

# Cause of death, manner of death, and issues impacting reporting accuracy

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# The start of it all

- ▶ Prince John rebelled against Richard the Lionheart
  - ▶ Yes, THAT Prince John
- ▶ The Articles of Eyre (1194)
  - ▶ Article 20 created an office to “keep the pleas of the Crown”
  - ▶ Latin: *custos placitorum coronae*
  - ▶ Portmanteau → Coroner (or “crowner”)
  - ▶ Problem: Sheriffs gone wild
  - ▶ Ideal: Office directly responsible to the king would be less prone to corruption



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# History continued

- ▶ Roles morphed over time
- ▶ Became an elected role
  - ▶ Candidates of questionable caliber put forth
- ▶ Medical Examiner system created in 19<sup>th</sup> century
  - ▶ Created in Massachusetts
  - ▶ Ideals:
    - ▶ Appointed (No elections!)
    - ▶ Independent
    - ▶ Doctor or other medically trained professional\*\*\*



# Coroner vs. Medical Examiner

- ▶ Elected vs. Appointed
  - ▶ Who are you accountable to?
    - ▶ The voters?
    - ▶ The county executive/board?
  - ▶ Has **NOTHING** to do with performing autopsies
- 



# Where's a forensic pathologist come in?

- ▶ Totally separate job!
- ▶ Frequently are the ME or Coroner, but not always
- ▶ After graduating med school, we receive additional training in:
  - ▶ Anatomic/Clinical Pathology
  - ▶ Forensic Pathology
  - ▶ Toxicology
  - ▶ Scene Investigation
- ▶ Takes at minimum 10 years of training after high school (usually 13-14)
- ▶ We are rare, <500 of us for the entire country
- ▶ Only five offices in the state that perform autopsies



# Somebody has died. Now what?

- ▶ Determine whether the case is reportable
  - ▶ Chapter 979 has a list of causes of death that are mandated to be reported
    - ▶ Deaths that are:
      - ▶ Unexpected
      - ▶ Violent
      - ▶ Young
      - ▶ Involve drugs
      - ▶ Due, directly OR indirectly, to trauma
        - ▶ Regardless of temporal relation
      - ▶ Outside of a medical setting
    - ▶ Different counties may have additional guidelines depending on their own departmental policy





# Next steps

- ▶ Step 1: Determine agency jurisdiction
  - ▶ In general: if they die in your county, it is yours
  - ▶ Crossing county lines: more difficult
- ▶ Step 2: Determine whether you will accept/decline jurisdiction
- ▶ Step 3: Conduct an investigation if needed
  - ▶ Autopsies fit in here, but they are only ONE component of a complete investigation
- ▶ Step 4: Sign the death certificate and close the investigation



# Cause of death (COD)

- ▶ *“Any injury or disease that produces a physiological derangement that results in death.”*
  - ▶ Ex. Myocardial infarction, cancer, and gunshot wound
  - ▶ Can be related to an event DECADES in the past (Still counts)
    - ▶ Veteran was shot while serving in Vietnam
    - ▶ Develops chronic ulcers caused and worsened by impaired circulation from the bullet
    - ▶ Become infected, develops sepsis, and dies 50 years after being shot
      - ▶ COD: Sepsis due to infected ulcer due to impaired circulation due to gunshot wound






# Manner of Death (MOD)

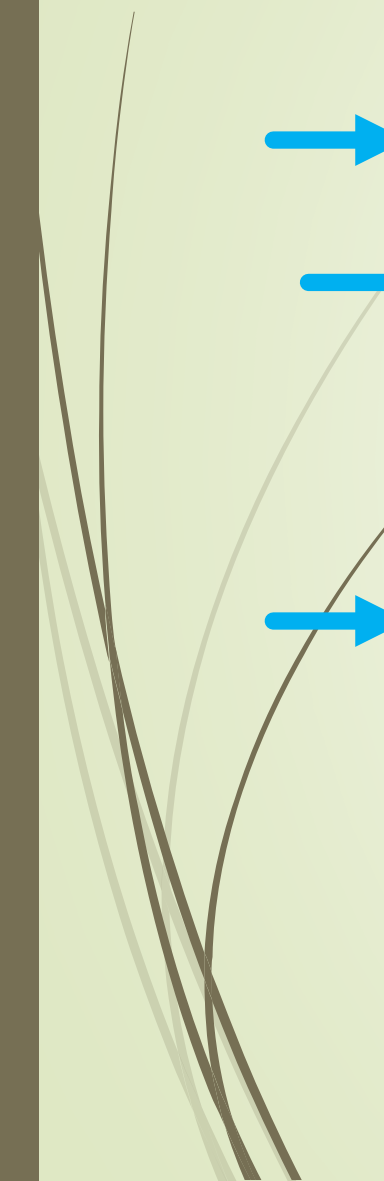
- ▶ The manner of death is an American invention
- ▶ Problem: The same cause of death can have wildly different meanings if the context is changed
  - ▶ Example: Gunshot wounds
    - ▶ Murder? (Homicide)
    - ▶ Self Inflicted? Russian Roulette? (Suicide)
    - ▶ Dropped gun? (Accident)
- ▶ The manner of death is an effort to succinctly delineate this
  - ▶ For the purpose of biostatistics
  - ▶ Often is more important than the cause of death!



# Only five manners! (Sometimes six...)

- **S**uicide : Death as a result of one's own actions
- **H**omicide: Death as a result of someone else's actions
- **A**ccident: Death as a result of an unintended consequence of an action
- **U**ndetermined: Does not fall neatly into one of the other categories or needs more information
- **N**atural: Death as a result of a natural process
- Remember SHAUN
- Out east only: Therapeutic complications

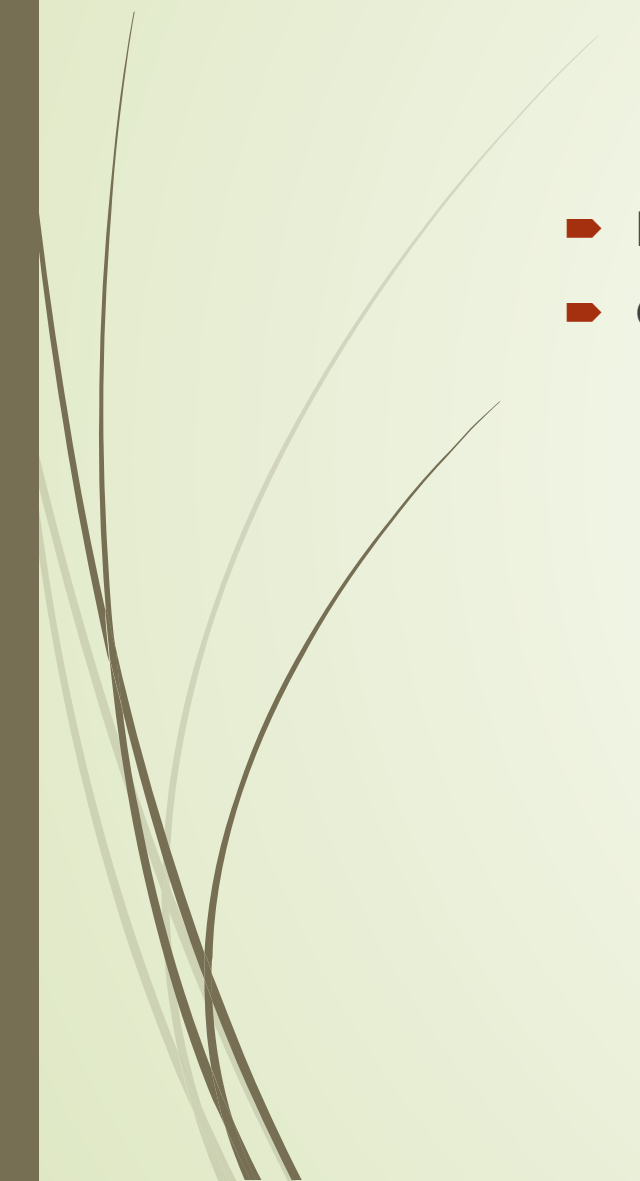
DATE OF DEATH		<input type="checkbox"/> Actual <input type="checkbox"/> Estimated	AUTOPSY PERFORMED?		DID TOBACCO/ALCOHOL USE CONTRIBUTE TO DEATH? (statistical use only-will not appear on certificate)				
TIME OF DEATH (0000-2359)		<input type="checkbox"/> Actual <input type="checkbox"/> Estimated	<input type="checkbox"/> Yes <input type="checkbox"/> No	TOBACCO <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Probably <input type="checkbox"/> Unknown		ALCOHOL <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Probably <input type="checkbox"/> Unknown			
PREGNANCY STATUS - complete only if decedent is female (statistical use only-will not appear on certificate) <input type="checkbox"/> Not pregnant within the past year <input type="checkbox"/> Not pregnant, but pregnant within 42 days of death <input type="checkbox"/> Not pregnant, but pregnant 43 days to 1 year prior to death					<input type="checkbox"/> Pregnant at the time of death <input type="checkbox"/> Unknown if pregnant within last year			MANNER OF DEATH <input type="checkbox"/> Natural <input type="checkbox"/> Homicide <input type="checkbox"/> Accident <input type="checkbox"/> Undetermined <input type="checkbox"/> Suicide <input type="checkbox"/> Pending	
PART I. CAUSE OF DEATH (Chain of Events leading directly to death) - Enter the diseases or complications that caused death.							Interval Between Onset and Death		
a.									
(Due to)									
b.									
(Due to)									
c.									
(Due to)									
d.									
PART II. OTHER SIGNIFICANT CONDITIONS contributing to death but not resulting in the underlying cause given in Part I.									
I attest the information I have provided is accurate to the best of my knowledge. I understand that <u>the provided information, unless otherwise noted, will appear on the certified copy of the death record.</u> NOTE: A cause of death that indicates <u>any type of trauma or poisoning</u> (in any part of the cause), sudden unexplained death or unknown cause of death must be signed by the Coroner or Medical Examiner of jurisdiction. A certificate signed by the wrong medical certifier will be rejected. Contact the State Vital Records Office at <a href="mailto:DHSVitalRecords@wisconsin.gov">DHSVitalRecords@wisconsin.gov</a> with any questions. Use 'COD' in the subject line. By law [s. 69.18 (20)], the medical certifier must complete the cause of death and return it to the funeral director within 5 days of the date of death. PENALTIES: Any person who willfully and knowingly supplies false information to be used in the preparation of a death certificate is guilty of a Class I felony per Wis. stats. 69.24(1)(c).									
PRINT LEGIBLY - CERTIFIER'S NAME, TITLE, AND LICENSE NUMBER <small>(if different than information printed above)</small>					 0053514011				
SIGNATURE - Certifier <b>SIGN IN THE BOX BELOW</b> ↓									



Date Signed (MM/DD/YYYY)

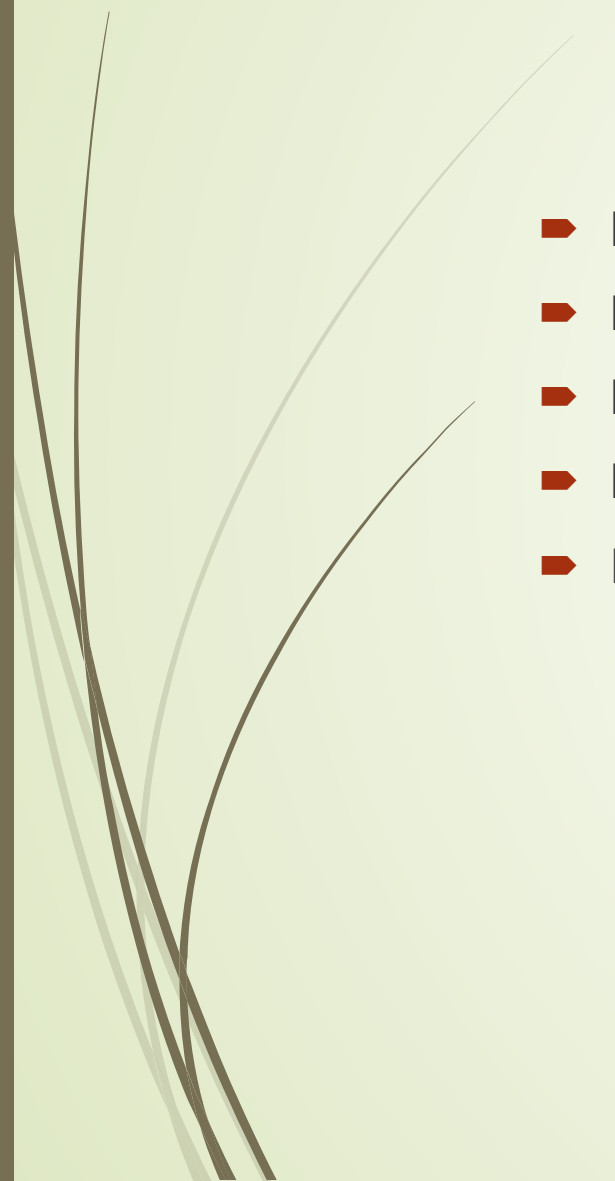


# Death Certificate Problems

- ▶ Frequently filled out incorrectly
  - ▶ Our offices screen them, but can't catch 100%
- 



# Problem Style 1: The Diagnosis Dump

- Ia. Myocardial infarction
  - Ib. Chronic kidney disease
  - Ic. Osteoporosis
  - Id. Diabetes, RA, HTN, smoking
  - Part II: (blank)
- 




# Problem Style 2: The Man of Few Words

- ▶ Ia. Hypertension
- ▶ Ia. Epilepsy
- ▶ Problem: Often not telling the whole story
- ▶ Is often something that lead to or exacerbated the Ia that is getting forever lost





# Preferred style: The DC Haiku



Succinct yet complete  
Accurate death reporting  
Happy statistics



# Examples



- ▶ 1a. Aspiration pneumonia
  - ▶ 1b. Alzheimer dementia
- 
- ▶ 1a. Aspiration pneumonia
  - ▶ 1b. Vascular dementia
  - ▶ 1c. Atherosclerotic cardiovascular disease
  - ▶ 1d. Familial hypercholesterolemia
- 
- ▶ 1a. Aspiration pneumonia
  - ▶ 1b. Intracerebral hemorrhage
  - ▶ 1c. Traumatic brain injury



# The issue

- ▶ In 2021, we accepted jurisdiction on 155 out of 1175 total deaths in FDL County
  - ▶ Means we declined jurisdiction on 1020 (87%)
    - ▶ Means the DC was signed by one of the decedent's doctors (often a PCP or palliative care doctor)
    - ▶ By listening to me for the last ten minutes....
      - ▶ You have just received more training in how to sign a death certificate than >99% of doctors in this state



# The extent of physician DC training:

- ▶ One day during morning rounds....
  - ▶ Attending: "Hey Random Intern 1, you saw Mr. Jones, right? He died last night. Please fill out his death certificate while we round on Mrs. Smith."
  - ▶ Random Intern 1 (thinking): *"Really? I've never signed one before and I saw that guy ONCE at 3 AM when he crashed! I don't know how to do that!"*
  - ▶ What Random Intern 1 says: "I'm on it! Anyone want coffee while I'm going to the nurse's station?"
- ▶ ....and that's it.



# The truth of it:

- ▶ Many clinicians on some level view death as a failure on their part
  - ▶ Signing a DC forces them to confront this and makes them uncomfortable/feel guilty
- ▶ None of the med schools in the state provide any training on how to sign out a DC
- ▶ Few, if any, residency programs in ANY specialty/subspecialty provide this training



# Opportunities to train


- Few
- Tried reaching out
  - “We do not have time.”
  - “Our orientation/lunchtime lectures are already completely booked up.”
  - “Interesting idea, but I do not know who to ask about it.”
- The handful of times I have been able to, hear this:
  - “Wow, I’ve been doing it wrong for years.”





# The money thing

- ▶ Medicare/Medicaid provides no reimbursement for signing a DC
  - ▶ Or any penalty for inaccurate reporting
- ▶ Generally: If there is no compensation for it, it does not get trained (or only trained to the bare minimum)
  - ▶ Autopsies
    - ▶ Used throughout the 20<sup>th</sup> century as QA/QC/Learning opportunity
    - ▶ Medicare stopped paying for them in the 1980s
    - ▶ Private insurance followed suit
    - ▶ Rate of autopsies performed in academic centers went from over 50% to <10%
      - ▶ Minimum number of required autopsies for pathology residency has been reduced as well
      - ▶ Medical autopsies often viewed as a burden by pathology groups that still do them

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- ▶ Accounts for the variability/inconsistency for most natural deaths in this state
  - ▶ Address these issues, you address 87% of signed death certificates




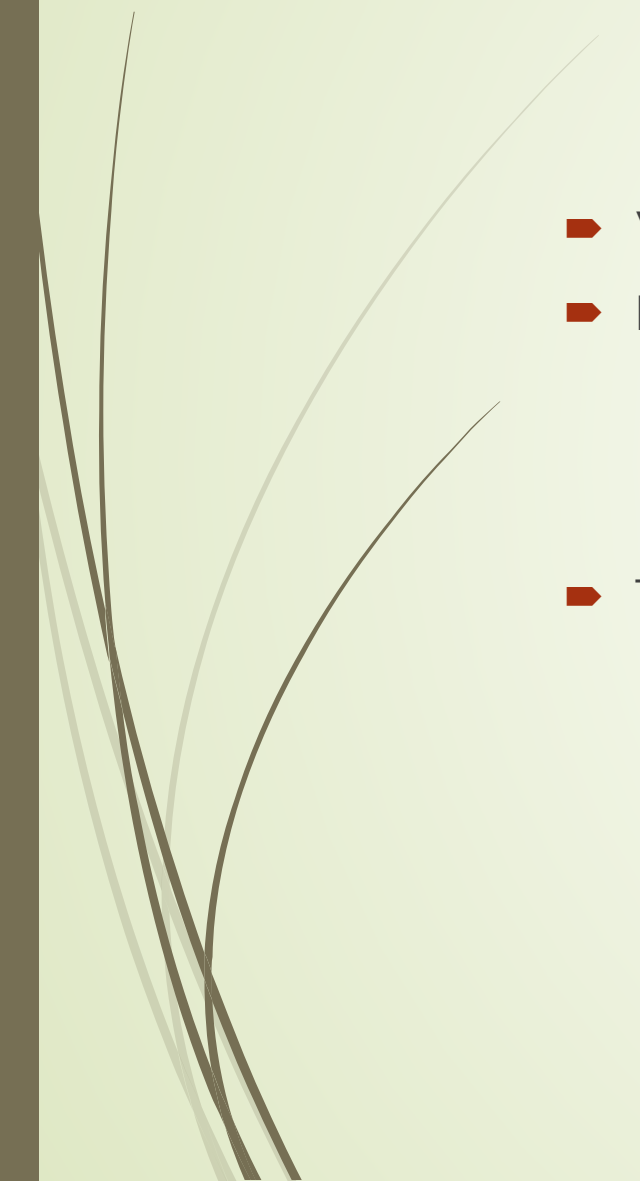
# The other 13%

- ▶ 72 different counties
  - ▶ 72 offices
    - ▶ 64 managing teams
      - ▶ 64 different ways of doing things



# Widely different philosophies

- ▶ I did my fellowship evenly between Ann Arbor and Detroit
- ▶ Other FPs trained in New York, Milwaukee, or Minneapolis
- ▶ Some ME/Cs have a degree in forensic science
- ▶ Some have a medical background
- ▶ Some come from law enforcement
- ▶ Others purely on the job training
  
- ▶ None of this is a bad thing!
  - ▶ Creates numerous different approaches
  - ▶ Also creates different “clusters of practice”

- 
- 
- ▶ Variability in training emphases are recognized on a national level
  - ▶ Per the National Association of Medical Examiners Manner of Death Guide:
    - ▶ “Thus the recommendations herein are ones selected to foster a **consistent** approach amongst certifiers, not because the recommended approach is the “right” or the “better” one.
  - ▶ The goal of any one ME/C office is to be consistent with itself



# Scenarios

- ▶ Person found deceased with a powder, needles, and other paraphernalia in the vicinity.
- ▶ Toxicology: Cocaine, fentanyl, buprenorphine, alprazolam, caffeine, metoprolol, naloxone, diphenhydramine, and aspirin
  - ▶ Only the fentanyl is at a classically fatal level
- ▶ What do you call the cause of death?
- ▶ What do you call the manner of death?





# Scenarios

- ▶ Two friends are out deer hunting. A buck jumps up between them, and one person takes a shot, missing the deer and hitting their friend in the chest
- ▶ Cause of death is self evident
- ▶ But what of the manner?



# Scenarios

- ▶ Person is seen standing on the railing of a 5 story observation tower, contemplating jumping. Witnesses state it looked as if they were about to climb down, lost their balance, and fell.
- ▶ What manner do you use?



# Other issues to consider

- ▶ The different offices in this state are fairly independent, and treasure that independence
  - ▶ In short: a top down solution would be unlikely to succeed
- ▶ Various institutions without regulatory authority have attempted to institute guidelines (ex. SUID deaths)
  - ▶ Done with little to any local collaboration
  - ▶ Very little buy in from those on the ground
- ▶ Does not currently exist a regulatory entity in the state to regulate how DCs are signed



# Possibilities

- ▶ Centralized/Statewide ME/C system
  - ▶ States like NM and GA have centralized systems
  - ▶ Disadvantages include a lack of flexibility at the local level and the requirement of creating a new statewide office
- ▶ Operate within existing organizations (ex. WCMEA)
  - ▶ To my knowledge, WCMEA has generally not taken on this role
  - ▶ A voluntary organization, not 100% membership
- ▶ A common council type set up to standardize reporting and procedures
  - ▶ Would still require something to be created, but would operate from a “bottom-up” approach



Questions?