

Improving Cause of Death Reporting

Module 3

Welcome to Module 3 of Improving Cause of Death Reporting.

Competencies at end of this module

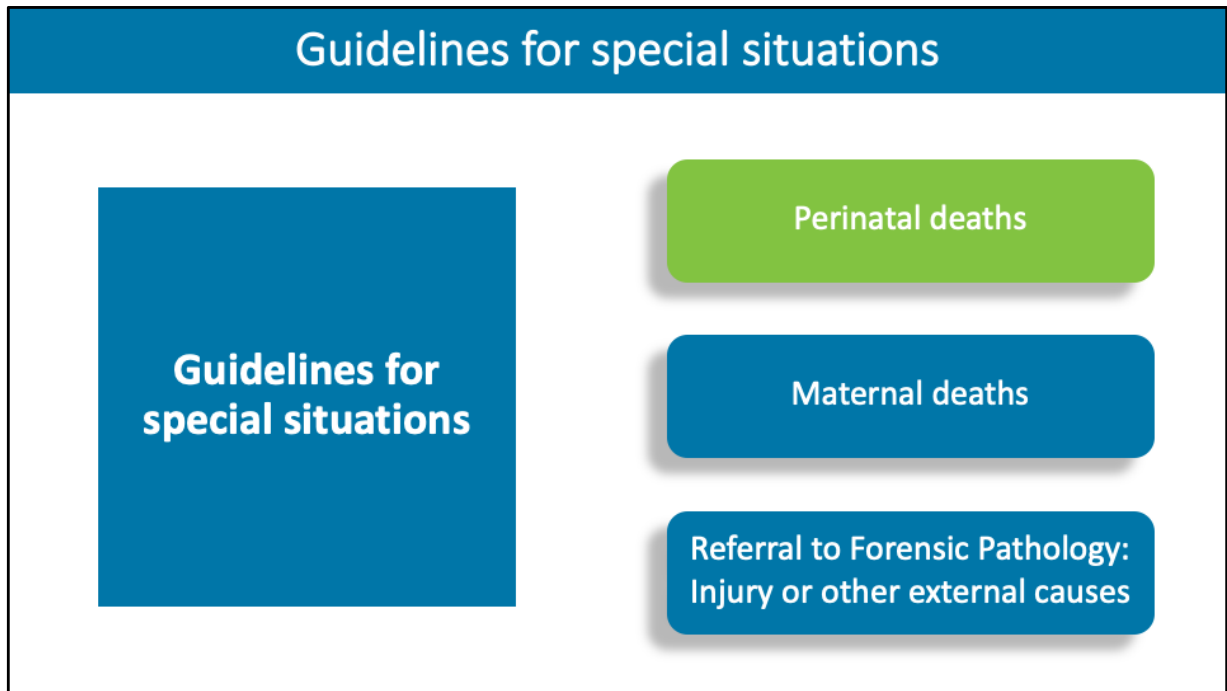
Understand guidelines for special situations:

- Perinatal & Maternal deaths
- Injury or other external causes
- Referral to Forensic Pathology Services

You now know all the role players involved in the process of recording the cause of death and how the information is used. You also know how to complete a death certificate.

Now we will have a look at special cases. At the end of this module, you should be able to demonstrate the competencies to complete a death certificate for:

- Perinatal & Maternal deaths.
- To Report the cause of death as a result of injury or other external causes.
- And know when to refer a case to Forensic Pathology Services.



Guidelines for special situations.

Perinatal Deaths

**Stillbirths
and
Deaths within 1 week of
birth (Days 0 – 6)**



Perinatal deaths include stillbirths and deaths occurring within 1 week of birth: that is Days 0-6.

Stillbirth Deaths

An infant that had at least 26 weeks of intra-uterine life (28 weeks gestation), but shows no signs of life after complete birth

28 weeks gestation = 1000g



For the purposes of the death certificate, or for legal purposes, a stillbirth is defined as “an infant that had at least 26 weeks of intra-uterine life – that is 28 weeks’ gestation – but showed no signs of life after complete birth.” The World Health Organization equates 28 weeks gestation with a weight of 1000 gram.

NOTICE OF DEATH / STILLBIRTH
Do Not Remove This Medical and Health Use Only
This is a controlled document under the Medicines and Related Substances Act (Act 101 of 1965) and is subject to the provisions of the Medicines and Related Substances Act (Act 101 of 1965) and is subject to the provisions of the Medicines and Related Substances Act (Act 101 of 1965).

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REGISTRATION NO. _____ DATE OF DEATH _____ TIME OF DEATH _____

SECTION G.1 - MEDICAL CERTIFICATION OF CAUSE OF DEATH

Role/Rank _____

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH
Instructions: Section G.1 is to be completed for all deaths that occurred after one week of birth

77. CAUSES OF DEATH

Part 1 Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. **List only one cause on each line** Approximate interval between onset and death (Days / Months / Years)

IMMEDIATE CAUSE (final disease or condition resulting in death)	a) _____	Due to (or as a consequence of) _____	
Sequentially list conditions, if any, leading to immediate cause.	b) _____	Due to (or as a consequence of) _____	
Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	c) _____	Due to (or as a consequence of) _____	
	d) _____		

Part 2 Other significant conditions contributing to death but not resulting in underlying cause given in **Part 1** _____

78. If a female, was she pregnant at the time of death or up to 42 days prior to death? () 82.1 Yes 82.2 No

79. Method used to ascertain the cause of death (tick all that apply):

<input type="checkbox"/> 79.1 Autopsy	<input type="checkbox"/> 79.2 Post mortem examination	<input type="checkbox"/> 79.3 Opinion of attending medical practitioner	<input type="checkbox"/> 79.4 Opinion of attending medical practitioner on duty
<input type="checkbox"/> 79.5 Opinion of registered professional nurse	<input type="checkbox"/> 79.6 Interview of family member	<input type="checkbox"/> 79.7 Other (specify)	

RE CAUSE OF DEATH

A. Not stated as condition's factor or cause
 B. Not stated as condition's factor or cause
 C. Not stated as condition's factor or cause
 D. Not stated as condition's factor or cause
 E. Not stated as condition's factor or cause
 F. Not stated as condition's factor or cause

I. Underlying cause of death has been ascertained by autopsy II. Underlying cause of death has been ascertained by other means III. Underlying cause of death has not been ascertained

In module 2 you've learnt how to complete Section G.1 of the South African Death Notification Form, for deaths occurring after one week of birth.

NOTICE OF DEATH / STILLBIRTH



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G.2 FOR STILLBIRTHS AND DEATHS OCCURRING WITHIN ONE WEEK OF BIRTH (PERINATAL DEATHS)
Instructions: Section G.2 is to be completed for all stillbirths and deaths that occurred within one week of birth (perinatal deaths)

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

Instructions: Section G.1 is to be completed for all deaths that occurred after one week of birth

77. CAUSES OF DEATH

Part 1 Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line

Approximate interval between onset and death (Days / Months / Years)

For office use only

IMMEDIATE CAUSE (final disease or condition resulting in death)

a) Due to (or as a consequence of) _____

Sequentially list conditions, if any, leading to immediate cause.

b) Due to (or as a consequence of) _____

Enter **UNDERLYING CAUSE** last (Disease or injury that initiated events resulting in death)

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

d) _____

Part 2 Other significant conditions contributing to death but not resulting in underlying cause given in Part 1 _____

ICD-10			

78. If a female, was she pregnant at the time of death or up to 42 days prior to death? () 82.1 Yes 82.2 No

79. Method used to ascertain the cause of death (tick all that apply):

- 79.1 Autopsy 79.2 Post mortem examination 79.3 Opinion of attending medical practitioner 79.4 Opinion of attending medical practitioner on duty
- 79.5 Opinion of registered professional nurse 79.6 Interview of family member 79.7 Other (specify) _____

RE CAUSE OF DEATH

A. Was there a condition of fetus or infant?
 B. Was there a condition of placenta or umbilical cord?
 C. Was there a condition of mother affecting fetus or infant?
 D. Was there a condition of mother or placenta/umbilical cord?
 E. Other (specify) _____

I. I certify that the cause of death has been ascertained by a doctor II. I certify that the cause of death has been ascertained by a registered professional nurse III. I certify that the cause of death has been ascertained by a family member

Section G.2 is completed for all perinatal deaths – that is stillbirths and deaths occurring within one week of birth. This section contains pertinent details of both mother and child.

NOTICE OF DEATH / STILLBIRTH
For completion by Medical and Health care only.
This form should be completed by a medical or health care professional who is satisfied that the information provided is true and correct.
It is a criminal offence to supply false information and completion of this form may be considered as evidence.
For more information on the completion of this form please refer to the accompanying instructions.

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G.2 FOR STILLBIRTHS AND DEATHS OCCURRING WITHIN ONE WEEK OF BIRTH (PERINATAL DEATHS)
Instructions: Section G.2 is to be completed for all stillbirths and deaths that occurred within one week of birth (perinatal deaths)

Mother		Child	
80. Identity Number		89. Type of death: <input type="checkbox"/> 89.1 Stillbirth <input type="checkbox"/> 89.2 Live birth	
81. Date of Birth		90. Birth weight (in grams)	
82. Age of last birthday/ DOB unknown		91. This birth was: <input type="checkbox"/> 91.1 Single birth <input type="checkbox"/> 91.2 First twin	
83. Number of previous pregnancies resulting in:		<input type="checkbox"/> 91.3 Second twin <input type="checkbox"/> 91.4 Other multiple	
<input type="checkbox"/> 83.1 Live births <input type="checkbox"/> 83.2 Stillbirths <input type="checkbox"/> 83.3 Abortions		92. If still born, heartbeat ceased:	
84. Outcome of last previous pregnancy (tick one):		<input type="checkbox"/> 92.1 Before labour	
<input type="checkbox"/> 84.1 Live birth <input type="checkbox"/> 84.2 Stillbirth <input type="checkbox"/> 84.3 Abortion		<input type="checkbox"/> 92.2 During labour but before delivery	
85. Date of last previous delivery		<input type="checkbox"/> 92.3 Before delivery but not known whether before or during labour	
86. First day of last menstrual period		93. If death occurred within 24 hours after birth, number of hours alive	
Or, if unknown, estimated duration of pregnancy (in completed weeks)		<input type="checkbox"/>	
87. Method of delivery:		94. Attendant at birth:	
<input type="checkbox"/> 87.1 Spontaneous <input type="checkbox"/> 87.4 Vacuum extractor		<input type="checkbox"/> 94.1 Physician	
<input type="checkbox"/> 87.2 Forceps delivery <input type="checkbox"/> 87.5 Caesarean section		<input type="checkbox"/> 94.2 Trained midwife	
<input type="checkbox"/> 87.3 Forceps and rotation <input type="checkbox"/> 87.6 Other (specify)		<input type="checkbox"/> 94.3 Other trained person (specify)	
88. Antenatal care two or more visits:		<input type="checkbox"/> 94.4 Other (specify)	
<input type="checkbox"/> 88.1 Yes <input type="checkbox"/> 88.2 No <input type="checkbox"/> 88.3 Unknown			
95. CAUSES OF DEATH			
a. Main disease or conditions in foetus or infant			
b. Other diseases or conditions in foetus or infant			
c. Main maternal disease or condition affecting foetus or infant			
d. Other maternal diseases or conditions affecting foetus or infant			
e. Other relevant circumstances			
96. Autopsy information (<input checked="" type="checkbox"/>)			
<input type="checkbox"/> 96.1 Certified causes of death has been confirmed by autopsy		<input type="checkbox"/> 96.2 Autopsy information may be available later	<input type="checkbox"/> 96.3 Autopsy not performed

Information collected on the mother includes her ID number, her date of birth or age, the pregnancy and antenatal history. Information is also collected on the foetus or infant. It includes an option to indicate if it is a still- or live birth; the birth weight; if it was a single birth or twins; if the death occurred before labour, during labour but before delivery, or before delivery but not known whether before or during labour – in other words if the death occurred antepartum, intrapartum or postpartum. You also have to indicate who the attendant was at birth. The cause of death information includes main and other causes of death in the foetus or infant, as well as main and other maternal conditions affecting the foetus or infant

Diseases or conditions in the foetus or infant should be entered in sections (a) and (b), with the single most important condition that made the greatest contribution to the death of the foetus or infant reported in section (a). The mode of death - such as heart failure, asphyxia, prematurity, and others - should not be entered into section (a) unless it is the only foetal or infant condition known.

In Section (c) and (d) all conditions or diseases in the mother - that had an adverse effect on the foetus or infant - should be entered, with the most important one entered into Section (c) and the others in Section (d).

Section (e) is for the reporting of any circumstances that may have had a bearing on the death, but cannot be described as a condition of the foetus or infant or mother, such as delivery in the absence of an attendant.

Perinatal Death: Case Scenario 1

A 16-year old woman (para zero with no medical history) presented in spontaneous labour at 29 certain weeks of gestation. She subsequently had a forceps delivery of a liveborn baby, weighing 1100g. The baby died on Day 2 of life from hyaline membrane disease.

95. CAUSES OF DEATH

a. Main disease or conditions in foetus or infant	<u>Hyaline membrane disease</u>
b. Other diseases or conditions in foetus or infant	<u>Prematurity</u>
c. Main maternal disease or condition affecting foetus or infant	<u>Spontaneous preterm delivery</u>
d. Other maternal diseases or conditions affecting foetus or infant	<u> </u>
e. Other relevant circumstances	<u>Forceps delivery</u>

Let's have a look at a case scenario of a perinatal death:

A 16-year old woman - para zero with no medical history - presented in spontaneous labour at 29 certain weeks of gestation. She subsequently had a forceps delivery of a liveborn baby, weighing 1100g. The baby died on Day 2 of life from hyaline membrane disease.

- In this case the main cause of death in the infant - hyaline membrane disease.
- The baby was premature, which is reported in Section B.
- Spontaneous preterm labour is abnormal and should be reported as the main maternal condition contributing to the infant's death. Forceps delivery can affect the foetus/infant and should be reported in section (e) as other relevant information.

Perinatal Death: Case Scenario 2

A 19-year old woman - para 1 with a certain gestation of 38 weeks based on early clinical examination - presented in a healthy condition during labour with no significant history. A baby, weighing 2450g, was delivered after 8 hours in labour. An early neonatal death occurred on Day 2 of life from meconium aspiration syndrome.

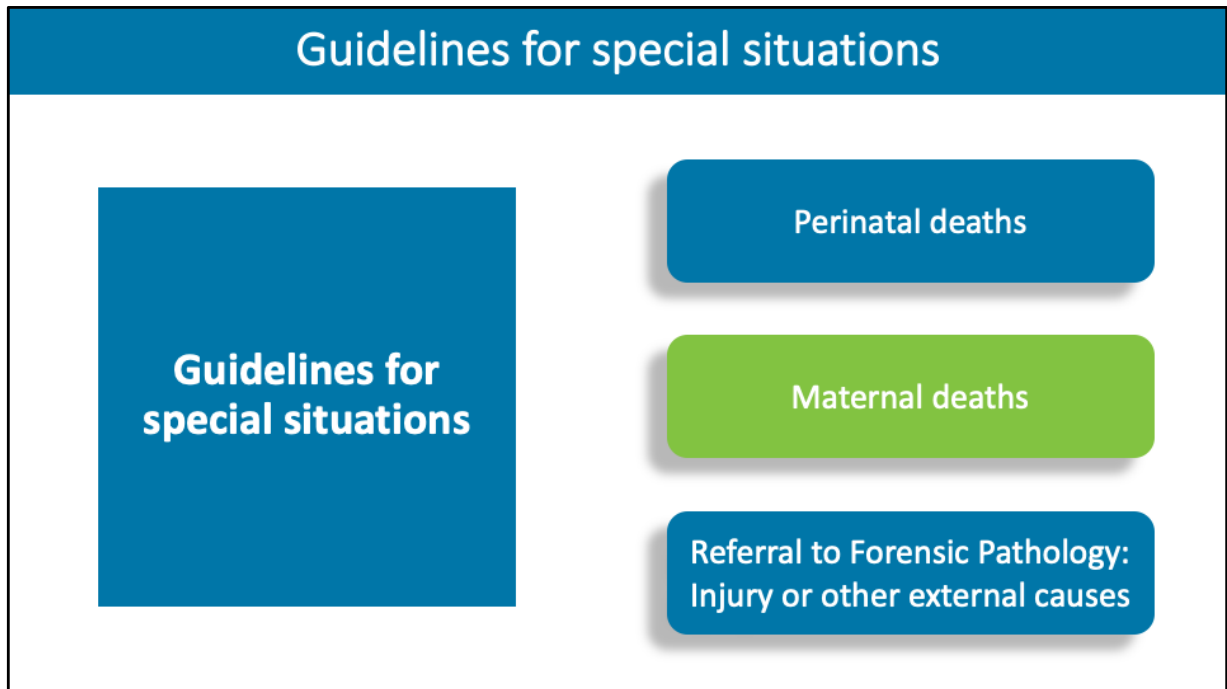
95. CAUSES OF DEATH

a. Main disease or conditions in foetus or infant	<u>Meconium aspiration syndrome</u>
b. Other diseases or conditions in foetus or infant	<u>Small for gestational age</u>
c. Main maternal disease or condition affecting foetus or infant	<u>No maternal conditions</u>
d. Other maternal diseases or conditions affecting foetus or infant	<u></u>
e. Other relevant circumstances	<u></u>

Let's have a look at another case scenario of a perinatal death:

A 19-year old woman - para 1 with a certain gestation of 38 weeks based on early clinical examination - presented in a healthy condition during labour with no significant history. A baby, weighing 2450g, was delivered after 8 hours in labour. An early neonatal death occurred on Day 2 of life from meconium aspiration syndrome.

- In this case the main cause of death in the infant was meconium aspiration syndrome.
- The baby was small for gestational age, which is reported in Section B.
- There were no maternal conditions. Thus, report "no maternal conditions" as the main maternal condition contributing to the infant's death.



Guidelines for special situations.

Maternal Death

Definition: Maternal deaths

- While pregnant, or
- Within 42 days of termination of pregnancy:
 - Irrespective of duration or site of pregnancy
 - from any cause related to or aggravated by the pregnancy, or the management of the pregnancy, but not by external causes.



Maternal death is defined as the death of a woman: while pregnant, or within 42 days of termination of pregnancy, irrespective of the duration or site of pregnancy, from any cause related to or aggravated by the pregnancy, or the management of the pregnancy, but not by external causes.

Maternal Death

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH
Instructions: Section G.1 is to be completed for all deaths that occurred after one week of birth

77. CAUSES OF DEATH

Part 1 Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. **List only one cause on each line** Approximate interval between onset and death (Days / Months / Years)

IMMEDIATE CAUSE (final disease or condition resulting in death)	a) _____	Due to (or as a consequence of) _____
Sequentially list conditions, if any, leading to immediate cause.	b) _____	Due to (or as a consequence of) _____
Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	c) _____	Due to (or as a consequence of) _____
	d) _____	

Part 2 Other significant conditions contributing to death but not resulting in underlying cause given in **Part 1**

78. If a female, was she pregnant at the time of death or up to 42 days prior to death? () 82.1 Yes 82.2 No

79. Method used to ascertain the cause of death (tick all that apply):

<input type="checkbox"/> 79.1 Autopsy	<input type="checkbox"/> 79.2 Post mortem examination	<input type="checkbox"/> 79.3 Opinion of attending medical practitioner	<input type="checkbox"/> 79.4 Opinion of attending medical practitioner on duty
<input type="checkbox"/> 79.5 Opinion of registered professional nurse	<input type="checkbox"/> 79.6 Interview of family member	<input type="checkbox"/> 79.7 Other (specify) _____	

G.2 FOR STILLBIRTHS AND DEATHS OCCURRING WITHIN ONE WEEK OF BIRTH (PERINATAL DEATHS)
Instructions: Section G.2 is to be completed for all stillbirths and deaths that occurred within one week of birth (perinatal deaths)

Mother	Child

In the case of maternal death, Part 1 of the Medical Certificate of Causes of Death should be completed like we've discussed in module 2. This should always include clear information about whether mutual aggravation between a disease and pregnancy led to death, in other words, indirect maternal death.

In order for maternal deaths to be identified in the official mortality data, it is important to indicate whether a female was pregnant at the time of death, or up to 42 days prior to death.

Maternal Death: Case Scenario 1

A woman had anaemia during pregnancy. 15 minutes after delivery she had a postpartum haemorrhage due to uterine atony. She died 30 minutes later as a result of hypovolaemic shock.

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

Instructions: Section G.1 is to be completed for all deaths that occurred after one week of birth

77. CAUSES OF DEATH

<p>Part 1 Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line</p> <p>IMMEDIATE CAUSE (final disease or condition resulting in death)</p> <p>Sequentially list conditions, if any, leading to immediate cause.</p> <p>Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)</p>	<p>a) Hypovolaemic shock (not necessary to report) Due to (or as a consequence of)</p> <p>b) Postpartum haemorrhage Due to (or as a consequence of)</p> <p>c) Uterine atony Due to (or as a consequence of)</p> <p>d) _____</p>	<p>Approximate interval between onset and death (Days / Months / Years)</p> <p>minutes _____</p> <p>30 minutes _____</p> <p>45 minutes _____</p> <p>_____</p>
<p>Part 2 Other significant conditions contributing to death but not resulting in underlying cause given in Part 1</p>	<p>Anaemia</p>	
<p>78. If a female, was she pregnant at the time of death or up to 42 days prior to death? (<input checked="" type="checkbox"/>)</p>		<p><input checked="" type="checkbox"/> 82.1 Yes <input type="checkbox"/> 82.2 No</p>

Let's have a look at a case scenarios of a maternal death:

A woman had anaemia during pregnancy. 15 minutes after delivery she had a postpartum haemorrhage due to uterine atony. She died 30 minutes later as a result of hypovolaemic shock.

Hypovolaemic shock is a mode of dying and does not need to be reported on the death certificate. However, for illustration it is reported here as the immediate cause of death on line A of Part 1.

- Postpartum haemorrhage caused the hypovolaemic shock, so it is reported on line B of Part 1
- Uterine atony is the underlying cause of the postpartum haemorrhage, so it is reported on the lowest used line of Part 1.
- Anaemia would have contributed to the death, but is not part of the causal sequence in Part 1. Thus it is reported in Part 2.
- Tick "Yes" for the pregnancy question.

Maternal Death: Case Scenario 2

A woman, infected with HIV, has a spontaneous abortion at around 10 pm. The next morning she develops a fever and tachycardia. Antibiotics are started, but later that afternoon she becomes hypotensive due to septic shock. She goes into renal failure during the night. Despite aggressive treatment, she dies the next morning.

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

Instructions: Section G.1 is to be completed for all deaths that occurred after one week of birth

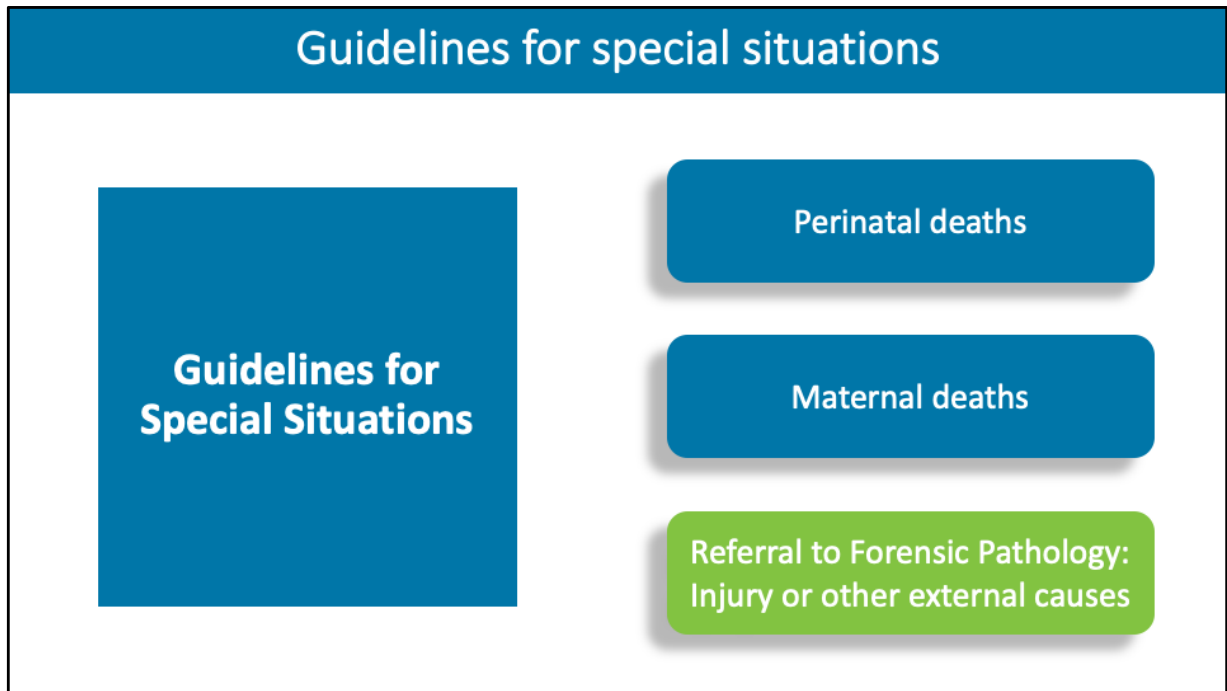
77. CAUSES OF DEATH

Part 1	Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line	Approximate interval between onset and death (Days / Months / Years)
	IMMEDIATE CAUSE (final disease or condition resulting in death)	hours
	Sequentially list conditions, if any, leading to immediate cause.	36 hours
	Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	
Part 2	Other significant conditions contributing to death but not resulting in underlying cause given in Part 1 HIV	Unknown
78. If a female, was she pregnant at the time of death or up to 42 days prior to death? (<input checked="" type="checkbox"/>)		<input checked="" type="checkbox"/> 82.1 Yes <input type="checkbox"/> 82.2 No

Let's have a look at another case scenario of a maternal death:

A woman, infected with HIV, has a spontaneous abortion at around 10 pm. The next morning, she develops a fever and tachycardia. Antibiotics are started, but later that afternoon she becomes hypotensive due to septic shock. She goes into renal failure during the night. Despite aggressive treatment, she dies the next morning.

- The immediate cause of death in this patient is renal failure reported on line A of Part 1.
- Septic miscarriage caused the septic shock that resulted in renal failure. Septic miscarriage is the underlying cause of death, so it is reported on the lowest used line of Part 1.
- HIV would have contributed to the death but is not part of the causal sequence in part 1. Thus, it is reported in Part 2.
- She died within 42 days of being pregnant, so tick yes for the question on pregnancy.

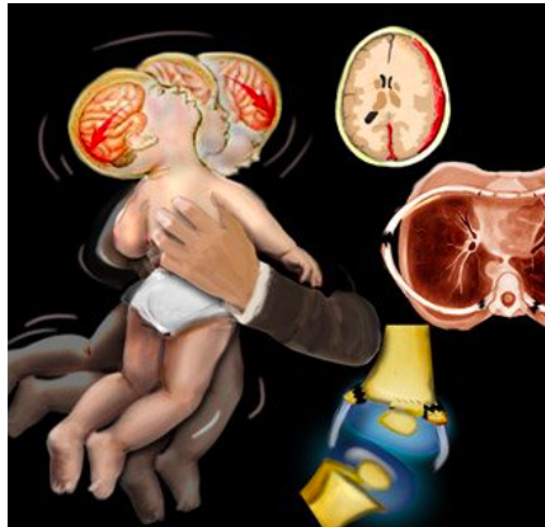


Guidelines for special situations.

Refer to Forensic Pathology Services

Inquests Act

“If the body of a person who has allegedly died from other than natural causes is available, it shall be examined by the district surgeon or any other medical practitioner, who may; if he deems it necessary for the purpose of ascertaining with greater certainty the cause of death, make or cause to be made an examination of any internal organ or any part or any of the contents of the body, or of any other substance or thing.”



Where deaths are due to causes other than natural causes, an investigation into the circumstances of the death are required in South Africa in terms of the Inquests Act.

“If the body of a person who has allegedly died from other than natural causes is available, it shall be examined by the district surgeon or any other medical practitioner, who may;

if he deems it necessary for the purpose of ascertaining with greater certainty the cause of death, make or cause to be made an examination of any internal organ or any part or any of the contents of the body, or of any other substance or thing.”

Refer to Forensic Pathology Services

Unnatural causes of death are due to external causes (injuries), e.g.

- Motor vehicle accidents
- Poisoning
- Self-harm
- Assault
- Falls



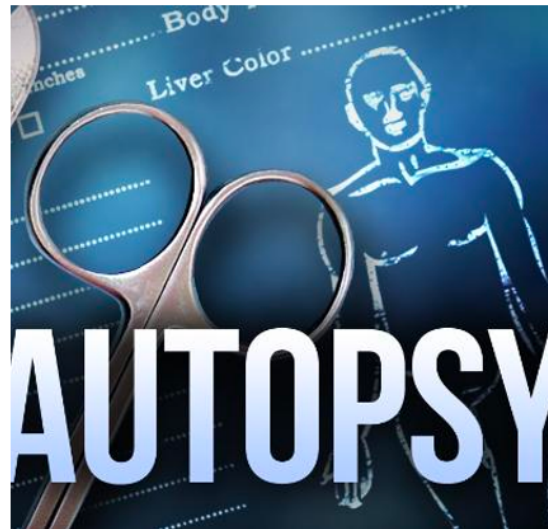
Deaths due to external causes or injuries, are often referred to as “unnatural causes”. These include, but are not limited to deaths as a result of:

- motor vehicle accidents
- poisoning,
- self-harm (or suicide),
- assault,
- and falls.

Refer to Forensic Pathology Services

Deaths to undergo a medico-legal autopsy

- Physical or chemical influence, direct or indirect, or related complications
- Result of an act of commission or omission
- Procedure-related deaths
- Sudden and unexpected death, or unexplained, or where the cause of death is not apparent.



In the Regulations regarding the rendering of Forensic Pathology Service, 2018, the following categories of deaths should undergo a medico - legal autopsy:

- any death due to physical or chemical influence, direct or indirect, or related complications
- any death, including those deaths which would normally be considered to be a death due to natural causes, which may have been the result of an act of commission or omission, which may be criminal in nature
- any death as contemplated in section 56 of the Health Professions Act of 1974. These include procedure-related deaths; and
- any death which is sudden and unexpected, or unexplained, or where the cause of death is not apparent. Let us take a closer look at these four groups of death.

1.

Refer to Forensic Pathology Services

Deaths caused by physical or chemical effects on the body

- Gunshots
- Motor vehicle accidents
- Falls
- Exposure to lightning, and poisoning



There are four main groups of deaths which should be referred for a postmortem investigation.

The first group are deaths caused by physical or chemical effects on the body, such as:

- gunshots,
- motor vehicle accidents,
- falls,
- exposure to lightning, and poisoning

2.

Refer to Forensic Pathology Services

Deaths due to Omission/Commission

- Omission: failure to act (i.e. neglect)
- Commission: act against the law (e.g. murder)



Another group of deaths to be referred for a postmortem, are deaths due to omission – the failure to act when one should, in other words neglect, and commission – that is to act against the law, such as murder.

3.

Refer to Forensic Pathology Services

Procedure-related deaths

- diagnostic, therapeutic or palliative
- death *during* procedure
- death *as a result* of procedure
- any aspect of procedure *contributed* to death



The third group are deaths that are related to medical procedures... whether diagnostic, therapeutic or palliative. These include deaths that occur during the procedure as a result of the procedure or where any aspect of the procedure played a contributory role in causing the death. Where you are unsure, it is best to contact the forensic pathologist and discuss the case with them.

4.

Refer to Forensic Pathology Services

Sudden unexpected deaths in previously healthy persons



The fourth group of deaths to refer for autopsy are sudden unexpected deaths in previously healthy persons.

Classification: External cause of death

Manner of death

- Not on South African form

Circumstances of violence or accident

- Underlying cause of death, Part 1

Nature of injury

- Immediate cause of death, Part 1

Place of occurrence

- Not on South African form



The classification of external causes of death, according to ICD-10, requires the following information:

The manner of death. The South African Death Certificate differs from the International Cause of Death Form, in that it doesn't have designated space to indicate the manner of death

- The circumstances of the violence or accident. Report this as underlying cause of death in Part 1
- The nature of injury, which can be reported as the immediate cause of death in Part 1
- And the place of occurrence, which is also not included in the South African form.

We'll now elaborate more on each of these 4 items used to classify external causes of death.

Classification: External cause of death

Manner of death (Injuries)

- **Accident** (unintentional)
- **Self-inflicted** (intentional) (e.g. suicide)
- **Homicide** (intentional) (e.g. assault)
- Undetermined



Firstly, it is very important to differentiate between the following manners of death, when classifying external causes of death:

- Accidental. This is unintentional.
- Or intentional, which can be self-inflicted, such as suicide, and homicide, such as assault.

The manner of death may be “undetermined” in some cases, even after a postmortem investigation.

Unfortunately, the Death Notification Form in South Africa does not have a tick box to select the manner of death as is recommended by the WHO’s International Medical Certificate of Cause of Death. Where possible, include this information in Part 1.

Classification: External cause of death

Circumstances of violence (suicide or assault)

- Hanging
- Poisoning
- Gunshot
- Stabbing
- Strangling
- Suffocation
- Blunt object



Secondly, the circumstances of the violence or accident are needed for the classification of external causes of death.

If violence was involved, it is necessary to indicate the method of the violence.

In the case of suicide, it is important to state the method used to end life. Such as, by hanging, poisoning or gunshot.

In the case of homicide, it is necessary to state how the murder was committed. For example, was the victim shot, stabbed, strangled, suffocated or hit with a blunt object?

Classification: External cause of death

Circumstances of accidents

- **Motor vehicle accident**

- Driver
- Car occupant
- Passenger
- Pedestrian
- Unknown

- **Other accidents**

- Fall
- Lightning strike
- Poisoning
- Electrocution



Where the death was accidental, the circumstances of the accident should be reported.

For example, in the case of a motor car accident: is it the driver, a car occupant, a passenger or a pedestrian? Or is it unknown?

Other accidents can include falls, lightning strike, poisoning, electrocution, and so forth.

Classification: External cause of death

Nature of the injury

- Examples:
 - Gunshot wound to head
 - Stab wound of chest
 - Multiple fractures



In addition, the nature of the injury can be reported.

Examples are a gunshot wound to the head, a stab wound of the chest, or multiple fractures

Classification: External cause of death

Place of occurrence

- Examples:
 - Home
 - School
 - Road
 - Etc.



Lastly, the place of occurrence is needed to classify external cause of death. Places of occurrence can, for example, be the home, school, road, and so forth. There is not a dedicated place on the South African form for the place of occurrence, so it is recommended to add it to Part 1 of the certificate.

Classification: External cause of death

An 84-year old male slipped on same level at home and fell down, resulting in fractures of the left ischium and ilium. He was admitted to hospital for reduction of the fractures. He remained in hospital confined to his bed. Two weeks later he developed a hypostatic pneumonia and died 6 days later despite antibiotic treatment and physiotherapy.

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

Instructions: Section G.1 is to be completed for all deaths that occurred after one week of birth

77. CAUSES OF DEATH

Part 1	Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line	Approximate interval between onset and death (Days / Months / Years)
IMMEDIATE CAUSE (Final immediate cause)	a) Hypostatic Pneumonia Due to (or as a consequence of)	6 days
Intermediate cause	b) Pelvic fractures Due to (or as a consequence of)	
UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	c) Accidental fall at home Due to (or as a consequence of)	
Part 2	d) _____	
Other significant conditions contributing to the death but not resulting in underlying cause		

Nature of injury

Place of occurrence

Manner of death

Circumstances

Let's have a look at an example of an external cause of death.

A 84-year old male slipped on same level at home and fell down, resulting in fractures of the left ischium and ilium.

He was admitted to hospital for reduction of the fractures. He remained in hospital confined to his bed.

Two weeks later he developed a hypostatic pneumonia as a result of immobility and died 6 days later despite antibiotic treatment and physiotherapy. The immediate cause of death was hypostatic pneumonia due to immobility. The immobility was due to the pelvic fractures which was the intermediate or antecedent cause of death. The underlying cause of death was the accidental fall.

The manner of death was accidental

The circumstances of the death (underlying cause of death), was a fall

Place of occurrence was at home

The nature of the injury was a pelvic fracture.

Refer to Forensic Pathology Services

Deaths due to injury in the elderly

- Deaths due to falls and other injury-related conditions in the elderly are not natural deaths and should be referred to forensic pathology services.



Deaths, due to falls and other injury-related conditions in the elderly, are not natural deaths and should be referred to Forensic Pathology Services

Refer to Forensic Pathology Services

Deaths due to an injury which resulted from a medical condition

- The injury supersedes the underlying medical condition that caused the injury.
- This is for classification purposes.



In the case of deaths, due to an injury which resulted from a medical condition, the injury supersedes the underlying medical condition that caused the injury. This is for classification purposes.

Death due to an injury as result of a medical condition

An elderly woman with diabetic retinopathy. She tripped and fell due to poor eye- sight from diabetes and then broke her hip. She was admitted to hospital for surgical repair, developed a pulmonary embolism 5 days after surgery and subsequently demised.

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

Instructions: Section G.1 is to be completed for all deaths that occurred after one week of birth

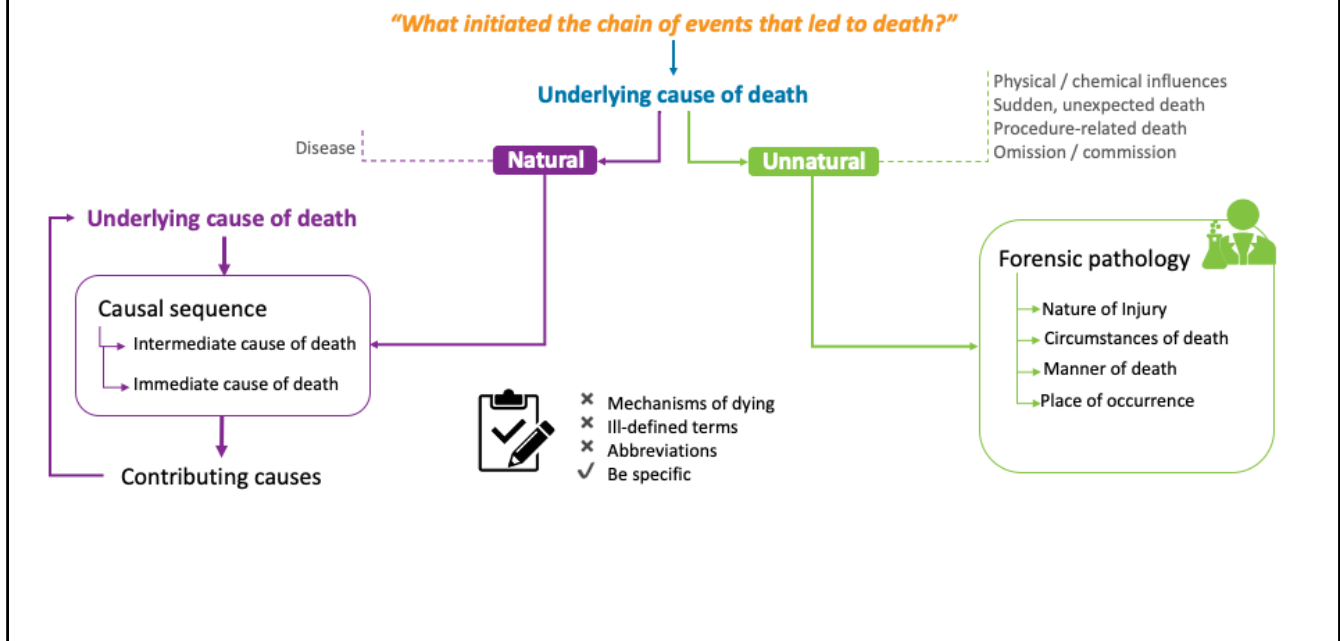
77. CAUSES OF DEATH

Part 1	Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line	Approximate interval between onset and death (Days / Months / Years)																																			
	<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;"> IMMEDIATE CAUSE (final disease or condition resulting in death) </td> <td style="width: 5%;">a)</td> <td style="width: 60%;">Pulmonary embolism</td> <td style="width: 5%; border-bottom: 1px solid black;"></td> <td style="width: 10%; border-bottom: 1px solid black;"></td> </tr> <tr> <td></td> <td></td> <td>Due to (or as a consequence of)</td> <td></td> <td></td> </tr> <tr> <td>Sequentially list conditions, if any, leading to immediate cause.</td> <td>b)</td> <td>Fractured right hip</td> <td style="border-bottom: 1px solid black;"></td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td></td> <td></td> <td>Due to (or as a consequence of)</td> <td></td> <td></td> </tr> <tr> <td>Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)</td> <td>c)</td> <td>Accidental fall – tripped on a rug</td> <td style="border-bottom: 1px solid black;"></td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td></td> <td></td> <td>Due to (or as a consequence of)</td> <td></td> <td></td> </tr> <tr> <td></td> <td>d)</td> <td></td> <td style="border-bottom: 1px solid black;"></td> <td style="border-bottom: 1px solid black;"></td> </tr> </table>	IMMEDIATE CAUSE (final disease or condition resulting in death)	a)	Pulmonary embolism					Due to (or as a consequence of)			Sequentially list conditions, if any, leading to immediate cause.	b)	Fractured right hip					Due to (or as a consequence of)			Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	c)	Accidental fall – tripped on a rug					Due to (or as a consequence of)				d)				
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Part 2	Other significant conditions contributing to death but not resulting in underlying cause given in Part 1																																				
	Diabetes mellitus; Diabetic retinopathy																																				

Let us take the example of an elderly woman with diabetic retinopathy. She tripped and fell due to poor eyesight from diabetes and then broke her hip. She was admitted to hospital for surgical repair but developed a pulmonary embolism 5 days after surgery and subsequently demised.

In this case the underlying cause of death would be the accidental fall, which caused a fractured hip, which in its turn caused the pulmonary embolism. Diabetes mellitus and diabetic retinopathy would go in Part 2 as contributing factors to death.

Approach to identifying and certifying cause of death



The following flow diagram summarises the approach to identifying and certifying the cause of death.

Firstly, ask yourself, “What initiated the chain of events that led to death?”

This will give you the underlying cause of death.

Then ask yourself if the underlying cause of death is:

- Natural, due to disease
- or Unnatural?

In other words, are there physical or chemical influences on the body, sudden unexpected death, procedure-related death or omission or commission?

If the cause of death is “Natural”, then think about the causal sequence

– that is the intermediate and immediate cause of death, as well as the contributing causes.

This will help you to determine the underlying cause of death.

Check that you:

- Do not mention mechanisms of dying
- Avoid ill-defined terms
- Avoid abbreviations, and
- that you have been as specific as possible, particularly for the site of cancer or infection.

If the death is as a result of Unnatural causes you should NOT complete a Death Notification Form, but refer the case to forensic pathology with a detailed referral letter explaining the, nature of the injury, circumstances of the death, manner of death

and place of occurrence. They will then conduct a postmortem investigation which will determine whether the death was a homicide, suicide, accidental, natural or undetermined.

You have now come to the end of Module 3



The next step is your self-assessment for Module 3.

Note:

- This is only a self-assessment and not part of the final assessment at the end of the course.
- The final assessment is a summative assessment which covers all the modules and in order to successfully complete the course, you must obtain a mark of 80%.

You have now come to the end of Module 3

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