

Chapter

05

Certifying Cause of Death

Why it is important: Understanding the cause of death (COD) and manner of death for every death is critical to ensuring that usable mortality data are produced by the CRVS system. Countries should strive to have an accurate and detailed COD and manner of death attached to every registered death, regardless of whether the person dies in a health facility under the supervision of a physician, at home or in the community, under violent or accidental circumstances, or during an emergency or disaster.

Introduction

Understanding the manner and cause of death (“COD”) for all deaths is critical to ensuring that usable mortality data is available in a country. “Cause of death” is defined as “all those diseases, morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced such injuries.”¹ “Manner of death” explains the circumstances in which a death arose. The International Classification of Diseases (ICD) classifies manner of death as disease, accident, intentional self-harm, assault, legal intervention, war, pending investigation, unknown, or “manner undetermined.” Statistics on COD facilitates informed policymaking. For example, information on unnatural deaths (e.g., homicides, poisonings, suicides, road traffic accidents and other externally caused deaths) can inform policies related to violence, drug use, road safety, and other public policy. Cause of death should only be determined by a medical professional; family and other non-medical personal should never be asked to provide cause of death information. Countries should strive to have an accurate and detailed medically certified cause and manner of death attached to every registered death. However, in some contexts it may not be possible to have a physician certify the cause of death, particularly in rural or remote areas where deaths occur at home. In circumstances where a medical certificate of cause of death is not available, registration should be permitted without a cause of death.

This chapter covers the following topics:

1. Compulsory Certification of Cause of Death
2. Form Used for Cause of Death and Manner of Death Reporting
3. Verbal Autopsy and Determinations of Cause of Death Without Medical Certification of Cause of Death
4. Transmission of COD Information to Civil Registration and Statistics Agencies
5. Amendment of Cause and Manner of Death Information
6. Access to COD Information
7. Training and Other Resources to Improve COD Data
8. Enforcement, Monitoring, and Evaluation

1. Compulsory Medical Certification of Cause of Death

Best Practice: Ideally, every death will have a cause of death (COD) medically certified by a trained physician. However, in circumstances where a medically certified cause of death (MCCD) is not available, the death should be registered without COD information. Cause of death should never be determined by a non-medical professional.

A certifier of COD is the person authorized by law to medically certify the underlying and contributory causes of death, and other facts related to the death, for submission to the local registrar or other appropriate authority. The certifier of COD should always be a trained medical professional. A non-medical profession should never certify or determine cause of death. The specific person responsible for certifying COD will vary depending on the circumstances of the death. The chart below states who should be responsible for certifying COD in the each of the given circumstances.²

Circumstances of Death	Certifier of COD
Deaths due to natural causes that occur in a health facility (i.e., deaths not referred to MLDI system).	The head of the health facility or attending physician

¹ World Health Organization, *International Classification of Diseases, 2016, volume 2*; See also *Health Topics*, World Health Organization website, available at: https://www.who.int/bulletin/volumes/84/3/mortality_glossary/en/

² United Nations, *Guidelines for the Legislative Framework for Civil Registration, Vital Statistics and Identity Management Systems*, New York, 2019, Para. 324, 329 - 345.

Deaths due to natural causes that occur at home or in the community while under medical care (i.e., deaths not referred to the MLDI system).	The physician that treated the deceased during the illness that lead to their death
Deaths referred to the Medicolegal Death Investigation (MLDI) system. (These are deaths due to unnatural causes, such as accident, self-harm, or violence; man-made or natural disasters; suspicious causes, or causes that cannot be determined by an attending physician)	The medical examiner or physician working with the MLDI authorities. (See Chapter 6 for more on MLDI).

Ideally, every death will have a medically certified cause of death. However, in many countries, the health care system may lack the capacity to reach remote areas of the country or medical professionals may lack specialized training on certifying COD.³ In circumstances where it is not possible to have a medically certified COD, failure to ascertain or certify COD should not prevent death registration. In those circumstances, only evidence of the fact of death, not cause of death, should be required for registration.

Guidance: Answer the questions below. In the comments section, analyze whether the legal framework and current practices meet international best practices.

- a. Is a cause of death *required* in order to register a death?** (In other words, will a civil registrar refuse to register the death if a cause of death is not provided?)

Yes _____ No _____

Citation(s):

Comments:

- b. State who is responsible for medically certifying the cause of death in the following circumstances** (include any time requirements for certifying cause of death)

- i. Deaths due to natural causes that occur in a health facility (not referred to MLDI):**

Citation(s):

Comments:

- ii. Deaths due to natural causes that occur in the home/community while under medical care (not referred to MLDI):**

Citation(s):

Comments:

³ United Nations, Guidelines for the Legislative Framework for Civil Registration, Vital Statistics and Identity Management Systems, New York, 2019, Para. 321.

- iii. Deaths due to natural causes that occur in the home/community without medical supervision (and not referred to MLDI):

Citation(s):

Comments:

- iv. **Deaths referred to the Medicolegal Death Investigation (MLDI) system.** (Depending on a country's MLDI legal framework, these may include deaths due to: unnatural causes, such as accident, self-harm, or violence; man-made or natural disasters; suspicious causes, or causes that cannot be determined by an attending physician)

Citation(s):

Comments:

- c. **Describe any circumstances under which it is unclear who, if anyone, is responsible for certifying COD.** (Specifically address who certifies COD for: 1) deaths that occur in the community while not under medical care, 2) deceased who are brought in dead to a health facility.)

Citation(s):

Comments:

- d. **State whether any non-medical profession is permitted or required to determine and provide information on cause of death** (e.g., this may include a family member, a non-medically trained coroner, a police officer, or other person who determines and provides COD information during death registration)

Citation(s):

Comments:

2. Form Used for Cause of Death and Manner of Death Reporting

Best Practice: The WHO International Standard Form of the Medical Certificate of Cause of Death (MCCD) is the recommended form for recording cause and manner of death information for certification. This MCCD should be completed by a physician and used for certifying cause and manner of death for all deaths, regardless of the circumstances of death (e.g., natural or unnatural death, or occurring within or outside a health facility). The WHO MCCD is attached as Annex A.

The WHO MCCD contains data fields for reporting the immediate, antecedent and underlying causes of death, as well as manner of death. Both sections - cause of death and manner of death - should be

completed by a physician certifier. Underlying cause of death is defined as “the disease or injury which initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury.”⁴ “Manner of death” (MOD) explains the circumstances in which a death arose, and data fields include: disease, accident, intentional self-harm, assault, legal intervention, war, pending investigation, unknown, or manner undetermined. Completing the manner of death section is important because it helps ICD Coders to verify an accurate cause of death. In addition, having these tick boxes allows for statistical studies on injuries and other deaths, which allow for the development of public health policy interventions.⁵

A medicolegal death is a death that is referred to the police, coroner, medical examiner and/or forensic pathologist for investigation and determination of cause and manner of death. In most countries, unnatural deaths (such as assault, accident, and suicide), suspicious deaths, and sudden and unexplained deaths are referred to the medicolegal death investigation (MLDI) system. In some countries, when a death is referred to the MLDI system, the physician certifier is limited to only reporting cause of death and the police or prosecutor are responsible for reporting manner of death. This is not good practice for two reasons. First, the MOD determined by the physician and certified on the MCCD serves purposes beyond those of just law enforcement; the MOD assists in clarifying the circumstances of death for public health and public safety purposes. Second, the MOD determined by the physician has a different standard from MOD determined in legal proceedings and the two should not be confused. For example, an “*assault*” as a manner of death on the MCCD is a statistical category that, for purposes of the forensic examination, is defined as a death that occurred due to the infliction of physical harm by another person. It is not synonymous with “*murder*,” which is a legal term that involves intent. It is ultimately up to the legal system to determine how a death is criminally classified under law.⁶ While an MCCD (and autopsy findings) may be submitted as evidence in a legal proceeding, the MOD on the MCCD is a medical opinion, not a legally binding opinion.

Guidance: Describe the form(s) to be used for medical certification of cause of death for each of the circumstances below. In the comments section, discuss if non-standard MCCD forms are used for any circumstances and who the form should be revised to align with the WHO MCCD.

a. Describe the form used for certifying cause and manner of death for the circumstances below and discuss whether the form aligns with the WHO MCCD:

- i. Natural deaths occurring in health facilities:
- ii. Natural deaths occurring in the home/community:
- iii. Deaths investigated by the medicolegal death investigation (MLDI) system:
- iv. Other:

Citation(s):

Comments:

b. State whether a physician certifier is required to complete the manner of death in the MCCD as well as the cause of death. Describe any circumstances in which the physician does not complete the MOD section.

⁴ <http://www.who.int/topics/mortality/en/>

⁵ United States Standard Certificate of Death, Instruction for Item Number 37 Manner of Death, available at: <https://www.cdc.gov/nchs/data/dvs/death11-03final-acc.pdf>.

⁶ NOLO website, Legal Articles, *What is Murder? Is Murder Different from Homicide?*, available at: <https://www.nolo.com/legal-encyclopedia/homicide-murder-manslaughter-32637.html>

Citation(s):

Comments:

3. Verbal Autopsy and Determinations of Cause of Death Without Medical Certification of Cause of Death

Best Practice: A proper medical certification of cause of death based on directly observed clinical or autopsy data is the most reliable source of cause of death. However, lack of access to health facilities in many countries results in many individuals dying without medical care or supervision, which makes medical certification of cause of death for all deaths difficult. For deaths occurring without medical care or supervision, it may be appropriate to use verbal autopsy (VA) — a structured interview of the decedent’s family members or other caregivers who can provide enough information to determine the probable COD, either using a computer algorithm (automated VA) or by a physician who reviews the interview results and assigns a COD (physician-certified VA).⁷

The results of VA are generally less accurate than a medically certified cause of death at the individual level. However, at the population-level, VA can help ascertain mortality trends, which is important for public health decision-making. Therefore, VA is generally used for statistical purposes only and is not recorded in the death register. However, a few countries have begun to use physician-certified VA at the individual level for legal purposes, making it the equivalent of MCCD.⁸ This is still a relatively new practice and, if followed, the statistics agency should separate medically certified causes of death from those determined by VA.

Guidance: Describe how COD is determined if physicians are not available to medically certify a COD. Indicate whether, and in what circumstances, the law permits verbal autopsy (VA), whether physician-certified VA, automated VA, or another form. If VA is explicitly mentioned, indicate as such. Indicate whether a COD derived from physician-certified VA would satisfy any requirement that COD be “medically certified” for legal or statistical purposes. For automated VA, indicate whether the derived COD is used for statistical purposes only, or whether it is recorded in the death register. In the comments section, describe whether the law aligns with best practice and note any recommendations for regulatory reform.

- a. **How is COD determined if no physician is available to medically certify a COD?** Is VA explicitly permitted or required? If so, is it permitted for statistical purposes only or also for legal purposes?

Citation(s):

Comments:

4. Transmission of COD Information to Civil Registration and Statistics Agencies

⁷ United Nations, Principles and Recommendations for a Vital Statistics System, Revision 3, New York, 2014. Paras. 499-501.

⁸ United Nations, Guidelines for the Legislative Framework for Civil Registration, Vital Statistics and Identity Management Systems, New York, 2019, Para. 349-351.

Best Practice: The MCCD should be transmitted to the civil registrar by the health facility, medical practitioner, or the coroner, medical examiner or physician working with the MLDI system. It is important that the MCCD be sent to registrar so that cause of death can be recorded for legal purposes. Generally, it is the responsibility of the civil registrar to ensure that the MCCD, and any other information needed for statistical purposes, is submitted to the statistical authorities for the production of vital statistics.⁹ However, some countries use a bifurcated form, containing a section for legal information (such as name of deceased, date and place of death) and a section for statistical information (including cause of death). With this type of form, the legal information is submitted to the registrar and the statistical information is submitted directly to the statistics agency.¹⁰ If this practice is followed, the civil registrar will not have cause of death information and, therefore, the family of the deceased may be able to obtain proof of cause of death if needed for legal purposes.

As stated above, determinations of COD by verbal autopsy are not considered to be accurate at the individual level, however the results provide useful population level data. Due to this, experts recommend that COD information from VA should be delivered or transmitted directly to the statistics agency (not the registrar), and used for statistical purposes only. If physician-assisted VA is used for legal purposes, this information should be transmitted to the registrar, but with a notation that COD was generated from VA.¹¹

The direct submission of the MCCD from the certifier to the civil registrar (or from the certifier to the civil registrar and statistics agency, in the case of a bifurcated form) achieves two simultaneous benefits. First, the necessary information, including COD, is efficiently transmitted to the civil registrar and statistics agency without placing the burden of submitting the information on a mourning family. Second, certifiers of COD are less likely to modify sensitive COD information if fewer people have access and knowledge to that potentially sensitive information. For example, a physician may not feel comfortable listing HIV as the underlying cause of death on an MCCD that will be handed to the family.¹²

The legal framework should include clear timeframes for transmission of the MCCD to the registrar and/or statistics agency. Usually, the MCCD should be submitted to the registrar within the same timeframe that the death must be reported to the registrar. MCCDs may be sent to the statistics agency on a regular and periodic basis.

Guidance: For each circumstance below, describe whether and how the COD information is transmitted to the civil registrar and/or statistics agencies. Pay particular attention to whether any intermediaries could diminish the quality or lower the quantity of the information reaching the government agencies. In the comments section, describe whether the law aligns with best practice and note any recommendations for regulatory reform.

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- a. For a death that occurred in a health facility (and not referred to MLDI), how is the MCCD transmitted to the civil registrar and/or statistics agency? Note any specified timeframes.**

Citation(s):

Comments:

⁹ United Nations, Principles and Recommendations for a Vital Statistics System, Revision 3, New York, 2014. Para. 498.

¹⁰ United Nations, Guidelines for the Legislative Framework for Civil Registration, Vital Statistics and Identity Management Systems, New York, 2019, Para. 327.

¹¹ United Nations, Guidelines for the Legislative Framework for Civil Registration, Vital Statistics and Identity Management Systems, New York, 2019, Para. 351.

¹² United Nations, Guidelines for the Legislative Framework for Civil Registration, Vital Statistics and Identity Management Systems, New York, 2019, Para. 328.

- b. For a death that occurred at home or in the community under medical supervision (and not referred to MLDI), how is the MCCD from a physician transmitted to the civil registrar and/or statistics agency? Note and specified timeframes.

Citation(s):

Comments:

- c. For a death referred to the MLDI system, how is the MCCD transmitted to the civil registrar and/or statistics agency? Note any specified timeframes.

Citation(s):

Comments:

- d. For COD determined from Verbal Autopsy, to whom and how is the COD information transmitted? Note and specified timeframes.

Citation(s):

Comments:

5. Amendment of Cause and Manner of Death information

Best Practice: The law should permit and have a process to amend cause and manner of death information with the Registrar's office after an original MCCD has been submitted.¹³

Amendment is often required for deaths referred to the MLDI system, as the results of an autopsy can take weeks or months, but the timeframe for reporting a death and submitting an MCCD is often days. When an autopsy or investigation is not yet complete, the MCCD may be submitted to the Registrar with a "pending" cause of death, manner of death, or both. (Recall that "Pending Investigation" is a specified "manner of death" in the WHO MCCD). Amendments may also be needed to change a cause or manner of death if further investigation reveals new facts. In addition, in some instances, there may be a need to update name and demographic information; for instance, in the case of a previously unidentified or misidentified person.

Guidance: Describe the process for amending cause and manner death information, if any. Describe also whether other information – such as name and demographic information – may be amended. In the comments section, analyze whether the legal framework aligns with best practice.

- a. Is there a process to amend an MCCD after submission of an original MCCD to the civil registration authority? If yes,
- i. Describe the process.

¹³ See *Medical Examiners and Coroners' Handbook on Death Registration and Foetal Death Reporting*, page 6 (requiring medical examiner/coroner to deliver a supplemental report of cause of death to the State vital statistics office when autopsy findings or further investigation reveals the cause of death to be different from what was originally reported.)

- ii. Can COD and MOD be amended?
- iii. Can name and demographic information be amended?

Citation(s):

Comment:

6. Access to COD Information

Best Practice: COD is sensitive and confidential medical information. This information is critical for statistical and legal purposes, but it must be carefully secured. Information on cause of death can be important to close family members of the decedent for insurance and other matters. UN guidance provides that close family members should have the right to request COD information.¹⁴

The death certificate issued by the Civil Registrar is the official legal document providing evidence of death. If an extended list of people can request and receive a death certificate, countries should carefully consider whether COD should be included to protect the privacy of the decedent and his/her family. Only interested parties with a legitimate interest or their legal representatives should be able to request certificates that contain COD information.¹⁵

Due to the confidential nature of this information, country practices vary with regard to inclusion of COD on the death certificate. Some countries do not include COD information on death certificates issued by the civil registrar, while others do. Some countries have a short-form and a long-form death certificate, the former without COD information and latter with it.¹⁶ The long-form death certificate is only issued to close relatives or persons with a legitimate interest in the cause of death.

Guidance: For each of the following documents, indicate who can request access to the COD information. Indicate any other security measures that ensure the confidentiality and security of the information. For the death certificate, indicate whether the COD information is always listed in certified copies (including short and long form). In the comments section, describe whether the law aligns with best practice and note any recommendations for regulatory reform.

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- a. **Who can request a death certificate?** (State whether COD is included in the certificate).

Citation(s):

Comments:

- b. **Who can request an MCCD from a health facility or physician?**

Citation(s):

¹⁴ United Nations, Principles and Recommendations for a Vital Statistics System, Revision 3, New York, 2014, paragraph 498.

¹⁵ United Nations, Guidelines for the Legislative Framework for Civil Registration, Vital Statistics and Identity Management Systems, New York, 2019, Para. 363.

¹⁶ United Nations, Guidelines for the Legislative Framework for Civil Registration, Vital Statistics and Identity Management Systems, New York, 2019, Para. 360.

Comments:

c. Who can request an MCCD from medicolegal investigation?

Citation(s):

Comments:

d. Who can request COD from Verbal autopsy?

Citation(s):

Comments:

7. Training and Other Resources to Improve COD Data

Best Practice: Correctly completed MCCD and well-trained coders determining the underlying cause of death form the basis for good quality mortality statistics. Practicing medical professionals must be trained and retrained in medical certification of cause of death. To improve the quality of information in medical certification of cause of death, physicians must be trained in correct completion of the international MCCD standard form. Medical certification of cause of death should be included in mandatory curricula for all medical students and in all post-graduate medical education and professional in-service trainings.¹⁷ Well-trained coders applying International Classification of Diseases (ICD) coding rules and principles are essential to the production of high-quality mortality data. Coders require specialized training and continuous supervision. Therefore, it is recommended that a dedicated ICD-coder cadre be created, funded, and adequately trained and re-trained.¹⁸

Guidance: Describe any law or directive related to training for medical students, physicians, and other medical professionals in medical certification of cause of death. Indicate whether training in medical certification of cause of death is optional or required for licensure or re-licensure. Any requirement for the medical profession related to this training is likely to be contained in the rules of the country's medical association or other body that accredits and licenses physicians. Any requirement related to training for medical students is likely to be contained in the rules related to the curricula of medical schools. Describe any law or directive creating a job classification of ICD mortality coders. Include details of the entity that oversees the cadre, whether the job is full-time, and any other relevant details. In the comments section, describe whether the law aligns with best practice and note any recommendations for regulatory reform.

a. Is training in COD certification required during medical school?

Citation(s):

Comment:

¹⁷ World Health Organization, Strengthening Civil Registration and Vital Statistics for Births, Deaths, and Causes of Death, Resource Kit, 2012, Module 4.

¹⁸ World Health Organization, Strengthening Civil Registration and Vital Statistics for Births, Deaths, and Causes of Death, Resource Kit, 2012, Modules 4, 5.

b. Is training in COD certification required (or available and optional) for licensed physicians?

Citation(s):

Comment:

c. Does training exist for a dedicated cadre of ICD mortality coders?

Citation(s):

Comments:

d. Other resources or training available

Citation(s):

Comments:

8. Enforcement, Monitoring, and Evaluation

Best Practice: Completeness of mortality data can only be improved if legal obligations to determine and medically certify COD following best practices are monitored and enforced.¹⁹

Guidance: Describe any documented system of fines, incentives, or oversight applied to those required to determine or medically certify COD. Include a description of the monitoring system and the amount of fines/penalties, and parties subject to fines/penalties. In the comments section, describe whether the law aligns with best practice and note any recommendations for regulatory reform.

a. Describe any monitoring and evaluation of certifiers of cause of death.

Citation(s):

Comments:

b. Describe any fines or other penalties for failure to comply with legal obligations to certify cause of death.

Citation(s):

Comments:

¹⁹ World Health Organization, Strengthening Civil Registration and Vital Statistics for Births, Deaths, and Causes of Death, Resource Kit, 2012, pp. 55-57.

ANNEX – WHO MCCD

Administrative Data (can be further specified by country)																	
Sex	<input type="checkbox"/> Female				<input type="checkbox"/> Male				<input type="checkbox"/> Unknown								
Date of birth	D	D	M	M	Y	Y	Y	Y	Date of death	D	D	M	M	Y	Y	Y	Y
Frame A: Medical data: Part 1 and 2																	
1 Report disease or condition directly leading to death on line a Report chain of events in due to order (if applicable) State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death													
		a															
		b	Due to:														
		c	Due to:														
		d	Due to:														
2 Other significant conditions contributing to death (time intervals can be included in brackets after the condition)																	
Frame B: Other medical data																	
Was surgery performed within the last 4 weeks?				<input type="checkbox"/> Yes		<input type="checkbox"/> No		<input type="checkbox"/> Unknown									
If yes please specify date of surgery								D	D	M	M	Y	Y	Y	Y		
If yes please specify reason for surgery (disease or condition)																	
Was an autopsy requested?				<input type="checkbox"/> Yes		<input type="checkbox"/> No		<input type="checkbox"/> Unknown									
If yes were the findings used in the certification?				<input type="checkbox"/> Yes		<input type="checkbox"/> No		<input type="checkbox"/> Unknown									
Manner of death:																	
<input type="checkbox"/> Disease			<input type="checkbox"/> Assault			<input type="checkbox"/> Could not be determined											
<input type="checkbox"/> Accident			<input type="checkbox"/> Legal intervention			<input type="checkbox"/> Pending investigation											
<input type="checkbox"/> Intentional self harm			<input type="checkbox"/> War			<input type="checkbox"/> Unknown											
If external cause or poisoning:				Date of injury		D	D	M	M	Y	Y	Y	Y				

Please describe how external cause occurred (If poisoning please specify poisoning agent)					
Place of occurrence of the external cause:					
<input type="checkbox"/> At home	<input type="checkbox"/> Residential institution	<input type="checkbox"/> School, other institution, public administrative area		<input type="checkbox"/> Sports and athletics area	
<input type="checkbox"/> Street and highway	<input type="checkbox"/> Trade and service area	<input type="checkbox"/> Industrial and construction area		<input type="checkbox"/> Farm	
<input type="checkbox"/> Other place (please specify):				<input type="checkbox"/> Unknown	
Fetal or infant Death					
Multiple pregnancy		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	
Stillborn?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	
If death within 24h specify number of hours survived			Birth weight (in grams)		
Number of completed weeks of pregnancy			Age of mother (years)		
If death was perinatal, please state conditions of mother that affected the fetus and newborn					
For women, was the deceased pregnant?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	
<input type="checkbox"/> At time of death		<input type="checkbox"/> Within 42 days before the death			
<input type="checkbox"/> Between 43 days up to 1 year before death		<input type="checkbox"/> Unknown			
Did the pregnancy contribute to the death?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	