

Completing a Cause-of-Death Statement: Basic Concepts

Coroner/Medical Examiner Referrals

- Deaths known or suspected of having been caused by injury or poisoning should be reported to the medical examiner or coroner, and you will complete the death certificate if the medical examiner or coroner doesn't accept the case.

General

- Cause-of-death information should be your best medical opinion.
- List only one condition per line.
- Avoid abbreviations and parentheses.
- Provide the best estimate of the interval between the presumed onset of each condition and death. The terms "approximately" or "unknown" may be used. Do not leave the interval blank; if unknown, indicate that it is unknown.
- If additional medical information or autopsy findings become available that would change the cause of death originally reported, the original death certificate should be amended by the certifying physician by filing an affidavit of correction.
- Report each disease, abnormality, injury, or poisoning that you believe adversely affected the decedent. A condition can be listed as "probable" even if it has not been definitively diagnosed.

Order and Place of Entry

- Enter the most recent condition, the next oldest condition, etc., with the oldest or originating condition as the final entry.
- Each condition should cause the one above it.
- A specific underlying cause-of-death should be reported as the final entry so there is no ambiguity about the etiology of this cause. A complete sequence should be reported that explains why the patient died. The sequence may be an etiological or pathological sequence as well as a sequence in which an earlier condition is believed to have prepared the way for a subsequent cause by damage to tissues or impairment of function.

- No further entry is necessary if a single cause of death describes completely the train of events resulting in death.
- Conditions or diseases should contribute to death but not result in the last entry.
- If two or more possible sequences resulted in death, report the one that in your opinion, most directly caused death. Then report the other conditions or diseases.

Additional Information Needed for Some Causes

- Mechanistic terminal events such as respiratory arrest, asystole, cardiac arrest, cardio-respiratory arrest, ventricular fibrillation, atrial fibrillation, and electromechanical dissociation should not be the only condition included in the cause-of-death statement and are unlikely to be the underlying cause.
- Always report an etiology for organ system failure such as congestive heart failure, hepatic failure, renal failure, or respiratory failure on the lines beneath it.
- A primary site and/or histological type should be specified for neoplasms, or specify that site and type are unknown.

Alcohol Use, Tobacco Use, Pregnancy

- If, in your opinion, the use of alcohol, tobacco, other substance by the decedent, or a recent pregnancy or injury caused or contributed to death, then this condition should be reported.

Injuries

- For deaths resulting from injuries, always report the fatal injury event, the trauma, and the impairment of function.
- Injury items should have entry if the manner has been reported as accident, homicide, or suicide.

Common Problems in Death Certification

ELDERLY: The elderly decedent should have a clear and distinct etiological sequence for cause of death, if possible. Terms such as senescence, infirmity, old age, and advanced age have little value for public health or medical research. Age is recorded elsewhere on the certificate. When a number of conditions resulted in death, you should choose the single sequence that, in your opinion, best describes the process leading to death, and place any other pertinent conditions after. If, after careful consideration, you cannot determine a sequence that ends in death, then enter "unspecified natural causes" (e.g., a 102 year old female who was frail but in reasonably good health and who died quietly in her sleep).

INFANTS: The infant decedent should have a clear and distinct etiological sequence for cause of death. If possible, "Prematurity" should not be entered without explaining the etiology of prematurity. Maternal conditions may have initiated or affected the sequence that resulted in infant death, and such maternal causes should be reported in addition to the infant causes on the infant's death certificate (e.g., Hyaline membrane disease due to prematurity, 29 weeks due to placental abruption due to blunt trauma to mother's abdomen).

SURGERY/PROCEDURES: When surgery, procedure, or medication use is reported, also report the condition that necessitated the treatment.

Avoid Ambiguity

For each of the following, report additional information about the etiology whenever possible. If you cannot determine the etiology of a process, then qualify it as unknown, undetermined, probable, presumed, or unspecified etiology to show that a distinct etiology was not inadvertently omitted.

Abdominal hemorrhage	Carcinomatosis	Dysrhythmia	Increased intracranial pressure	Pulmonary insufficiency
Abscess	Cardiac arrest	End-stage liver disease	Intracranial hemorrhage	Renal failure
Adhesions	Cardiac dysrhythmia	End-stage renal disease	Malnutrition	Seizures
Adult respiratory distress syndrome	Cellulitis	Epidural hematoma	Metabolic encephalopathy	Sepsis
Altered mental status	Cerebral edema	Exsanguination	Multi-organ failure	Septic shock
Anemia	Cerebellar tonsillar herniation	Failure to thrive	Multi-system organ failure	Shock
Anoxia	Chronic bedridden state	Fracture	Necrotizing soft-tissue infection	Subdural hematoma
Anoxic encephalopathy	Cirrhosis	Gangrene	Open (or closed) head injury	Subarachnoid hemorrhage
Arrhythmia	Coagulopathy	Gastrointestinal hemorrhage	Pancytopenia	Thrombocytopenia
Ascites	Compression fracture	Heart failure	Paralysis	Uncal herniation
Aspiration	Congestive heart failure	Hemothorax	Perforated gallbladder	Urinary tract infection
Atrial fibrillation	Convulsions	Hepatic failure	Peritonitis	Ventricular fibrillation
Bacteremia	Decubiti	Hepatitis	Pleural effusions	Ventricular tachycardia
Bedridden	Dehydration	Hepatorenal syndrome	Pneumonia	Volume depletion
Biliary obstruction	Dementia (when not otherwise specified)	Hyperglycemia	Pulmonary edema	
Bowel obstruction	Diarrhea	Hyperkalemia	Pulmonary embolism	
Brain injury	Disseminated intravascular coagulopathy	Hyponatremia		
Brain stem herniation		Hypotension		
Carcinogenesis		Immunosuppression		

For More Information

Center for Health Statistics, Washington Department of Health, Physician's Handbook on Birth, Fetal Death and Death Registration. Call (360) 236-4300 or go to the Center for Disease Control and Prevention web site at: http://www.cdc.gov/nchs/data/misc/hb_cod.pdf to obtain a free copy.

Tutorial from the New York City Department of Health and Mental Hygiene:

<http://www.nyc.gov/html/doh/media/video/icdr/>

National Center for Health Statistics, instructions for completing cause-of-death sections of death certificates: http://www.cdc.gov/nchs/nvss/writing_cod_statements.htm

ALERT – More cause-of-death information needed on death certificates for use with ICD-10

Natural Causes

Cardiac Arrest

- Cardiac arrest is considered a mode of dying and should not be reported as the only cause
- Include additional information about the etiology of the arrest

Cirrhosis of the Liver

- Specify the etiology of the cirrhosis (e.g. hepatitis (specify type), alcoholism, malignancy, etc.)

Dementia

- Specify the type or etiology of the dementia (e.g. Alzheimer's, multi-infarct, alcoholic, etc.)

Failure of an Organ or System (e.g. congestive heart failure, liver failure) or Septicemia

- Include additional information about the etiology of the failure or septicemia

Hemorrhage of Any Site

- Include additional information about the etiology of the hemorrhage
- If the hemorrhage was caused by an external event

Leukemia

- Specify the type of Leukemia (e.g., lymphoid, myeloid, acute or chronic)

Malnutrition

- Include additional information about the etiology of the malnutrition
- Include information that makes it clear whether the malnutrition was due to a disease process or an intent not to eat

Multiple Organ Failure

- Choose a single sequence to describe the process leading to death
- List the other conditions
- Specify which systems are involved

Natural Causes

- If a descriptive sequence of causes of death cannot be determined despite careful consideration of all information available and circumstances of death, you may report "unspecified natural causes"
- If any potentially lethal medical conditions are known but cannot be cited as part of the sequence leading to death, they should be listed

Neoplasms

- Specify which neoplasms are primary site(s) and which are secondary site(s)
- If the primary site is unknown, state "unknown primary"
- Specify whether or not tumors or neoplasms are malignant
- Specify the histologic type, if known
- When using terms such as metastatic or metastases, add the word "to" or "from"
- Be specific about the site, part, or lobe of an organ affected

Old Age, Senility

- Include a clear and distinct etiological sequence for cause of death
- Since age is reported on the certificate, terms like senescence, infirmity, and old age do not represent etiology

Why is Cause-of-Death Information Important?

Cause-of-death data is the source for local, state, and national mortality statistics and is used to determine which medical conditions receive research and development funding, to set public health goals, and to measure health status at local, state, national, and international levels. Because statistical data derived from the death certificates can be no more accurate than the information on the certificate, it is very important that certifiers strive for accuracy. Furthermore, the potential usefulness of detailed specific information is greater than more general information.

ALERT – More cause-of-death information needed for use with ICD-10

Injuries and Poisonings

Adverse Reaction to Prescribed Medication

- Specify what condition necessitated the treatment

Surgeries and Procedures

- Specify what condition necessitated the treatment

Inhalation, Asphyxia, Aspiration

- If the aspiration was due to a disease or condition, specify the condition.
- Specify if aspiration involved food, foreign body, mucus, or blood
- If mucus was involved, specify if the mucus entered into bronchioles, bronchus, larynx, lung, nasal sinus, nostril, pharynx, respiratory tract, throat, or trachea

Aircraft Accident

- Specify the type of aircraft (helicopter, ultralight, private fixed-wing, commercial fixed-wing, spacecraft, balloon, hang-glider, etc.)

Drowning

- If a boat was involved, specify the type of boat (merchant ship, passenger ship, fishing boat, sailboat, canoe, kayak, inflatable craft, water-skis, etc.)
- Specify if the drowning occurred while in a bath-tub or swimming-pool or following a fall into a bath-tub or swimming pool, or occurred while in natural water

Fall

- State how the fall occurred
- Specify if the fall involved a bed or other furniture, stairs, ladder, wheelchair, ice, snow, ice-skates, roller-skates, skateboards, playground equipment, etc.
- Specify if the fall occurred while being carried or supported by other person(s)
- If none of the above apply, specify if the fall occur on the same level or involved a trip (or slip) and fall

Fires

- Specify the origin of the fire (stove, blowlamp, candle, match, torch, fireplace, etc.)

- If the fire was caused by an explosion, specify the agent (aerosol, gasoline, bomb, etc.)
- Specify whether the fire was located in a private dwelling, other building or structure, or other location (e.g., stationary vehicle, forest, etc.)
- If the fire ignited another object or material, specify (e.g., explosive material (specific type), clothing, etc.)

Gun-related Deaths

- Specify the type of weapon (rifle, shotgun, handgun, etc.)

Neglect or Abandonment or Maltreatment

- Specify if the maltreatment was by a spouse or partner, parent, acquaintance, official authorities, etc.)

Poisoning or Drug Overdose

- Specify the name of the drug(s) or medication(s) or other substance(s). If unknown, state "unknown drugs"
- When reporting morphine or hydromorphone, specify if this was pharmaceutical (instead of a metabolite of heroin)

Traffic Accident

- Specify the status of the decedent (driver, passenger, occupant, pedestrian, bicyclist, or person outside of the vehicle (e.g., hanging on outside or on roof))
- Specify the type of vehicle (automobile, motorcycle, 3-wheeled motor vehicle for on-road use, van, pick-up truck, heavy transport vehicle, bus, all-terrain vehicle designed for off-road use, bicycle, train, streetcar, animal, etc)
- Specify the location at the time of the accident (on highway, off highway, driveway, stationary, railway yard, railroad track, etc.)
- Specify if a collision occurred or if there was a roll over
- If a collision occurred, specify the object(s) or type(s) of vehicle involved

Examples:

Driver of a car that collided with semi-truck

Passenger of pickup truck that ran off road and struck a tree