Cause of Death: Disasters and Reports of Death in Pennsylvania

Please complete the Zoom Poll on your screen.



Introductions

Moderator:

MaryGrace Joyce, MS

Policy Specialist National Nurse-Led Care Consortium

Panelists:

Audrey Marrocco

Director & State Registrar PA Department of Health, Bureau of Health Statistics and Registries

Kathryn Nickles

Deputy Coroner Lycoming County Coroner's Office

Charles Kiessling, RN, BSN, PHRN, CFRN, CEN

Coroner, Lycoming County Coroner's Office President, PA Coroner's Association

Scott E. Lynn

Coroner Montour County Coroner's Office

Scott Lynn II

Deputy Coroner Montour County Coroner's Office



Agenda

- 1. Introductions
- 2. General Overview of Death Records
- 3. Certifying Deaths Due to Natural Causes
- 4. Guidance for Certifying of Deaths in the Event of a Natural, Human-Induced, or Radiological/Chemical Disaster
- 5. Q&A
- 6. Next Steps



General Overview of Death Records

Audrey Marrocco

Director & State Registrar

PA Department of Health, Bureau of Health Statistics and Registries

Reporting Deaths in Pennsylvania

Per Pennsylvania's Vital Statistics Law, deaths are to be reported to the Pennsylvania Department of Health within 4 days of the death occurring (or the decedent being found).

- A "Report of Death" may be submitted from a medical certifier using one of the following methods:
- Electronic Death Registration System (EDRS) Preferred method of reporting deaths that occur in Pennsylvania
- "Medical Certification Worksheet" (HD02036F) Preferred method for medical certifiers that have not yet transitioned to EDRS
- "Certificate of Death" reporting form (H105.143) Historical method of reporting deaths which is currently being phased out

Lifecycle of a Death Record

- Report of Death is signed by a medical certifier and by a funeral director (or person in charge of interment).
- The Report of Death is filed by the funeral director with a local registrar or at a Vital Records Public Office. The report is then sent to the PA Death Registry.
- Once the Report of Death is registered with PA's Death Registry, a death record is created. This record is reviewed for completeness and conformance with Pennsylvania's death registration requirements.
- Death records may be amended if the initial report needs modified.
- Death certificates are issued against death records based on the official version of the death record on file with PA's Death Registry.

Death Records Are Important!

- Death records are part of the civil registration system in Pennsylvania.
- Death record data is analyzed for public health purposes.
- Death record data is part of the Vital Registration and Statistics System (VRSS).
- Death certificates are issued from death records for various legal purposes.
- Death records provide *vital* information.

Overall Purpose

- A death record provides *prima facie* evidence of death and is a permanent, legal record of the fact and cause of death.
- Information from death records is used for both administrative and public health purposes.

1	lin the second se	COMMONWEALTH OF PE			VITAL RECORD	26				
ne i	1. Decedent's Legal Name (Fint, Midde,	Last, Suffic)	2	Sex 3. Social Se	curity Number	State File Num	4. Date of Death (MMDD/1111			
	Se Ana Last Dirthday (Vin) - Sh Lindar 1	5 Date of Date (Mo) Day	ete of Dirth (Mo/Day/Yea)) (Speil Month) 7a. Dirtholace (Cth			v and State or Foreign Country)				
	Mode	Days Hairs Minutes		(Jack of Linth (Mc/Layrreal) (Spec Month) 7a. Lint		Introduce (Cay Inc. Jake & Politige Country)				
	lia. Residence (State or Foreign Country)	db. Residence (Street an	d Number - Include Apt	Number - Include Apt. No.) Dc. Old Decede			dent Live in a Toenahip?			
	Sd. Residence (County))	Ves, dece			edent lived in te				
	8. Ever in US Armed Forces?	0. Marital Status at Time of Dea	ath Manfed	Widowed	11. Surviving Sp	ouse's Name (f wife, g	give name prior to first manlage)			
	12. Father / Parent's Name (First, Middle,	Last, Suffs)	Never Marted	13. Mother / Parer	t's Name Prior to	Fint Marriage (Fint, H	Middle, Last, Suffic)			
	14a. Informant's Name	14b. Relatio	rahip to Decedent	to to Decadent 14c. Informant's Malling Address (Street and Number, City, State, Zip Code)						
ă			tile. Place of Death (Ch	Place of Death (Check only one)						
100	F Death Occurred in a Hospital: Emergency Room/Outpatient	Dead on Arriva	If Death Occurred	Provide Consumer Somewhere Other Than a Hospital: Original Cong Term Care Facility Other (Specify) Other (Specify)						
EM.C	15b. Facility Name (If not institution, give r	street and number()	15c. City or Town, 0	TSc. City or Town, State, and Zip Code 15d. County of Death						
ŝ	16a. Method of Disposition	Cremation	16b. Date of Dispos	16b. Date of Disposition 16c. Place of Disposition (Name of cemetery, crematory, or other place)						
a sed b	Other (Specify)	State, and Zip Code)	17a. Signature of P	175. Signature of Funeral Service Licensee or Person in Charos of Internent H75. License Humber						
W C/V										
8	17c. Name and Complete Address of Fun	eral Facility								
ů,	10. Decedent's Education - Check the box degree or level of school completed at the	that best describes the highest time of death.	19. Decedent of His that best describes	spanic Origin - Check th whether the decedent is	e box 20. De the dea	cedent's Race - Check cedent considered him	ONE OR MORE races to indicate what self or herself to be.			
	 8th grade or less No diploma, 9th - 12th grade 		Spenish/Hapenio/L decedent is not Spe	atino. Check the "No" b enist/Hapenic/Latino.	** B*	hite	Korean			
	 High school graduate or GED o Some college credit, but no de 	completed gree	Ves, Meda	enish/HapanioLatino can, Mexican American,	Chicano 🕂	merican Indian or Alask	a Nathe Other Asian			
	Associate degree (e.g. AA, AS) Dachekr's degree (e.g. DA, AS	(BS)	Yes, Puet Yes, Cube	to Rican In		Chinese Guerranian o				
	Master's degree (e.g. MA, MS, Doctorate (e.g. PhD, EdD) or P	MEng, MEd, MGW, MBA) Infessional degree	Yes, other (Specify)	Spenish/Hapanic/Latin		aparese Other Pacific Islands				
	(e.g. MD, DDG, DVM, LLB, J 21. Decedent's Single Race Self-Designation	IC) on - Check ONLY ONE to Indicat	what the decedent con	aidened himself or hersel	10 ba. 22a. D	Cther (Specify) 22a. Decedent's Usual Occupation - Indicate type of work done				
	Diack or African American Black or African American	Korean	German Other F	German Other Padific Islander			sumg nost of working INs. DO NOT USE RETIRED.			
	Asian Indian Chinese	Refue	d Specity	226. K	22b. Kind of Business/Industry					
	Filpino	Guarnanian or Chamo 23a. Date Pronounced Des	TO CONTRACTOR OF	23b. Signature of Perso	n Pronouncing De	ath (Only when applics	able) 22c. License Number			
	BY PERSON WHO PRONOUNCES OR CERTIFIES DEATH									
	23d. Date Signed (MMDD/1111)		24. Time of Death	25. Was Medical Exami	ner or Coroner Co	riaded?	Yes No			
	26. Part L. Enter the <u>chain of events</u> -di- entert, or workfuller facilities without a	masses, injuries, or complication howing the efficiency. DO NOT A	CAUSE C na-that directly caused KODREVIATE. Enter on	the death. DO NOT ent for come cause on a line.	ar terminal events Add additional line	such as cardiac arrest	t, respiratory Interval: Onset to Death			
				Due to (or as a consequence of):						
	Final datase or condition		Due to (or as a consequence of):					
	Final dataset or condition resulting in death)	۰	Due to (jor as a consequence of):					
	BARDARE CAUE Final disease or condition resulting in death) Sequentially lat conditions, Fany, leading to the cause lised on line 8. Enter the	·	Due to (for as a consequence of):):					
ж	IMMEDIATE CAUSE Final deases or condition resulting in death) Sequentially list conditions, Fany leading to the cause listed on line a. Enter the UNDERLYING CAUSE (Dease or line) that	۰	Due to (Due to (Due to ((or as a consequence of (or as a consequence of (or as a consequence of):):					
AT LEVE	MARCONT CAUGE	۵ ۵ ۵	Due to (Due to (Due to ((or as a consequence of (or as a consequence of (or as a consequence of	r r					
CALCENTER.	MAECONT CAUGE	66	Due to (Due to (Due to (not resulting in the under	(or as a consequence of (or as a consequence of (or as a consequence of rights cause given in Pa):): AL		27. Was go scope petgrad?			
C MEDICAL CERTIFICE	AMECANT CAUGE Find Gasas or content matrix is dealer matrix matrix matrix matrix matrix matrix matrix matrix	6	Due to (Due to (Due to (not resulting in the under	(or as a consequence of (or as a consequence of (or as a consequence of etying cause given in Pa	р р л.		27. Was an autopsy performed? Was an autopsy performed? Was an autopsy fording a neithboling			
Medity: MICROAL OF FITTER	AMECANT CAUGE	66	Due to (Due to (Due to (not resulting in the under	(or as a consequence of (or as a consequence of (or as a consequence of flying cause given in Pa Contribute to Dass ²⁰	5: 5: eL	131. Manner of Sec	27. Was an autopsy performed? 14. Was an autopsy performed? 26. Was autopsy finding a calculate to cause the cause of t			
Completed by MIDIOM, CLIPTIPER	AMECKATC CALLS	 	Due to (Due to (Due to (not meuting in the under	(or as a consequence of (or as a consequence of (or as a consequence of rhythg cause given in Pe Contribute to Death?	5: 5: al.	31. Manner of De	27. Value as descent preference? The set of th			
To Be Completed by: MICHOM, CERTIFIER	MECRET CALLS MACENT CALLS More Calls Market Calls Mar		Due to (Due to i Due	(or as a consequence of (or as a consequence of relying cause given in Pa Contribute to Death? Contribute to Death?):): eL	31. Menner of Se Hatarel Addite 17. Solida	27 View or seasory performed? 27 View or seasory performed? 21 View and strongs findings a radiation 21 View and Strongs? 21 View and Strongs? 21 View and Strongs? 21 View and Strongs? 21 Precision 21 Precision 21 Precision 21 Precision 21 Precision 21 Precision			
To Be Geopéred by: MEDIOM, GERTIPER	MECREC CASE more constraints of the constr	 	Due to (Due to to Due to to Due to	pr es a consequence d pr es a consequence d pr es a consequence d rying cause given in Pe Contribute to Death? Probably Diriciour 32. Caste d'Irr	t: t: t: t: t: t: t: t: t: t:	31. Manner of De Hatural Suicide	27 Wata a star polyce of the last the l			
To the Completed by: MICHOM, CERTIFIER	MECRE CLASS MACRE CLASS CLASS March Television mountain to main mountain to main mountain to main mountain the main mountain mo	د ــــــــــــــــــــــــــــــــــــ	Due to (Due to) Due to (Due	pr es a consequence d pr es a consequence d pr es a consequence d rying cause given in Pe Contribute to Death? Probably Difeicuer 32. Caste offic stion of injury (Street an	t: t: t: gry (MARCEDTYT	31. Manner of Sa Hataral Saladar Yy	When an extern preferred? The an extern preferred? The rest of the preferred in the pref			
To the Completed by: MICHOLL CLIMITER	AMECONCOLLEGY COULD Manual Could be a manual to a down on the second of the		Due to (Due to) Due to (Due	(or es a consequence d (or es a consequence d ryting cause gluen in Pe Contribute to Death? Contribute to Death? Distance State of In State o	5: 5: n L by (MACOTYTE f Namber, City, Co ad:	31. Manner of Sin Hattani 0 0 0 0 0 0 0 0 0 0 0 0 0	27 Who as subjectly performed? 27 Who as subjectly performed? 27 Who as subjectly performed? 27 Who as subjectly performed as a subject to a su			
To Be Completed by MIDHOM, CERTIFIER	MECRO COULD Methods Methods		Dan 51 Dan 52 Dan 52 Da	pr as a consequence of pr as a consequence of pr as a consequence of pr pr p	t: T T T T T T T T T T T T T)1. Macour of DN □ Naturel □ Sakide v) □ Sakide Sign . Sp CoSe	Total as preserve preference Total as preference			
To Be Completed by MICHON, CERTIFIER	MECRE CLASS Market Market CLASS Market CLASS Market CLASS Market C		Dan to 1 Dan	pr es a consegueros de preses consegueros de preses consegueros de regina consegueros de regina consegueros de regina consegueros de consegueros de consegue	5: Tri I. All AMODE/VYP d Number, City, Co ad: By snap:	31. Menner of Statut ↓ Natural ↓ Asstant	27 Wata da parti part parta da Martina da la consecutaria da 10 Martes alta parta da da 10 Martes alta parta da 10			
To the Completed by: MEDICAL CERTIFIER	MACCASC CULLS March Television MACCASC CULLS March Television March Tele		Dan 51 Dan	pr es a consegueron de preses consegueron de répreses consegueron de répreses consegueron de des de consegueron de consegueron de consegueron de des de la consegueron de de de de la consegueron de de de de la consegueron de de de de de de de la consegueron de de de de de de de de la consegueron de de de de de de de de la consegueron de de de d	5: 5: 61. 5: 5: 5: 5: 6: 6: 6: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7	31. Manuar at Display → Natural →	27. We a mean performance of the second sec			
To the Geoperated by: MICHON, CLIPTIPER	MECRE COULD Metric Metric COULD Metric COULD Metric COULD Metric C		Date to 1 Date t	pro exist consequences of pro exist consequences of pro exist consequences of right granues glaves to in Por- Constitution to Por- Constitution to Por- Portanti Station of rightly (Station Station of rightly (Station on the House) (Station of constitutions) (Station of constitutions) constitutions) (Station of constitutions) constitutions) (Station of constitutions) constitutions) (Station of constitutions) constitutions)	5: 5: 5: 5: 5: 5: 5: 5: 5: 5:	31 Macroser of State ☐ National ☐ Accident ☐ Statics 0	The actuality performed? The actuality performed? The control of the			
To the Completed by: HELPICAL OF INTERPR	MACCORE CLASS MACCORE CLASS MACCORE CLASS March 19 March 200 Marc		Dan to (Dan to) Dan	pri es a consegueron de pri es a consegueron de pri es a consegueron de pripe acous plano hi Pa della consegueron hi della della consegueron hi della	5: TEL TEL TEL TEL TEL TEL TEL TEL	31 Menor of Con- 31 Menor of Con- 31 Menor of Sectors 32 Menor of Sectors 33 Menor of Sectors 34 Menor of Sectors 35 Menor of Sectors 36 Menor of Sectors 36 Menor of Sectors 37 Menor of Sectors 38 Menor of Sectors 39 Menor of Sectors 39 Menor of Sectors 30 Menor of Sectors 30 Menor of Sectors 30 Menor of Sectors 31 Menor of Sec	22 Ware as use of performance 22 Ware as use of the set o			
To the Competed by: MEDICAL CERTIFIER	MECRE CLASS MAX CLASS CLASS Market Market CLASS Market CLASS Market Ma		Dan to (Dan to) Dan	pri es a consegueron de pri es a consegueron de pri es a consegueron de pripe aconsegueron de righter aconsegueron de Consettador de consegueron de Consettador de consegueron Statistica de la priper Consetta en antipalare productivamente minimalitariamente minimalitariamente minimalitariamente constantador de consettador antipalare productivamente constantador de consettador antipalare productivamente consettador de consettador antipalare productivamente consettador antipalare productivamente antipalare productivamente consettador antipalare productivamente antipalare producti	5: TEL ALL ALL ALL ALL ALL ALL ALL A	31 Menter of See Academic Sectors Se	27. We can perform a set of the set of			
To the Georgete of the IMEDICAL OF REFERE	MACCASE COULD Market COULD BE MAR	Deput of death Deput of	Date to / Date /	pri es a consequencia de pri es a consequencia de consecta de la consequencia de de consecuencia de de consecuenci de consecuencia d	5 5 7 7 7 7 7 7 7 7 7 7 8 7 8 7 7 8 7 7 7 8 7 8 7 7 7 8 7 8 7 7 8 7 7 8 7 7 8 8 7 7 7 8 8 7 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	St Manner of Sta St Manner St Status	27 We can excee performed 27 We can be available of the second			
To Be Completed by: MEDICAL CERTIFIER	MACCASE COLLEG March Television March		Date 11 Date 1	pri es a consequencia de pri esta de pri e	5 5 5 5 5 5 5 5 5 5 5 5 5 5	31. Minister of State 0 10. Acceleration 0 10. Acceleration	27. We discuss performance 28. We discuss performance 29. We discuss produce requests to employ field out and of dark? 20. Developing the discuss of dark? 30. The of figure asso() and narrow darks. asso() and narrow darks. asso() and narrow darks. 31. Sale Signed (Matcherver) 42. Sale Signed (Matcherver) 43. The discuss Asso(Cover) 44. Register File Sale Asso(Cover)			
To the Complete day: MICRON, CERTIFIER	MediCard Could be		Da te i Da te	pri et a consequence d pri et a consequence d representation de la consequencia d representation de la consequencia d representation de la consequencia d la consequencia de la consequencia de la consequencia de la consequencia de la consequencia de la consequencia de la consequencia de la consequencia de la consequencia de la consequencia de la consequencia de la conseque	5: 5: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7	ST. Manuer of Distance St. Manuer of Destance Control Control Control St. Manuer of Destance Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Con	27 Value as reasons performent 27 Value as reasons 28 Value as reasons 29 Value as reasons 29 Value as reasons 20 Value as re			

Administrative Purposes

- Insurance
- Settlement of estates
- Guardianship of minors
- Remarriage
- Birth certificate security

 Failure to document and certify deaths in a timely fashion causes hardships for surviving family members.

Public Health Purposes

- Measure and monitor health and mortality
- Establish public health goals
- Develop health interventions and disease prevention programs
- Allocate resources
- Surveillance

Official Mortality Statistics

- Information from death records is used to generate official mortality statistics, such as:
 - Life expectancy;
 - Death rates by cause of death, geographic area, and sociodemographic characteristics;
 - Leading causes of death; and
 - Infant and maternal mortality rates.
- PA Department of Health publishes death data through EDDIE (Enterprise Data Dissemination Informatics Exchange) at <u>https://www.phaim1.health.pa.gov/EDD/</u>

Importance of Cause-of-Death Information

- A complete and accurate cause-of-death statement provides:
 - Closure for family members,
 - Information for family medical history, and
 - Information for public health purposes in Pennsylvania and the nation.

Examples of How Death Data is Used

Life expectancy at birth, by race and Hispanic origin and sex: United States, 2006-2017



SOURCE: Kochanek KD, Murphy SL, Xu JQ, Arias E. Deaths: Final data for 2017. National Vital Statistics Reports; vol 68 no 9. Hyattsville, MD: National Center for Health Statistics. 2019.

Life Expectancy Gap Between Black and White Americans Narrower Than Ever

Melissa Chan May 09, 2016



The life expectancy gap between black and white Americans has been steadily closing within the last two decades to an all-time record low, according to recently released statistics.

HEALTHY LIVING 10/02/2015 07:42 am ET | Updated Dec 19, 2016

Native American Youth Suicide Rates Are At Crisis Levels

The numbers are staggering.

Key Roles and Responsibilities

PA Department of Health Bureau of Health Statistics and Registries

- Responsible for administering the Pennsylvania Vital Statistics Law
- Registers births, deaths, fetal deaths and ITOPS (induced terminations of pregnancy) that occur in Pennsylvania.
- Audits reports of vital events to ensure compliance with Pennsylvania's vital events registration requirements
- Authorizes amendments to vital records
- Serves as the official custodian of vital records in Pennsylvania since 1906
- Issues certificates (such as death certificates) from vital records
- Compiles vital record data for public health purposes

Who Reports Which Information for Deaths?

- Medical information
 - Medical Professionals (including Physicians, Certified Registered Nurse Practitioner, Physician Assistant, and Dentists) OR
 - Medical Examiners and Coroners
- Personal information
 - Funeral Directors or Person in Charge of Interment

Who Certifies Which Deaths?

- Physicians, certified registered nurse practitioner, physician assistant, and dentist who are approved staff of a licensed healthcare facility certify:
 - The medical professional certifying the death must have attended the decedent during the last illness
 - May only certify deaths due to <u>natural</u> causes.
- Medical examiners/coroners (ME/Cs) certify:
 - Deaths due to injuries or poisonings,
 - Deaths occurring under suspicious circumstances, and
 - Sudden, unattended deaths.

When to Refer to the Medical Examiner/Coroner

- If a medical professional of the licensed healthcare facility is unavailable or unwilling to certify the death.
- Circumstances suggest the death was sudden, violent or suspicious in nature, or was the result of other than natural causes.
- Some deaths may appear to be natural, but could be complications of an injury or poisoning, possibly occurring long ago:

- Asphyxia
- Bolus
- Choking
- Drug/alcohol overdose or drug/alcohol abuse
- Epidural hematoma
- Exsanguination
- Fall
- Fracture
- Hip fracture
- Hyperthermia
- Hypothermia
- Open reduction of fracture
- Paralysis
- Pulmonary emboli
- Seizure disorder
- Sepsis
- Subarachnoid hemorrhage
- Subdural hematoma
- Surgery, in some cases
- Thermal burns/chemical burns

Reporting Timeframes

- Within 24-hours of the death, medical professionals should either:
 - Certify the Report of Death; OR
 - Refer the death to the coroner.
- Within 4 days, the death must be reported to the PA Department of Health. This includes having the Report of Death medically certified and signed by a funeral director.

Certifying Deaths Due to Natural Causes

Kate Nickles
Deputy Coroner

Lycoming County Coroner's Office

Charles Kiessling, Jr., RN, BSN, PHRN, CFRN, CEN Coroner, Lycoming County Coroner's Office President, PA Coroner's Association

General Guidelines

- Use any information available to you, such as:
 - Medical history,
 - Medical records,
 - Laboratory tests,
 - Autopsy report, and
 - Other relevant sources of information.
- Use your best medical opinion regarding the causes and circumstances of death.

Medical Information on a Report of Death

23d. Date Signed (MM/DD/\	(YYY)		23b. Signature of Person Pronouncing Death (Only when applicable)			23c. License Number				
			24. Time of Death	25. Was Medical Examiner or Coroner Cont	acted?					
			CALLSE				1			
26. Part I. Enter the <u>chain</u> arrest, or ventricular fibrilla	<u>of events</u> diseas ation without show	ses, injuries, or complication ing the etiology. DO NOT A	sthat directly caused BBREVIATE. Enter of	d the death. DO NOT enter terminal events su only one cause on a line. Add additional lines	ich as cardiac arrest, r if necessary.	respiratory	Approximate Interval: Onset to Death			
IMMEDIATE CAUSE										
(Final disease or condition resulting in death)	(Final disease or condition Due to (or as a consequence of): resulting in death)									
Sequentially list conditions, If any, leading to the cause	b									
listed on line a. Enter the UNDERLYING CAUSE	c		Due te	- /						
(disease or injury that Initiated the events resulting In death) LAST.	disease or injury that Due to (or as a consequence of): initiated the events resulting in death) LAST.									
26. Part II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in Part I.										
	28. Were autopsy findings available to complete the cause of death? ☐ Yes ☐ No									
29. If Female: Not pregnant within pregnant	9. If Female: 30. Did Tobacco Use Contribute to Death? 31. Manner of Death In Not pregnant within past year Image: Contribute to Death Image: Contribute to Death									
Pregnant at time of de Not pregnant, but pre	eath gnant within 42 da	iys of death	No No	Unknown	Accident Suicide	Pendir Could	ng Investigation not be determined			
 Not pregnant, but pregnant Unknown if pregnant 	gnant 43 days to 1 within the past yea	l year before death ar		 Date of Injury (MM/DD/YYYY) 		33.	Time of Injury			
34. Place of Injury (e.g. hom	e, construction sit	te, farm, school)	35. Loo	cation of Injury (Street and Number, City, Cour	ity, State, Zip Code)					
36. Injury at Work 3	37. If Transportatio	on Injury, Specify:	38. De	scribe How Injury Occurred:						
No	Passenger	Other (Specify)								
39a. Certifier - physician, cer Certifying only - To the Pronouncing & Certify Medical Examiner/Co	rtified registered n e best of my know ring - To the best o roner - On the bas	nurse practitioner, physician ledge, death occurred due t of my knowledge, death occu sis of examination, and/or in	assistant, medical exa o the cause(s) and ma urred at the time, date vestigation, in my opir	aminer/coroner (Check only one): anner stated. , and place, and due to the cause(s) and man ion, death occurred at the time, date, and pla	ner stated. ce, and due to the cau	ise(s) and manner	r stated.			
Signature of Certifier:			Title of Cert	ifier.	License Nur	mber:				
9b. Name, Address and Zip Code of Person Completing Cause of Death (Item 28)			(Item 26)			39c. Date Signed (MM/DD/YYYY)				

The areas shown in blue are for reporting non-natural deaths. Therefore, only a coroner or medical examiner may complete the areas shown in blue.

Part I

- Sequence of conditions or events leading directly to death:
 - Immediate cause
 - Intermediate cause(s) (conditions leading to the immediate cause of death)
 - Underlying cause of death (UCOD)

Part I, Line (a): Immediate Cause of Death

• This is the disease or condition that **directly preceded death**.

NCHS Recommendations for Entry of Cause of Death	
Enter the chain of events- diseases, injuries, or complications- that directly caused the as cardiac arrest, respiratory arrest or ventricular fibrillation without showing the etiologe ENTER OLD AGE. Enter only one cause on a line. Add additional lines if necessary.	e death. DO NOT enter terminal events such gy. DO NOT ABBREVIATE. DO NOT
Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UND nitiated the events resulting in death) LAST.	ERLYING CAUSE (disease or injury that
Cause of Death	Approximate Interval Onset to Death
Immediate Cause (Final disease or condition resulting in death)	
PARTI	۶ (
ine a 🗸 🗸	

Part I: Intermediate Causes

- Report the conditions in a **logical sequence** in terms of time and etiology.
- If not all the lines are needed, leave them blank.
- If more lines are needed, writing "due to" between conditions on the same line is acceptable and equivalent to adding lines.

Cause of	Death		Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition resulting in death)		
PART I Line a	\bigcirc	ABC	
	Due to or as a consequence of	ABC	
Line b	\square		
	Due to or as a consequence of	ABC	
Line c	\square		
-			

Part I, Lowest Line Used: Underlying Cause of Death

- The disease or injury that initiated the train of morbid events leading directly to death
 - or
- The circumstances of the accident or violence that produced the fatal injury

Line c	Oue to or as a co	nsequence of		ABC]
Line d)ue to or as a co	nsequenc <mark>e o</mark> f		ABC V]
PART II Other signific	cant conditions					∧ ↓	
_			 Check Spelling	Validate	Page Nex	t Clear Sav	e Return

Approximate Interval: Onset to Death

- For each condition reported in Part I, report the time interval between the presumed onset of the condition (not the date of diagnosis) and the time of death.
- General terms such as minutes, hours, days, or years are OK.
- Terms such as "approximately" or "unknown" are OK.

Cause of Death

NCHS Recommendations for Entry of Cause of Death

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. DO NOT ABBREVIATE. DO NOT ENTER OLD AGE. Enter only one cause on a line. Add additional lines if necessary.

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.



Part II: Other Significant Conditions

 Other significant conditions contributing to death, but <u>not</u> resulting in the underlying cause given in Part I



Contributing Condition 1, Contributing Condition 2

Multiple Possible UCODs

- If there are multiple morbid conditions present at the time of death and you are uncertain as to which is the UCOD:
 - Report a logical sequence thought to have the greatest impact on death in Part I and
 - list the other conditions in Part II.

Common Problems

Intermediate Causes vs. Underlying Causes

- Intermediate cause:
 - Acute renal failure

- Underlying cause:
 - Acute renal failure
 - Hyperosmolar nonketotic coma
 - Type 2 diabetes

Specificity

- Not specific:
 - STD

- Specific:
 - Pneumocystis carinii pneumonia
 - Acquired immunodeficiency syndrome
 - Human immunodeficiency
 virus
Sequences

- Illogical sequence:
 - Chronic obstructive lung disease
 - Non-healing foot ulcer

- Logical sequence:
 - Acute exacerbation of obstructive airway disease
 - Chronic bronchitis

Do's and Don'ts

• <u>Do:</u>

- Use pertinent information available to you
- Use your best medical judgement
- Report an underlying cause
- Be specific as possible
- Report a logical sequence
- State that the etiology or cause of death is unknown, if that is the case

- Don't:
 - Report mechanisms of death
 - Use terms like "old age,"
 "senescence," or "infirmity"
 - Use abbreviations
 - Report multiple conditions per line
 - Continue the sequence in Part II
 - Copy directly from the discharge summary or autopsy report

Spell Check Your Work

- Use built-in spell check to identify spelling error.
- Avoid amending the death record by fixing errors before certifying the case.

Cause of	Death	
	Immediate Cause (Final disease or condition resulting in death)	
PART I Line a	acute respiratory distress syndrome	
	Due to or as a consequence of	
Line b	pneumonia	
	Due to or as a consequence of	
Line c		
	Due to or as a consequence of	
Line d		
PART II Other sign	ificant conditions	
		Check Spelling

Validate the Page

 Validate the page to identify fields you may have missed.

Cause of [Death				Ap	proximate Onset to D	Interval leath		
	Immediate Cau	se (Final disease or condition resulting in death)			_				
PART I Line a	acute respirato	ry distress syndrome	0						
	Due to or as a c	onsequence of			_				
Line b	pneumonia		0	ABC					
	Due to or as a c	onsequence of		100	_				
Line c			0						
	Due to or as a c	onsequence of		ABC					
Line d			0						
PART II Other signi	ficant conditions								
			Check Spellin	g	Validate Pa	ge Next	Clear	ive	Return
Validatio	n Results				List	All Errors	Save Over	rides	Hide
Error Mess	sage					Ove	rride Goto I	ield	Popup
OR_3002: Provide the approximat	Interval for line a best estimate of t tely' and 'unknown	cannot be left blank. he interval between the presumed onset of each co ' may be used. Do not leave the interval blank. If un	ndition and death. The known , enter 'unknow	e te wn.'	rms		Fb	(Fix
OR_3003: Provide the approximat	Interval for line b best estimate of t tely' and 'unknown	cannot be left blank. he interval between the presumed onset of each co ' may be used. Do not leave the interval blank. If un	ndition and death. The known , enter 'unknov	e te wn.'	rms		Fb	(Fix

Other Items

• Pronouncement may be done by an individual that can medically certify the Report of Death or a professional licensed nurse (registered nurse or clinical nurse specialist).

Pronouncement		
Date of Death [Jan-01-2020 📄 Date	of Death Modifier	\checkmark
Time of Death	of Death Modifier	
Date Pronounced Dead	Time Pronounced Dead	
Pronouncer Name 🤦 💁		
License Number		
First Middle	Last	Suffix
Title Other Specify		
Date Signed		

- Date of Death
- Date of Death Modifier
 - Acceptable values:
 - Actual date of death
 - Approximate date of death
 - Date found
 - Presumed date of death
- Only available to medical examiners and coroners

- Time of Death (AM/PM or Military)
- Time of Death Modifier
 - Acceptable values:
 - Actual time of death
 - Approximate time of death
 - Pronounced time of death
 - Presumed time of death
 - Unknown time of death
 - Found time of death
- Only available to medical examiners and coroners

- Date Pronounced Dead
- Time Pronounced Dead
- Pronouncer Name
 - License Number
 - Name
 - Title
 - Date Signed

Place of Death

Place Of Death								
Type of place of death Other Specify	Type of place of death Other Specify							
Facility Name								
Address								
Street Number Pre Directional Street Name or PO Box, Rural Route, etc. Street Designator	Post Apt #, Directional Suite #,etc							
Zip Code City or Town County State County Image: State Image: State Image: State Image: State Image: State	try ed States							

Place of Death

- Type of place of death
 - Acceptable values:
 - Hospital/Inpatient
 - Hospital/ER, Outpatient
 - Hospital/DOA
 - Hospice Facility
 - Decedent's Residence
 - Nursing Home/Long-Term Care Facility
 - Other (Specify)

Place of Death

- Facility Name
 - If you are using EDRS, the facility name and address may autopopulate based on your sign in credentials.
 - If you are reporting on paper, enter the hospital or long-term care facility's legal name.
 - Address
 - Street
 - City or Town
 - Zip Code
 - County

Other Factors

Autopsy Performed

Autopsy findings available to complete cause of death

If decedent was female, was decedent pregnant within the last year?

Did tobacco use contribute to death

Manner of Death

Was Medical Examiner or Coroner contacted?

~
\checkmark
Not Applicable

mber	
	mber

 $\mathbf{\nabla}$

- Autopsy Performed
 - Acceptable values: Yes or No
- Autopsy findings available to complete cause of death
 - If autopsy was performed, acceptable values: Yes or No

- If decedent was female, was decedent pregnancy within the last year?
 - Acceptable values:
 - Not pregnant within past year
 - Pregnant at time of death
 - Not pregnant, but pregnant within 42 days of death
 - Not pregnant, but pregnant within 43 days to 1 year of death
 - Unknown if pregnant within past year

- Did tobacco use contribute to death?
 - Acceptable values: Yes, No, Probably, or Unknown
- Manner of Death
 - Acceptable values:
 - Natural
 - Accident
 - Suicide
 - ✤Homicide
 - Pending Investigation
 - Could not be determined
- Only available to medical examiners and coroners

- Was Medical Examiner or Coroner contacted (by the medical certifier for referral or consultation on the Report of Death)?
 - Acceptable values: Yes or No
- ME Case Number
 - To be completed if the case was referred to a medical examiner or coroner.

Certifier

Certifier						
Certifier Type	\checkmark	Copy Pronour	ncer to Certifier			
Certifier Name 🔍 📐						
License Number						
First	Middle	Last		Suffi	x	
Dexter		Morgan				
Title Othe	r Specify					
ME/Coroner						
Certifier Address						
Edit Certifier Address						
Pre Street Number Direction	nal, Otraat Nama, Dural Dauta	ata	Street		Post	Apt #,
202 E	North	elc.	Designator		Directional	Suite #,etc.
Zin Code			Street	Ŧ	¥	
16101	own Stat	e 	Country			1
New Ca	Pei	Insylvania	United States			J
Data Signad						
Date Signed						

Certifier

- Certifier Type
 - Acceptable values:
 - Certifying Physician (if someone else pronounced)
 - Pronouncing & Certifying Physician

Medical Examiner/Coroner

- Certifier's Name, License Number and Title
- Certifier Address
- Date Signed

Examples

Heart Disease

A 53-year-old male was admitted to the hospital following 2 days of intermittent midepigastric and left-sided chest pain. The pain radiated to his left arm and was accompanied by nausea and vomiting. He gave a history that included 2 years of occasional chest discomfort, a near syncopal episode 6 months prior, hypertension, 30 years of smoking one pack of cigarettes/day, congenital blindness, and **insulin-dependent diabetes mellitus**. He was noted to be markedly obese and have severe **hypercholesterolemia**. At the time of admission, his enzyme studies were normal, but his EKG suggested myocardial ischemia. Two days later, he experienced an episode of severe chest pain that did not respond to nitroglycerin and was accompanied by ST-segment elevation. A cardiac catheterization demonstrated severe multivessel coronary artery stenosis. He underwent quadruple coronary artery bypass surgery. Shortly after being taken off the cardiopulmonary bypass machine, he went into cardiac arrest. As resuscitation was being attempted by open cardiac massage, a **rupture developed in his left ventricular wall** that resulted in rapid exsanguination and death.

Heart Disease

Cause of	Death		Approximate Interval Onset to Death	
	Immediate Cause	(Final disease or condition resulting	in death)	
PART I Line a	Rupture of left ver	ntricle	Minutes	
	Due to or as a con	sequence of		
Line b	Myocardial infarct	ion	2 Days	
	Due to or as a con	sequence of		
Line c	Coronary atheros	clerosis	2 Years	
	Due to or as a con	sequence of		
Line d		ABC		Other Factors
Line a		~		Autopsy Performed
PART II Other sig	nificant conditions	Insulin-dependent diabetes mellitus smoking, hypertension, hyperchole coronary bypass surgery	s, cigarette sterolemia,	Autopsy findings available to complete cause of death If decedent was female, was decedent pregnant within the last year? Did tobacco use contribute to death
				Manner of Death



Cancer

- Specify:
 - Primary site or that the primary site is unknown
 - Whether benign or malignant
 - Any secondary sites of metastases, if applicable
 - Clarify whether metastatic to or from

Cancer

A 68-year-old male was admitted to the hospital with progressive right lower quadrant pain of several weeks' duration. The patient had lost approximately 40 pounds, with progressive weakness and malaise. Upon physical examination, the patient had an enlarged liver span that was four finger breadths below the right costal margin. Rectal examination was normal and stool was negative for occult blood. Routine laboratory studies were within normal limits. A chest x-ray and barium enema were negative. His EKG showed a right bundle branch block. CT scan showed numerous masses within both lobes of the liver. A needle biopsy of the liver was diagnostic of **moderately** differentiated hepatocellular carcinoma, and the patient was started on chemotherapy. Three months after the diagnosis, the patient developed sharp diminution of liver function as well as a deep venous thrombosis of his left thigh, and he was admitted to the hospital. On his third day, the patient developed a **pulmonary** embolism and died 30 minutes later.

Cancer

Cause of D	leath		Approximate Interval Onset to Death		
	Immediate Cause (Final disease or condition resulting in death)				
PART I Line a	Pulmonary embolism	↓ ABC	30 minutes		
	Due to or as a consequence of				
Line b	Deep venous thrombosis in left thigh		3 days		
	Due to or as a consequence of	ABC			
Line c	Acute hepatic failure	0	3 days		
	Due to or as a consequence of				
Line d	Moderately differentiated hepatocellular carcinoma	ABC ABC	over 3 months		
			Other Factors		
PART II Other signif	icant conditions		Autopsy Performed		No
			Autopsy findings available to com	plete cause of death	\checkmark
		_	If decedent was female, was decedent pregnant within the	last year?	Not Applicable
			Did tobacco use contribute to dea	th	Unknown 🗸
			Manner of Death		Natural

Alzheimer Disease

A 69-year-old female with a history of progressive dementia consistent with Alzheimer **dementia** was admitted from a chronic care facility for fever and dyspnea. She had been bedridden due to dementia for approximately 5 years. Six months earlier, she was noted to have increasing difficulty with swallowing and handling oral secretions. At that time, a gastrostomy tube was placed for nutritional support. The transfer report indicated that for three days prior to admission the patient's oral secretions had become thicker and more copious, and she had been coughing incessantly. A chest radiograph obtained on admission demonstrated probable **pneumonia** in the lower lobes of the lungs. She was severely dyspneic and an arterial blood gas test showed marked hypoxemia. Based on an advanced directive, mechanical ventilation was not instituted. The patient worsened over the next several hours and died.

Alzheimer Disease

Cause of	Death		Approximate Interval Onset to Death	
	Immediate Cause (Final disease or condition resulting in death)			
PART I Line a	Aspiration pneumonia		3 days	
	Due to or as a consequence of			
Line b	Alzheimer dementia	ABC	Approx. 5 years	
	Due to or as a consequence of	ABC		
Line c		\bigcirc		
	Due to or as a consequence of	Other Eactor	•	
Line d		Autopsy Perfo	rmed	No
		Autopsy findin	gs available to complete cause of death	
PART II Other sign	ificant conditions	If decedent wa was decedent	as female, pregnant within the last year?	Not pregnant within past year
2		Did tobacco us	se contribute to death	No
-		Manner of Dea	ath	Natural

Coronavirus Disease 2019 (COVID-19)

- If COVID-19 is determined to be a cause of death, it should be reported on the death certificate, likely as the underlying cause of death.
 - Testing should be conducted, if possible.
 - If a definitive diagnosis cannot be made, but it is suspected or likely, it can be reported as "probable" or "presumed."
- Generally, it is best to avoid abbreviations and acronyms, but COVID-19 is unambiguous, so it is OK to report it.
- Pre-existing conditions that may increase susceptibility to infection or exacerbate the disease, such as COPD or asthma, should be reported in Part II.
- If an individual has COVID-19, but the virus did not cause or contribute to the death, then it should not be listed.

COVID-19

A 34-year-old female with no significant past medical history presented to her primary care physician complaining of 6 days of fever, cough, and myalgias. She was found to be febrile, hypotensive, and hypoxic. She was admitted to the hospital and underwent a CT scan of the chest, which revealed diffuse ground-glass opacification indicative of viral **pneumonia**. Respiratory specimens were sent for testing and rRT-PCR confirmed **COVID-19**. Her condition deteriorated over the next 2 days and she developed **ARDS**. She was transferred to the ICU and started on positive pressure ventilation. Despite aggressive resuscitation, the patient expired on hospital day 4.

COVID-19

Cause of E	Death		Approximate Interval Onset to Death	
	Immediate Cause (Final disease or condition resulting in death)			
PART I Line a	Acute respiratory distress syndrome	↓ ABC	2 days	
	Due to or as a consequence of			
Line b	Pneumonia		10 days	
	Due to or as a consequence of			
Line c	COVID-19		10 days	
	Due to or as a consequence of	ABC		
Line d		Other Factors		
		Autopsy Performed		No
PART II	Foont conditions	Autopsy findings availa	able to complete cause of death	\checkmark
Outer signi		If decedent was female was decedent pregnar	e, t within the last vear?	Not pregnant within past year
_		Did tobacco use contri	bute to death	No
		Manner of Death		Natural

Multiple Possible Underlying Causes of Death

A 80-year-old male with **congestive heart failure** was hospitalized with leg pain and edema and was subsequently diagnosed with **deep venous thrombosis**. Death occurred as the result of a **pulmonary embolism**. The patient had a history of poorly-controlled **hypertension**, **prostate cancer**, and a **previous myocardial infarction**.

Intermediate Causes

Cause of D	Death	Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition resulting in death)	
PART I Line a	Pulmonary embolism	30 minutes
	Due to or as a consequence of	
Line b	Acute iliofemoral deep venous thrombosis	5 days
	Due to or as a consequence of	
Line c	?	
	Due to or as a consequence of	
Line d		
PART II Other signif	ficant conditions	ABC

Underlying Cause of Death 1

Cause of [Cause of Death		
	Immediate Cause (Final disease or condition resulting in death)		
PART I Line a	Pulmonary embolism	30 minutes	
	Due to or as a consequence of		
Line b	Acute iliofemoral deep venous thrombosis	5 days	
	Due to or as a consequence of		
Line c	Congestive heart failure	4 years	
	Due to or as a consequence of		
Line d	Hypertension	years	
PART II	Poorly differentiated adenocarcinoma of the prostrate, old myocardial infarction	ABC	
Other signi	ficant conditions		
-			

Underlying Cause of Death 2

Cause of Death			Approximate Interval Onset to Death	
	Immediate Cause (Final disease or condition resulting in death)			
PART I Line a	Pulmonary embolism	$\hat{}$	BC	30 minutes
	Due to or as a consequence of			
Line b	Acute iliofemoral deep venous thrombosis	0	BC	5 days
	Due to or as a consequence of			
Line c	Congestive heart failure	0	BC	4 years
	Due to or as a consequence of			
Line d	Old myocardial infarction	0	BC	years
PART II Other signif	Poorly differentiated adenocarcinoma of the prostrate, hypertension		Ç	ABC

Underlying Cause of Death 3

Cause of Death				Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition resulting in death)			
PART I Line a	Pulmonary embolism	\sim	ABC	30 minutes
	Due to or as a consequence of			
Line b	Acute iliofemoral deep venous thrombosis	\sim	ABC	5 days
	Due to or as a consequence of		ADC.	
Line c	Poorly differentiated adenocarcinoma of the prostrate	$\langle \rangle$	V	years
	Due to or as a consequence of			
Line d		\sim	ABC	
PART II Other signif	Congestive heart failure, old myocardial infarction, hypertension		0	ABC
-]

Key Takeaways:

- 1. Provide an underlying cause of death.
- **2.** Be **specific**.
- **3.** Report conditions in a **logical sequence**.
What Happens to Your Cause-of-Death Statement?

Processing of Cause-of-Death Statements

- Coded by CDC according to the International Classification of Diseases, Tenth Revision (ICD-10)
- UCOD is selected from among the causes or conditions reported
- Most tabulations published by CDC based on the UCOD
- ICD-10 is returned to Pennsylvania's Death Registry from the CDC
- Pennsylvania utilizes ICD-10 coding of death records to analyze various public health concerns
- ICD-10 coding is used by the PA Department of Health to publish death statistics for Pennsylvania

Other Resources and Training



www.doh.pa.gov/EDRS

- Register for EDRS
- State Registrar Notices
- EDRS Quick Reference Sheets
- PA Death Registration Manual
- Contact PA Death Registry Staff
- Training Opportunities



Health > All Health Topics > Reporting & Registries > EDRS

Reporting of Deaths

The Pennsylvania Vital Statistics Law of 1953 requires that deaths that occur in Pennsylvania be reported to the Department of Health within four days of the date of death. Funeral homes, medical professionals, coroners and medical examiners all have a mandatory role in reporting these deaths. This website outlines our requirements for reporting deaths that occur in Pennsylvania.

ALL DEATHS ATTRIBUTED TO COVID-19 MUST BE REPORTED THROUGH the Electronic Death Registration System (EDRS).

Medical						
P	rofessionals					
	EDRS Brochure					
	EDRS Quick Reference Sheets					
	Training Opportunities					
	EDRS Frequently Asked					
	Questions					
	Cause of Death Mobile App 🗹					
	Death Amendments					

- Coroners & Medical Examiners EDRS Quick Reference Sheets Training Opportunities
- EDRS Frequently Asked
- Questions
- Cause of Death Mobile App 🗹
- Death Amendments

Training Opportunities EDRS Frequently Asked Questions Euneral Home Application for a Death Certificate

EDRS Quick Reference Sheets

Funeral

Directors

EDRS Brochure

Death Amendments

Mobile Application

Quick reference guide
based on the *Physician's* Handbook on Medical
Certification of Death









7 🕏 48% 🔳

Back SAFER - HEALTHIER - PEOPLE

1:27 PM

tour tinger breadths below the right costal margin. Rectal examination was normal and stool was negative for occult blood. Routine laboratory studies were within normal limits. A chest x-ray and barium enema were negative. His EKG showed a right bundle branch block. CT scan showed numerous masses within both lobes of the liver. A needle biopsy of the liver was diagnostic of moderately differentiated benatocellular.

CAUSE OF DEATH (See instructions and examples 32. PART I. Enter the chain of events-diseases, injuries, or complications--that directly caused the death. DO NOT enter cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. DO NOT ABBREVIAT additional lines if necessary. IMMEDIATE CAUSE (Final Pulmonary embolism disease or condition ---resulting in death) Due to (or as a consequence of): Deep venous thrombosis in left thigh Sequentially list conditions. if any, leading to the cause Due to (or as a consequence of) listed on line a. Enter the UNDERLYING CAUSE Acute hepatic failure (disease or injury that Due to (or as a consequence of): initiated the events resulting d. Moderately differentiated hepatocellular carcinoma in death) LAST PART II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART DID TOBACCO USE CONTRIBUTE TO DEATH? 36. IF FEMALE Not pregnant within past year Yes
Probably Pregnant at time of death Not pregnant, but pregnant within 42 days of death No Unknown Not pregnant, but pregnant 43 days to 1 year before death Unknown if pregnant within the past year 3 days Non III Protonte

Cause of Death Reference Guide by Centers for Disease Control and Prevention



 <u>https://itunes.apple.com/us/app/cause-of-death-</u> reference-guide/id1363232296?mt=8





 <u>https://play.google.com/store/apps/details?id=gov.cdc.ii</u> <u>u.anubis</u>



Online Training Module

- Based on the Improving Cause of Death Reporting training module from NYC and NAPHSIS
- Accredited for:
 - Physicians (CMEs)
 - Non-Physicians (Certificate of Participation)
 - Nurses (CNEs)



Slide 1 of 50



Improving Cause of Death Reporting

https://www.cdc.gov/nchs/nvss/improving cause of death reporting.htm



Vital Statistics Reporting Guidance 🚺

Report No. 3 · April 2020

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

Introduction

In December 2019, an outbreak of a respiratory disease associated with a novel coronavirus was reported in the city of Wuhan in the Hubei province of the People's Republic of China (1). The virus has spread worldwide and on March 11, 2020, the World Health Organization declared Coronavirus Disease 2019 (COVID-19) a pandemic (2). The first case of COVID-19 in the United States was reported in January 2020 (3) and the first death in February 2020 (4), both in Washington State. Since then, the number of reported cases in the United States has increased and is expected to continue to rise (5).

In public health emergencies, mortality surveillance provides crucial information about population-level disease progression, as well as guides the development of public health interventions and assessment of their impact. Monitoring and analysis of mortality data allow dissemination of critical information to the public and key stakeholders. One of the most important methods of mortality surveillance is through monitoring causes of death as reported on death certificates. Death certificates are registered for every death occurring in the United States, offering a complete picture of mortality nationwide. The death certificate provides essential information about the deceased and the cause(s) and circumstances of death. Appropriate completion of death certificates yields accurate and reliable data for use in epidemiologic analyses and public health reporting. A notable example of the utility of death certificates for public health surveillance is the ongoing monitoring of pneumonia and influenza deaths. Accurate and timely death certificate data are integral to detecting elevated levels of influenza activity in real time (https://www.cdc.gov/flu/weekly/index.htm).

Monitoring the emergence of COVID-19 in the United States and guiding public health response will also require accurate and timely death reporting. The purpose of this report is to provide guidance to death certifiers on proper cause-of-death certification for cases where confirmed or suspected COVID-19 infection resulted in death. As clinical guidance on COVID-19 evolves, this guidance may be updated, if necessary. When COVID-19 is determined to be a cause of death, it is important that it be reported on the death certificate to assess accurately the effects of this pandemic and appropriately direct public health response.

Cause-of-Death Reporting

When reporting cause of death on a death certificate, use any information available, such as medical history, medical records, laboratory tests, an autopsy report, or other sources of relevant information. Similar to many other diagnoses, a cause-of-death statement is an informed medical opinion that should be based on sound medical judgment drawn from clinical training and experience, as well as knowledge of current disease states and local trends (6).

Part I

This section on the death certificate is for reporting the sequence of conditions that led directly to death. The immediate cause of death, which is the disease or condition that directly preceded death and is not necessarily the underlying cause of death (UCOD), should be reported on line a. The conditions that led to the immediate cause of death should be reported in a logical sequence in terms of time and etiology below it.

The UCOD, which is "(a) the disease or injury which initiated the train of morbid events leading directly to death or (b) the circumstances of the accident or violence which produced the fatal injury" (7), should be reported on the lowest line used in Part I.

Approximate interval: Onset to death

For each condition reported in Part I, the time interval between the presumed onset of the condition, not the diagnosis, and death should be reported. It is acceptable to approximate the intervals or use general terms, such as hours, days, weeks, or years.

Part II

Other significant conditions that contributed to the death, but are not a part of the sequence in Part I, should be reported in Part II. Not all conditions present at the time of death have to be reported—only those conditions that actually contributed to death

U.S. Department of Health and Human Services • Centers for Disease Control and Prevention • National Center for Health Statistics • National Vital Statistics System

https://www.cdc.gov/nchs/data/nvss/vsrg/vsrg03-508.pdf



Guidance for Certification of Deaths in the Event of a Natural, Human-Induced, or Radiological/Chemical Disaster

Scott E. Lynn

Coroner

Montour County Coroner's Office

Scott Lynn II

Deputy Coroner

Montour County Coroner's Office

Vital Statistics Reporting Guidance

Report No. 1 - October 2017



A Reference Guide for Certification of Deaths in the Event of a Natural, Human-induced, or Chemical/Radiological Disaster

Executive Summary

Death certificates are the fundamental and primary source of official mortality statistics in the United States. DisasterFederal disaster declarations and other notifications, such as local National Weather Service extreme weather warnings or watches and emergency management alerts, can be used to determine whether a disaster has occurred in a jurisdiction. Once a disaster is recognized determining whether a death is disaster-

https://www.cdc.gov/nchs/data/nvss/vsrg/vsrg01.pdf

Overview

- Importance of Disaster Mortality Data
- Types of Disaster-related Deaths
- Determining a Disaster-related Death
- Completing the Report of Death for Disaster-related Deaths
- Extra Practice Exercises

Importance of Correct Disaster Mortality Data

Disasters

A serious disruption of the functioning of society, causing widespread human, material or environmental losses that exceeds the local capacity to respond and calls for external assistance.

Natural Hazards



Human-Induced



Complex Emergencies



The Public Health Perspective

...disasters are defined by what they do to people, otherwise they are simply interesting geological or meteorological phenomena...



The Role of Death Records

- Provides information on the different pathways a disasters can lead to death
- Provides critical, actionable data during response and recovery activities
- Helps develop future prevention strategies to reduce morbidity and mortality from disasters
- Needed by families recovering from a disaster



Disaster-related Mortality Surveillance

Primary data source: death records

- Disaster mortality surveillance uses death record data to
 - Assess the scope of a disaster incident
 - Identify common risk factors for disaster-related deaths
 - Develop evidence-based public health interventions
- Challenges from inconsistent reporting of disaster-related death
 - Difficult to generate reliable and accurate mortality statistics
 - Difficult to identify the most frequent causes of death associated with disaster incident
 - Difficult to estimate the disaster-related death toll

How do we identify disaster-related deaths <u>accurately</u>?



Discrepancies in Reporting Disaster-related Deaths by Different Sources

Disaster	Red Cross	FEMA (Approved Funeral Expenses)	NOAA- NWS Storm Data	<u>Other</u> Agency (EOC, ME)	Vital Stats (Search w/o names)
Hurricane Harvey, TX (2017)	75	70	60	94	69
Hurricane Sandy, NJ (2012)	34	61	12	75	24
April 27 Tornado, GA (2011)	15	9	15	15	6
Hurricane Ike, TX (2008)	38	104	20	74	4

Types of Disaster-related Deaths

Direct and Indirect Disaster-related Deaths

- Directly-related disaster death
 - Caused by the forces of the disaster (e.g., strong wind) or direct consequences of these forces (e.g., structural collapse, flying debris, or radiation exposure)
- Indirectly-related disaster death
 - Disaster led to unsafe or unhealthy conditions (e.g., hazardous roads) or a loss or disruption of usual services (e.g., power outage) that contributed to the death

"But for" Principle

"But for the <disaster>, would they have died when they did?"

Common Causes of Directly-related Disaster Deaths*

- Fire or smoke inhalation
- Burns
- Crushing
- Drowning
- Electrocution
- Falls
- Hyperthermia (heat)

- Hypothermia (cold)
- Radiation or chemical poisoning
- Suffocation
- Traumatic injury
- Blunt-force trauma
- Penetrating injury

*Not an exhaustive list

Common Circumstances Leading to Indirectly-related Disaster Deaths*

- Loss/disruption of public utilities
- Loss/disruption of transportationrelated services
- Loss/disruption of usual access to medical or mental health care
- Preparation for disaster
- Social disruption, including riots or anarchy
- Return to unsafe, unhealthy structures or environment

- Use of temporary sheltering or provisions; displacement
- Acute exacerbation of chronic condition(s)
- Cleanup after disaster
- Escaping or fleeing the disaster
- Evacuation
- Exposure to industrial or chemical hazards
- Psychosocial stress or anxiety

*Not an exhaustive list

Determining a Disaster-related Death

Discrepancies among Different States: Designation of Deaths as being Related to a Disaster



- An 86 year-old man with lung cancer in State #1
- Loss of electricity due to the hurricane.
- Unable to use supplemental home oxygen.
- Put on partially functioning ventilator in a hospital.
- Cause of death: Lung cancer
- No mention of relation of death to hurricane.



- 67 year-old woman with emphysema in State #2
- Loss of electricity due to hurricane.
- Unable to use supplemental home oxygen.
- Cause of death: Complications of emphysema.
- Relation of death to hurricane documented.

Determination of Disaster-related Deaths Flowchart

- National Weather Service
- Emergency management official warnings or watches
- Official alerts (e.g., state of emergency, FEMA declaration)

Step 1: Consider whether the death occurred during a disaster.

Step 2: If yes to Step 1, explore whether the death was directly or indirectly related to the disaster. Apply the evidence, including the death scene investigation, autopsy, and laboratory findings.

- Traumatic injury
- Burn or smoke inhalation
- Chemical or toxic exposure
- Drowning
- Electrocution
- Hyperthermia or hypothermia
- Radiation effects
- Suffocation

- Evacuation
- Loss or disruption of: health, utilities, or transportation
- Preparation for disaster
- Repair or cleanup activities
- Returning to unsafe or unhealthy environments or structures

This can be done in Part I, Part II, or in the Describe How Injury Occurred field (e.g. Hurricane Sandy, Joplin Tornado).

> Step 3: If yes to Step 2, record the disaster type and name and circumstance of death on the death certificate

Physicians: Refer all suspected non-natural deaths, including disasterrelated deaths, to ME/C

Key Questions for Disaster-related Consideration

- Was the death caused by the actual forces of the disaster (e.g., wind, rain, flood, earthquake, or blast wave) or by the direct consequences of these forces (e.g., structural collapse, chemical spill, or flying debris)?
 - If so, this is a **directly-related** disaster death
- Did the forces of the disaster lead to unsafe or unhealthy conditions that caused a loss or disruption of usual services (e.g., utilities, transportation, environmental protection, medical care, police/fire) AND did these losses or disruption contribute to the death?
 - If so, this is an indirectly-related disaster death
- Did the forces of the disaster lead to temporary or permanent displacement, property damage, or other personal loss or stress AND did these losses or disruptions contribute to the death?
 - If so, this is an **indirectly-related** disaster death

Disaster-related Deaths

- Disaster-related deaths may occur
 - before the incident
 - during the incident
 - immediately after the incident
 - months or years after the incident
- Fatal occupation-related injuries
 - occur during the course of providing services
 - need to be documented on the death certificate

Disaster-relatedness of Poisonings and Natural Deaths

- Chemical poisoning deaths can be disaster-related
 - Carbon monoxide poisoning associated with generator use during power outage
 - Exposure to chlorine gas released from hurricane-damaged storage tanks during repairs
- Natural deaths can also be disaster-related
 - Exacerbated chronic conditions
 - Asthma-related deaths associated with wildfires
 - Diabetic ketoacidosis from lack of insulin
 - Cardiovascular incidents associated with hurricanes

Examples of Indirectly-related Disaster Deaths

- An elderly person who has a heart attack after evacuating to a shelter during a hurricane
- A death resulting from a car crash that occurred while evacuating a storm
- A person who dies after not receiving dialysis for several days because of power outages after a hurricane

Record the disaster type and name and circumstance of death on the report of death

Example: A person who died from <u>carbon monoxide poisoning</u> (cause of death) while <u>using a fireplace during a power outage</u> (circumstance of death) after <u>Hurricane Sandy</u> (disaster type and name).

Completing the Report of Death for Disaster-related Deaths

Who Should Certify Disaster-related Deaths?

- Medical examiners/Coroners (ME/C):
 - Deaths directly-related to disasters
 - Deaths indirectly-related to disasters and due to injuries, poisonings, and complications thereof

- Physicians:
 - Deaths that are indirectlyrelated to disasters and due to natural causes should be discussed with ME/C
 - Sudden or unexpected death must need to be referred to the ME/C. When in doubt, consult the ME/C
Filling out Part I

- Cause of death disease(s) or conditions(s) reported as precisely as possible
 - Immediate cause (final disease or condition resulting in death) listed on <u>line A</u>
 - Sequentially list conditions leading to the immediate cause of death
 - Underlying cause (disease or injury that initiated the incidents resulting in death) on the <u>line D</u>
- Report one incident on each line even if incidents occurred simultaneously
- The disaster type and name can be included in Part I
 - "Condition" can be circumstance of death and disaster name and type

Filling out Part I

Cause of [Death	Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition resulting in death)	
PART I Line a	Asphyxia	Minutes
	Due to or as a consequence of	
Line b	Smoke inhalation from Woolsey Wildfire	Unknown
	Due to or as a consequence of	ABC-
Line c		
	Due to or as a consequence of	Lor-
Line d		
PART II Other siani	Asthma ficant conditions	ABC
		×

Filling out Part II

- Other significant conditions or incidents contributing to death but not resulting in the underlying cause
- Other conditions include clinical and non-clinical information
- Disaster type and name and circumstance can be included in Part II

Filling out Part II

Cause of D	eath		Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition resulting in death)		
PART I Line a	Right parietal epidural hematoma	ABC	Unknown
	Due to or as a consequence of		
Line b	Right parietal skull fracture	ABC	Unknown
	Due to or as a consequence of		
Line c	Blunt impact to head	ABC	Unknown
	Due to or as a consequence of		
Line d		ABC	
PART II Other signifi	Cant conditions	< \ \	ABC

Filling out Part II – Natural Death Example 1

Cause of	Death	Approximate Interval Onset to Death	
	Immediate Cause (Final disease or condition resulting in death)		
PART I Line a	Chronic kidney failure	18 months	
	Due to or as a consequence of		
Line b	Type II Diabetes	20 years	
	Due to or as a consequence of		
Line c			
	Due to or as a consequence of		
Line d	ABC		
PART II <mark>Other sigr</mark>	Unable to receive dialysis for 6 days due to Hurricane Maria related to power outage at local treatment center.	ABC	

Filling out Part II – Natural Death Example 2

Cause of	Death		Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition resulting in death)	1	
PART I Line a	Myocardial Infarction	ABC	Minutes
	Due to or as a consequence of		
Line b	Atherosclerosis	ABC	Years
	Due to or as a consequence of		
Line c		\bigcirc	
	Due to or as a consequence of		
Line d			
PART II	EMS unable to respond to 911 call due to flood Matthew	ed roads after Hurricane	ABC

Completing the Injury Section

- Any death involving an injury must be referred to a medical examiner or coroner to certify the death
- Circumstances surrounding the injury or external cause of death
- Details depend on the type of injury and disaster involved
 - Example: Drowned in a flooded residence during Hurricane Ike storm surge
- Work related injuries
 - Mark "Yes" in the "Injury at work?" field
- Enter "Place of Injury" if known
- Include disaster name and type and circumstance of death

Completing the Injury Section

Injury information is completed by the medical examiner or coroner if an injury caused or contributed to the death.

njury	
ME Case Number	
Date of Injury Date of Injury Modifier	
Time of Injury C : Time of Injury Modifier	
Injury at Work	
Place of Injury Other (Specify)	
Pre Street Number Directional Street Name or PO Box, Rural Route, etc. Designator View of Country View of the second street Name or PO Box, Rural Route, etc. Designator View of the second street Name	ŧ,etc.
State Country	
United States	
Describe how injury occurred	
If transportation injury Specify Other Specify	

- Date of Injury
- Date of Injury Modifier
 - Acceptable Values:
 - Actual date of injury
 - After date of injury
 - Approximate date of injury
 - Before date of injury
 - Unknown date of injury

- Time of Injury
- Time of Injury Modifier
 - Acceptable values:
 - Actual time of injury
 - After time of injury
 - Approximate time of injury
 - Before time of injury
 - Unknown time of injury
- Injury at Work
 - Acceptable values: Yes or No

- Place of Injury
 - Acceptable values:
 - Home
 - Farm
 - Garage/Warehouse
 - Hospital
 - Industrial & Construction
 - Institutional Recreation Area
 - Military Residence
 - Mine/Quarry
 - Other Building

- Other Specified Place Enter place into "Other (Specify)" field
- Public Recreation Area
- Residential Institution
- School, Other Institution, Administrative Area
- Sports & Recreation Area
- Street/Highway
- Trade and Service Area
- Unspecified Place

- Describe How Injury Occurred
 - If due to a disaster, include the name of the disaster in the description
- If Transportation Injury, specify:
 - Acceptable values:
 - Driver/Operator
 - Passenger
 - Pedestrian
 - Other Specify

Discussion Scenario A: Landslide at Construction Site

A landslide occurred near a local construction site where a road was being built in 4 miles outside of Oso, Washington. The Fire and Rescue team found the body of a 29-year-old male buried under five meters of earth. The decedent was confirmed to be one of construction workers onsite.

- Is this death disaster-related?
 - Answer: Yes
- What disaster-related data would you include on the death certificate?
 - Answer: Disaster type and name should be included in Part I, disaster type and name and circumstance of death should also be included in the "Describe how injury occurred" box

Cause of	f Death			Approximate Interval
	Immediate Cause (Final disease or condition re	sulting in death)		Unset to Death
PART I Line a	Hemothorax and hemoperitoneum		ABC	Minutes
	Due to or as a consequence of			
Line b	Crushed chest and abdomen	\bigcirc	ABC	Minutes
	Due to or as a consequence of			
Line c	Wellsboro, Pennsylvania landslide	\bigcirc	ABC	Minutes
	Due to or as a consequence of			
Line d		\bigcirc	ABC	
PART II Other sig	nificant conditions			ABC-
		_		
njury at	WORK Fes V			
Place of	Injury Industrial & Construction			

Scenario B: Disaster-related Chemical Exposure

A 33-year-old asthmatic worker at a water treatment facility developed respiratory distress and died at a hospital after being exposed to chlorine when a pipe leading from a chlorine tank cracked during the Northridge, California, earthquake, according to the medical record. Emergency management reports confirm that the chemical release was caused by the earthquake.

- Is this death disaster-related?
 - Answer: Yes
- What disaster-related details would you include on the death certificate?
 - Answer: Chemical name and disaster type and name should be reported in the cause of death section. Disaster type and name and circumstance of death should be reported in the "Describe how injury occurred" box. Check "yes" for "Injury at work."

Cause of	Death			Approximate Interval
	Immediate Cause (Final disease or co	ondition resulting in death)		Oliset to Death
PART I .ine a	Acute respiratory failure		ABC	1 hour
	Due to or as a consequence of			
ine b.	Chlorine inhalation		ABC	minutes
	Due to or as a consequence of		ABC	
ine c			\odot	
	Due to or as a consequence of			
ine d.				
PART II Other sign	Dillsburg, Pennsylva	ania earthquake		ABC.
njury at \	Work Yes 🗸			
Diaco of I	niury Other Specified Place	✓ Other (Sp)	pecify) Water	r Treatment Facility

Scenario C: Carbon Monoxide During Natural Disaster

A 39-year-old female died during Hurricane Sandy in her home. The storm caused a regional blackout and she had used charcoal in her fireplace for heat. According to emergency medical services (EMS) officials, high carbon monoxide (CO) levels were detected in the home.

- Is this death disaster-related?
 - Answer: Yes
- What disaster-related details would you include on the death certificate and where would you document them?
 - Answer: Disaster type and name and circumstance of death should be included in Part II and in the "Describe how injury occurred" box

Carbon Monoxide (CO) Poisoning Notations

- SOURCE OF CARBON MONOXIDE Gas range, generator, charcoal grill
- LOCATION OF THE SOURCE Basement, outside near window, house, garage, automobile
- CIRCUMSTANCE(S)—Indicate if the carbon monoxide death is disasterrelated and the circumstances (e.g., power outage, using alterative heat source during snowstorm, no carbon monoxide detector in home)
- MANNER—Consider intentional poisoning

Cause of	f Death			Source of carbon mono	vide
	Immediate Cause (Final disease or condition resulting in death)				luc
PART I Line a	Carbon monoxide poisoning	, 	•	Location of the source	
	Due to or as a consequence of		•	Circumstance(s)	
Line b	\sim			Manner	
	Due to or as a consequence of				
Line c					
	Due to or as a consequence of	,			
Line d	\square				
ράρτ ΙΙ	Hurricane Sandy			ABC-	
Other sign	nificant conditions			\sim	

Scenario D: Human-induced Incident

A 39-year-old male was within 4 miles of an improvised nuclear device that was detonated in a major metropolitan area. The incident was confirmed by the local emergency manager and FBI as an act of terrorism. The decedent was exposed to a radiation dose of 8 grays (800 rem) as a result of prompt radiation and radioactive fallout. He also had minor traumatic injuries and thermal burns on 15% of his total body surface area. He self-evacuated to a hospital 50 miles away. He developed acute radiation syndrome, starting with intractable vomiting approximately 1 hour after the explosion, followed by bone marrow depletion of granulocyte progenitors on day 2 of hospitalization. He survived for 23 days before expiring from gram-negative sepsis, despite receiving granulocyte colonystimulating factors, broad-spectrum antibiotics, and multiple transfusions.

Cause of	Death		Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition res	lting in death)	
PART I Line a	Gram-negative sepsis	ABC	Approx. 20 days
	Due to or as a consequence of		
Line b	Aplastic anemia	ABC	21 days
	Due to or as a consequence of		
Line c	Acute radiation syndrome	ABC	23 days
	Due to or as a consequence of		
Line d	Terrorism: nuclear device detonation	ABC	23 days
PART II Other sign	Thermal burns, cutaneous radia	on injury, cutaneous lacerations	ABC
Place of	f Injury Industrial & Construction		

Scenario D: Comments

- Energy from the detonation of a nuclear weapon is released as blast, extreme heat, prompt radiation, and delayed radiation in fallout
- Initial deaths would occur at or near ground zero from
 - blast injuries
 - heat or thermal injury
 - prompt radiation injury
- Delayed deaths may occur from
 - initial blast injuries
 - acute radiation syndrome

Key Points for Disaster-related Death Certification

- Be aware of natural and human-induced disaster incidents
- Consider causes of death that can be indirectly-related to the disaster
- Identify all disaster-related deaths
 - Deaths can occur before, during, and after a disaster
- Record the disaster type and name and circumstance of death on the death certificate
 - Part I, Part II, or "Describe How Injury Occurred" box (if applicable)

Extra Practice Exercises

Scenario I: Tornado Incident

EMS reported a 13-year-old female fell during the Moore tornado outbreak in Oklahoma. Her family witnessed her running down wooden basement stairs to escape the impending tornado. She fell approximately 15 steps headfirst, resulting in right parietal epidural bleed and skull fracture.

- Is this death disaster-related?
 - Answer: Yes
- What disaster-related data would you include on the death certificate?
 - Answer: Disaster type and name and circumstance of death should be included in Part II and the "Describe How Injury Occurred" box

Cause of	f Death		Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition resulting in	death)	
PART I Line a	Right parietal epidural hematoma	ABC	Minutes
	Due to or as a consequence of		
Line b	right parietal skull fracture	ABC	Minutes
	Due to or as a consequence of		
Line c	Blunt impact to head	ABC	Minutes
	Due to or as a consequence of		
l ine d	Fall	ABC ABC	Minutes
Line u		Ť	ABC
PART II Other sig	nificant conditions		
Place (of Injury Home		

Scenario I: Death Certificate

Scenario II: Hurricane Incident

A 28-year-old male died when a tree fell on him during Hurricane Sandy. He suffered multiple trauma, including a fractured skull causing cerebral contusion. Emergency medical service and police reports indicated he thought the hurricane had passed and was walking his dogs.

- Is this death disaster-related?
 - Answer: Yes
- What disaster-related details would you include on the death certificate and where would you document them?
 - Answer: Disaster type and name and circumstance of death should be included in Part I and the "Describe How Injury Occurred" box

vlanner	of Death	Accident		
Cause of	f Death		Approximate Interval Onset to Death	
	Immediate Cause (Final disease or condition resulting in	death)		
PART I Line a	Cerebral contusion	ABC-	5 days	
	Due to or as a consequence of	. 480-		
Line b	Fractured skull, facial and clavicle fractures	0	5 days	
	Due to or as a consequence of	ABC		
Line c	Blunt impact to head	0	5 days	
	Due to or as a consequence of			
Line d	Hurricane Sandy		5 days	
PART II Other sig	nificant conditions		ABC	
Place of	f Injury Other Specified Place	✓ Other	Specify) Outside on sidewalk	
Descrit	be how injury occurred Walking dogs dur	ring <mark>Hurricane S</mark>	andy. Tree limb broke, striking deced	ent on

Scenario III: Extreme Winter Cold and Chronic Conditions

An 85-year-old male with a history of Alzheimer's disease and arteriosclerosis died from hypothermia after he wandered away from his home for an hour during a severe 2012 Nor'easter snowstorm, reported by local news.

- Is this death disaster-related?
 - Answer: Yes
- What disaster-related details would you include on the death certificate and where would you document them?
 - Answer: Disaster type and name and circumstance of death should be included in Part I and "Describe How Injury Occurred" box

Cause of	Death		Approximate Interval Onset to Death
	Immediate Cause (Final disease or condition result	ing in death)	
PART I Line a	Environmental hypothermia		Approx. 5 Hours
	Due to or as a consequence of	ABC	
Line b	Nor'easter snowstorm	$\hat{\mathbf{c}}$	Approx. 5 Hours
	Due to or as a consequence of	ABC	
Line c		$\hat{}$	
	Due to or as a consequence of	ABC-	
Line d		\bigcirc	
PART II Other sig	Arteriosclerotic heart disease; Alz	heimer's disease	ABC
Place o	of Injury Public Recreation Area		

Scenario IV: Bombing or Blast Deaths

A 41-year-old firefighter responded to 911 call at the starting line of the Hawaii Ironman racing incident, where an improvised explosive device went off. After she arrived, a second device was detonated, and the firefighter sustained fatal abdominal trauma. The incident was confirmed by the local emergency manager and local FBI to be an act of terrorism. She died immediately at the scene of abdominal hemorrhage from her wounds.

- Is this death disaster-related?
 - Answer: Yes
- What disaster-related details would you include on the death certificate and where would you document them?
 - Answer: Disaster type and name and circumstance of death should be included in Part I and the "Describe How Injury Occurred" box

Manne	er of Death	Homicide		
Cause of	f Death		Approximate Interval Onset to Death	
	Immediate Cause (Final disease or condition resulting			
PART I Line a	Abdominal hemorrhage and perforation	ABC ABC	Minutes	
	Due to or as a consequence of			
Line b	Penetrating ballistic debris from exploded improvised device	explosive	Minutes	
	Due to or as a consequence of			
Line c	Terrorism	ABC V	Minutes	
	Due to or as a consequence of			
Line d		ABC ABC		
PART II Other sig	gnificant conditions		ABC-	
Injury at 1	Work Yes			
Place of	Injury Other Specified Place	✓ Other (Specify)	Outdoor sporting event	
Descril	be how injury occurred Firefighter respondin explosion of second	ng to discovery of <mark>in</mark> ary device near sta	nprovised explosive device was rting line of the <mark>Jim Thorpe Ironr</mark>	struck nan R



Next Steps



- 1. You will receive an email from MaryGrace with the slides and link to an evaluation.
- 2. To obtain CME/CNE credits, fill out the evaluation and follow the link provided on the completion page.
- 3. To receive coroner training credits, complete the evaluation survey and email <u>mjoyce@phmc.org</u> for a certificate.

