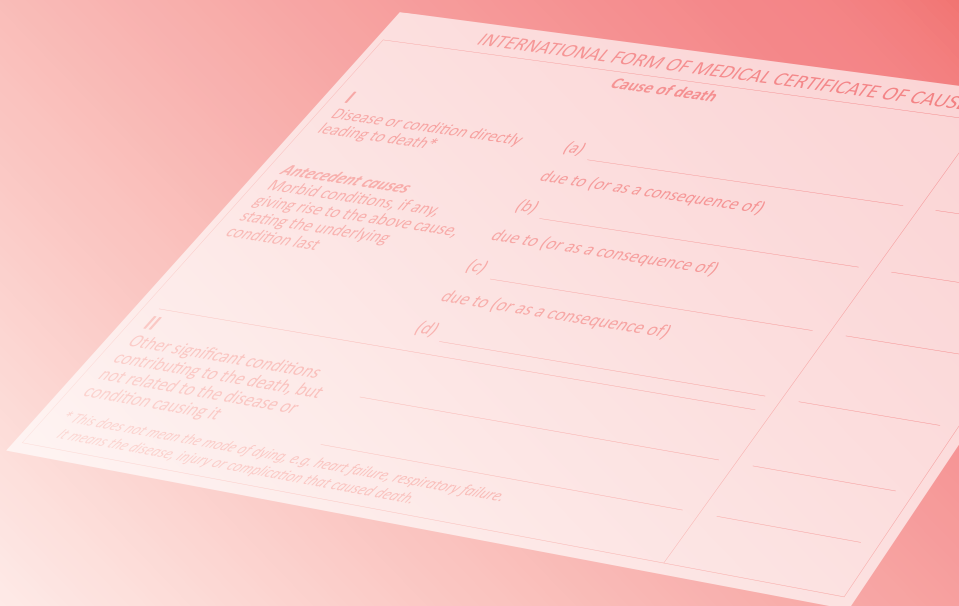


Handbook for doctors on cause-of-death certification



Tools Series • Practical guides for health information systems professionals



School of Population Health
University of Queensland

Strengthening health systems
in Asia and the Pacific through
better evidence and practice

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Handbook for doctors on cause-of-death certification

Health Information Systems Knowledge Hub

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF
Cause of death

I
Disease or condition directly leading to death* (a) _____
due to (or as a consequence of)

Antecedent causes
Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last (b) _____
due to (or as a consequence of)

(c) _____
due to (or as a consequence of)

(d) _____

II
Other significant conditions contributing to the death, but not related to the disease or condition causing it _____

* This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.

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About this tool

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Health Information Systems Knowledge Hub publications are the principal means to disseminate the knowledge products developed by the hub in a user-friendly format and as easily accessible resources. Capacity-building tools are designed to increase practical knowledge and skills for a particular health information systems issue. Formats are user-friendly and are supported by research knowledge.

The opinions or conclusions expressed are those of the authors and do not necessarily reflect the views of institutions or governments.

The Health Information Systems Knowledge Hub welcomes your feedback and any questions you may for its research staff (hishub@sph.uq.edu.au).

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The causes of death recorded in the International Form of Medical Certificate of Cause of Death are

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 any such injuries.

(Twentieth World Health Assembly, 1967)

The underlying cause of death is

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.

(World Health Organization, 1994)

Preface

Health decision-makers and planners all around the world make extensive use of mortality statistics. The quality of these statistics depends on the accuracy with which individual doctors fill out death certificates. Unfortunately, the accuracy of death certification is poor in many countries. This reduces the quality of national and international mortality statistics, and limits their value for health planning and policy.

Guidelines on death certification by doctors are available but are rarely used in many countries. The World Health Organization has developed a computer-assisted learning tool, which is available in both online and offline modes. However, these training materials are not suitable for those with limited computer literacy or access. Also, busy medical doctors may not be able to reference such tools when they need a quick reminder about correct certification procedures. This handbook is designed to be a readily accessible resource that doctors can consult rapidly and easily.

These are generic guidelines about how to certify the cause of death, written for doctors and medical students, particularly in developing countries. They can be read and used as a separate tool, or provide the basis for training in interactive workshops. They form part of a package of resources that includes a workbook of case studies and references for self-directed learning, and a trainers' manual for running workshops. These materials will be available on the Health Information Systems Knowledge Hub website (www.uq.edu.au/hishub) in mid-2012. These resources can be adapted so that they are relevant for your country.

Introduction

This handbook aims to guide doctors in filling out death certificates. Death certification forms an important part of a doctor's duties because the information recorded in death certificates helps decision-makers determine health priorities for prevention of deaths due to similar causes in the future.

Clinical diagnosis is the basis for therapeutic decision-making. Most patients recover, but some die. When the diagnosis is entered onto a death certificate, it establishes the cause of death for that person. This information is then used in new and quite different ways from its original use, primarily to inform policy-makers about the leading causes of death in their country or district, and how these are changing.

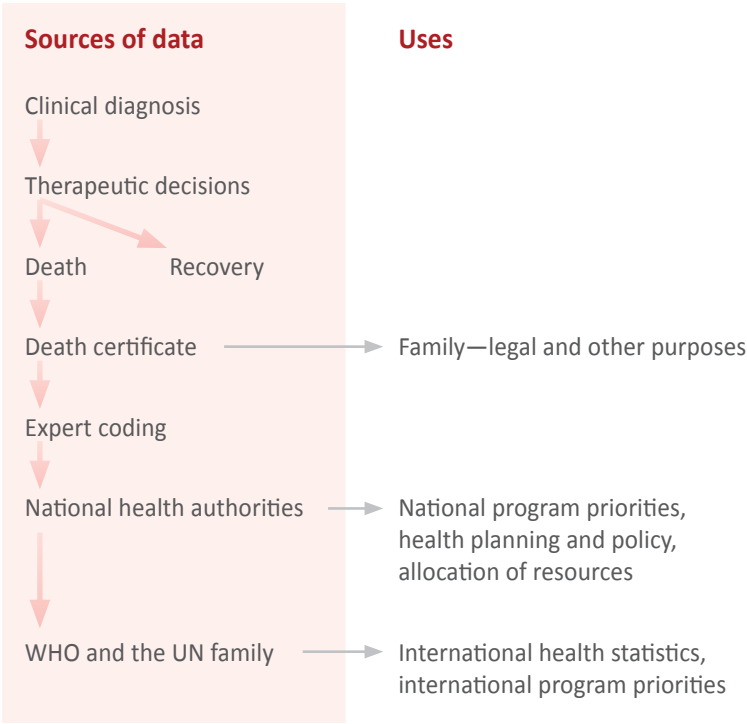
The certificate is provided to the family who may need it immediately to obtain permission for funeral arrangements and for other legal purposes, including wills and testaments. The information on the certificate is also important for family members so that they know what caused the death, and are aware of conditions that may occur or could be prevented in other family members.

The cause of death is then coded by an expert who is trained in applying the *International Statistical Classification of Diseases and Related Health Problems*, currently in its 10th revision (ICD-10). The ICD-10 is managed by the World Health Organization and classifies thousands of diseases as individual items and groups similar diseases together in a meaningful way.

The coded certificates are then tabulated. This tabulation forms the basis for national mortality statistics. These are critical for establishing national health program priorities, for health planning and policy, and to inform debate about the allocation of health resources. Good-quality mortality statistics are fundamental for the prevention of premature deaths.

By agreement, countries are obliged to report their mortality statistics to the World Health Organization. These statistics form the basis for international health statistics and for international program priorities. They also form the basis for national and global burden of disease estimates and for decisions about global priorities to improve health. These uses are outlined in Figure 1.

In short, the type and the quality of health services provided depend heavily on the accuracy of information obtained from death certificates. These guidelines aim to assist you in accurately completing the International Form of Medical Certificate of Cause of Death. This forms the basis of all national and international statistics about leading causes of death, and how they are changing.



UN = United Nations; WHO = World Health Organization

Figure 1 Use of cause-of-death data

Legal implications and confidentiality

A death certificate is a legal document with implications and uses that vary from country to country. Therefore, it is important that the death certificate is completed accurately. It may be needed to proceed with burial or cremation of the body. The family may need it to execute the deceased person's will. The police or, in some countries, the coroner may require access to the certificate. The doctor or the hospital will be required to report details of the death to national authorities such as the health department and the national statistics office. Details of the death and the circumstances of the deceased person are entered into a database, but the actual identity of the deceased person is withheld.

Within these limits, the doctor has a duty to maintain confidentiality about the cause of death. This duty is to the family of the deceased person. Information in the death certificate can be used for research purposes, as long as the deceased is not identified by name or other means.

The doctor ***should not reveal the details*** of a death certificate to a third party unless:

- they are legally required to do so
- they have obtained prior consent from the next of kin of the deceased.

Understanding the International Form of Medical Certificate of Cause of Death

The International Form of Medical Certificate of Cause of Death (known as the death certificate) is recommended by the World Health Organization for international use. One way of looking at the death certificate is that it provides a framework for the organisation of clinical diagnoses used for public health purposes. Figure 2 shows the death certificate recommended by the World Health Organization.

The death certificate is divided into three sections:

1. Part I—including diseases or conditions directly leading to death and antecedent causes
2. Part II—other significant conditions
3. a column to record the approximate interval between onset and death.

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH		
Cause of death		Approximate interval between onset and death
I Disease or condition directly leading to death*	(a) _____ due to (or as a consequence of)	_____
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	(b) _____ due to (or as a consequence of)	_____
	(c) _____ due to (or as a consequence of)	_____
	(d) _____	_____
II Other significant conditions contributing to the death, but not related to the disease or condition causing it	_____ _____	_____ _____
* This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

Figure 2 International Form of Medical Certificate of Cause of Death

Before reviewing the sections in detail, it is essential to understand the following concepts:

- the sequence of events leading to death
- the contributory cause(s) of death.

Sequence of events leading to death

Mortality statistics are based on the ***underlying cause of death***, which is the disease or injury that initiated the sequence of events that led directly to death. For example, imagine a person dies of a cerebral haemorrhage following a motor vehicle accident. Cerebral haemorrhage is the direct cause of death—the motor vehicle accident is the underlying cause of death. The surgeon is concerned with the treatment of cerebral haemorrhage; the public health concern is to prevent deaths due to motor vehicle accidents (the underlying cause of death in this case).

It is not always possible to complete all lines in the death certificate. On some death certificates, there will only be one cause of death, which becomes the ***underlying cause***. But, in filling out death certificates, doctors should try to identify and record ***all*** the conditions in the sequence of events leading to death. For many deaths, there will be more than one cause and, in these cases, the doctor will need to establish a sequence of causes before determining the underlying cause.

Case study 1

A 50-year-old woman was admitted to the hospital vomiting blood and was diagnosed as having bleeding oesophageal varices. Investigation revealed portal hypertension. The woman had a history of hepatitis B infection. Three days later, she died. Figure 3 outlines the sequence of events that led to her death.

It is extremely important that the underlying cause of each death is correctly determined and accurately recorded. In this case, hepatitis B was the underlying cause of death—not bleeding oesophageal varices, which was the immediate cause of death. Knowing this, the public health response is to implement immunisation programs against hepatitis B virus to prevent such deaths in future.

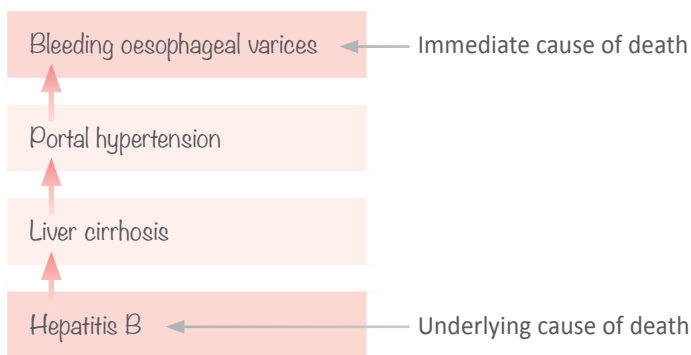


Figure 3 Sequence of events leading to the death in Case study 1

Contributory cause(s) of death

Causes that may have contributed to the death but do not form part of the sequence are listed on the death certificate as **contributing causes**. More details are given on page 15 (Part II of the death certificate).

Case study 2

A man dies of cerebral haemorrhage due to secondary hypertension due to chronic pyelonephritis. The chronic pyelonephritis was due to outflow obstruction, which was due to prostatic adenoma. He also had a history of diabetes mellitus, which had been diagnosed 5 years before his death. Diabetes mellitus, which is not in the sequence of events leading to death, would have *contributed* to the death, and therefore should be entered in Part II of the death certificate.

Figure 4 outlines the sequence of events and contributory condition that led to his death.

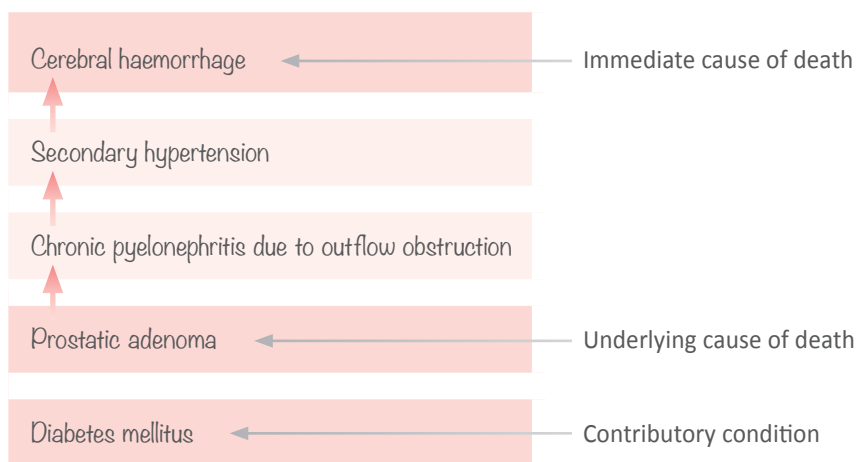


Figure 4 Sequence of events and contributory condition for Case study 2

Part I of the death certificate

The death certificate has two parts and a column to record the approximate interval between onset and death.

Part I of the death certificate has four lines for reporting the **sequence of events** leading to death; these are labelled I(a), I(b), I(c) and I(d).

The immediate cause of death is entered at Part I(a). If the death was a consequence of another disease or condition, this underlying cause should be entered at I(b). If there are more events leading to death, write these in order at I(c) and I(d).

Important points

- Always use consecutive lines, never leave blank lines within the sequence of events.
- Each condition listed in Part I should cause the condition **above it**.
- If there is only **one** cause of death, it is entered at I(a).

The following **examples** are provided to highlight how a death certificate should be completed depending on the number of events there are in the sequence leading to death.

Case study 3

A 56-year-old man dies from acute myocardial infarction within 3 hours of its onset. He did not have any other illnesses.

While it is rare to only have one event leading to death, it does occur. In these cases, cause of death would be reported at I(a) and it would also form the underlying cause of the death, shown in Figure 5. If more information is available in the sequence of events leading to death, these must be reported using the lines provided at I(b), I(c) or I(d).

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH		
Cause of death		Approximate interval between onset and death
I Disease or condition directly leading to death*	(a) <u>Acute myocardial infarction</u> due to (or as a consequence of)	<u>3 hours</u>
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	(b) _____ due to (or as a consequence of)	_____
	(c) _____ due to (or as a consequence of)	_____
	(d) _____	_____
II Other significant conditions contributing to the death, but not related to the disease or condition causing it	_____ _____	_____ _____
* This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

Figure 5 A death certificate with only **one** cause of death reported

Case study 4

A 56-year-old person dies from abscess of the lung, which resulted from lobar pneumonia of the left lung.

When there are two causes of death reported, these are written in at I(a) and I(b), as shown in Figure 6. In this case, underlying cause of death is recorded in line I(b).

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH		
Cause of death		Approximate interval between onset and death
I Disease or condition directly leading to death*	(a) Abscess of lung due to (or as a consequence of)	5 days
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	(b) Lobar pneumonia left lung due to (or as a consequence of)	2 weeks
	(c) due to (or as a consequence of)	
	(d) due to (or as a consequence of)	
II Other significant conditions contributing to the death, but not related to the disease or condition causing it		
* This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

Figure 6 A death certificate where **two** events leading to death are reported

Case study 5

A 23-year-old man dies from traumatic shock after sustaining multiple fractures when he was hit by a truck.

Figure 7 shows a death certificate that has used three lines. These events are recorded at I(a), I(b) and I(c). In this case, underlying cause of death is recorded in the line I(c).

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH		
	Cause of death	Approximate interval between onset and death
I Disease or condition directly leading to death*	(a) Traumatic shock	1 hour
	due to (or as a consequence of)	
	(b) Multiple fractures	5 hours
	due to (or as a consequence of)	
	(c) Pedestrian hit by truck	5 hours
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	due to (or as a consequence of)	
	(d)	
II Other significant conditions contributing to the death, but not related to the disease or condition causing it		
* This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

Figure 7 A death certificate where **three** events leading to death are reported

Case study 6

A 70-year-old man dies from cerebral haemorrhage 3 days after its onset. This resulted from secondary hypertension, which he had for the last year. The hypertension was secondary to chronic pyelonephritis, which he had for the last 2 years. He had also had a prostatic adenoma for the last 5 years.

Figure 8 shows a death certificate that has used four lines. These events are recorded at I(a), I(b), I (c) and I(d).The underlying cause of death is reported in line I(d).

In rare situations, there could be more than four sequences leading to death. In this case, you can add a line I(e) and record the underlying cause of death in that line. **Do not record underlying cause of death in Part II of the death certificate.**

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH		
Cause of death		Approximate interval between onset and death
I Disease or condition directly leading to death* Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	(a) Cerebral haemorrhage	3 days
	due to (or as a consequence of)	
	(b) Hypertension	1 year
	due to (or as a consequence of)	
	(c) Chronic pyelonephritis	2 years
	due to (or as a consequence of)	
	(d) Prostatic adenoma	5 years
II Other significant conditions contributing to the death, but not related to the disease or condition causing it		
* This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

Figure 8 A death certificate where **four** events leading to death are reported

Part II of the death certificate

Part II of the death certificate records all other significant or contributory diseases or conditions that were present at the time of death, but did not directly lead to the underlying cause of death listed in Part I.

Case study 7

A 60-year-old hypertensive patient was admitted to the surgical casualty ward with severe abdominal pain and vomiting. She was diagnosed as having strangulated femoral hernia with a bowel perforation. She underwent surgery to release the hernia and resect the intestine, with an end-to-end anastomosis. Two days after the surgery she developed signs of peritonitis and she died 2 days later.

In this example, the underlying cause of death is strangulated femoral hernia. Hypertension, which is not in the sequence of events leading to death but would have contributed to the death, should be entered in Part II of the death certificate, as shown in Figure 9.

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH		
	Cause of death	Approximate interval between onset and death
I		
Disease or condition directly leading to death*	(a) <u>Peritonitis</u>	<u>2 days</u>
	due to (or as a consequence of)	
Antecedent causes	(b) <u>Strangulated femoral hernia with bowel perforation</u>	<u>2 weeks</u>
Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	due to (or as a consequence of)	
	(c) _____	_____
	due to (or as a consequence of)	
	(d) _____	_____
II		
Other significant conditions contributing to the death, but not related to the disease or condition causing it	<u>Hypertension</u>	<u>unknown</u>
	_____	_____
* This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.		

Figure 9 A death certificate where a **contributory condition** is recorded

Approximate interval between onset and death

The column on the right-hand side of Part I and Part II of the death certificate is for recording the approximate time interval between the onset of the condition and the date of death. The time interval should be entered for **all** conditions reported on the death certificate, especially for the conditions reported in Part I. These intervals are usually established by the doctor on the basis of available information. In some cases, the interval will have to be estimated. Time periods, such as minutes, hours, days, weeks, months or years can be used.

If the time of onset is unknown or cannot be determined, write 'Unknown'.

This information is useful for coding certain diseases and provides a check on the accuracy of the reported sequence of conditions. Therefore, it is important to fill in these lines.

Case study 8

A 58-year-old man presented at a clinic with a long history of haemoptysis and weight loss. The diagnosis was advanced pulmonary tuberculosis, reactivation type with cavitations, perhaps of 8 years duration. The patient also suffered from generalised arteriosclerosis, probably of long duration. Immediately after the admission, the patient had an acute and massive pulmonary haemorrhage and died about 10 hours later. The patient's death certificate is shown in Figure 10.

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH		
	Cause of death	Approximate interval between onset and death
I Disease or condition directly leading to death*	(a) <u>Pulmonary haemorrhage</u> due to (or as a consequence of)	<u>10 hours</u>
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	(b) <u>Advanced pulmonary tuberculosis</u> due to (or as a consequence of)	<u>8 years</u>
	(c) _____ due to (or as a consequence of)	_____
	(d) _____ due to (or as a consequence of)	_____
II Other significant conditions contributing to the death, but not related to the disease or condition causing it	<u>Generalised arteriosclerosis</u> _____	<u>Unknown</u> _____

* This does not mean the mode of dying, e.g. heart failure, respiratory failure.
It means the disease, injury or complication that caused death.

Figure 10 A death certificate where the time intervals are recorded for Case study 8

Identification data in the death certificate

This information is of critical importance to correctly identifying the deceased for both legal and statistical purposes. The details vary from country to country but are likely to include:

- date and place of death
- full name and place of residence
- sex and race
- age
- profession or occupation.

General instructions for completing death certificates

General instructions for doctors when filling in death certificates are given in Box 1. It is important that doctors pay attention to these guidelines because they will help coders correctly identify and code the death. In most countries, coders are not medically trained, so even a small misinterpretation may result in confusion and the incorrect underlying cause of death being selected.

Box 1 General guidelines for doctors completing death certificates

- Complete each item **in order following any specific instructions given in your country.**
 - The entry must be legible. Use **black ink.**
 - Do not make **alterations** or erasures. If you want to delete an entry, draw a single line across it. Do not use correction fluid.
 - Verify the **accuracy** of identification data, including the correct spelling of the name of the deceased, with the family of the deceased.
 - Do not use **abbreviations.**
 - Enter only **one disease** condition or event **per line.**
-

Guidelines for recording specific conditions

Doctors need to give as full a description of disease conditions as possible to help the classification and coding process for each death certificate.

Neoplasms (tumours)

Record the following information when certifying deaths due to neoplasms:

- site of the neoplasm
- whether benign or malignant
- primary or secondary (if known), even if the primary site was removed long before death
- histological type (if known).

If the primary site of a secondary neoplasm is known, it must be stated; for example, primary carcinoma of the lung. If the primary site of a secondary neoplasm is unknown, 'Primary unknown' **must** be stated on the death certificate.

Names of operations must include the condition for which the operation was performed; for example, appendectomy for acute appendicitis.

Pregnancy

If a woman dies during pregnancy or within 42 days of the termination of a pregnancy, the fact that the woman was pregnant should be indicated on the certificate, even if the direct cause of death is not related to the pregnancy or to childbirth. For example, the entry could read 'Pregnant, period of gestation 26 weeks'.

If the death certificate includes a pregnancy check box, it should be ticked to indicate the woman was pregnant or was within 42 days of delivery when the death occurred, if that was the case.

Hypertension

It is important to state whether hypertension was essential or secondary to some other disease condition (eg chronic pyelonephritis).

Infectious and parasitic diseases

If the causative agent is known, it should be noted on the certificate. If the causative agent is unknown, write 'Cause unknown'. It is also important to include the site of the infection, if known (eg urinary tract, respiratory tract).

Injuries, poisonings and external causes of death

The circumstances of death from, for example, a motor vehicle accident, suicide or homicide, is known as the external cause of death. When death occurs as a consequence of injury or violence, the external cause should always be listed as the ***underlying cause***.

The external cause is described in as much detail as possible; for example, 'motor traffic accident' is ***not sufficiently accurate***; however, 'pedestrian hit by motor car' is both clear and accurate. In a case of suicide, simply entering 'suicide' is insufficient; the method of suicide should be entered. For example, 'Suicidal death by hanging' is a clear description.

Reporting death of an elderly person

'Senility' or 'old age' should ***not*** be included in Part I of the death certificate if a more specific cause is known to the certifier. If senility is a contributory factor, it can be included in Part II of the death certificate.

Ill-defined conditions

When organ failure (eg heart failure or renal failure) is entered as a cause of death, it is called an ***ill-defined condition***. Ill-defined conditions should ***never*** be entered on a death certificate ***unless*** nothing else at all is known about a patient. The term ‘septicaemia’, in the absence of more specific information, is also an ill-defined condition and should not be used as the underlying cause of death.

Symptoms and signs

Symptoms and signs (eg chest pain, cough and fever) are considered to be ill-defined conditions on the death certificate. These are not of any use for public health, so doctors should avoid using these terms when completing a death certificate.

Mode of dying

Doctors should avoid reporting the ***mode of dying*** on the death certificate, particularly as an underlying cause. This includes terms such as ‘cardiac arrest’ or ‘brain death’.

Unknown cause of death

Where there is insufficient information to be certain of the cause of death, it is legitimate for the doctor to state ‘Unknown cause of death’. However, this diagnosis should only be used in exceptional circumstances. Unknown or vague cause-of-death diagnoses are of ***no*** public health value. They do not provide any information to decision-makers to guide them in designing preventive health programs.

Perinatal deaths

Some countries have a different form of the death certificate for perinatal deaths. The perinatal death certificate recommended by the World Health Organization is shown in Figure 11. The principles governing the concept of the perinatal period are that:

- a. the fetus is potentially viable
- b. both fetal and maternal causes need to be considered
- c. at a given period after gestation, the pattern of causes will be similar in both live births and stillbirths.

A perinatal death can be either a live birth or a stillbirth according to the World Health Organization definition and formally covers the period from 28 completed weeks of gestation up to (but not including) 7 days after birth. The decision regarding the lower limit of the perinatal period depends on the facilities in the country for a preterm neonate to survive. In some countries, the perinatal period may start at 22 completed weeks.

The death certificate does not ask for an underlying cause of death. Instead, it asks for the main cause in the fetus (stillbirth) or infant (live birth), and the main cause in the mother. It asks for other causes and for other relevant circumstances.

The wording of the perinatal death certificate is:

- a. Main disease or condition in fetus or infant
- b. Other diseases or conditions in fetus or infant
- c. Main maternal disease or condition affecting fetus or infant
- d. Other maternal diseases or conditions affecting fetus or infant
- e. Other relevant circumstances.

CERTIFICATE OF CAUSE OF PERINATAL DEATH

To be completed for stillbirths and liveborn infants dying within 168 hours (1 week) from birth

Identifying particulars

☐ This child was born live on at hours
and died on at hours

☐ This child was stillborn on at hours
and died before labour ☐ during labour ☐ not known ☐

Mother

Date of birth
or, if unknown, age (years)

Number of previous
pregnancies:

Live births

Stillbirths

Abortions

Outcome of last previous
pregnancy:

☐ Live birth

☐ Stillbirth

☐ Abortion

Date

1st day of last
menstrual period
or, if unknown, estimated
duration of pregnancy
(completed weeks)

Antenatal care, two or more visits:

☐ Yes

☐ No

☐ Not known

Delivery:

☐ Normal spontaneous vertex

Other (specify)

Child

Birthweight: grams

Sex:

☐ Boy ☐ Girl ☐ Indeterminate

☐ Single birth ☐ First twin

☐ Second twin ☐ Other multiple

Attendant at birth

☐ Physician ☐ Trained midwife
Other trained person (specify)

Other (specify)

Causes of death

a. Main disease or condition in fetus or infant

b. Other diseases or conditions in fetus or infant

c. Main maternal disease or condition affecting fetus or infant

d. Other maternal diseases or conditions affecting fetus or infant

e. Other relevant circumstances

- ☐ The certified cause of death has been confirmed
by autopsy
- ☐ Autopsy information may be available later
- ☐ Autopsy not being held

I certify

.....

.....

Signature and qualification

Figure 11 Perinatal death certificate recommended by the World Health Organization

Case study 9

A 37-year-old grand multipara with gestational diabetes mellitus was admitted to hospital at 32 weeks of gestation. She was diagnosed with premature rupture of the membranes and put on antibiotics. Two days later, she delivered a baby boy weighing 1.9 kilograms. The delivery was performed by the house officer. On examination, the baby was found to be premature and was short of breath. He was diagnosed with respiratory distress syndrome of neonates. The baby was sent to the premature baby unit for incubator care. Despite treatment, the baby died 14 hours after birth. Autopsy information may be available later.

Completion of the perinatal death certificate for this infant would be as follows (see Figure 12):

- a. Main disease or condition in fetus or infant: Neonatal respiratory distress syndrome
- b. Other diseases or conditions in fetus or infant: Prematurity or low birth weight
- c. Main maternal disease or condition affecting fetus or infant: Premature rupture of membranes
- d. Other maternal diseases or conditions affecting fetus or infant: Preterm labour, gestational diabetes mellitus and grand multipara
- e. Other relevant circumstances: None.

CERTIFICATE OF CAUSE OF PERINATAL DEATH

To be completed for stillbirths and liveborn infants dying within 168 hours (1 week) from birth

Identifying particulars

☒ This child was born live on 2.1.2.2012 at 0630 hours
and died on 2.1.2.2012 at 2030 hours

☐ This child was stillborn on at hours
and died before labour ☐ during labour ☐ not known ☐

Mother

Date of birth 12.06.74
or, if unknown, age (years)

Number of previous pregnancies:

Live births 04

Stillbirths 01

Abortions 00

Outcome of last previous pregnancy:

☒ Live birth

☐ Stillbirth

☐ Abortion

Date 05.05.10

1st day of last menstrual period
or, if unknown, estimated duration of pregnancy 32
(completed weeks)

Antenatal care, two or more visits:

☒ Yes

☐ No

☐ Not known

Delivery:

☒ Normal spontaneous vertex

Other (specify)

Child

Birthweight: 1900 grams

Sex:

☒ Boy ☐ Girl ☐ Indeterminate

☒ Single birth ☐ First twin

☐ Second twin ☐ Other multiple

Attendant at birth

☒ Physician ☐ Trained midwife
Other trained person (specify)

Other (specify)

Causes of death

a. Main disease or condition in fetus or infant

Neonatal respiratory distress syndrome

b. Other diseases or conditions in fetus or infant

Prematurity or low birth weight

c. Main maternal disease or condition affecting fetus or infant

Premature rupture of membranes

d. Other maternal diseases or conditions affecting fetus or infant

Preterm labour, gestational diabetes mellitus, grand multipara

e. Other relevant circumstances

☐ The certified cause of death has been confirmed by autopsy

☒ Autopsy information may be available later

☐ Autopsy not being held

I certify
.....
.....

Signature and qualification

Figure 12 Perinatal death certificate for Case study 9

References

World Health Organization (2004). *International Statistical Classification of Diseases and Related Health Problems*, 10th revision, vol. 2, 2nd edn, World Health Organization, Geneva.

Notes

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