

EVERYONE DIES OF CARDIAC ARREST: IMPROVING ACCURACY OF DEATH CERTIFICATION

Why do we need this presentation?

- Nationwide, around 50% of death certificates contain a major error affecting ICD-10 coding of diseases or disorders
 - Of these, around 60% have incorrect or missing information for the underlying cause of death
- Recent survey of Tennessee physicians:
 - Nearly half (46%) of respondents indicated they had never received formal training on death certification
 - Nearly 90% of respondents indicated a need for training in the death certification process in Tennessee



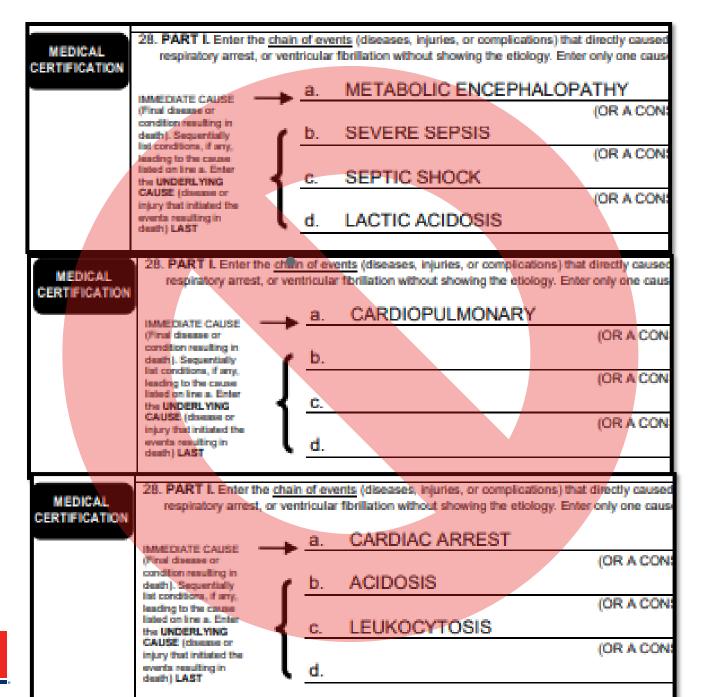
Accuracy and Timeliness in Death Certification

- The death certificate must be completed <u>before final</u> <u>disposition</u> of the body; delay in completing and signing may interfere with funeral arrangements and in settling estates
- Significant implications in <u>death benefits</u> paid to families (for example, workers' compensation claims; double indemnity payments in cases of accidental death; FEMA burial benefits)
- The death certificate is the source of information for regional, state, and national <u>mortality data</u>, which in turn is used for funding and directing research and public health efforts



		SPIRATORY ARREST, OR VENTRICULAR FIBRILLATION WITHOUT SHOWING THE ETIOLOGY. ENTER ONLY ONE CAUSE ON A LINE.
IMMEDIATE CAUSE	a.	DEATH
(Final disease or condition resulting in death). Sequentially list conditions, if any.	b.	
leading to the cause listed on line a. Enter the UNDERLYING CAUSE	C.	
(disease or injury that initiated the events resulting in death) LAST	d	





Medical certification of death

Certificate registered with state by funeral home

CDC assigns ICD-10 codes

(one underlying cause of death and up to 20 additional multiple causes of death)

Mortality data

Jurisdiction: Who Should Complete and Sign the Death Certificate?

- In most natural deaths, a treating physician is responsible for the medical certification of death, including deaths which occur outside of health care facilities or in which the physician is not physically present
- The medical examiner may assume jurisdiction only under certain circumstances



Jurisdiction: Who Should Complete and Sign the Death Certificate?

- Non-medical examiner cases will be signed by "the physician in charge of the patient's care for the illness or condition that resulted in death...In the absence of the physician, the certificate may be completed and signed by another physician designated by the physician" (TCA 68-3-502)
- Certifier is immune from civil suit if completed in good faith; failure to do so may result in discipline of medical license



The medical certification of death is to be completed within _____ of death

A.30 days

C. 48 hours

B.5 days

C.48 hours

D.96 hours



Tennessee Medical Examiner System

State Chief Medical Examiner (education and training of county MEs and MDIs; record-keeping; mass fatalities/public health threats)

Regional Forensic Centers (five; staffed by board-certified forensic pathologists; perform autopsies)

County Medical Examiners and Investigators (county ME must be licensed MD or DO; MDI must be RN, PA, EMS, or ABMDI registry or diplomate)

ALL AUTHORITY RESTS AT THE COUNTY LEVEL



Davidson and Williamson County Medical Examiner

- Forensic Medical Management
 Services
- (615) 743-1800



Medical Examiner Certification of Death

- The county medical examiner for the county in which the death occurred should be notified in "any case involving a homicide, a suspected homicide, a suicide, or a violent, unnatural, or suspicious death" (TCA 38-7-106 and 38-7-108)
- Examples include:
 - Deaths due or related to acute overdose of legal or illegal drugs and/or alcohol
 - Deaths due to drowning
 - Deaths due to thermal or chemical burns, or smoke inhalation
 - Death by disease, injury, or toxicity resulting from employment
 - Deaths due to hypo- or hyperthermia
- In such cases, the county medical examiner "shall investigate and certify the death certificate" (TCA 68-3-502-d)
- Deaths of prisoners
- Sudden unexplained deaths in people with no known medical process(es) which could reasonably account for death



Medical Examiner Certification of Death: Delayed Non-natural Deaths

- If any external force or entity is related <u>in any way</u> to death, the manner of death <u>cannot</u> be considered natural
- All non-natural deaths fall under medical examiner jurisdiction
 - Jurisdiction is based on the county in which death was pronounced
- The interval of time elapsed between injury and death is irrelevant
- Examples of delayed deaths include:
 - An elderly person who dies months after becoming bedridden after a fall;
 - A person who dies of pneumonia due to paraplegia resulting from a car accident years before;
 - A person who dies a week after an anoxic brain injury caused by choking on food



Major Take-Home Points

- If any discrete, identifiable external force, object, or substance contributed in any way to death, the death cannot be considered natural and must be reported to the county medical examiner, regardless of the interval elapsed between the inciting event and death
- The BOTTOM LINE is THE BOTTOM LINE



Physician (Non-ME) Certifiers

- One of the responsibilities of a primary care physician is to provide death certification for his or her patients who die of natural, diagnosed causes, even if the physician was not present at the time of death (TCA 68-3-502 (c)(1)
 - If the patient has not been seen by the physician in the four months leading up to death, the physician may still certify the death, or may refer case to the county medical examiner
- Other physicians knowledgeable with patient history may also certify deaths
 - Examples: cardiologist, oncologist, emergency room physician



When and Where Death Occurs: Brain Death Equals Death

- T.C.A. 68-3-501 (Uniform Determination of Death Act): death occurs when either:
 - Irreversible cessation of cardiac and respiratory systems occurs; or
 - Irreversible cessation of function of entire brain occurs
- T.C.A. 68-3-502: when a body is discovered dead, the place, date, and time of death are when and where the body was found



Has Death Even Occurred?

28. PAR I I. Enter the chain of events (diseases, injuries, or complications) that directly caused the derespiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a li EXACT CAUSE UNKNOWN IMMEDIATE CAUSE (OR A CONSEQUE (Final disease or condition resulting in PROBABLE CARDIAC ARREST b. death). Sequentially list conditions, if any, (OR A CONSEQUE leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or (OR A CONSEQUE injury that initiated the events resulting in death) LAST



Spelling Counts

28. PART I. Enter the <u>chain of ev</u> respiratory arrest, or ventricula	Approximate interval: Onset to death			
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in death) LAST PART II. Other significant condition	ons cor	tributing to death but not resulting in the underlying cause given in PART I. MELLITUS TYPE TWO	29a· WAS AN AUTOPSY PE)
	COMPLETE THE CAUSE OF	DEATH? Yes No		



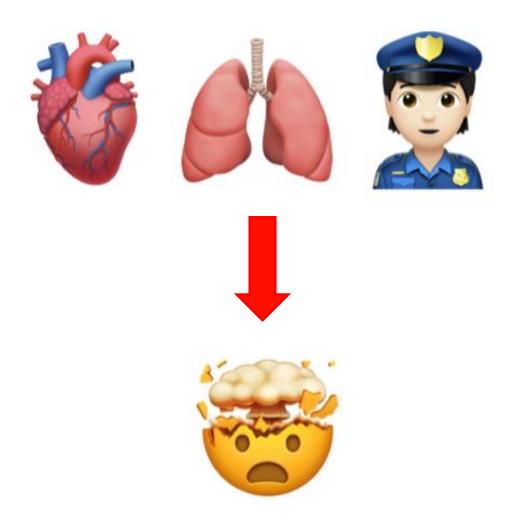
No Emojis, Please

28. Part I. ENTER THE CHAIN OF EVENTS (DISEASES, INJURIES, OR COMPLICATIONS) THAT DIRECTLY CAUSED THE DEATH, DO NOT ENTER TERMINAL EVENTS SUCH AS CARDIAC ARREST, RESPIRATORY ARREST, OR VENTRICULAR FIBRILLATION WITHOUT SHOWING THE ETIOLOGY. ENTER ONLY ONE CAUSE ON A LINE.

IMMEDIATE CAUSE (Final disease or condition resulting in death). Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST

a.	SYSTOLIC CONGESTIVE © FAILURE
b.	
c.	
d.	







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4. TIME OF DEATH (Approx.)		o under 1 YEAR fonths Days	Sc. UNDER 1	Minutes 6. DATE	OF BIRTH (Month, C	Day, Year)	7. BIRTHPLAC Country)	CE (City and State or
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Inpatient ER/Outpa				ng term care facility		Other residence	Other (Specify)
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	SS OF FUNERAL HO	OME.	22b LICENSE	NUMBER 22c S ▶		BALMER D (Month, Day, Yel	23b. LICENSE N	
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	26. CERTIFIER (Check only one):					
CERTIFIER	26a. PHYSICIAN -To the best of	of my knowledge, death occurred at the	date and place, and due to the cause(s)	and manner stated.		
PHYSICIAN	26b. MEDICAL EXAMINER -	(s) and manner stated.				
OR MEDICAL EXAMINER	27a. SIGNATURE OF CERTIFIER		27b. LICENSE NUMBER	27c. DATE SIGNED (Month, Day, Year)		
EXECUTING CAUSE OF DEATH MUST	>		27d. NAME AND ADDRESS	I		
COMPLETE AND SIGN WITHIN 48 HOURS.	respiratory arrest, or ventricular fibril	diseases, injuries, or complications) tha ation without showing the etiology. Ente		er terminal events such as cardiac arrest,	Approximate interval: Onset to death	
MEDICAL	(Final disease or condition a resulting in death)		Due to (or as a consequence of)			
CERTIFICATION	Sequentially list conditions, b					
	if any, leading to the cause listed on line a. Enter the		Due to (or as a consequence of):			
	UNDERLYING CAUSE C.		Due to (or as a consequence of):			
	(disease or injury that initiated the events resulting d.		Due to (or as a consequence or).			
	in death) LAST		-			
	PART II. Other significant conditions co	ntributing to death but not resulting in the	ne underlying cause given in PART I.	29a. WAS AN AUTOPSY P	No	
				29b. WERE AUTOPSY FINI COMPLETE THE CAUSE OF	DINGS AVAILABLE: TO DE DEATH? Yes No	
	30. MANNER OF DEATH	31. DID TOBACCO USE CONTRIBUTE TO DEAT	32. IF FEMALE: 'H? Not pregnant within pas	et voor	nt but programt 42 days to	
	Natural Homicide		Pregnant at time of dea	1 year hefe	nt, but pregnant 43 days to re death	
	■ Accident ■ Pending Investigation ■ Suicide ■ Could not be determ	DNs Dilpinous	_ ~		pregnant within the past year	
	33. IF TRANSPORTATION INJURY, SPECIFY: Driver/Operator	34a. DATE OF INJURY (Month, Day, Year)	TIME OF 34c INJURY AT WORK? INJURY Yes No	34d. PLACE OF INJURY –at home, farm, str (Specify)	reet, factory, office, building, etc.	
	Passenger	34e. DESCRIBE HOW INJURY OCCU	IRRED	34f. LOCATION OF INJURY (Street and Nu	ımber. City or Town, State)	
	Pedestrian	O-C. DESCRIBE HOW INCOM! OCC.		(2300) 414	,,,,	
	Other (Specify)					



VRISM



M A I L I N G . A D D R E S S Tennessee Office of Vital Records Andrew Johnson Tower, 1st Floor 710 James Robertson Parkway Nashville, TN 37243

> P H O N E 1-(855) -VRISMTN



TENNESSEE VRISM

The purpose of the Tennessee VRISM system is to support the registration of Tennessee vital events for the Tennessee Department of Health and other users such as funeral directors, attending physicians, medical examiners and birthing facilities. This system may be used only for the purpose for which it is provided. Any attempt to file fraudulent certificates of live birth, death or reports of fetal death is punishable in accordance with Tennessee statutes.

By accessing this system, I agree to use this system only for the purpose of registering a Certificate of Live Birth, Certificate of Death or Report of Fetal Death for events occurring in the State of Tennessee.

I understand that failure to adhere to the above agreement will result in loss of access to the VRISM system. Any unauthorized access, misuse and/or disclosure of information may result in disciplinary action including, but not limited to, suspension or loss of individual or facility access privileges, an action for civil damages, or criminal charges.

LOGIN



VRISM Help

- Health.VRISM@tn.gov
- (855) 874-7686
- (855) VRISMTN



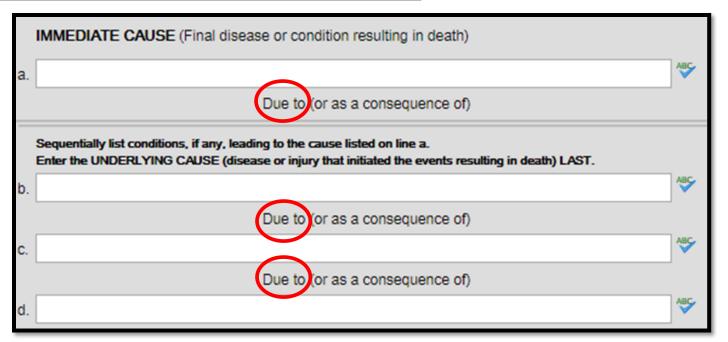
VRISM: Fields for Medical Certifier

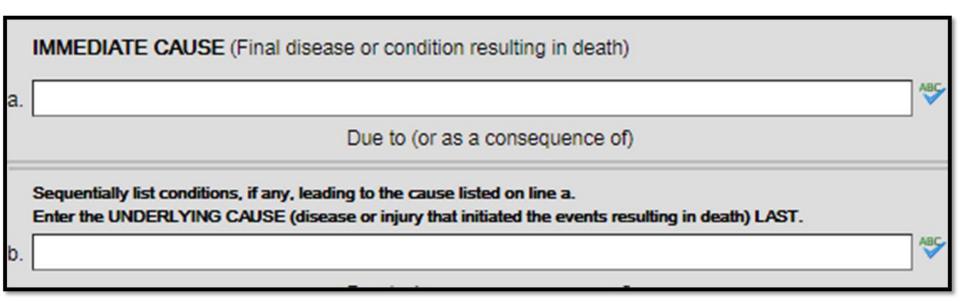
	26. CERTIFIER (Check only one):										
CERTIFIER	26a. PHYSICIAN -To the best of my knowledge, death occurred at the date and place, and due to the cause(s) and manner stated.										
OEKTII IEK											
PHYSICIAN	26b. MEDICAL EXAMINER - On the basis of examination, and/or investigation, in my opinion, death occurred at the date, and place, and due to the cause(s) and manner stated.										
OR MEDICAL	27a. SIGNATURE OF CERTIFIER LICENSE: NUMBER 27c. DATE SIGNED (Mor	ith, Day, Year)									
EXAMINER	40 **C**										
EXECUTING CAUSE OF	10 **Certifier**										
DEATH MUST											
COMPLETE AND SIGN	28. PART I. Enter the chain of events (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest,	Approximate interval:									
WITHIN 48	respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line.	Onset to death									
HOURS.	IMMEDIATE CAUSE										
	(Final disease or condition a.										
MEDICAL	resulting in death) consequence of)										
CERTIFICATION	Sequentially list conditions, b 8 **Cause of Death**										
	in any, leading to the cause										
	listed on line a. Enter the UNDERLYING CAUSE c.										
	Due to (or se a consequence of):	/ak.k									
		me/Autopsy**									
	in death) LAST										
	PART II. Other significant conditions contributing to death but not resulting in the underlying cause given in PART I.										
	☐ Yes ☐ 29b. WERE AUTOPSY FIN										
	COMPLETE THE CAUSE O	DE DEATHS Yes No									
	30. MANNER OF DEATH 31. DID TOBACCO USE 32. IF FEMALE:	OF DEATH?									
		int, but pregnant 43 days to									
	I ver before										
	The state of the s	f pregnant within the past year									
	Suicide Could not be determine t, but pregnant within 42 days of death										
	33. IF TRANSPORTATION 34a. DATE OF INJURY 34b. TIME OF 34c.INJURY AT WORK? 34d. PLACE OF INJURY –at home, farm, st INJURY, SPECIFY: (Supcify)	reet, factory, office, building, etc.									
	INJURY, SPECIFY: (Month, Day, Year) INJURY ☐ Yes ☐ No (Specify)										
	Passenger										
	Pedestrian 34e. DESCRIBE HOW INJURY OCCURRED 34f. LOCATION OF INJURY (Street and No	umber, City or Town, State)									
	Other (Specify)										
	Carrot (openity)										



Part I: Cause of Death Statement

- Read from top to bottom: Cause A is due to Cause B is due to Cause C is due to Cause D
- Can use only one line, or two, or three, or all four
- Last diagnosis listed will be coded as <u>underlying cause of death</u>, therefore:
- THE BOTTOM LINE IS THE BOTTOM LINE







Cause of Death Statement

- Cause of death is defined as "the <u>anatomic</u> disease or injury that <u>initiated</u> the train of morbid events leading directly to death"
- The cause of death statement on the death certificate represents the *medical opinion* of the certifier
- More likely than not



I should be ____% certain that my diagnosis in the cause of death statement is correct

A.75%

B.99%

C.100%

D.51%

E.33%

D. 51%

More likely than not



"To the best of my knowledge..."

PHYSICIAN-To the best of my knowledge, death occurred at the date, time, and place, and due to the cause(s) and manner stated.

MEDICAL EXAMINER-On the basis of examination, and/or investigation, in my opinion, death occurred at the date, time, and place, and due to the cause(s) and manner stated.

- Tennessee code grants civil immunity to certifying physicians acting in good faith (TCA 68-3-513)
- HOWEVER: physicians who refuse to or consistently fail to comply with rules and laws regarding death certification are subject to disciplinary action on their medical licenses for "unprofessional, dishonorable, or unethical conduct" Rule 0880-02-.14(13); TCA 68-3-502 and 63-9-108

 56 year old with hypertension suffers a hemorrhagic stroke

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death
a.	HEMORRHAGIC CEREBROVASCULAR ACCIDENT	ABC	
	Due to (or as a consequence of)		
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.		
b.	ESSENTIAL HYPERTENSION	ABC	
	Due to (or as a consequence of)		
C.		ABC	
	Due to (or as a consequence of)		
d.		ABC	

• 43 year old receives a bone marrow transplant and develops *C. difficile* colitis

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death
a.	CLOSTRIDIUM DIFFICILE COLITIS	ABC	
	Due to (or as a consequence of)		
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.		
b.	IMMUNOSUPPRESSION	ABC	
	Due to (or as a consequence of)		
C.	BONE MARROW TRANSPLANT	ABC	
	Due to (or as a consequence of)		
d.	ACUTE MYELOGENOUS LEUKEMIA	ABC	



- It may not be possible to identify the precise physiologic sequence (mechanism) leading up to death
- In such cases, the known diagnosis which could reasonably account for death should be listed as the cause
- Example: patient in hospice with metastatic lung cancer

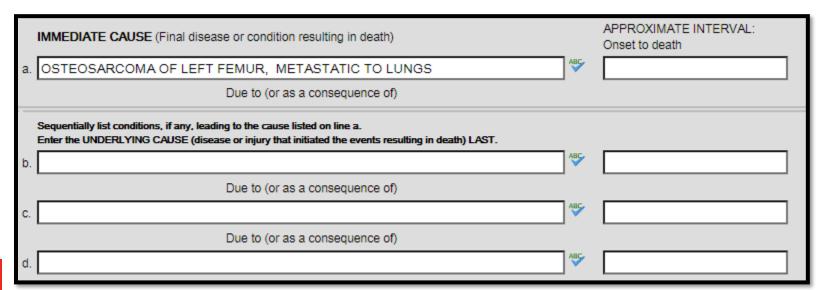
	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death
a.	ADENOCARCINOMA OF LUNG WITH METASTASES TO BRAIN	ABC	
	Due to (or as a consequence of)		
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.		
b.		ABC	
	Due to (or as a consequence of)		
C.		ABC	
	Due to (or as a consequence of)		
d.		ABC	

- It is acceptable to use the terms "probable", "possible", or "suspected"
- Example: 86 year-old with 7 cm abdominal aortic aneurysm found dead at home with distended abdomen

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death
a.	PROBABLE RUPTURED AORTIC ANEURYSM	ABC	
	Due to (or as a consequence of)		
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.		
b.	ATHEROSCLEROTIC CARDIOVASCULAR DISEASE	ABC	
	Due to (or as a consequence of)		
C.		ABC	
	Due to (or as a consequence of)		
d.		ABC	

Cancer-Related Deaths: Do This

- Include:
 - Primary site
 - Cell type, if known
 - Site(s) of metastases, if applicable

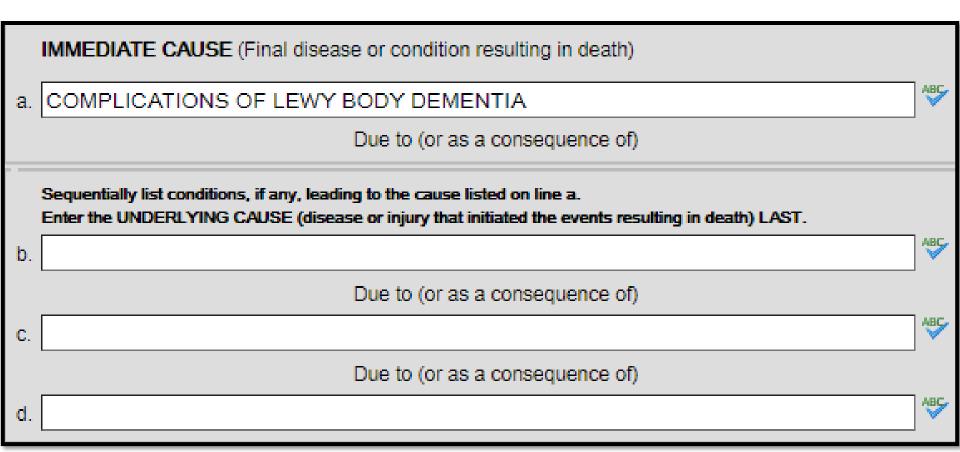


Not This

28. PART I. Enter the chain of events (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line **ENCEPHALOPATHY** a. IMMEDIATE CAUSE (OR A CONSEQUENCE OF) (Final disease or condition resulting in **BRAIN RESECTION** b. death). Sequentially list conditions, if any, (OR A CONSEQUENCE OF) leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or (OR A CONSEQUENCE OF) injury that initiated the events resulting in death) LAST



"Complications of..."



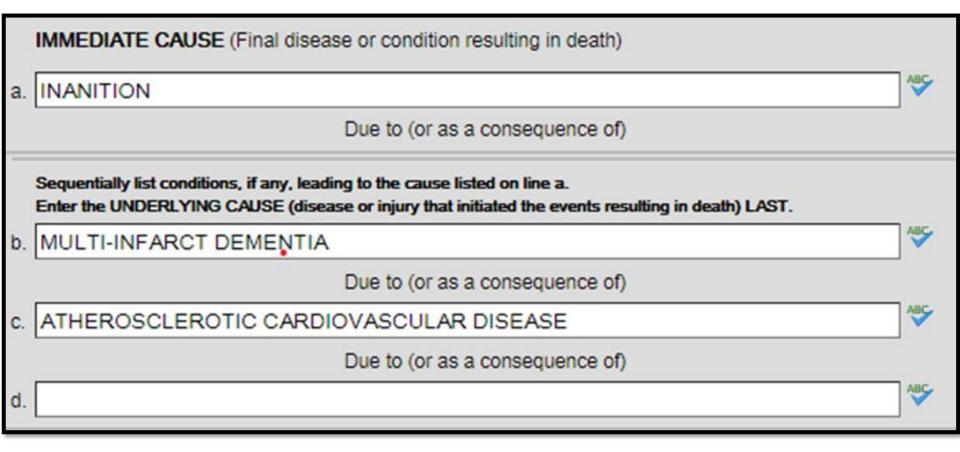


Aspiration Pneumonia

- Most cases of aspiration pneumonia occur in neurologically compromised patients
- The disease process causing the impairment should be listed as the underlying cause of death

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death
a.	ASPIRATION PNEUMONIA	ABC	
	Due to (or as a consequence of)		
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.		
b.	DEMENTIA, NOT OTHERWISE SPECIFIED	ABC	
	Due to (or as a consequence of)		
C.		ABC	
	Due to (or as a consequence of)		
d.		ABC	

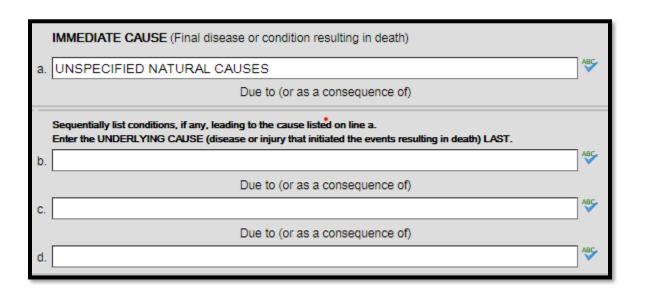
Deaths in the Elderly





Deaths due to "Old age"

- It is of little statistical value to list "senescence" or "old age" in the cause of death statement; the demographic information is captured in another part of the death certificate
- If an elderly person is found dead and they truly have no known medical diagnosis to account for death, the death may be certified as shown below (please use sparingly)





 PART I. Enter the <u>chain of ever</u> respiratory arrest, or ventricular f 					r terminal events	s such as cardiac arro	est,	Approximate interval: Onset to death
IMMEDIATE CAUSE	^	LITODOV						
(Final disease or condition resulting in death)	a. A	UTOPSY	Due to	(or as a consequence of)				
Sequentially list conditions,	b							
if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE	C		Due to	(or as a consequence of):				
(disease or injury that			Due to	(or as a consequence of):				
initiated the events resulting in death) LAST	d. —						_	
PART II. Other significant condition	s contrib	uting to death but	not resulting in the under	dying cause given in PART I.		29a- WAS AN AUTO X Yes	PSY PE	
								INGS AVAI <u>LA</u> BLE <u>TO</u>
						COMPLETE THE C	AUSE OF	DEATH? Yes No
30. MANNER OF DEATH ☐Natural ☐Homicide ☐Accident ☒Pending Investig	gation		BACCO USE BUTE TO DEATH? Probably	32. IF FEMALE: Not pregnant within past Pregnant at time of death			ar before	
Suicide Could not be determined No Unknown Not pregnant, but pregnant with					ant within 42 day	s of death Unk	nown if p	regnant within the past year

Interval: Onset to Death

- Underlying cause of death is listed last
- Shortest interval at top, longest at bottom, in sequential order

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death
a.		5	
	Due to (or as a consequence of)		
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.		
b.	^	IC.	
	Due to (or as a consequence of)		
C.	1	IC.	
	Due to (or as a consequence of)		
d.	^	ic.	

Interval: Onset to Death: Examples

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death	
a.	HYPERKALEMIA	ABC	1 HOUR	
	Due to (or as a consequence of)			
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.			
b.	END STAGE KIDNEY DISEASE	ABC	6 MONTHS	
	Due to (or as a consequence of)			
C.	MEMBRANOUS GLOMERULONEPHRITIS	ABC	8 YEARS	
	Due to (or as a consequence of)			
d.	SYSTEMIC LUPUS ERYTHEMATOSUS	ABC	23 YEARS	



Interval: Onset to Death: Examples

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death
a.	VENTRICULAR FIBRILLATION	ABC	SECONDS
	Due to (or as a consequence of)		
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.		
b.	MYOCARDIAL INFARCTION	ABC	HOURS
	Due to (or as a consequence of)		
C.	CORONARY ARTERY THROMBOSIS	ABC	HOURS
	Due to (or as a consequence of)		
d.	ATHEROSCLEROTIC CARDIOVASCULAR DISEASE	ABC	YEARS

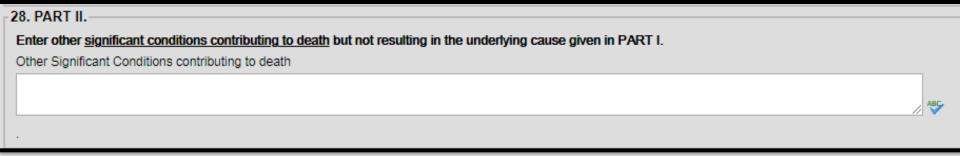


Major Take-Home Points

- If any discrete, identifiable external force, object, or substance contributed in any way to death, the death cannot be considered natural and must be reported to the county medical examiner, regardless of the interval elapsed between the inciting event and death
- The BOTTOM LINE is THE BOTTOM LINE



Part II: Contributory Causes of Death





Part II: Contributory Causes of Death

- Conditions which contributed to but did not directly lead to death
- May list more than one contributory cause of death
- 75 year-old with hypertension, diabetes, and chronic obstructive pulmonary disease found dead at home without antecedent complaints

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death	
a.	HYPERTENSIVE CARDIOVASCULAR DISEASE	ABC		
	Due to (or as a consequence of)			
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.			
b.		ABC		
	Due to (or as a consequence of)	_		
C.		ABC		
	Due to (or as a consequence of)			
d.		ABC		
28	3. PART II.			
E	inter other <u>significant conditions contributing to death</u> but not resulting in the underlying cause gi	iven in	PART I.	
0	Other Significant Conditions contributing to death			
	CHRONIC OBSTRUCTIVE PULMONARY DISEASE; DIABETES MELLITUS			ABC ABC

Cause versus Mechanism of Death

28. PART I. Enter the <u>chain of events</u> (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line.

- Recall that the cause of death is the anatomic disease or injury that initiated the train of events leading to death
- Mechanisms of death are non-specific physiologic processes



Cause versus Mechanism of Death

- Mechanisms of death should <u>not</u> be listed as the sole or underlying cause of death
- Examples: exsanguination, respiratory arrest, arrhythmia, asphyxia, anoxic brain injury, metabolic acidosis, acute respiratory distress syndrome



Non-specific Mechanisms of Death: Examples: More Information is Required

Unlikely Underlying Cause

The condition you reported on the lowest box in Part I HYPERKALEMIA usually develops as a complication of another more specific condition.

	IMMEDIATE CAUSE (Final disease or condition resulting in death)		APPROXIMATE INTERVAL: Onset to death
a.	LETHAL DYSRHYTHMIA	ABC	
	Due to (or as a consequence of)		
	Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST.		
b.	VENTRICULAR FIBRILLATION	ABC	
	Due to (or as a consequence of)		
C.	HYPERKALEMIA	ABC	
	Due to (or as a consequence of)		
d.		ABC	



Non-specific Mechanisms of Death: Examples: More Information is Required

28. PART I. Enter the <u>chain of events</u> (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line.						
IMMEDIATE CAUSE (Final disease or condition	a. MULTISYSTEM ORGAN FAILURE					
resulting in death)	Due to (or as a consequence of)					
Sequentially list conditions,	b					
if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE	Due to (or as a consequence of): c.					
(disease or injury that	Due to (or as a consequence of):					
initiated the events resulting in death) LAST	d					

	8. PART I. Enter the <u>chain of events</u> (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line.							
MMEDIATE CAUSE (Final disease or condition	a. WITHDRAWAL OF CARE (PER PATIENT WISHES)							
resulting in death)	Due to (or as a consequence of)							
Sequentially list conditions,	b. <u>CPR IN PROGRESS</u>							
f any, leading to the cause isted on line a. Enter the UNDERLYING CAUSE	Due to (or as a consequence of): c.							
disease or injury that nitiated the events resulting n death) LAST	Due to (or as a consequence of):							

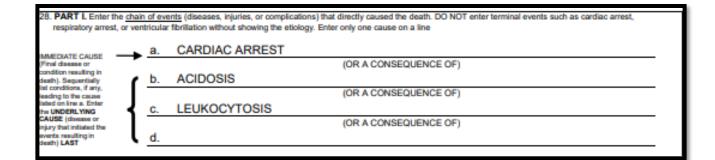
		diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, ation without showing the etiology. Enter only one cause on a line.
IMMEDIATE CAUSE (Final disease or condition	► a.	ACUTE HYPOXIC RESPIRATORY FAILURE
resulting in death)	_	Due to (or as a consequence of)
Sequentially list conditions,	b.,	VENTILATOR-ASSOCIATED PNEUMONIA
if any, leading to the cause listed on line a. Enter the		Due to (or as a consequence of):
UNDERLYING CAUSE	C.	
(disease or injury that		Due to (or as a consequence of):
initiated the events resulting	d.	
in death) LAST	•	-



Non-specific Mechanisms of Death: Examples: More Information is Required

28. PART I. Enter!	the chain	of ever	nts (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest,
			Ibrilation without showing the etiology. Enter only one cause on a line
IMMEDIATE CAUSE	_	a.	METABOLIC ENCEPHALOPATHY
(Final disease or	_		(OR A CONSEQUENCE OF)
condition resulting in death). Sequentially	•	b.	SEVERE SEPSIS
list conditions, if any, leading to the cause			(OR A CONSEQUENCE OF)
listed on line a. Enter the UNDERLYING	₹	C.	SEPTIC SHOCK
CAUSE (disease or injury that initiated the			(OR A CONSEQUENCE OF)
events resulting in death) LAST	ι	d.	LACTIC ACIDOSIS
, 2.0			

28. PART I. Enter the <u>chain of events</u> (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line								
IMMEDIATE CAUSE	_	a.	CARDIOPULMONARY					
(Final disease or			(OR A CONSEQUENCE OF)					
condition resulting in death). Sequentially	•	b.						
list conditions, if any, leading to the cause	- 1		(OR A CONSEQUENCE OF)					
listed on line a. Enter the UNDERLYING	₹	C.						
CAUSE (disease or injury that initiated the	- 1		(OR A CONSEQUENCE OF)					
events resulting in death) LAST	ι	d.						





CDC: Additional Information Required

Abscess

Abdominal hemorrhage

Adhesions

Adult respiratory distress syndrome

Acute myocardial infarction

Altered mental status

Anemia

Anoxia/anoxic encephalopathy

Arrhythmia Ascites Aspiration Atrial fibrillation

Bacteremia

Bedridden

Biliary obstruction
Bowel obstruction

Brain injury

Brain stem herniation

Carcinogenesis Carcinomatosis Cardiac arrest

Cardiac dysrhythmia Cardiomyopathy

Cardiopulmonary arrest

Cellulitis

Cerebral edema

Cerebrovascular accident

Cerebellar tonsillar herniation

Chronic bedridden state

Cirrhosis

Coagulopathy
Compression fracture

Congestive heart failure

Convulsions Decubiti Dehydration

Dementia (when not otherwise

specified) Diarrhea

Disseminated intravascular

coagulopathy Dysrhythmia

End stage liver disease End stage renal disease Epidural hematoma Exsanguination Failure to thrive

Fracture Gangrene

Gastrointestinal hemorrhage

Heart failure Hemothorax Hepatic failure

Hepatitis

Hepatorenal syndrome

Hyperglycemia Hyperkalemia Hypovolemic shock Hyponatremia Hypotension

Immunosuppression

Increase intracranial pressure Intracranial hemorrhage

Malnutrition

Metabolic encephalopathy

Multiorgan failure

Multisystem organ failure Myocardial infarction

Necrotizing soft tissue infection

Old age

Open (or closed) head injury

Pancytopenia Paralysis

Perforated gallbladder

Peritonitis Pleural effusions Pneumonia Pulmonary arrest Pulmonary edema Pulmonary embolism

Pulmonary insufficiency

Renal failure Respiratory arrest

Seizures

Septic shock Shock Starvation

Subdural hematoma

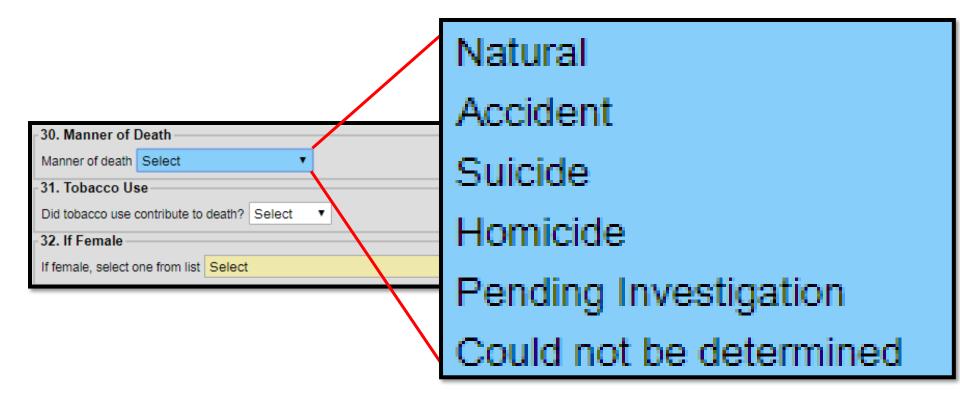
Subarachnoid hemorrhage

Sudden death
Thrombocytopenia
Uncal herniation
Urinary tract infection
Ventricular fibrillation
Ventricular tachycardia
Volume depletion





Manner of Death





Manners of Death: Natural

- If a discrete injury or poisoning event contributed <u>in</u> <u>any way</u> to death, <u>regardless</u> of time elapsed between the event and death, the manner of death cannot be considered to be natural
- All non-natural deaths are to be reported to the medical examiner of the county in which death occurred
- Only one manner of death may be selected
- The non-medical examiner certifier of death is limited to "Natural" and "Pending" as choices for manner of death



Manners of Death: Pending

- "Pending" is reserved for those cases in which the cause and/or manner of death cannot be determined within the 48 hours after death, but further information or investigation is expected (e.g., autopsy results)
- The record must be amended in VRISM with the definitive cause and manner of death completed and certified within six months of the death

Main -- Death Delayed Diagnosis

Manners of Death: Non-Natural; Reserved for County Medical Examiner

- Accident: death due to injury or poisoning without intent to cause harm
- Homicide: death resulting from a volitional act by another person intended to cause fear, harm, or death
- **Suicide:** death resulting from injury or poisoning as a result of an intentional self-inflicted act committed to cause self-harm
- Could not be determined: either too much or too little information to determine manner of death to a reasonable degree of medical certainty; should not be used in the absence of an autopsy
- The period of time elapsed between the injury and the death does not alter the manner of death



Manners of Death: Examples

- 83 year old falls at home; admitted to hospital for ORIF of left femur; hospital course complicated by pneumonia, MI, ARF; dies two months later with mucus plug of trach
 - Manner of death: accident; cause of death: complications of left femur fracture
 - Apply the "but-for" principle: "but-for" the fall, the above-listed complications would not have occurred; or
 - Ask, "Did the patient return to their pre-injury level of function?"
 - <u>Time elapsed between injury and death is irrelevant to</u>
 <u>manner of death</u>



Manners of Death: Examples

- 53 year-old paraplegic dies of urosepsis
 - Paraplegia is due to ruptured spinal AVM: manner of death is <u>natural</u>
 - Paraplegia is due to injuries sustained in MVA ten years prior to death: manner of death is <u>accident</u>
 - Paraplegia is due to self-inflicted gunshot wound to chest three years prior to death: manner of death is suicide
 - Paraplegia is due to gunshot wound to spine after decedent discovered in flagrante delicto with a spouse not his own thirty years ago: manner of death is <u>homicide</u>



What's Wrong with this Picture?

y caused the death. DO NOT enter terminal events such as cardiac one cause on a line.	arrest, Approximate interval: Onset to death
JLT,	
(or as a consequence of) DIE WANTING	
(or as a consequence of): ED ANTIDEPRESSANTS	
(or as a consequence of):	
	UTOPSY PERFORMED? Yes XNo
29b. WERE AUT	COPSY FINDINGS AVAILABLE: TO
32. IF FEMALE: X Not pregnant within past year Pregnant at time of death	Not pregnant, but pregnant 43 days to 1 year before death Unknown if pregnant within the past year
	ILT, (or as a consequence of) DIE WANTING (or as a consequence of): ED ANTIDEPRESSANTS (or as a consequence of): dying cause given in PART I. 29a WAS AN AI 29b WERE AUT COMPLETE THE 32. IF FEMALE: Not pregnant within past year Pregnant at time of death

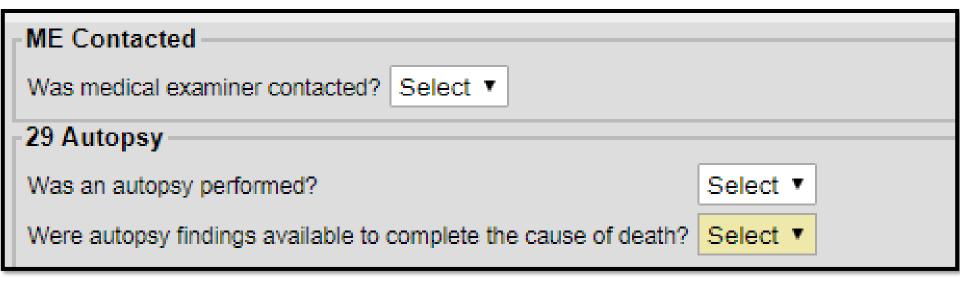


Manners of Death: Therapy-Related Deaths

- Deaths occurring as the result of a foreseeable complication of accepted therapy for natural disease are classified as **natural**
 - Examples: Stevens-Johnson syndrome after sulfonamide therapy; coronary artery dissection during catheterization
- Deaths occurring as the result of improper use of medical equipment or of equipment malfunction are classified as accident
 - Example: inadvertent intravenous administration of enteral feedings

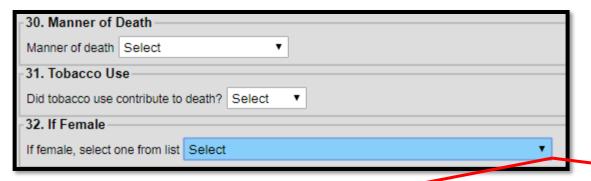


Other Required Fields: ME Notification and Autopsy Information





Other Required Fields: Pregnancy



Not pregnant within past year

Pregnant at time of death

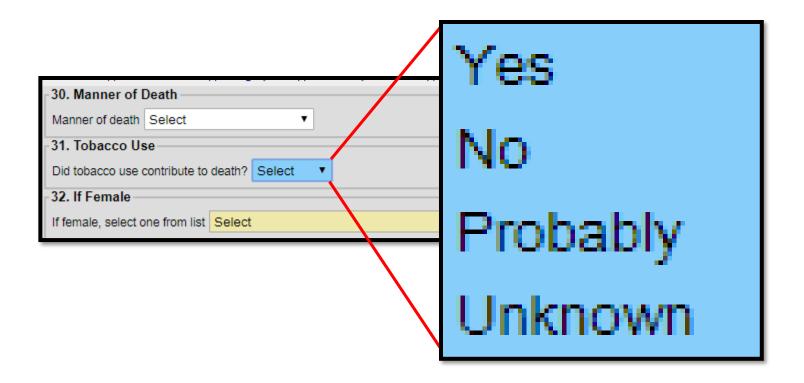
Not pregnant, but pregnant within 42 days of death

Not pregnant, but pregnant 43 days to 1 year before death

Unknown if pregnant within last year



Other Required Fields: Tobacco

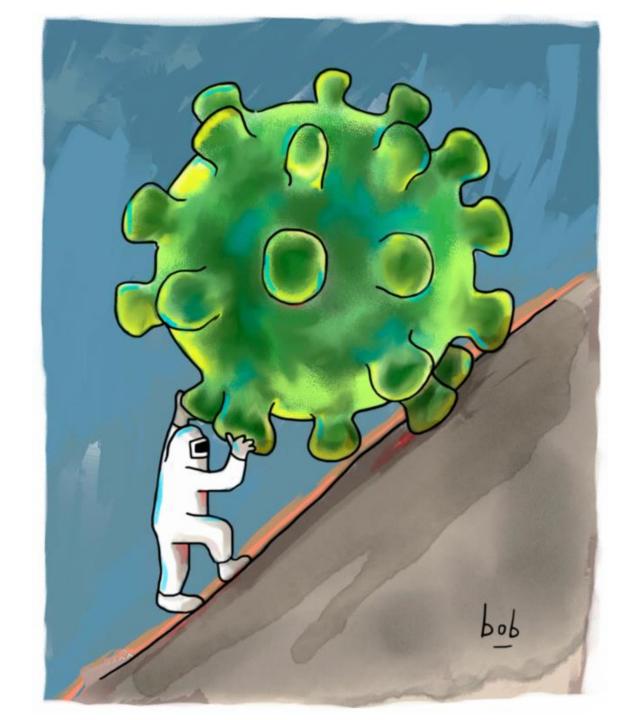




Be Consistent

		ases, injuries, or complications) that directly n without showing the etiology. Enter only on	caused the death. DO NOT enter terminal even ne cause on a line.	nts such as cardiac arrest,	Approximate interval: Onset to death
MMEDIATE CAUSE Final disease or condition	► a. Ll	UNG CANCER			2 YEARS
esulting in death) Sequentially list conditions,	C b. SI	Due to (MOKING	or as a consequence of)	_	10 YEARS
f any, leading to the cause isted on line a. Enter the JNDERLYING CAUSE			or as a consequence of):		10 YEARS
disease or injury that nitiated the events resulting	d. SI	Due to (i	or as a consequence of):		10 YEARS
n death) LAST PART II. Other significant condition	ons contrib	uting to death but not resulting in the underl	ying cause given in PART I.	29a: WAS AN AUTOPSY PE	
				29b. WERE AUTOPSY FIND COMPLETE THE CAUSE OF	INGS AVAILABLE TO F DEATH? ☐Yes ☐No
30. MANNER OF DEATH Natural Homicide Accident Pending Inves	-	31. DID TOBACCO USE CONTRIBUTE TO DEATH? Yes Probably No Unknown	32. IF FEMALE: Not pregnant within past year Pregnant at time of death Not pregnant, but pregnant within 42 d	1 year before	t, but pregnant 43 days to e death pregnant within the past year





Vital Statistics Reporting Guidance



Report No. 3 - April 2020

Guidance for Certifying Deaths Due to Coronavirus Disease 2019 (COVID-19)



Deaths Caused by or Related to COVID-19

- "COVID-19", "SARS-CoV-2", or "novel coronavirus 19" should be included in Part I of the death certificate if death was felt to be due to novel coronavirus infection
- If a person with chronic severe medical conditions dies with novel coronavirus-19 infection and it is felt that the infection hastened their demise, the death should be attributed to COVID-19
 - Any pre-existing conditions which may have made the decedent more susceptible to death due to novel coronavirus-19 infection should be listed in Part II



Deaths Caused by or Related to COVID-19: Why Should the Infection Be Listed as the Underlying Cause of Death?

- Apply the "but-for" principle: But for the infection, death would not have occurred when it did
- Analogous to a person in hospice care with metastatic carcinoma of the lung who develops a perforated duodenal ulcer
 - Although they were expected to die of lung cancer, the perforated duodenal ulcer intervened and is therefore the underlying cause of death
 - But for the duodenal ulcer, death would not have occurred when it did

28. PART I. Enter the chain of events (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line.			Approximate interval: Onset to death
IMMEDIATE CAUSE (Final disease or condition resulting in death)	a. PERFORATED DUODENAL ULCER Due to (or as a consequence of)		
Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST	Due to (or as a consequence of): Due to (or as a consequence of): Due to (or as a consequence of): d.		
PART II. Other significant conditions	CONTRIBUTING to death but not resulting in the underlying cause given in PART I. OF LEFT LUNG, METASTATIC TO BRAIN	29a: WAS AN AUTOPSY PE Yes No. 29b: WERE AUTOPSY FIND COMPLETE THE CAUSE OF	O INGS AVAI <u>LA</u> BLE: <u>TO</u>



Deaths Caused by or Related to COVID-19

- "Presumed", "likely", "probable" or "suspected" may be used in cases in which testing was not performed or was negative, but there is a strong clinical suspicion that death was due to novel coronavirus infection
- There are many Coronaviridae species; the death certificate must indicate that death was due to infection with <u>SARS-CoV-2</u> or novel coronavirus-19 or to the disease <u>COVID-19</u> for the correct ICD code to be assigned
 - Please don't just write "coronavirus" on the death certificate



COVID-19 Language Goes Here

CERTIFIER	26. CERTIFIER (Check only one): 26a. PHYSICIAN -To the best of my knowledge, death occurred at the date and place, and due to the cause(s) and manner stated. 26b. MEDICAL EXAMINER - On the basis of examination, and/or investigation, in my opinion, death occurred at the date, and place, and due to the cause(s) and manner stated.				
PHYSICIAN OR MEDICAL EXAMINER EXECUTING	27a. SIGNATURE OF CERTIFIER	27b. LICENSE NUMBER	27c. DATE SIGNED (Mor	CONTROL OF THE CONTRO	
CAUSE OF DEATH MUST COMPLETE AND SIGN WITHIN 48 HOURS.	27d. NAME AND ADDRESS 28. PART I. Enter the chain of events (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line. Approximate interval: Onset to death				
MEDICAL CERTIFICATIO	(Final disease or condition resulting in death) Sequentially list conditions, if any, leading to the cause listed on line a. Enter the				
L	UNDERLYING CAUSE (disease or injury that initiated the events resulting d. Due to (or as a consequence of): d.				
, and the second se	PART II. Other significant conditions contributing to death but not resulting in		29a. WAS AN AUTOPSY FIVE COMPLETE THE CAUSE	No	
	30. MANNER OF DEATH Natural Homicide Accident Pending Investigation Suicide Could not be determined	DEATH? Not pregnant within past year Not pregnant, but pregnant 43 day 1 year before death		ore death	
	33. IF TRANSPORTATION INJURY, SPECIFY: (Month, Day, Year) Passenger 34a. DATE OF INJURY (Month, Day, Year)	INJURY	34d. PLACE OF INJURY –at home, farm, si (Specify) 34f. LOCATION OF INJURY (Street and N		
	Pedestrian Other (Specify)	, on the second		and a state of	



Other Illnesses/Underlying Processes Exacerbating SARS-CoV-2 Infection Go Here

OFFITIEIED	26. CERTIFIER (Check only one):				
CERTIFIER	20d interest in the best of my intermedge, and interest and place, and add to the ballocape, and mainter states.				
PHYSICIAN	26b. MEDICAL EXAMINER - On the basis of examination, and/or in			THE PROPERTY OF THE PROPERTY O	
OR MEDICAL	27a. SIGNATURE OF CERTIFIER	27b. LICENSE NUMBER	27c. DATE SIGNED (Mont	th, Day, Year)	
EXAMINER EXECUTING		OZE NAME AND ADDRESS			
CAUSE OF DEATH MUST	•	27d. NAME AND ADDRESS			
COMPLETE AND SIGN WITHIN 48 HOURS.	28. PART I. Enter the chain of events (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line. Approximate interval: Onset to death				
	IMMEDIATE CAUSE (Final disease or condition a.				
MEDICAL	resulting in death)	Due to (or as a consequence of)			
Sequentially list conditions, if any, leading to the cause listed on line a. Enter the Due to (or as a consequence of):					
	initiated the events resulting d.				
	DADT II Observing for the self-indicate death but and condition in the self-indicate in DADT II				
	PART II. Other significant conditions contributing to death but not resulting in	r significant conditions contributing to death but not resulting in the underlying cause given in PART I.			
			29b. WERE AUTOPSY FIND COMPLETE THE CAUSE OF	DINGS AVAILABLE TO	
	30. MANNER OF DEATH 31. DID TOBACCO USE	32. IF FEMALE:	COMPLETE THE CAUSE O	F DEATH? LIYES LINO	
	Natural Homicide CONTRIBUTE TO DEATH? Not pregnant within past year Not pregnant, but pregnant at time of death Pending Investigation Yes Probably Pregnant at time of death			nt, but pregnant 43 days to	
				000000000000000000000000000000000000000	
	Suicide Could not be determined No Unknown Not pregnant, but pregnant within 42 days of death Unknown if preg				
	33. IF TRANSPORTATION 34a. DATE OF INJURY 34		4d. PLACE OF INJURY -at home, farm, str	eet, factory, office, building, etc.	
	INJURY, SPECIFY: (Month, Day, Year) Driver/Operator	INJURY Yes No	(Specify)		
	Passenger				
	Pedestrian 34e. DESCRIBE HOW INJURY OCC	CURRED 34	4f. LOCATION OF INJURY (Street and Nu	mber, City or Town, State)	
	Other (Specify)	· · · · · · · · · · · · · · · · · · ·			

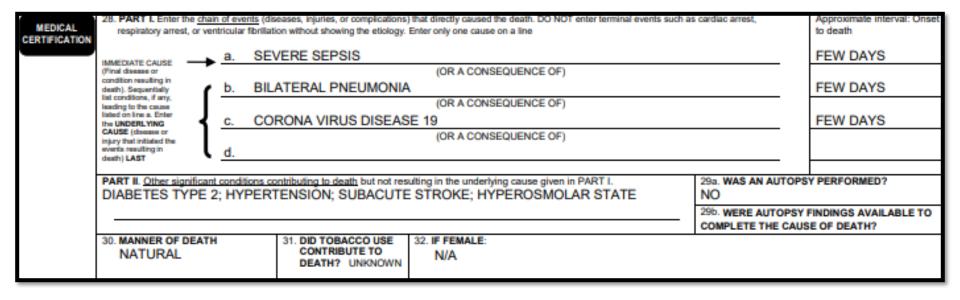


MEDICAL CERTIFICATION	28. PART I. Enter the chain respiratory arrest, or ven	Approximate interval: Onse to death				
		a. CO	VID-19			
	IMMEDIATE CAUSE (Final disease or condition resulting in death). Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the eventa resulting in death) LAST			(OR A CONSEQUENCE OF)		
		b.				
			(OR A CONSEQUENCE OF)			
		C.				
		d.				
	PART II. Other significant HYPERTENSION;		29a. WAS AN AUTOPSY PERFORMED? NO			
			WERE AUTOPSY FINDINGS AVAILABLE TO			
			COMPLETE THE CAUSE OF DEATH?			
	30. MANNER OF DEATH NATURAL		31. DID TOBACCO USE CONTRIBUTE TO DEATH? NO	32. IF FEMALE: NOT PREGNANT WITHIN PAST YEAR		



MEDICAL CERTIFICATION	28. PART I. Enter the respiratory arrest, or	as cardiac arrest,	Approximate interval: Onset to death			
	IMMEDIATE CAUSE -	_	a.	ACUTE RESPIRATORY DISTRESS SYNDROME		
	(Final disease or			(OR A CONSEQUENCE OF)		
	condition resulting in death). Sequentially list conditions, if any, leading to the cause	•	b.	COVID-19 WITH GUILLAIN-BARRE TYPE ILLNESS		
		1		(OR A CONSEQUENCE OF)		
	listed on line a. Enter the UNDERLYING	₹	C.			
	CAUSE (disease or injury that initiated the	T		(OR A CONSEQUENCE OF)		
	events resulting in death) LAST	ι	d.			
	,					
	PART II. Other signit HYPERTENSIO	29a. WAS AN AUTOPS NO	OPSY PERFORMED?			
		29b. WERE AUTOPSY COMPLETE THE CAUS	PSY FINDINGS AVAILABLE TO CAUSE OF DEATH?			







28. Part L ENTER THE CHAIN OF EVENTS (DISEASES, INJURIES, OR COMPLICATIONS) THAT DIRECTLY CAUSED THE DEATH, DO NOT ENTER TERMINAL EVENTS SUCH AS CARDIAC ARREST, RESPIRATORY ARREST, OR VENTRICULAR FIBRILLATION WITHOUT SHOWING THE ETIOLOGY. ENTER ONLY ONE CAUSE ON A LINE.									
IMMEDIATE CAUSE (Final disease or	a. POST CARDIAC ARREST SYNDROME								
condition resulting in									
death). Sequentially list conditions, if any,	b. ACUTE HYPOXEMIC RESPIRATORY FAILURE								
leading to the cause listed on line a. Enter the UNDERLYING CAUSE	c. COVID PNEUMONITIS								
(disease or injury that									
initiated the events resulting in death) LAST	d.								



When COVID-19 is NOT the Underlying Cause of Death

MEDICAL CERTIFICATION	28. PART I. Enter the <u>chain of events</u> (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line									Approximate interval: Onset to death
		a.	ACI							
	(Final disease or		ACUTE SUBDURAL HEMATOMA (OR A CONSEQUENCE OF)							
	condition resulting in death). Sequentially	b.	FAL	L						
	lat conditions, if any, leading to the cause lated on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the		(OR A CONSEQUENCE OF)							
		C.								
				(OR A CONSEQUENCE OF)						
	events resulting in death) LAST	d.								
	DART II Other significant		W	atabusian ta dandh but ant a		inn in the control in a second plant	A A A A A A A A A A A A A A A A A A A			V DEDECRIFEDS
	RECENT HISTORY OF COVID-19 INFECTION, HYPERTENSIVE AND ATHEROSCLEROTIC 29a. WAS AN AUTO NO									T PERFORMED?
	CARDIOVASCULAR DISEASE, HISTORY OF PULMONARY EMBOLISM WITH CURRENT 29b. WERE AUTOPSY COMPLETE THE CAUSTING TH									FINDINGS AVAILABLE TO SE OF DEATH?
	30. MANNER OF DEATH ACCIDENT			31. DID TOBACCO USE CONTRIBUTE TO DEATH? NO	3	32. IF FEMALE: N/A				
	33. IF TRANSPORTATION INJURY, SPECIFY:	N		OUND 04/12/2020	34b	UNKNOWN	34c. INJURY AT WORK? NO		34d. PLACE OF NURSIN	IG HOME/LONG
			34e. DE FA	SCRIBE HOW INJURY OF	CUF	RRED				





SCENARIOS

An 80 year-old man was seen by a nurse practitioner two months ago for routine follow-up of his hypertension, diabetes mellitus, and chronic obstructive pulmonary disease. He was found dead at home without any signs of trauma, foul play, or drug overdose. Who should sign the death certificate?

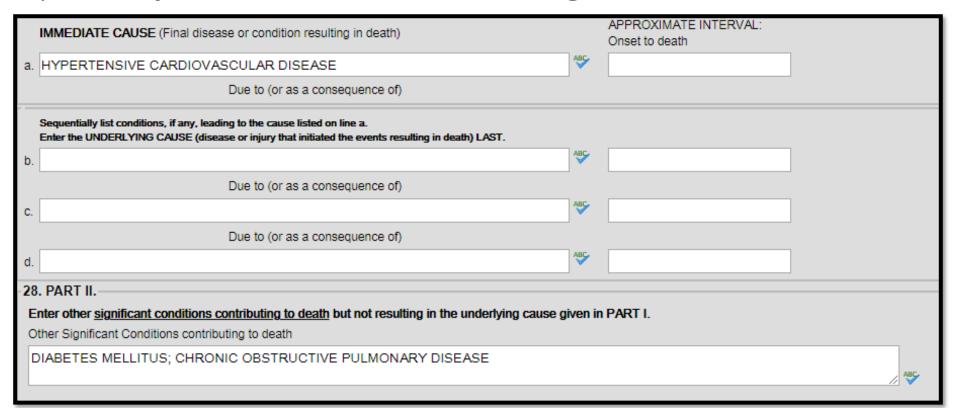
- A. The nurse practitioner.
- B. The county medical examiner, as the death was unwitnessed.
- C. The county medical examiner, because the cause of death cannot be determined to a reasonable degree of medical certainty.
- D. The physician supervising the nurse practitioner.



Answer: D.

The physician supervising any health care extender providing the patient's care for the illness which results in death should sign the death certificate.

In this case, the cause of death in Part I could be listed as "hypertensive cardiovascular disease", with diabetes mellitus and chronic obstructive pulmonary disease listed in Part II as other significant conditions.



An elderly person complained of left-sided chest pain and tightness shortly before collapsing. She was transported to the emergency department, where she was pronounced dead. Her family relates a history of multiple myocardial infarctions and high cholesterol. Who should sign the death certificate?

- A. The patient's primary care doctor.
- B. The emergency room physician.
- C. The patient's cardiologist.
- D.Any of the above.



Answer: D.

The emergency room doctor, the patient's regular physician, or another physician who has treated the patient for the illness causing death (for example, a cardiologist) may sign the death certificate.

If none of these does so, the chief medical officer of the institution in which death is pronounced is to sign the death certificate (TCA 68-3-502).



I am a primary care physician in a small rural community. One of my long-time patients, an elderly man with multiple medical problems, has been found dead at home. I have not seen the patient in eight months. Who will sign the death certificate?

- A. The primary care doctor, even though it has been more than four months since the patient was last seen.
- B. The county medical examiner, as the patient had not been seen by the primary care doctor within four months.
- C. Either A or B may sign.



Answer: C.

The primary care physician, as the person most familiar with the decedent's medical history, is the most appropriate person to complete the death certificate. A physician treating a patient for the disease process accounting for death is obligated by statute to complete and sign the death certificate if the patient has been seen within the four months prior to death.

However, if the treating physician has not seen the patient in the four months before death, and the death occurs outside of a health care facility, the case may be referred to the county medical examiner in the county in which death occurred. The county medical examiner may then review medical records and issue the death certificate.





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