

PROJECT ECHO: OD-FIT

Overdose Fatality Investigation Techniques

Cause and Manner of Death

Completing a thorough and accurate death certificate is an important part of a medicolegal death investigation, as the death certificate serves as a summation of the information collected through the investigation. Death certificates are not only a valuable document for the family, but the information listed on that certificate informs public health and public safety. The medical section of the death certificate has two sections requiring data—cause of death and manner of death. It is important to understand the differences between each to ensure the death certificate demonstrates an accurate story about the death.

Relevant Terminology

- **Cause of death (COD)**: An injury or disease which, in a natural, unbroken sequence uninterrupted by an efficient intervening cause, produces death and in whose absence death would not have occurred.
- **Death certificate (DC)**: A permanent document registered with the vital records office that states the identification, fact of death, cause of death, and manner of death. A DC is also a source of mortality statistics.
- **Manner of death (MOD)**: A classification system based on the circumstances under which death occurred; usually consists of an accident, homicide, natural, suicide, or undetermined. These manners are then used for public health and vital statistics purposes.
- **Accident**: Traumatic deaths lacking human agency, self-harm without intent to cause death, and, by convention, motor vehicle crashes that do not suggest suicide or homicide. Unexpected or unforeseen death due to injury or poisoning without intent to harm or cause death.
- **Homicide**: Traumatic death occurring at the hand of another person (either by commission or omission). Demonstration of intent to harm is not necessarily required. Death as a result of a volitional act committed by another person (e.g., injury, poisoning). The classification of homicide does not necessarily indicate that a crime was committed.
- **Natural**: Death is completely the result of disease. No trauma is involved. Death due solely to natural disease.
- **Suicide**: Death resulting from a fatal self-inflicted trauma with intent to injure self at the time of injury. Death resulting from intentional/volitional self-inflicted act.
- **Undetermined**: Manner of death used when the information pointing to one manner of death is no more compelling than another when the circumstances surrounding the death are unknown. A designation for deaths where more than one manner of death can be reasonably considered.
- **Part 1**: The primary cause(s) of death on the death certificate.
- **Part 2**: This is the proper location for a certifier to list “other significant conditions” on the death certificate. For death certification, part 2 of the death certificate should contain any pre-existing

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or coexisting disease or injury that contributed to death but DID NOT result in the underlying cause of death.

Key Takeaways

- In addition to being a document to inform family and allow them to provide proof of death for banking and insurance needs, death certificates help inform the status of the nation’s health. Many government entities and researchers use the information to make decisions about public health and public safety.
- For part I of the death certificate, line A should be directly due to line B, which is due directly to line C of the DC. An example would be aspiration pneumonia due to dysphagia due to Alzheimer’s disease. An example of an inaccurate cause of death statement would be Alzheimer’s disease due to kidney disease due to a cerebrovascular accident. This is inaccurate as these three contributory conditions are not directly related to one another. Additionally, cardiac arrest due to multiorgan failure is also inaccurate as it does not tell the complete story of the underlying disease process. Part II of the cause of death allows for the capture of other important contributory causes of death.

To learn more about cause and manner of death, check out the [session recording](#) and [slides](#) or email odfitecho@astho.org for more information.

About the Presenter: Thomas Gilson, MD, is the chief medical examiner and Crime Laboratory Director of Cuyahoga County, located in Metropolitan Cleveland. Before assuming this position in 2011, Gilson served as a chief medical examiner in Rhode Island. He is board-certified in Forensic Pathology and has over 25 years of experience as a practicing medical examiner. Gilson was awarded a Medical Doctor’s degree from The Medical College of Pennsylvania and served as a residency in anatomic and clinical pathology at the University of Cincinnati Pathology. He received his forensic training during a Fellowship with the Medical Examiner of New York City. Gilson’s academic interests include the opioid crisis in the United States and the interface of forensic medicine with public health.



About the Presenter: Kelly Keyes is a board-certified medicolegal death investigator and is currently a research forensic scientist in the Center for Forensic Sciences at RTI International. This follows over 24 years at work in a large sheriff’s coroner’s office in California, primarily as a death investigator. Keyes spent much of her career as a supervising investigator, performing and overseeing over 10,000 death investigations and certifying thousands of death certificates over her career. She has investigated and supervised death investigations of all types. Keyes is the president-elect for the International Association of Coroners and Medical Examiners, an affiliate member of the National Association of Medical Examiners, a member of the American Academy of Forensic Sciences, and chair of the MDI subcommittee of the National Institute of Standards and Technology Organization of Scientific Area Committees.



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