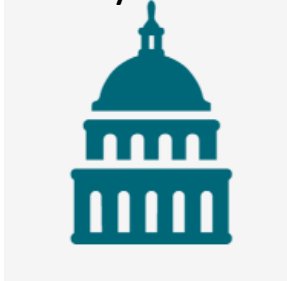


# Lots of Requests for MDI Data

Media



Policy makers



**Medical Examiners  
& Coroners  
Data**

Public Health and  
Medical Research

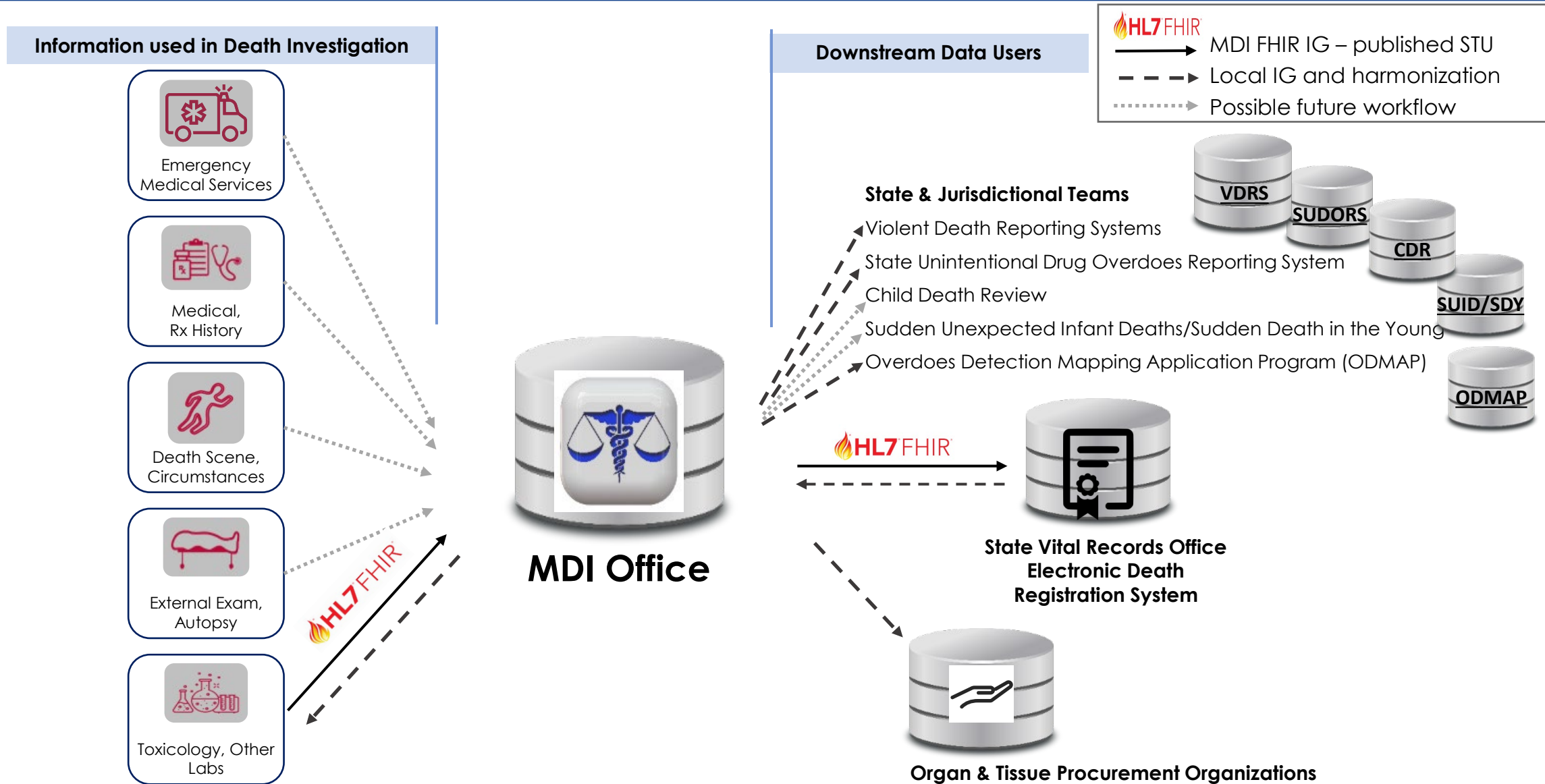


Law Enforcement  
and Public Safety





# Medicolegal Death Investigation Data Flow



# Mortality Data Ecosystem

## National Vital Statistics

### “Death Certificate” Focused

Medical

Physicians



Medical History



Electronic Health Record



Death Scene



Medical Examiners & Coroners



Autopsy



Toxicology



ME/C Case Management Systems

Demographic



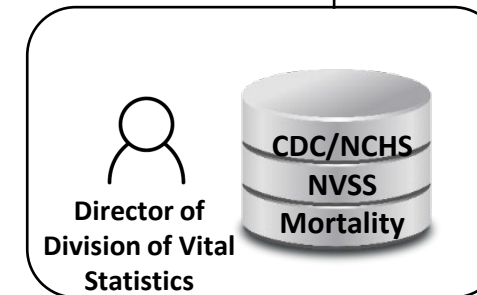
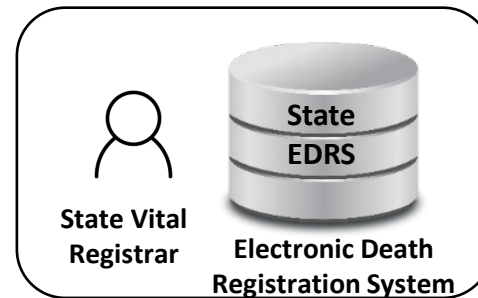
Funeral Home Directors



Demographic Data



Funeral Home System



Analyses and Reports

WONDER Online

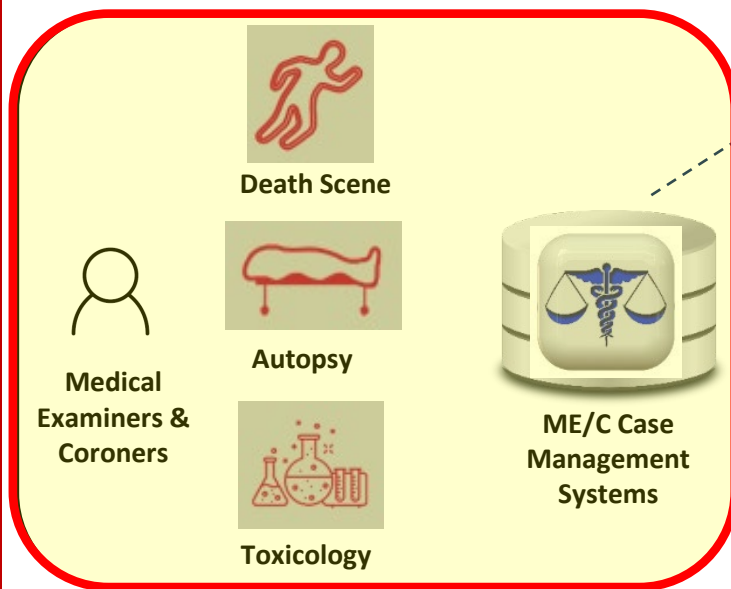
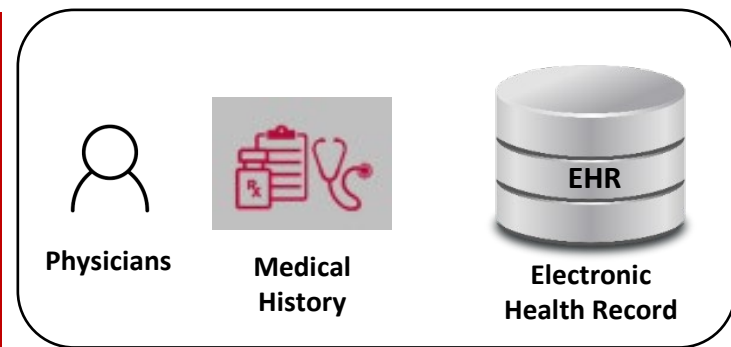
WISQARS™

Online Data Access Platform

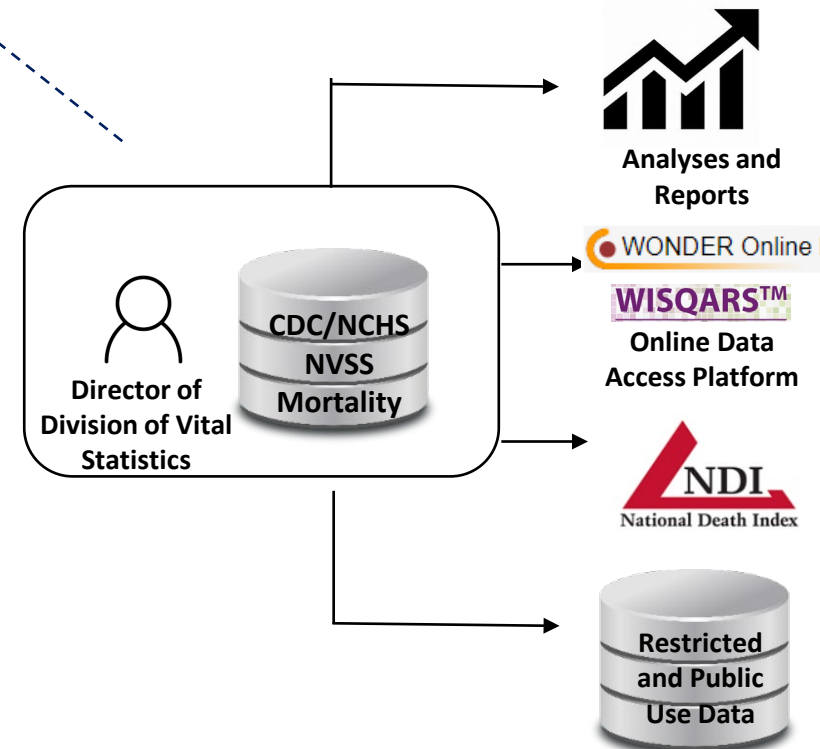
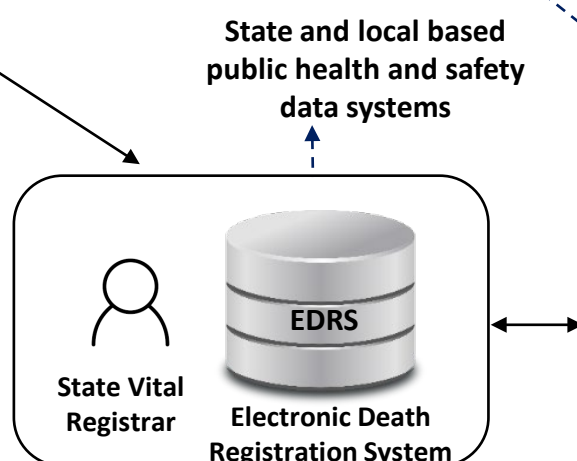
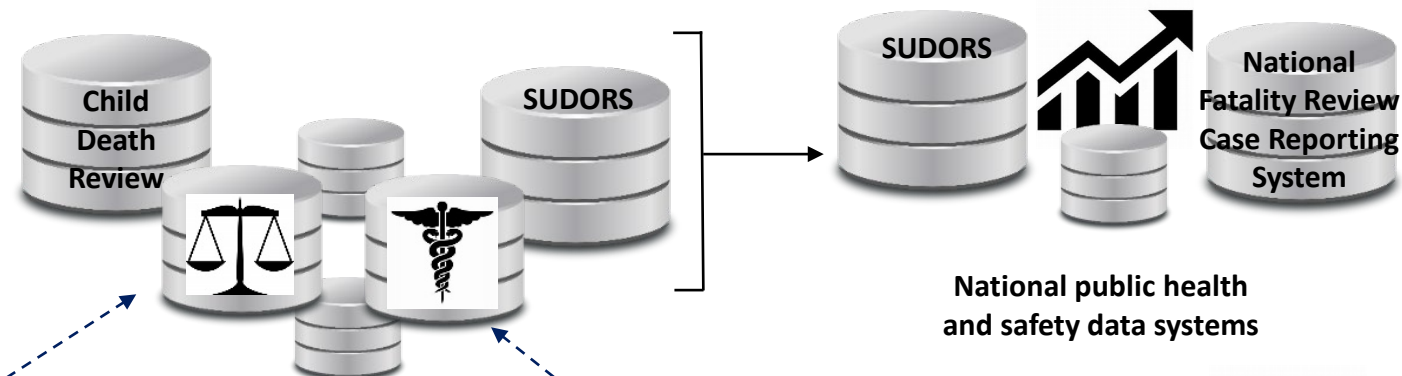
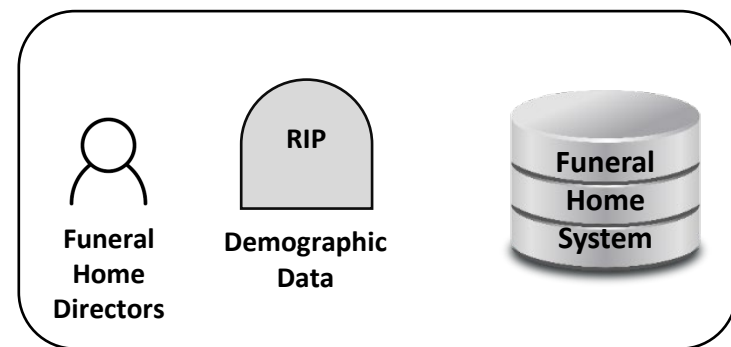


Restricted and Public Use Data

Medical

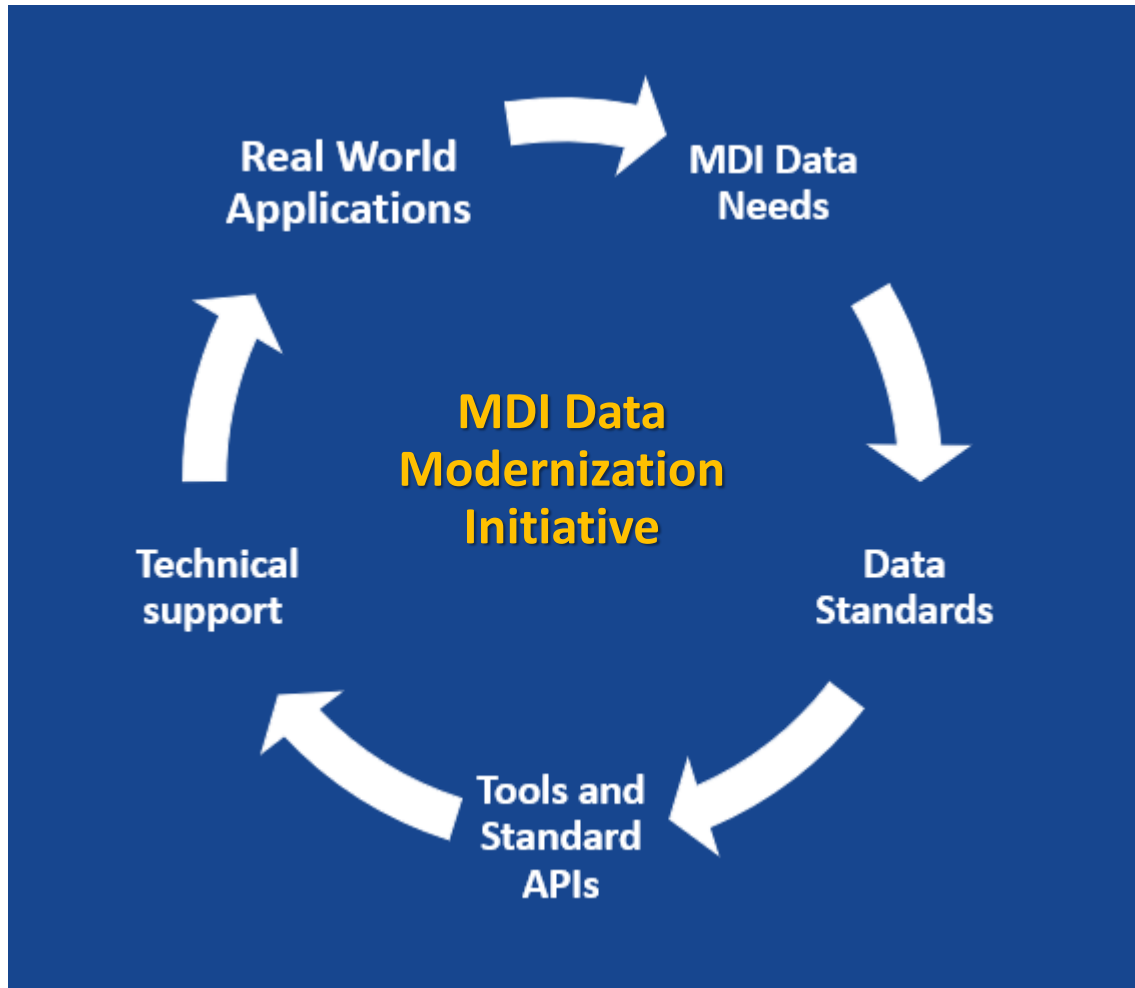


Demographic



# Mortality data ecosystem

# Parts of the MDI Data Modernization Initiative



- Creating a shared understanding of current MDI data needs and capabilities
- Developing data standards
- Developing tools & standard API
- Providing technical support
- Proving forum for real world application

“Let conversation  
cease, let laughter  
flee, for this is the place  
where death delights to help  
the living.”

Giovanni Morgagni, 17th c. Italian anatomist, the  
father of modern anatomical pathology

# COMEC

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***Comments / Questions?***

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