Cause of Death Certification:
A guide for completing the Notice of Death/Stillbirth (DHA-1663)

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Statistician-General
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Cause of death certification: A guide for completing the Notice of Death / Stillbirth (DHA-1663)

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Preface

The Statistics Act (Act No. 6 of 1999) mandates the Statistician-General to “formulate quality criteria and establish standards, classifications and procedures for statistics; provide statistical advice to other organs of state; and promote co-ordination among producers of official statistics”. As such, Statistics South Africa (Stats SA), in collaboration with the Department of Health (DoH) and the Department of Home Affairs (DHA), has undertaken the challenge of improving the quality of records on causes of death in South Africa by providing training on completing death notification forms to medical practitioners. The primary reason of death certification is to provide data for mortality and cause-of-death statistics. These data provide a valuable measure for assessing the health of a population and in formulating health plans and policies to prevent or reduce premature mortality and improve the quality of life.

The Medical Research Council was appointed by Stats SA, with technical and administrative support from DoH and DHA, to undertake a national training for medical practitioners on completing death notification forms. The medical practitioners will be trained on the basics of death certification; completing death notification forms; and how to organise and run training sessions in their respective hospitals. A training manual; training tool; pamphlet; workbook; competency test; and other documents were prepared in support of this training.

Quality is a central concern for the production of official statistics. It is my expectation that the planned national training sessions will improve the quality of information on causes of death, which the government can use for formulating health policies that will improve the quality of life for all South African citizens.

P J Lehohla
Statistician-General

Acknowledgements

Statistics South Africa (Stats SA) wishes to acknowledge Pam Groenewald, Elsie Helena Burger, Debbie Bradshaw and Anastasia Rossouw for developing the training manual; training tool; pamphlet; workbook; competency test; and other documents necessary for the training of medical practitioners in completing the Notice of death / Stillbirth form. This work was undertaken under the auspices of Stats SA by the Medical Research Council (MRC), under the *Stats SA 009/11*contract.

This manual has been developed from an earlier version of guidelines prepared by the Burden of Disease Research Unit of the Medical Research Council in collaboration with the Universities of Stellenbosch and Cape Town (Pieterse D, Groenewald P, Burger L, Kirk G, Bradshaw D. Cause of Death Certification: A Guide for completing the Death Notification Form (DNF) – BI-1663, Cape Town: South African Medical Research Council, 2008). The support of the Forensic Pathology Service of the Western Cape Department of Health is acknowledged, as well as input from Dr Gavin Kirk, Prof. Bob Pattinson, Beatrice Nojilana and Elize de Kock of the MRC.

Sue Walker, Chalapati Rao, Robert Anderson, Sam Notzon, Erin Nichols, Robert Jakob and Ingrid Arntsen are thanked for reviewing the content of different sections of the guide. Sue Walker and Chalapati Rao deserve special thanks for their thorough review of the entire document and their detailed comments and suggestions.

The training documents were developed under the guidance of an inter-departmental task team on Civil Registration and Vital Statistics from Stats SA, Department of Health and Department of Home Affairs. Members of the team include Maletela Tuoane-Nkhasi, Mmamokete Mogoswane, Abram Moyo and Aletia Barkley of Stats SA; Mohlapametse Maditsi and Edwina Mabuela of the Department of Health; and Caroline Pienaar and Kekeletso Rakgotho of the Department of Home Affairs. The layout, editing, design of the artwork and printing of all training documents were undertaken by Stats SA.

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1. Background

1.1 Purpose of the manual

The purpose of this manual is to acquaint medical practitioners, forensic pathologists and forensic pathology officers, nurses, hospital personnel, funeral undertakers and others with the death registration system in South Africa and to provide instruction for the registration of deaths using the **Notice of death/Stillbirth** form (DHA-1663). The DHA-1663 consists of 6 sections (A to G), which are required to be completed and/or checked by various approved personnel depending on the characteristics of the deceased and circumstances of the death. The manual outlines the process of death notification, the information required, and gives details on medical certification with examples and problem areas with the aim of improving the quality of such information.

1.2 Importance of death registration

The DHA-1663 is a permanent record of the fact of death. It provides important information about the decedent such as age, sex, date of death, and information on the circumstances and cause of death that allows the Department of Home Affairs to issue a death certificate and burial order. The death certificate has many uses related to the settlement of the estate, application for insurance benefits, pension claim settlements and provides family members with closure, peace of mind and documentation of the cause of death. With increased fraud, accurate identification of the body has become very important. For this reason the medical doctor certifying the death is required to state how he/she identified the body, see Section A, item 2 on page 1 of 3 of DHA-1663A.

The DHA-1663 is also a source of statistical information on mortality and causes of death that is needed for several purposes, including:

- Evaluating, monitoring and improving the health of the population;
- Informing decisions on health policy and strategy.
- Comparing health across different regions.

It is very important that all persons concerned with the registration of deaths strive not only for complete registration of events, but also for accuracy and promptness in reporting these events because statistical data derived from death certificates can be no more accurate than the information on the DHA-1663.

1.3 Underlying cause of death (Primary medical cause of death)

The International Classification of Diseases (ICD) is published by the World Health Organization and is the most widely used statistical classification system of diseases in the world.[1] It is used for morbidity and mortality statistics, reimbursement systems and automated decision support in medicine. The system is designed to promote international comparability in the collection, processing, classification, and presentation of these statistics. The ICD is a core classification of the WHO Family of International Classifications (WHO-FIC) (http://who.int/classifications/en/), which is revised periodically and is in its eleventh revision. This will replace the

tenth revision which is currently in use. In order to ensure the comparability of mortality data between places and over time, the International Classification of Diseases (ICD) provides rules and guidelines for mortality coding *(*assigning an ICD code to a cause of death) and classification (selecting or identifying the single underlying cause of death from those listed on the medical certificate of death). In a large proportion of deaths, a sequence of morbid events will have led to death. From the standpoint of prevention, the objective is to break the sequence as early as possible. Thus, the underlying cause of death, rather than the immediate cause, is of particular interest from a public health point of view.

According to the ICD-10:

- The **Immediate Cause** is the final disease, injury or complication directly causing the death. It should be noted that the mechanism of death or terminal event (for example, heart failure, cardiac arrest, respiratory arrest) is not considered to be a valid underlying cause of death and should not be reported on the death certificate without stating the preceding disease or injury.

- The **Underlying Cause of Death** is the disease or injury that started the sequence of events leading directly to death or the circumstances of the accident or violence that produced the fatal injury. In the case of a violent death, the form of external violence or accident is antecedent to the injury entered, although the two events may be almost simultaneous.

- **Contributing causes** are other significant conditions contributing to the death, but not part of the direct causal sequence.

1.4 ICD coding and classification of mortality data

The purpose of the ICD is to permit the systematic recording, analysis, interpretation and comparison of mortality data collected in different geographic areas and at different times. It was originally developed to classify the causes of mortality recorded at the registration of death but its scope has been extended to include diagnoses in morbidity. The ICD is a variable-axis classification which groups statistical data on diseases in the following structure:

- Epidemic diseases
- Constitutional or general diseases
- Local diseases arranged by site
- Developmental diseases
- Injuries

The basic ICD is a single coded list of three-character categories which can each be divided up into ten four-character subcategories using a decimal point system. It uses an alphanumeric code with a letter in the first position and numbers in the rest. The 10th revision of ICD (ICD-10) comprises three volumes: Volume 1 contains the main classifications; Volume 2 contains instructions on how to use the classification; and Volume 3 contains an alphabetical index to the classification and should always be used with Volume 1 when coding as it contains many terms that are not included in Volume 1.

The World Health assembly in 1967 defined the causes of death to be entered on the medical certificate of causes of death 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 any such injuries."* The international form of medical certificate of cause of death is designed to indicate the sequence of morbid events leading to the immediate cause of death, and thus facilitates the selection of the underlying cause of death when more than one cause of death is listed. Public health interventions can thus be implemented to prevent the underlying causes of death. However, in practice, certifiers often do not follow these guidelines. Thus, the ICD has a set of selection and modification rules to guide coding and the selection of a single underlying cause of death from the causes of death entered on a death certificate. This underlying cause of death is then assigned an ICD-10 code according to standard procedures or coding rules which are also set out in Volume 2. In addition to the underlying cause, multiple causes of death are useful for evaluating the frequencies of co-morbidities and/or sequential combinations of causes for epidemiological research.

The international form of medical certificate of cause of death was adopted by South Africa in 1998 with the implementation of the BI-1663. The WHO recommended that a perinatal death certificate be included in the latest death notification form (DHA-1663), which was released in 2010. Statistics South Africa uses multiple causes coding to assign an ICD-10 code to every condition listed on the death certificate. The ICD-10 selection rules are then applied to classify and code the underlying cause of death which is used for statistical purposes.

1.5 Process of notification of death/stillbirth in South Africa

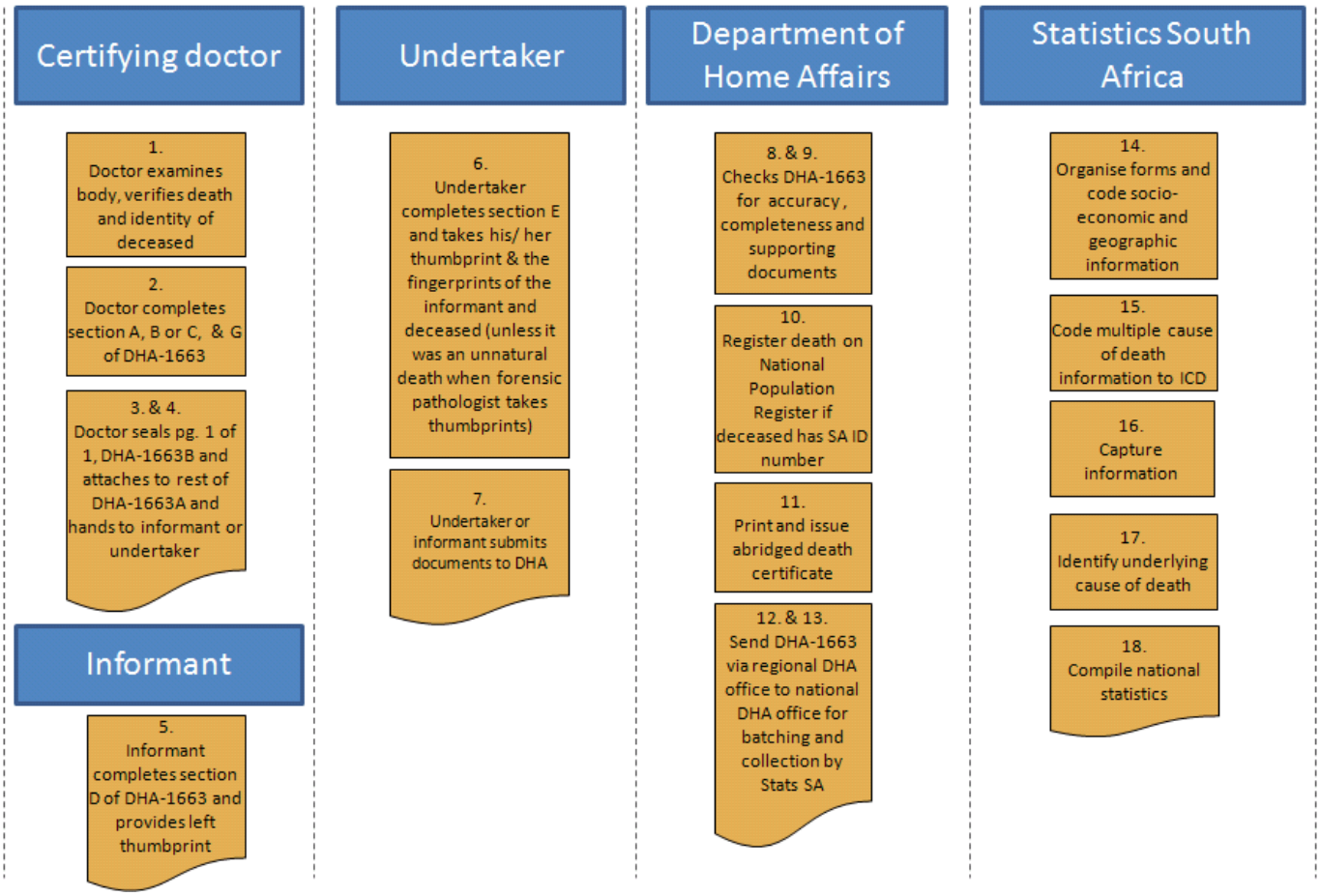
In South Africa, civil registration, of which death registration is part, is the responsibility of the Department of Home Affairs. The Births and Deaths Registration Act (Act No. 51 of 1992) requires that all deaths be certified by a medical practitioner on the DHA-1663. In some situations it is possible for somebody designated by the Department of Home Affairs e.g. a registered professional nurse (stillbirths only) or a headman (if no doctor is available, and using a death report form, DHA-1680), to certify the event of death. It is the responsibility of the health professional to complete the required sections of the DHA-1663 form and to ensure that confidentiality is maintained. Other sections of the form are completed by the informant, funeral undertaker and the Department of Home Affairs officials. It is the responsibility of the next of kin/informant/funeral undertaker to ensure that a death is registered with the Department of Home Affairs offices (district offices, mobile units, on-line registration centres in hospitals and regional offices). Once the notification of death has been accepted by the Department of Home Affairs, a burial order will be issued. No corpse can be buried without this order. The Department of Home Affairs allows registered funeral undertakers to issue burial orders (DHA-14) obtained from their nearest Home Affairs office, so that they can issue these for transportation of the deceased.

The death registration process to be followed after any death or stillbirth is as follows (see Figure 1 for graphic representation):

1. A medical practitioner should verify that the person is indeed dead and confirm their identity, either by checking the identity document (ID) of the deceased or by affidavit from informant or family member. This means that the body has to be examined by the certifying doctor.
2. The attending doctor/doctor on duty/professional nurse (in case of stillbirth) should complete sections A, B or C and G of the Notice of Death/Stillbirth form (DHA-1663).

3. After completion, the last page (page 1 of 1 of DHA-1663B) of the form should be folded and sealed in an envelope to ensure confidentiality, and then attached to the first copies of the other 3 pages.
4. The document should thereafter be handed to the informant (relative of deceased or other) or person in charge of the funeral for purposes of arranging for registration of death and obtaining a burial order.
5. The informant is responsible for completing section D of the DHA-1663 including providing a left thumbprint (taken by the undertaker). Where no identity document is available to verify the deceased's identity the informant must make an affidavit confirming the deceased's identity at a police station and provide a copy of the affidavit.
6. The funeral undertaker should complete Section E, including putting his/her own left thumbprint in the space provided in Section E. The funeral undertaker must also take the left and right thumbprints of the deceased in Section A and left thumbprint of the informant in spaces provided in Section D where a forensic pathologist completes the DHA-1663, he/she will take both thumbprints of the decedent in Section A.
7. The informant or the funeral undertaker submits the completed DHA-1663 to the Department of Home Affairs for registration of the death.
8. The Department of Home Affairs local front office clerk will check that the serial numbers on pages 1-3 of DHA-1663A and page 1 of 1 of DHA-1663B are the same, that the correct information is recorded on all pages of the form, check for any missing particulars, and if necessary request the completion of any missing information before issuing the burial order.
9. The DHA local front office clerk will also check that the supporting documents are attached to the DHA-1663 (e.g. copy of decedent's ID document, copy of informant's ID document etc.).
10. The DHA local front office clerk will verify that the information about the deceased provided on the DHA-1663 matches the information on the deceased on the National Population Register (NPR), and if so will then register the death on the NPR. This only applies if the deceased has a South African identity number.
11. The DHA clerk will then print an abridged death certificate and issue it to the informant or funeral undertaker.
12. After registration of the death, the DHA-1663 forms from the local front offices are sent to DHA head office: Death Section.
13. The DHA-1663 forms are then sorted into batches of 200 and prepared for collection by Stats SA.
14. Statistics South Africa collects the forms from DHA for processing. Socio-economic variables (e.g. occupation and industry) and geographic information is coded to expedite data capturing.
15. Stats SA coders code all causes of death mentioned on each death notification form using ICD-10.
16. Stats SA data processors capture socio-economic, demographic, geographic and causes of death information onto computers.
17. Stats SA derives the underlying cause of death.
18. Stats SA analyses the data and produce reports on mortality and causes of deaths in the country. These statistical reports are made available to the public.

Figure 1: Death notification process in South Africa



Informant: The person responsible for certifying the identity of the deceased, usually a spouse, relative or friend.

Undertaker: The funeral undertaker responsible for arranging the funeral of the deceased. The department of Home Affairs is in the process to register all funeral undertakers.

The roles and responsibilities for the death registration process with the DHA-1663 are set out in Table 1.

Table 1: Roles and responsibilities in the death registration process with the DHA-1663

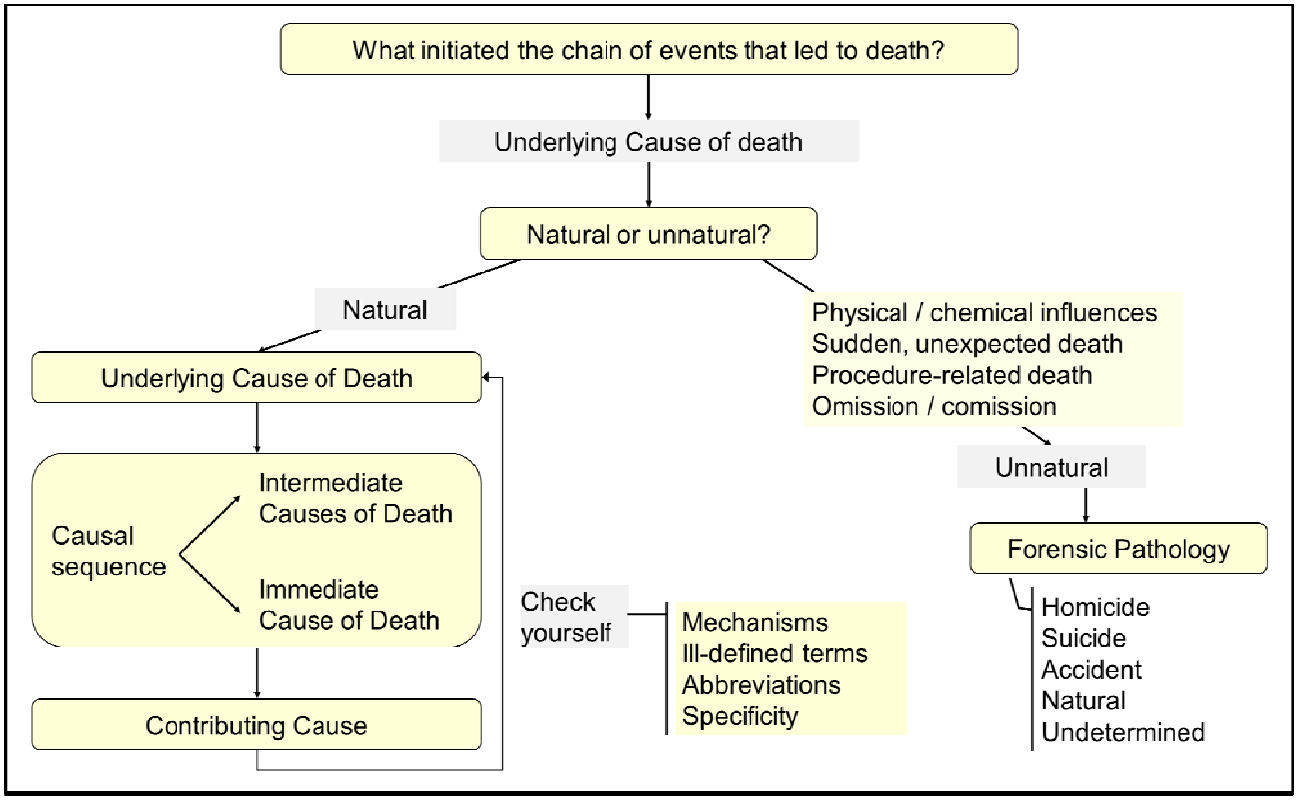
Stakeholder	Roles and responsibilities
Informant/Client	▪ To submit application forms for registration to Home Affairs offices when necessary; ▪ To provide true and complete verifiable background information about themselves, including left thumbprint and required documents during registration; ▪ To make an affidavit confirming the identity of the decedent if no identity document available; and ▪ To collect the abridged death certificate after successful registration from the Home Affairs office of origin.
Medical practitioner/Forensic pathologist (Professional nurse – only for stillbirths)	▪ Responsible for certifying deaths and stillbirths; ▪ To complete Sections A, B or C and G of DHA-1663; ▪ To request original ID of the deceased before filling in their particulars; and ▪ Where a forensic pathologist completes the DHA-1663 he/she will also take both thumbprints of the decedent.
Funeral undertaker	▪ To complete Section E with his/her particulars for identification purposes in case of verification and investigation; ▪ To affix his/her left thumbprint on the space provided for in Section E of DHA-1663; ▪ To take both thumbprints of the deceased and also left thumbprint of the informant; ▪ To issue burial orders for the deceased authorising removal and burial of the deceased where designated to do this; and ▪ To submit DHA-1663 to Home Affairs offices for registration.
District Home Affairs office: Front Office official	▪ To receive the application from client, ensure its completeness as per standard procedure; ▪ To verify deceased and informant information from the NPR; ▪ To verify the doctor and the funeral undertaker information from their databases; and ▪ To capture the fields of the abridged certificate and issue the death certificate to the client in waiting.

1.6 *Summary of cause of death certification process*

When completing the DHA-1663 it is suggested that before pen is put to paper, the following thought process should be followed (see Figure 1). Firstly, decide what initiated the chain of events that led to death, i.e. the underlying cause of death. Usually the underlying cause of death determines whether the death was due to natural or unnatural causes. If the cause of death is unnatural i.e. due to physical or chemical influences on the body, sudden unexpected deaths, due to omission or commission, or procedure-related deaths, the case should immediately be referred to Forensic Pathology Services for a medico-legal post mortem so that the manner of death (homicide, suicide or accident or *natural in some cases*) can be determined.

For a natural cause, the next step is to consider the rest of the causal sequence – whether there were any complications or diseases following on the original problem. Lastly, contributing conditions should be included, if present. Before the sequence is written down, ascertain that all the completion rules have been followed: No abbreviations or mechanisms are used, and as much as possible detail is given. Remember, in the cause of death section of DHA-1663 (Section G1), the causes are listed with the immediate cause first (on line (a)); followed by intermediate causes in chronological/pathophysiological sequence below, and with the underlying cause listed on the lowermost line of Part 1 (see pages 22–24, and case scenarios 1–16).

Figure 2: Certification of cause of death process



If an unnatural event occurs during the course of a natural disease, the case should be regarded as an unnatural death. For example: During an epileptic convulsion, a patient fell into a fire and sustained third degree burn wounds to 60% of his body, and he subsequently died of adult respiratory distress syndrome. Although the event was "caused" by a natural disease (epilepsy), the case should still be referred to Forensic Pathology Service because of the unnatural event that played a role in the death.

1.7 Notice of Death/Stillbirth (DHA–1663)

G.P.-S. 09/09

REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF HOME AFFAIRS

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BARCODE

NOTICE OF DEATH / STILL BIRTH

[Births and Deaths Registration Act 51 of 1992]

[Regulations 11 and 14]

To be completed in full and submitted at the Department of Home Affairs' office by the informant or authorised funeral undertaker. The form to be completed in black ink with **BLOCK LETTERS**. Please mark with ☑ the CORRECT box, where required. **All fields are COMPULSORY. Incomplete applications and applications that are not legible may be considered invalid.** (Note: The fingerprints of the deceased, the informant and the undertaker must be taken by the undertaker)

Serial number

A. PARTICULARS OF THE DECEASED

Instructions: Section A to be filled out by **Authorised Medical Practitioner / Professional Nurse,** who is responsible for examining the body to determine the cause of death . The **Informant must** verify, and where necessary, complete in full the personal particulars and other information of the deceased below.

1. Was this a death or a still birth? ☐ 1.1 Death ☐ 1.2 Still birth

2. Identification of the deceased (tick one box):

☐ 2.1 The deceased was identified with an ID document / passport (if foreigner) produced by the family

☐ 2.2 Still born child

☐ 2.3 The features of the deceased do not seem to match the features on the ID document or passport of deceased

☐ 2.4 ID document or passport of the deceased was not presented. The deceased was identified through word of mouth

☐ 2.5 The deceased was already buried prior to the completion of this form

☐ 2.6 The deceased was unidentifiable: ☐ 2.6.1 Burnt ☐ 2.6.2 Decomposed ☐ 2.6.3 Other (specify) _____

☐ 2.6.4 DNA samples retrieved for identification purposes ☐ 2.6.5 Dental records taken for identification purposes

Left thumbprint of deceased

Right thumbprint of deceased

3. Date of Death / still birth: Y Y Y Y M M D D

4.1 Place of Death/still birth (City/Town/Village)

4.2 Province of Death/still birth

5. Place of Registration of Death / still birth

6. If death occured within 24 hours after birth, number of hours alive ☐☐ 7. Home telephone no.

8. Identity No. (Passport No. if foreigner) 9. Age at last birthday if DOB is unknown ☐☐☐

10. Date of Birth if there is no ID number: Y Y Y Y M M D D 11. Gender ☐ 11.1 Male ☐ 11.2 Female ☐ 11.3 Indeterminable

12. Surname

13. Previous / Maiden Surname

14. Forenames

15. Usual* Residential Address: Street

Town

Province Postal code ☐☐☐☐

16. Citizenship

16.1 Place of Birth (City / Town / Village) or Country of Birth, if abroad

16.2 Province of Birth

17. Marital Status of the deceased ☐ 17.1 Single ☐ 17.2 Married ☐ 17.3 Widowed ☐ 17.4 Divorced

18. Education level of deceased, (Specify only the highest class completed)

None	Gr R	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7	Gr 8 Form 1	Gr 9 Form 2	Gr 10 Form 3 NTC 1	Gr 11 Form 4 NTC 2	Gr 12 Form 5 NTC 3	Univ Tech	Unknown
(mark with a ☑)															

19. Usual occupation of deceased (type of work done during most of working life)

20. Type of business / industry: (mark with a ☑)

1. Agriculture, hunting, forestry and fishing	2. Mining and quarrying	3. Manufacturing	4. Electricity, gas and water supply	5. Construction	6. Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods; hotels and restaurants	7. Transport, storage and communication	8. Financial intermediation, insurance, real estate and business services	9. Community, social and personal services	10. Private households, exterritorial organisations, representatives of foreign governments & other activities not adequately defined

21. Was the deceased a regular** smoker five years ago? (mark with a ☑) ☐ 21.1 Yes ☐ 21.2 No ☐ 21.3 Do not know ☐ 21.4 Not applicable (minor)

* Where the deceased lived on most days. **Smoking tobacco on most days.

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Serial number

B. CERTIFICATE BY ATTENDING MEDICAL PRACTITIONER / PROFESSIONAL NURSE

Instructions: Section B to be filled out by the **same Medical Practitioner / Professional Nurse** who completed Section A.

☐ 22.1 I, the undersigned, hereby certify that the deceased named in **Section A**, to the best of my knowledge and belief, died solely and exclusively due to **Natural Causes**

☐ 22.2 I, the undersigned, **am not** in a position to certify that the deceased died exclusively due to **Natural Causes**

Particulars of the Medical Practitioner / Professional Nurse who filled out the form: 23. HPCSA Registration No.

24. Surname

25. Forenames

26. Name of Health Facility / Practice 27. Facility / Practice No.

28. Business Address: Street

Town Province

Telephone No. (Office) Postal Code

Office stamp of health facility or practice

I, the undersigned, hereby certify that I examined the body of the deceased named in section A and declare that the deceased, to the best of my knowledge and belief, died solely and exclusively due to natural or unnatural causes as indicated on paragraph 22 and in case this is not true, I shall be guilty of an offence and on conviction liable to a fine or to imprisonment for a period not exceeding five years or to both such fine and such imprisonment (Section 31(1)(b) of the Act 51 of 1992.)

Place signed

Date signed Y Y Y Y M M D D Signature

C. CERTIFICATE BY MEDICAL PRACTITIONER/ FORENSIC PATHOLOGIST

Instructions: Section C to be filled out by **Medical Practitioner or Forensic Pathologist**, who is conducting medico-legal investigation of death.

29. I, the undersigned, hereby certify that a medico-legal investigation of death has been conducted on the body of the person whose particulars are given in Section A and that the body is no longer required for the purpose of the Inquest Act, 1959 (Act No. 58 of 1959) and the cause of death is:

☐ 30.1 Natural ☐ 30.2 Unnatural ☐ 30.3 Under investigation

31. Date of Post-mortem Y Y Y Y M M D D

32. Name of Medico-legal Mortuary / Mortuary 33. Mortuary No.

34. Mortuary Reference Number of Deceased

35. SAPS Case No. 36. Name of Police Station

Particulars of the Medical Practitioner / Forensic Pathologist who filled out the form: HPCSA Registration No.

37. Surname

38. Forenames

39. Business Address Street

Town Province Postal Code

Telephone No. (Office)

Office stamp of mortuary

I, the undersigned, hereby certify that I examined the body of the deceased named in section A and the deceased, to the best of my knowledge and belief, died solely and exclusively due to natural or unnatural causes as indicated on paragraph 29 and in case this is not true, I shall be guilty of an offence and on conviction liable to a fine or to imprisonment for a period not exceeding five years or to both such fine and such imprisonment (Section 31(1)(b) of the Act 51 of 1992.)

Place signed

Date signed Y Y Y Y M M D D Signature

D. PARTICULARS OF INFORMANT

Instructions: Section D to be completed by **informant.** Infomant is responsible for certifying the identity of the deceased.

40. Identity No. (Passport No. if foreigner) 41. Date of Birth Y Y Y Y M M D D

42. Citizenship

43. Surname

44. Forenames

45. Residential Address: Street

Town

Province Postal Code

Left thumb print of informant

Telephone No. (Home) Cellphone No.

46. The **Deceased** is my: ☐ 46.1 Parent ☐ 46.2 Spouse ☐ 46.3 Child ☐ 46.4 Other, Specify

I, the undersigned, hereby certify that the identity of the deceased mentioned in section A is to the best of my knowledge and belief true and correct in case it is not true, I shall be guilty of an offence and on conviction liable to a fine or to imprisonment for a period not exceeding five years or to both such fine and such imprisonment (Section 31(1)(b) of the Act 51 of 1992.)

Signature Date signed Y Y Y Y M M D D Place signed

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NOTICE OF DEATH / STILL BIRTH

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Serial number

E. PARTICULARS OF FUNERAL UNDERTAKER

Instructions: Section E to be completed by **Funeral Undertaker**. The undertaker must take his or her finger print, the finger print of the deceased and the informant. **Authorised Funeral Undertaker or Informant** may submit the completed form to the nearest Home Affairs office.

47. Name of Funeral Parlour

48. DHA Designation No.

49. Company Reg. No.

50. SARS Reg. No. (Income tax reference no.)

Details of Funeral Undertaker or Authorised Representative

51. Identity No. (Passport No. if foreigner)

52. Surname

53. Forenames

54. Business Address Street

Town

Province

Postal Code

Left thumbprint of funeral undertaker

Telephone No. (Office)

Cellphone No.

55. Date of collection of corpse Y Y Y Y M M D D

56. Date of Cremation (if applicable) Y Y Y Y M M D D

57. Place of Burial (City / Town / Village)

Province

58. Date of Burial Y Y Y Y M M D D

59. Grave No. (if available)

Name of person who collected the deceased:

Office stamp of funeral undertaker

60. Identity No. (Passport No. if foreigner)

61. Surname

62. Forenames

Place signed _____

Date signed Y Y Y Y M M D D

Signature _____

F. FOR OFFICIAL USE ONLY

Registration of death approved, DHA-1663 received by (particulars of DHA official):

Office stamp of DHA

63. Identity No.

64. Surname

65. Forenames

66. Persal No.

Documents included with this notice:

☐ Copy of the deceased's ID
☐ Copy of ID document of the informant
☐ DHA - 8 (if applicable)
☐ DHA - 1680 (if applicable)

DHA-1663 was submitted by:

☐ Informant
☐ Funeral Undertaker

NOTICE OF DEATH / STILL BIRTH

DHA-1663 B

Confirmation for Medical and Health use Only

Page 1 of 1

(After completion seal to ensure confidentiality)

To be completed in full and submitted at the Department of Home Affairs' office by the informant or authorised party. The form to be completed in black ink with **BLOCK LETTERS**. Please mark with ☑ the CORRECT box, where required.
All fields are COMPULSORY. Incomplete applications and applications that are not legible may be considered invalid.

File no _____ Date _____

G. MEDICAL CERTIFICATE OF CAUSE OF DEATH

Instructions: Section G is to be filled out by **Medical Practitioner /Professional Nurse / Forensic Pathologist**, who has determined the cause of death

PARTICULARS OF DECEASED

67. Identity No. (Passport No. if foreigner)

68. Gender ☐ 68.1 Male ☐ 68.2 Female ☐ 68.3 Indeterminable

69. Surname

70. Forenames

71. Population Group ☐ 71.1 African ☐ 71.2 White ☐ 71.3 Indian/Asian ☐ 71.4 Coloured ☐ 71.5 Other (specify) _____

72. Place of Death ☐ 72.1 Hospital/Inpatient ☐ 72.2 ER/Outpatient ☐ 72.3 DOA ☐ 72.4 Nursing Home ☐ 72.5 At Home ☐ 72.6 Other (specify)

73. Name of Health Facility/Practice

74. Facility Contact Telephone No. incl. Area Code

75. Patient File No.

76. Contact Person at Facility: Surname

Forenames

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

For office use only

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) | ICD-10

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):

☐ 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) _____

G.2 FOR STILL BIRTHS AND DEATHS OCCURRING WITHIN ONE WEEK OF BIRTH (PERINATAL DEATHS)

Instructions: Section G.2 is to be completed for all **still births and deaths** that occurred within one week of birth (perinatal deaths)

Mother

80. Identity Number

81. Date Of Birth Y Y Y Y M M D D

82. Age of last birthday/ DoB unknown

83. Number of previous pregnancies resulting in:

☐☐ 83.1 Live births ☐☐ 83.2 Still births ☐☐ 83.3 Abortions

84. Outcome of last previous pregnancy (tick one):

☐ 84.1 Live birth ☐ 84.2 Still birth ☐ 84.3 Abortion

85. Date of last previous delivery Y Y Y Y M M D D

86. First day of last menstrual period Y Y Y Y M M D D

Or, if unknown, estimated duration of pregnancy (in completed weeks) ☐☐

87. Method of delivery: ☐ 87.1 Spontaneous ☐ 87.2 Forceps delivery ☐ 87.3 Forceps and rotation ☐ 87.4 Vacuum extractor ☐ 87.5 Caesarean section ☐ 87.6 Other (specify) _____

88. Antenatal care two or more visits:

☐ 88.1 Yes ☐ 88.2 No ☐ 88.3 Unknown

Child

89. Type of death: ☐ 89.1 Still birth ☐ 89.2 Live birth

90. Birth weight (in grams) ☐☐☐☐

91. This birth was: ☐ 91.1 Single birth ☐ 91.2 First twin ☐ 91.3 Second twin ☐ 91.4 Other multiple

92. If still born, heartbeat ceased:

☐ 92.1 Before labour

☐ 92.2 During labour but before delivery

☐ 92.3 Before delivery but not known whether before or during labour

93. If death occurred within 24 hours after birth, number of hours alive ☐☐

94. Attendant at birth:

☐ 94.1 Physician

☐ 94.2 Trained midwife

☐ 94.3 Other trained person (specify) _____

☐ 94.4 Other (specify) _____

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 (☑)

☐ 96.1 Certified causes of death has been confirmed by autopsy ☐ 96.2 Autopsy information may be available later ☐ 96.3 Autopsy not performed

2. Completing the DHA-1663

2.1 General instructions

Each item on the DHA-1663 should be completed using black ink and block letters. The use of abbreviations should be avoided. The spelling of names should be verified against the most recent identity document/passport if available, otherwise with the informant. Alterations or erasures should be avoided, but if unavoidable they should be initialled by the person officially responsible for completing that particular section.

2.1.1 Section A: Particulars of the deceased

*To be completed by a **medical practitioner/professional nurse** (stillbirth only) and verified by **informant.***

A. PARTICULARS OF THE DECEASED

Instructions: Section A to be filled out by **Authorised Medical Practitioner / Professional Nurse,** who is responsible for examining the body to determine the cause of death . The **Informant must** verify, and where necessary, complete in full the personal particulars and other information of the deceased below.

1. Was this a death or a still birth? ☐ 1.1 Death ☐ 1.2 Still birth

2. Identification of the deceased (tick one box):

☐ 2.1 The deceased was identified with an ID document / passport (if foreigner) produced by the family

☐ 2.2 Still born child

☐ 2.3 The features of the deceased do not seem to match the features on the ID document or passport of deceased

☐ 2.4 ID document or passport of the deceased was not presented. The deceased was identified through word of mouth

☐ 2.5 The deceased was already buried prior to the completion of this form

☐ 2.6 The deceased was unidentifiable: ☐ 2.6.1 Burnt ☐ 2.6.2 Decomposed ☐ 2.6.3 Other (specify) _____

☐ 2.6.4 DNA samples retrieved for identification purposes ☐ 2.6.5 Dental records taken for identification purposes

Left thumbprint of deceased

Right thumbprint of deceased

3. Date of Death / still birth Y Y Y Y M M D D

4.1 Place of Death/still birth (City/Town/Village)

4.2 Province of Death/still birth

5. Place of Registration of Death / still birth

6. If death occurred within 24 hours after birth, number of hours alive ☐☐ 7. Home telephone no.

8. Identity No. (Passport No. if foreigner) 9. Age at last birthday if DOB is unknown ☐☐☐

10. Date of Birth if there is no ID number Y Y Y Y M M D D 11. Gender ☐ 11.1 Male ☐ 11.2 Female ☐ 11.3 Indeterminable

12. Surname

13. Previous / Maiden Surname

14. Forenames

15. Usual* Residential Address: Street

Town

Province Postal code ☐☐☐☐

16. Citizenship

16.1 Place of Birth (City / Town / Village) or Country of Birth, if abroad

16.2 Province of Birth

17. Marital Status of the deceased ☐ 17.1 Single ☐ 17.2 Married ☐ 17.3 Widowed ☐ 17.4 Divorced

18. Education level of deceased, (Specify only the highest class completed)	None	Gr R	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7	Gr 8 Form 1	Gr 9 Form 2	Gr 10 Form 3 NTC 1	Gr 11 Form 4 NTC 2	Gr 12 Form 5 NTC 3	Univ Tech	Unknown
(mark with a ☑)																

19. Usual occupation of deceased (type of work done during most of working life)

20. Type of business / industry: (mark with a ☑)

1. Agriculture, hunting, forestry and fishing	2. Mining and quarrying	3. Manufacturing	4. Electricity, gas and water supply	5. Construction	6. Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods; hotels and restaurants	7. Transport, storage and communication	8. Financial intermediation, insurance, real estate and business services	9. Community, social and personal services	10. Private households, exterritorial organisations, representatives of foreign governments & other activities not adequately defined

21. Was the deceased a regular** smoker five years ago? (mark with a ☑) ☐ 21.1 Yes ☐ 21.2 No ☐ 21.3 Do not know ☐ 21.4 Not applicable (minor)

* Where the deceased lived on most days. **Smoking tobacco on most days.

*To be completed by a **medical practitioner/professional nurse** (stillbirth only) and verified by **informant.***

Item		***Instruction***	***Comments / Explanation***
1.	Indicate whether this was a **death** or a **stillbirth:**	Tick the appropriate box	*No form is needed for an aborted non-viable foetus, but is for a stillbirth. The Births and Deaths Registration Act (Act No. 51 of 1992) defines a stillbirth as 'a child that had at least 26 weeks of intra-uterine life but showed no sign of life after complete birth'. Twenty-six weeks of intra-uterine life equals a gestation of 28 weeks since last menstrual period. Although this is not included in the South African definition of a stillbirth, the World Health Organization equates a gestation of 28 weeks since last menstrual period with a weight of 1000g. Any birth, live or dead, after 28 weeks gestation since last menstrual period requires registration of birth, and in the case of stillbirth, also of death, on the same form. Any live birth requires registration of birth irrespective of the gestational period, and where appropriate, death notification with the DHA-1663A form.*
2.	Indicate **how the deceased was identified:**	Tick only one box	*This is important information for fraud prevention and implies that the medical practitioner has to actually see the body before certifying the death.*
3.	**Date of death/stillbirth:**	Enter exact date of death (four digit year, month, and day).	
4.1	**Place of death/stillbirth:**	Enter name of **City, Town or Village** where death occurred.	*If death did not occur in city town or village (e.g. farm or road) enter the name of the farm as well as the name of the nearest village or town. Where death occurred abroad enter name of the nearest city, town, and village.*
4.2	**Province or country of death/stillbirth:**	Enter name of province or country where death occurred.	*If death occurred outside South Africa enter the name of the country*

Item		*Instruction*	*Comments / Explanation*
5.	**Place of registration of death/stillbirth:**		*This refers to the name of the DHA office where death was registered and should be completed by the Department of Home Affairs front office*
6.	**Indicate number of hours alive if death occurred within 24 hours after birth:**	Enter number in hours	*Complete for live-births only*
7.	**Home telephone number:**	Enter home telephone number of decedent	
8.	**Identity number or passport number if foreigner:**	Enter the ID number of the decedent if South African	*Verify against the decedent's ID book. If decedent is a foreigner enter the passport number. If there is no ID number or passport number, enter NONE.*
9.	**Age at last birthday if DOB is unknown:**	Enter the decedent's exact age in years at his or her last birthday	
10.	**Date of birth if there is no ID number:**	Enter exact date of birth (four digit year, month, day)	
11.	**Gender:**	Select male, female or indeterminable	
12.	**Surname:**	Enter last name of decedent	
13.	**Previous/maiden surname:**	Enter previous or maiden name if married female	
14.	**Forenames:**	Enter full first and middle names of decedent	

Item		*Instruction*	*Comments / Explanation*
15.	**Usual residential address:**	Enter the residential address where the deceased lived on most days.	*Enter the building number, street name, town, province and postal code. Do not enter a PO Box number. If resident on a farm enter the name of the farm and the name of the nearest town/village. In order to evaluate mortality profiles at district level this information is vitally important.*
16.	**Citizenship:**	Enter the nationality of the decedent.	
16.1	**Place of birth (City/Town/Village) or Country of birth if abroad:**	Enter name of city/town/village of birth.	*If born on a farm give the name of the farm and name of nearest village or town. If born abroad give name of country of birth.*
16.2	**Province of birth:**	Enter name of province of birth if born in South Africa.	
17.	**Marital status of the deceased:**	Select relevant box to indicate marital status at time of death.	
18.	**Education level of the deceased:**	Select the relevant box.	*Please complete this information as it can be used to identify the health risks associated with level of education.*
19.	**Usual occupation of the deceased:**	Enter the type of work done during most of the decedent's working life.	*Please complete this section as the information can be used to identify health risks associated with certain occupations.*
20.	**Type of business/industry:**	Select relevant box.	*Please complete this information as it can be used to provide valuable information on the health risks associated with certain industries.*
21.	**Was the deceased a regular smoker five years ago?**	Indicate whether the decedent smoked tobacco on most days 5 years ago.	*Please complete this section as this information is used to quantify the number of deaths attributable to smoking in South Africa.*

2.1.2 Section B: Certificate by attending medical practitioner/professional nurse

*To be completed by the same **medical practitioner/professional nurse** who completed Section A. A professional nurse may only complete the form in the case of a stillbirth.*

B. CERTIFICATE BY ATTENDING MEDICAL PRACTITIONER / PROFESSIONAL NURSE

Instructions: Section B to be filled out by the **same Medical Practitioner / Professional Nurse** who completed Section A.

☐ 22.1 I, the undersigned, hereby certify that the deceased named in **Section A**, to the best of my knowledge and belief, died solely and exclusively due to **Natural Causes**

☐ 22.2 I, the undersigned, **am not** in a position to certify that the deceased died exclusively due to **Natural Causes**

Particulars of the Medical Practitioner / Professional Nurse who filled out the form: 23. HPCSA Registration No.

24. Surname

25. Forenames

26. Name of Health Facility / Practice 27. Facility / Practice No.

28. Business Address: Street

Town Province

Telephone No. (Office) Postal Code

Office stamp of health facility or practice

I, the undersigned, hereby certify that I examined the body of the deceased named in section A and declare that the deceased, to the best of my knowledge and belief, died solely and exclusively due to natural or unnatural causes as indicated on paragraph 22 and in case this is not true, I shall be guilty of an offence and on conviction liable to a fine or to imprisonment for a period not exceeding five years or to both such fine and such imprisonment (Section 31(1)(b) of the Act 51 of 1992.)

Place signed _____

Date signed Y Y Y Y M M D D Signature _____

*To be completed by the same **medical practitioner/professional nurse** who completed Section A. A professional nurse may only complete the form in the case of a stillbirth.*

Item		***Instruction***	***Comments / Explanation***
22.	**The medical practitioner must certify whether he/she is in a position to certify that the deceased died solely due to natural causes or not.**	Tick the appropriate box	***It is important that the medical practitioner conducts an external examination of the unclothed body in order to exclude any visible injuries that may suggest that the death is due to unnatural causes, especially in cases where the decedent is not known to them.*** *If the medical practitioner is not in a position to certify that the deceased died exclusively due to natural causes, then he/she should contact a police officer who will open a docket and ensure transportation of the body to the Forensic Pathology Service (FPS) mortuary for a forensic post-mortem examination/autopsy. FPS can also be contacted directly to make these arrangements. After the forensic investigation, the DHA-1663 will be completed by the forensic pathologist/medical practitioner who conducted the medico-legal post-mortem.*
			Forensic Pathology Service should be consulted in the following circumstances: ▪ *Physical/chemical influences on the body;* ▪ *Sudden unexpected deaths;* ▪ *Procedure-related deaths: The Health Professions Act, (Act No.56 of 1974), Section 48; or* ▪ *Omission or Co-mission (Action or neglect by family or healthcare practitioner may have led to death).*

23.	**HPCSA Registration No.:**	Enter the HPCSA registration number of medical practitioner including the qualifiers before the number	*For example: MP 0123456 or IN 0123456. In the case of a professional nurse, provide the South African Nursing Council registration number.*
24.	**Surname:**	Enter surname of medical practitioner	
25.	**Forenames:**	Enter first name and middle names of medical practitioner	
26.	**Name of health facility/Practice:**	Enter name of facility	
27.	**Facility/Practice No.:**	Enter practice number	
28.	**Business address:**	Enter the street name, number, village/town/city, province and postal code.	
	Telephone number:	Enter telephone number of practice	

2.1.3 Section C: Certificate by medical practitioner/forensic pathologist

*To be filled out by **medical practitioner or forensic pathologist** who is conducting medico-legal investigation.*

C. CERTIFICATE BY MEDICAL PRACTITIONER/ FORENSIC PATHOLOGIST

Instructions: Section C to be filled out by **Medical Practitioner or Forensic Pathologist**, who is conducting medico-legal investigation of death.

29. I, the undersigned, hereby certify that a medico-legal investigation of death has been conducted on the body of the person whose particulars are given in Section A and that the body is no longer required for the purpose of the Inquest Act, 1959 (Act No. 58 of 1959) and the cause of death is:

☐ 30.1 Natural ☐ 30.2 Unnatural ☐ 30.3 Under investigation

31. Date of Post-mortem Y Y Y Y M M D D

32. Name of Medico-legal Mortuary / Mortuary

33. Mortuary No.

34. Mortuary Reference Number of Deceased

35. SAPS Case No.

36. Name of Police Station

Particulars of the Medical Practitioner / Forensic Pathologist who filled out the form: HPCSA Registration No.

37. Surname

38. Forenames

39. Business Address Street

Town Province Postal Code

Telephone No. (Office)

Office stamp of mortuary

I, the undersigned, hereby certify that I examined the body of the deceased named in section A and the deceased, to the best of my knowledge and belief, died solely and exclusively due to natural or unnatural causes as indicated on paragraph 29 and in case this is not true, I shall be guilty of an offence and on conviction liable to a fine or to imprisonment for a period not exceeding five years or to both such fine and such imprisonment (Section 31(1)(b) of the Act 51 of 1992.)

Place signed _____

Date signed Y Y Y Y M M D D Signature _____

D. PARTICULARS OF INFORMANT

Instructions: Section D to be completed by **informant.** Informant is responsible for certifying the identity of the deceased.

40. Identity No. (Passport No. if foreigner) 41. Date of Birth Y Y Y Y M M D D

42. Citizenship

43. Surname

44. Forenames

45. Residential Address: Street

Town

Province Postal Code

Left thumb print of informant

Telephone No. (Home) Cellphone No.

46. The **Deceased** is my: ☐ 46.1 Parent ☐ 46.2 Spouse ☐ 46.3 Child ☐ 46.4 Other, Specify _____

I, the undersigned, hereby certify that the identity of the deceased mentioned in section A is to the best of my knowledge and belief true and correct in case it is not true, I shall be guilty of an offence and on conviction liable to a fine or to imprisonment for a period not exceeding five years or to both such fine and such imprisonment (Section 31(1)(b) of the Act 51 of 1992.)

Signature _____ Date signed Y Y Y Y M M D D Place signed _____

*To be filled out by **medical practitioner or forensic pathologist** who is conducting medico-legal investigation.*

Item		***Instruction***	***Comment/Explanation***
29.	**Certify that body is no longer required for purpose of Inquest Act.**		
30.	**Certify the cause of death as natural, unnatural and under investigation.**	Tick the appropriate box.	
31.	**Date of post-mortem:**	Enter exact date of post-mortem (four digit year, month and day).	
32	**Name of medico-legal mortuary/mortuary:**	Enter the name of the Forensic Pathology Service facility.	
33.	**Mortuary No.:**		
34.	**Mortuary reference number of deceased:**		
35.	**SAPS Case No.:**	Enter case number obtained from South African Police Service.	
36.	**Name of police station:**	Enter name of police station responsible for investigating the death.	
	HPCSA Registration No.:	Enter HPCSA registration number for the doctor responsible for conducting the medico-legal investigation.	*For example: MP 0123456*
37.	**Surname:**	Enter surname of medical practitioner/forensic pathologist who conducted post-mortem.	
38.	**Forenames:**	Enter forename of medical practitioner/forensic pathologist who conducted post-mortem.	
39.	**Business address:**	Enter business address of medical practitioner/forensic pathologist who conducted post-mortem.	
	Telephone number:	Enter telephone number of medical practitioner/forensic pathologist who conducted post-mortem.	

2.1.4 Section G: Medical certificate of death

*To be filled out by **medical practitioner/professional nurse/forensic pathologist** who determined the cause of death*.

File no _____ Date _____

G. MEDICAL CERTIFICATE OF CAUSE OF DEATH

Instructions: Section G is to be filled out by **Medical Practitioner /Professional Nurse / Forensic Pathologist**, who has determined the cause of death

PARTICULARS OF DECEASED

67. Identity No. (Passport No. if foreigner)

68. Gender ☐ 68.1 Male ☐ 68.2 Female ☐ 68.3 Indeterminable

69. Surname

70. Forenames

71. Population Group ☐ 71.1 African ☐ 71.2 White ☐ 71.3 Indian/Asian ☐ 71.4 Coloured ☐ 71.5 Other (specify) _____

72. Place of Death ☐ 72.1 Hospital/Inpatient ☐ 72.2 ER/Outpatient ☐ 72.3 DOA ☐ 72.4 Nursing Home ☐ 72.5 At Home ☐ 72.6 Other (specify)

73. Name of Health Facility/Practice

74. Facility Contact Telephone No. incl. Area Code

75. Patient File No.

76. Contact Person at Facility: Surname

Forenames

Role/Rank

File no: Enter file number of decedent where it differs from the patient file number in item 73.

Date: Enter date on which DHA-1663 was completed.

PARTICULARS OF THE DECEASED

Information from Section A is duplicated on this page in case the forms become separated. Ensure that the information in this section matches the information in Section A.

Item		***Instruction***	***Comment/Explanation***
67.	**Identity No. (passport No. if foreigner):**	Enter the ID number of the decedent if South African.	*Verify against the decedents ID book. If decedent is a foreigner enter the passport number (see item 8 on page 1 of 3 of DHA-1663).*
68.	**Gender:**	Select male, female or indeterminable.	*Ensure that it matches item 11 on page 1 of 3 of DHA-1663A.*
69.	**Surname**:	Enter last name of decedent.	*Check spelling against ID or with informant (see item 12 on page 1 of 3 of DHA-1663).*
70.	**Forenames**:	Enter full first and middle names of decedent.	*Check spelling against ID or with informant (see item 14 on page 1 of 3 of DHA-1663).*
71.	**Population group**:	Select the race group that you consider the decedent to belong to.	*If other, specify in space provided.*
72.	**Place of death**:	Tick one box.	*If other, specify place of death below box 72.6.*
73.	**Name of health facility/practice**:	Enter name of health facility where the patient died or where death was certified.	*Refer items 72.1 – 72.3.*
74.	**Facility contact telephone number including area code**:	Enter area code and telephone no.	*Refers to facility entered in item 73.*
75.	**Patient file No.**:	Enter patient medical file No.	*Refers to facility entered in item 73.*
76.	**Contact person at facility**	Enter name of Chief Executive Officer of the facility.	*Refers to facility entered in item 73.*

2.1.5 G.1 for deaths occurring after one week of birth

*To be filled out by **medical practitioner/professional nurse/forensic pathologist** who determined the cause of 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

For office use only

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)

ICD-10

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):

☐ 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) _____

*To be filled out by **medical practitioner/professional nurse/forensic pathologist** who determined the cause of death*.

Item		***Comments / Explanation***
77.	**Causes of death, Part 1**	***Part 1** is for reporting a **chain of events leading directly to death**, with the **immediate cause** of death (the final disease, injury or complication directly causing death) on line (a) and the **underlying cause** of death (the disease or injury that initiated the chain of events that led directly and inevitably to death) on the lowest used line. If only one line is used, only line a) should be completed.*
		Enter only one cause per line.
		***DO NOT enter mode/mechanisms of dying such as cardiac arrest, respiratory arrest, shock, heart or renal failure without entering the aetiology.** If an organ system failure (mechanism of death) such as congestive heart failure, hepatic failure, renal failure or respiratory failure is listed as a cause of death, it must always be followed by details on its aetiology on the line(s) beneath it e.g. renal failure **due to** Type I diabetes mellitus.*
		***DO NOT use abbreviations** as they may have more than one meaning and ICD cause of death coders cannot be expected to know which meaning is correct (e.g. MI could mean myocardial infarction or mitral incompetence).*
		*Conditions in Part 1 should represent **a distinct causal sequence** so that each condition may be regarded a consequence of the condition entered immediately below it. For example, myocardial infarction in line a), due to coronary artery disease on line b). There should be a clear temporal and pathophysiological sequence of diseases from the immediate cause of death to the underlying cause of death.*

Item		*Comments / Explanation*
		The cause-of-death information should be the medical practitioner's best medical OPINION. *A condition can be listed as "probable" if it has not been definitely diagnosed. Report on each disease, abnormality, injury, or poisoning that the medical practitioner believes adversely affected the decedent.*
		*When indicating **neoplasms** as a cause of death, include:* *1) primary site, or that the primary site is unknown;* *2) benign or malignant;* *3) cell type, or that the cell type is unknown;* *4) grade of neoplasm;* *5) part or lobe of organ affected; and* *(For example, a primary well-differentiated squamous cell carcinoma, lung, left upper lobe).*

Item		*Comments / Explanation*
		For fatal injuries (for example, stab wound of chest), always report the trauma (for example, transection of subclavian vein) and impairment of function (for example, air embolism) that contributed to death. If known, the manner of the injury (i.e. homicide, suicide) should be included: *E.g. Air embolism due to* • *Transection of internal jugular vein, due to;* • *Stab wound on the neck, (due to); and* • *Alleged homicide/alleged assault.* *Entering the alleged manner of injury (e.g. homicide) contributes to determining the burden of violent injury deaths. It is true that in some cases the official manner of death may change after police investigation or inquest, but the information captured on the DHA-1663 will give an approximation of conditions in the country.*
		When a condition does not seem to fit into the causal sequence, consider whether it belongs in Part 2.
		For each cause, indicate in the space provided the approximate interval between the date of ONSET (not necessarily the date of diagnosis) and the date of death.
	Part 1, Line a), Immediate or Terminal cause:	*In Part 1, the **immediate cause of death** is reported on line a). This is the final disease, injury or complication directly causing the death. An immediate cause of death must always be reported on line a). It can be the sole entry in the cause of death section if that condition is the only condition causing the death.*

Item		*Comments / Explanation*
	Part 1, Lines b), c) and d), conditions sequentially leading to cause listed on line a):	***Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) on lowest completed line.*** *On line b), report the disease, injury, or complication, if any, that gave rise to the immediate cause of death reported on line a). If this, in turn, resulted from another condition, record that condition on line c). If this resulted from a further condition, record that condition on line d). For as many conditions as are involved, write the full sequence, one condition per line, with the most recent condition at the top, and the underlying cause of death reported on the lowest line used in Part 1. If more than four lines are needed, add additional lines, writing "due to" between conditions.*
	Part 2: Other significant conditions	*All other important diseases or conditions that were present at the time of death and that may have contributed, but did not lead to the underlying cause of death listed in Part 1, should be recorded on this line. Several different conditions may be reported in Part 2.*

Item		*Instruction*	*Comments / Explanation*
78.	**If female, was she pregnant at the time of death or up to 42 days pregnant prior to death?**	Indicate yes or no.	*This is important for identifying maternal deaths.*
79.	**Method used to ascertain the cause of death:**	Tick all that apply.	

2.1.6 G.2 for stillbirths and deaths occurring within one week of birth (perinatal deaths)

*To be filled out by **medical practitioner/professional nurse/forensic pathologist** who determined the cause of death*.

G.2 FOR STILL BIRTHS AND DEATHS OCCURRING WITHIN ONE WEEK OF BIRTH (PERINATAL DEATHS)

Instructions: Section G.2 is to be completed for all **still births and deaths** that occurred within one week of birth (perinatal deaths)

Mother

80. Identity Number

81. Date Of Birth Y Y Y Y M M D D

82. Age of last birthday/ DoB unknown

83. Number of previous pregnancies resulting in:

83.1 Live births 83.2 Still births 83.3 Abortions

84. Outcome of last previous pregnancy (tick one):

84.1 Live birth 84.2 Still birth 84.3 Abortion

85. Date of last previous delivery Y Y Y Y M M D D

86. First day of last menstrual period Y Y Y Y M M D D

Or, if unknown, estimated duration of pregnancy (in completed weeks)

87. Method of delivery:

87.1 Spontaneous
87.2 Forceps delivery
87.3 Forceps and rotation
87.4 Vacuum extractor
87.5 Caesarean section
87.6 Other (specify) _____

88. Antenatal care two or more visits:

88.1 Yes 88.2 No 88.3 Unknown

Child

89. Type of death: 89.1 Still birth 89.2 Live birth

90. Birth weight (in grams)

91.This birth was:

91.1 Single birth 91.2 First twin
91.3 Second twin 91.4 Other multiple

92. If still born, heartbeat ceased:

92.1 Before labour
92.2 During labour but before delivery
92.3 Before delivery but not known whether before or during labour

93. If death occurred within 24 hours after birth, number of hours alive

94. Attendant at birth:

94.1 Physician
94.2 Trained midwife
94.3 Other trained person (specify) _____
94.4 Other (specify) _____

*To be filled out by **medical practitioner/professional nurse/forensic pathologist** who determined the cause of death*.

Item		***Comments / Explanation***
	Perinatal deaths	*To be completed for all stillbirths and **early neonatal** deaths that occurred within one week of birth.*
		The Births and Deaths Registration Act (Act No. 51 of 1992) defines a stillbirth as 'a child that had at least 26 weeks of intra-uterine life but showed no sign of life after complete birth'. Twenty-six weeks of intra-uterine life equals a gestation of 28 weeks since last menstrual period, and signs of life include taking a breath, beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.
		A doctor or professional nurse who was present at the stillbirth, or who examined the baby and is convinced that the baby was stillborn, must complete Section G.2 of the death notification form (DHA-1663). If no medical practitioner was present at the stillbirth, or no doctor examined the baby, any person who was present at the stillbirth can make a statement to that effect, and the (death of the) stillborn baby can be registered. A burial order is then issued to bury the stillborn baby.

Mother:

Item		*Instruction*	*Comments / Explanation*
80.	**Identity number:**	Enter identity number of mother.	
81.	**Date of birth:**	Enter exact date of birth (four digit year, month, day) of mother.	
82.	**Age of last birthday / DoB unknown:**	Enter age at last birthday in years if date of birth is unknown.	
83.	**Number of previous pregnancies resulting in:**	Indicate number of live births, stillbirths, abortions.	
84.	**Outcome of last previous pregnancy:**	Tick relevant box. Leave blank if not applicable.	*Refers to most recent preceding pregnancy.*
85.	**Date of last previous delivery:**	Enter exact date of most recent preceding delivery (four digit year, month, and day).	
86.	**First day of last menstrual period:**	Enter exact date of last menstrual period (four digit year, month, and day).	*If unknown, estimated duration of pregnancy in completed weeks since last menstrual period.*
87.	**Method of delivery:**	Tick relevant box.	*If other, tick box 87.6 and specify in space provided below.*
88.	**Antenatal care two or more visits:**	Indicate whether mother attended antenatal care visits or if this is unknown.	

Child:

Item		*Instruction*	*Comments / Explanation*
89.	**Type of death:**	Indicate whether baby was **born dead or born alive**.	*According to the Births and Deaths Registration Act, No. 51 of 1992, a stillbirth means that the foetus had at least 26 weeks of intra-uterine existence (or 28 weeks since last menstrual period), but showed no signs of life after complete birth. Any infant that shows signs of life after birth is regarded as live born. These signs include breathing, beating of the heart, pulsation of the umbilical cord, and/or definite movement of voluntary muscles.*
90.	**Birth weight (in grams):**	Indicate birth weight in grams.	
91.	**This birth was:**	Tick relevant box.	*Indicate whether the birth was single or multiple.*
92.	**If still born, heartbeat ceased:**	Tick relevant box.	
93.	**If death occurred within 24 hours after birth, number of hours alive:**	Indicate the number of hours alive if death occurred within 24 hours after birth.	
94.	**Attendant at birth:**	Select the relevant box.	*Indicate whether a physician (certified medical practitioner), trained midwife (professional nurse), other trained person (staff nurse, clinical associate, emergency medical staff) or other (traditional birth attendant, family member etc.) attended the birth.*

*To be filled out by **medical practitioner/professional nurse/forensic pathologist** who determined the cause of death*.

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 (☑)

☐ 96.1 Certified causes of death has been confirmed by autopsy ☐ 96.2 Autopsy information may be available later ☐ 96.3 Autopsy not performed

*To be filled out by **medical practitioner/professional nurse/forensic pathologist** who determined the cause of death*.

Item		***Comments / Explanation***
95.	**Causes of death:**	*The main and contributing diseases in the infant/foetus and the main and contributing maternal conditions that caused the death of the infant should be entered in this section.*
		*The mode of death (**asphyxia, anoxia and prematurity)** should not be entered unless it was the only foetal or infant condition known. For prevention of neonatal deaths, it is important to know which conditions caused prematurity and anoxia, etc. In fact, it has been suggested that the terms "perinatal asphyxia", "birth asphyxia", "hypoxic ischemic encephalopathy", "foetal distress" or "post-asphyxial encephalopathy" should only be used if there is clear evidence of acute intrapartum causation. (Lawn JE et al). If hypoxic ischemic encephalopathy (HIE) is written as the main foetal condition, one should try to explain why the infant developed HIE.*
	a. Main disease or conditions in foetus or infant:	*Enter the single most important pathological condition that, in the opinion of the certifier, made the greatest contribution to the death of the infant or foetus.*
	b. Other diseases or conditions in foetus or infant:	*Any other diseases or conditions of the infant or foetus.*
	c. Main maternal disease or conditions affecting foetus or infant:	*Enter the most important maternal disease or condition that, in the opinion of the certifier, had an adverse effect on the infant or foetus.*
	d. Other maternal diseases or conditions affecting foetus or infant:	*Enter any other maternal diseases or conditions that had adverse effects on the infant or foetus.*
	e. Other relevant conditions:	*Report any other circumstances that had a bearing on the death but cannot be described as a disease or condition, e.g. delivery in the absence of an attendant.*

Item		***Instruction***	***Comment/Explanation***
96.	**Autopsy information:**	Tick relevant box.	

2.2 Examples of medical certificates of cause of death

Case Scenario 1: Infant with meningitis

A 10-month-old child is brought in by his mother because of a fever, which has been present for approximately 3 days. On examination the child is found to be malnourished, being small for his age, and with neck stiffness. A lumbar puncture led to the diagnosis of *H. Influenza* meningitis, and IV treatment was started. After one day in hospital, the child became tachypnoeic, with bilateral crepitations in the lungs. He died a few hours later.

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) *Bronchopneumonia* Due to (or as a consequence of)	*1 day*	___ __ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *H Influenzae meningitis* Due to (or as a consequence of)	*3 days*	___ __ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) _____ Due to (or as a consequence of)	_____	__ __ __
		d) _____ Due to (or as a consequence of)	_____	__ __ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	*Malnutrition*	_____	__ __ __

Notes on medical certification of cause of death:

In this case, malnutrition was not considered to be the direct *cause of the meningitis, but could have contributed to the child's poor reaction to the infection.*

Case Scenario 2: Elderly female with non-insulin diabetes mellitus and previous ischaemic heart disease

A 75-year-old female had a 15-year history of non-insulin-dependent diabetes mellitus, a 13-year history of mild hypertension treated with thiazide diuretics and an uncomplicated myocardial infarction 6 years prior to the present illness. She was found disoriented in her apartment and brought to hospital. On admission she was noted to be unresponsive, without focal neurologic signs, and severely dehydrated with a blood pressure of 90/60. Initial laboratory tests disclosed severe hyperglycaemia, hyperosmolarity, azotaemia, and mild ketosis without acidosis. A diagnosis of hyperosmolar nonketotic coma was made. The patient was treated with fluids, electrolytes, insulin and broad-spectrum antibiotics. Within 72 hours, the patient's hyperosmolar, hyperglycaemic state was resolved. However, she remained anuric with progressive azotaemia. Attempts at renal dialysis were unsuccessful, and the patient died on the 8th hospital day with severe renal failure.

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) *Acute renal failure* Due to (or as a consequence of)	*5 days*	__ __ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Hyperosmolar non-ketotic coma* Due to (or as a consequence of)	*8 days*	__ __ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) *Diabetes mellitus (non-insulin dependent)* Due to (or as a consequence of)	*15 years*	__ __ __
		d) _____ Due to (or as a consequence of)	_____	__ __ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	*Hypertension, previous myocardial infarction*	_____	___ __ __

Notes on medical certification of cause of death

In this case, hypertension and a previous myocardial infarction would both be considered factors that contributed to the death. However, they would not be part of the direct causal sequence in Part 1,so they would be placed in Part 2. It is acceptable to list a mechanism (acute renal failure) as an immediate cause of death if it is followed by an underlying disease that could be considered the cause of death.

Case scenario 3: Elderly male with non-insulin diabetes mellitus and co-morbid cardiovascular conditions

A 67-year-old male patient has a history of severe ischaemic heart disease, with a heart attack 10 years ago, and placement of coronary stents 8 years ago. This was associated with a very high cholesterol level. Five years ago non-insulin dependent diabetes was diagnosed, but the patient managed to maintain very good control of his blood sugar levels. The patient presented at the emergency unit with a myocardial infarction this morning, and died before adequate treatment could be commenced.

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) *Myocardial infarction* Due to (or as a consequence of)	*1 day*	__ __ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Ischaemic heart disease* Due to (or as a consequence of)	*>10 years*	__ __ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) _____ Due to (or as a consequence of)	_____	__ __ __
		d) _____ Due to (or as a consequence of)	_____	__ __ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	*Non-insulin dependent diabetes mellitus; hypercholesterolemia*	*5 years*	__ __ __

Notes on medical certification of death:

In any given patient, the interaction between various diseases has to be considered, and the doctor has to determine which condition played the most important role in causing death. Where the doctor is of the opinion that diabetes was the cause of a cardiovascular condition it should be included in the causal sequence in Part 1. In cases where the doctor is not sure that diabetes was the direct cause of the cardiovascular condition, diabetes should be listed in Part 2. In the above scenario the doctor did not deem the diabetes to be the cause of the heart disease.

Case Scenario 4: Elderly female with femur fracture and hypostatic pneumonia

An 80-year-old female stumbled and fell over while vacuuming at home and sustained a fracture of the neck of the left femur. She had an operation for insertion of a pin the following day. Four weeks later her condition deteriorated, she developed hypostatic pneumonia and died two days later.

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) *Hypostatic pneumonia* Due to (or as a consequence of)	2 days	__ ___ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Fractured neck of left femur (pinned)* Due to (or as a consequence of)	4 weeks	__ ___ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) *Alleged accidental fall while using a vacuum cleaner at home* Due to (or as a consequence of)	4 weeks	__ __ __
		d) _____ Due to (or as a consequence of)	_____	__ __ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	_____	_____	__ __ __

Notes on medical certification of cause of death:

THIS CASE SHOULD BE REFERRED TO FORENSIC PATHOLOGY SERVICES, BECAUSE IT IS AN UNNATURAL DEATH. Where the underlying cause of death is due to external causes, information regarding the intent and circumstances is required. The Inquest Act requires that the inquest magistrate determines the cause of death. However, for statistical purposes it is useful to indicate the alleged manner of death. Details of ***PLACE OF OCCURRENCE*** *(e.g. 'at home', 'in a hospital', etc.) and the* ***ACTIVITY*** *(e.g. 'While washing car", "while walking to the bathroom" etc.) at the time of injury should be stated.*

Case Scenario 5: Elderly male with acute myocardial infarction

This 75-year-old male was admitted to hospital complaining of severe chest pain. He had a 10-year history of atherosclerotic heart disease with ECG findings of myocardial ischemia and several episodes of congestive heart failure controlled by digitalis preparations and diuretics. Five months before this admission, the patient was found to be anaemic, with a haematocrit of 17, and to have occult blood in the stool. A barium enema revealed a large polypoid mass in the cecum diagnosed as carcinoma by biopsy. Because of the patient's cardiac status, he was not considered to be a surgical candidate. Instead, he was treated with a 5-week course of radiation therapy and periodic packed red cell transfusions. He completed this course 3 months before his hospital admission. On this admission the ECG was diagnostic of an acute anterior infarction. He died a few hours after admission.

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) *Acute anterior myocardial infarction* Due to (or as a consequence of)	*2 days*	__ __ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Atherosclerotic heart disease* Due to (or as a consequence of)	10 years	__ ___ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) _____ Due to (or as a consequence of)	_____	__ ___ __
		d) _____ Due to (or as a consequence of)	_____	__ __ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	*Carcinoma cecum, congestive heart failure*	*5 months*	__ __ __

Notes on medical certification of cause of death:

Acute myocardial infarction, listed in Part 1 line (a) as the immediate cause of death, is a direct consequence of atherosclerotic heart disease, the underlying cause listed in Part 1 line (b)

Carcinoma of cecum is listed in Part 2 because it caused anaemia and weakened the patient, but it did not cause atherosclerotic heart disease, nor did it cause an acute myocardial infarction.

Congestive heart failure is listed in Part 2 because it also weakened the patient. Although it was caused by the atherosclerotic heart disease, it was not part of the causal sequence leading to the acute myocardial infarction.

Case Scenario 6: Adult male with HIV and *Pneumocystis jiroveci* pneumonia

A 34-year-old male was admitted with severe shortness of breath. He had a 9-month history of unintentional weight loss, night sweats and diarrhoea. An Elisa test and confirmatory Western Blot test for HIV were positive. T-lymphocyte tests indicated a low T helper-suppressor ratio. A lung biopsy was positive for *Pneumocystis jiroveci* pneumonia (PCP), indicating a diagnosis of acquired immunodeficiency syndrome (AIDS).The patient's pneumonia responded to therapy, and he was discharged. The patient had two additional admissions for PCP. Seventeen months after the patient was first discovered to be HIV positive, he again developed PCP but did not respond to therapy. He died 2 weeks later.

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) *Pneumocystis jirovecipneumonia* Due to (or as a consequence of)	*2 weeks*	__ __ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *AIDS* Due to (or as a consequence of)	*17 months*	__ __ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) *HIV* Due to (or as a consequence of)	*+17 months*	__ __ __
		d) _____ Due to (or as a consequence of)	_____	__ __ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	_____	_____	__ __ __

Notes on medical certification of cause of death:

Pneumocystis jiroveci was previously known as Pneumocystis carinii.

It is important to mention HIV infection as the underlying cause of death, if appropriate. Currently, a large percentage of HIV deaths are certified inappropriately as being due to the terminal *cause of death, and not the underlying cause of death. In this case the terminal or immediate cause of death was Pneumocystis jiroveci pneumonia.*

Case scenario 7: Male infant with bilateral renal agenesis

A male infant was delivered at a gestation of approximately 34 weeks after induction of labour. An ultrasound done at the ante-natal clinic showed that the foetus had bilateral renal agenesis, and also diagnosed oligohydramnios. The new-born baby had low-set ears and other features of the typical “Potter facies”. He died three hours after birth from severe pulmonary insufficiency.

Main disease or condition in foetus or infant	Bilateral renal agenesis
Other diseases or conditions affecting foetus or infant	Pulmonary insufficiency
Main maternal disease or conditions affecting foetus or infant	No identified maternal conditions
Other maternal disease or conditions affecting foetus or infant	
Other relevant factors	Induced labour at 34 weeks gestation

Notes on medical certification of cause of death

Since this was a perinatal death Section G2 would be completed. In this case, no diseases were present in the mother, as all of the findings were related to the foetal condition. Oligohydramnios was also regarded to be the result of the foetal condition, and was therefore not mentioned as a maternal condition.

Case Scenario 8: Early neonate with extreme prematurity due to an incompetent cervix

A female infant delivered at 22 weeks with birth weight of 500g very soon after mother ruptured her membranes due to an incompetent cervix. The baby gasped and moved her legs but died shortly thereafter.

Main disease or condition in foetus or infant	Extreme immaturity*
Other diseases or conditions affecting foetus or infant	
Main maternal disease or conditions affecting foetus or infant	Incompetent cervix
Other maternal disease or conditions affecting foetus or infant	
Other relevant factors	

Notes on medical certification of cause of death

**Extreme immaturity is defined as infant with less than 24 completed weeks’ gestation. Although one generally has to avoid writing terms like immaturity as cause of death, in this case it was caused directly by the maternal condition, with no other foetal/infant conditions present.*

Case Scenario 9: Early neonate with hypoxic ischaemic encephalopathy

A 20-year-old woman presented with ruptured membranes and umbilical cord prolapse at 36-week gestation. A male infant with a very low Apgar score was delivered by emergency caesarean section. The infant developed hypoxic ischaemic encephalopathy and died 3 days later.

Main disease or condition in foetus or infant	Hypoxic ischaemic encephalopathy
Other diseases or conditions affecting foetus or infant	
Main maternal disease or conditions affecting foetus or infant	Prolapsed umbilical cord
Other maternal disease or conditions affecting foetus or infant	
Other relevant factors	Emergency Caesarean section

Case Scenario 10: Neonate with hypoxic ischaemic encephalopathy due to maternal abruptio placentae

A one-month-old baby died in the neonatal intensive care unit. The infant was born by means of an emergency caesarean section, due to abruptio placentae in the mother. In NICU hypoxic ischemic encephalopathy was diagnosed, but 4 days later he developed severe broncho-pneumonia, which was resistant to antibiotics. The final tracheal aspirate cultured *Haemophilusinfluenzae*.

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) *H. Influenzaebronchopneumonia* Due to (or as a consequence of)	*4 days*	__ __ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Hypoxic ischaemic encephalopathy* Due to (or as a consequence of)	*1 month*	__ ___ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) *Maternal abruptio placentae** Due to (or as a consequence of)	*1 month*	__ __ __
		d) _____ Due to (or as a consequence of)	_____	__ __ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	_____	_____	__ __ __

Notes on medical certification of cause of death

**It is possible for a maternal condition to be the underlying cause of an infant death. There is a specific set of ICD 10 codes for perinatal deaths arising from maternal conditions (P00 – P04)*

Case Scenario 11: Neonate with infected umbilical cord stump

After normal term delivery a male infant died at 10 days from septicaemia after infection of umbilical cord stump due to poor hygiene.

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) *Septicaemia* Due to (or as a consequence of)	*4 days*	__ ___ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Umbilical cord stump infection* Due to (or as a consequence of)	*3 days*	__ __ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) _____ Due to (or as a consequence of)	_____	__ ___ __
		d) _____ Due to (or as a consequence of)	_____	__ ___ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	_____	_____	__ ___ __

Notes on medical certification of cause of death

Since this infant is older than 7 days, and section G.1 should be used. If maternal HIV was present it would be considered a contributory cause of death of baby and should be reported in Part 2, whereas if maternal hypertension were present it would not be reported, as it would be unlikely to contribute to the infection that led to the death of the baby.

Case Scenario 12: Early neonate with shoulder dystocia

A 32-year-old female was diagnosed with gestational diabetes during the first trimester of her pregnancy. However, she did not take her medication regularly. The baby was born at a primary care facility with a vaginal delivery at 37 weeks gestation, but shoulder dystocia developed, causing prolonged labour. After its birth, the baby had a brachial plexus injury, severe hypoglycaemia and respiratory distress syndrome. He was transferred to a tertiary centre, but died after two days.

Main disease or condition in foetus or infant	Shoulder dystocia*
Other diseases or conditions affecting foetus or infant	Respiratory distress syndrome* Hypoglycaemia
Main maternal disease or conditions affecting foetus or infant	Gestational diabetes
Other maternal disease or conditions affecting foetus or infant	Prolonged labour
Other relevant factors	Born at primary care facility

Notes on medical certification of cause of death

** In this scenario depending on the severity of the shoulder dystocia and the respiratory distress syndrome the doctor could decide that one or the other is the main disease in the foetus. If the infant survived slightly longer (e.g. six days) and developed hyaline membrane disease, that would be considered the main condition in the infant.*

Case Scenario 13: Stillbirth due to prolonged labour

A 25-year-old female arrived at hospital after 20 hours of labour at home. She delivered a 3,6 kg stillborn male infant shortly after admission.

Main disease or condition in foetus or infant	Prolonged intrauterine hypoxia*
Other diseases or conditions affecting foetus or infant	
Main maternal disease or conditions affecting foetus or infant	Prolonged labour
Other maternal disease or conditions affecting foetus or infant	
Other relevant factors	Delayed presentation at hospital (reason unknown)

Notes on medical certification of cause of death

***** *Although no evidence for prolonged intrauterine hypoxia is provided, it is a reasonable assumption in this case.*

Case Scenario 14: Maternal death due to rheumatic heart disease exacerbated by pregnancy

A 28-year-old female presented at the local clinic, showing signs of severe left ventricular heart failure. At this, her first ante-natal visit, a gestational age of 28 weeks was estimated. A cardiac sonar done at the regional hospital showed that she had mitral stenosis, which was assumed to be due to rheumatic fever that she had had as a child. Unfortunately the patient died soon after admission to the tertiary hospital.

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) *Cardiac failure* Due to (or as a consequence of)	*Days*	__ ___ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Mitral valve stenosis* Due to (or as a consequence of)	*Years*	__ ___ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) *Rheumatic fever exacerbated by pregnancy* Due to (or as a consequence of)	*Years*	__ ___ __
		d) _____ Due to (or as a consequence of)	_____	__ ___ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	_____	_____	__ ___ __

Notes on certification of cause of death

The World Health Organization has declared it a priority to decrease maternal deaths. For that purpose, maternal deaths need to be captured, both in the death notification form and in the confidential enquiry into maternal deaths. Firstly, the fact of current or recent pregnancy should be captured in Section G, item 78. Furthermore, if any disease was pregnancy related or exacerbated by pregnancy, this should be indicated in the cause of death sequence in Part 1.

Case Scenario 15: Adult male who fell from the roof of a building

A 24-year-old builder was working on the roof of a building when his feet slipped and he fell to the ground, landing on his head. Initially he chose not to go to hospital, but after a few hours he became disorientated and unresponsive. At the local hospital a large subdural haematoma was diagnosed on CT scan, with brain swelling and imminent herniation. Because of the very poor prognosis, the decision was made not to attempt surgery, and the patient died soon thereafter.

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) *Brain swelling and herniation* Due to (or as a consequence of)	*1 hour*	__ __ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Subdural haematoma* Due to (or as a consequence of)	*15 hours*	__ ___ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) *Blunt force head injury* Due to (or as a consequence of)	*15 hours*	__ ___ __
		d) *Alleged accidental fall from a building* Due to (or as a consequence of)	*15 hours*	__ ___ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	_____	_____	__ __ __

Notes on certification of cause of death

THIS CASE SHOULD BE REFERRED TO FORENSIC PATHOLOGY SERVICES, BECAUSE IT IS AN UNNATURAL DEATH. In cases of unnatural death, the manner of death should also be indicated (i.e. homicide, suicide or accident). It is acceptable to add "alleged", if one is uncertain about the exact circumstances. ICD-10 also requires that the information regarding the manner of injury be as detailed as possible. Therefore, "fall from a building" was added.

Case Scenario 16: Male patient with prostate carcinoma and fall from bed

A 67-year-old male was admitted to hospital because of metastatic prostate carcinoma, which had been initially diagnosed 2 years ago. During the admission, while the nursing staff was changing the bed linen, the patient fell from the bed. He sustained a subdural haemorrhage, which was probably exacerbated by concurrent Warfarin treatment. The haematoma was drained, but a re-bleed occurred with resultant brain swelling and herniation. The patient died 5 days after the fall.

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) *Brain swelling and herniation* Due to (or as a consequence of)	*Hours*	__ __ __
	Sequentially list conditions, if any, leading to immediate cause.	b) *Subdural haemorrhage* Due to (or as a consequence of)	*5 days*	__ __ __
	Enter UNDERLYING CAUSE last (disease or injury that initiated events leading to death)	c) *Blunt force head injury* Due to (or as a consequence of)	*5 days*	__ ___ __
		d) *Alleged accidental fall from bed in hospital* Due to (or as a consequence of)	*5 days*	__ __ __
Part 2	Other significant conditions contributing to death but not resulting in the cause given in Part 1	*Warfarin therapy* *Metastatic prostate carcinoma*	*2 years*	__ __ __

Notes on certification of cause of death

THIS CASE SHOULD BE REFERRED TO FORENSIC PATHOLOGY SERVICES, BECAUSE IT IS AN UNNATURAL DEATH. Although this patient suffered from advanced prostate carcinoma, the cancer did not cause the death. The traumatic fall from the bed intervened, and caused him to die sooner that he would have died from the cancer. Even though the patient had surgery some time before his death, this case would not necessarily be regarded as a procedure-related death, since there are no indications that the death was caused by, or that surgery contributed to it.

2.3 Common problems

A list of the common problems encountered when evaluating and coding cause of death data follows. The following should be avoided by the certifying doctor.

a) **Abbreviations:** these could have more than one meaning and ICD cause of death coders cannot be expected to know which meaning is correct, e.g. MI could mean myocardial infarction or mitral incompetence. AIDS, HIV, TB and PTB are acceptable abbreviations.

b) **Ambiguous terms and poorly defined causes of death:** Terms like hypoxia, cardio-respiratory arrest and respiratory failure as underlying causes of death do not contribute to useful statistics.

c) **Illegible handwriting**: make sure your handwriting is legible.

d) **Incorrect sequencing of causes of death**: make sure that the causal sequence is logical when considering pathophysiology and time sequence.

e) **Insufficient specificity about cause of death** (e.g. primary site of cancer; organism causing infection etc.).

f) **Insufficient details about circumstances of death** (e.g. place of injury, manner of death).

g) **Incomplete socio-demographic data**: place of residence, age, gender, pregnancy status, smoking history are all important variables in the analysis of cause of death data.

Often several acceptable ways of writing a cause-of-death statement for a specific case may exist. At best, a certifier will be able to provide a simple description of the process leading to death that is etiologically clear and be confident that this is the correct sequence of causes. However, description of the process is sometimes difficult because the certifier may not be certain. In this case, the certifier should think through the causes about which he/she is confident and what possible aetiologies could have resulted in these conditions. The certifier should select the causes that are suspected to have been involved and use words such as “probable” or “presumed” to indicate that the description provided is not completely certain. If the initiating condition reported on the death certificate could have arisen from a pre-existing condition, but the certifier cannot determine the aetiology, he/she should state that the aetiology is unknown, undetermined or unspecified, so it is clear that the certifier did not have enough information to provide even a qualified aetiology. A cause of death should only be reported as unknown if every effort has been made to determine the cause, including an autopsy.

The elderly decedent should have a clear and distinct aetiological sequence for cause of death, if possible. Terms such as *senescence, infirmity, old age and advanced age* have little value for public health. Age is recorded elsewhere on the certificate. When a number of conditions resulted in death, the physician should choose the single sequence that, in his or her opinion, best describes the process leading to death, and place any other pertinent conditions in Part 2.

The infant decedent (older than 7 days) should have a clear and distinct aetiological sequence for cause of death, if possible. "*Prematurity*" should not be entered without explaining the aetiology of prematurity. Maternal conditions may have initiated or affected the sequence that resulted in infant death, and such maternal causes should be reported in addition to the infant causes on the infant's death certificate (e.g., hyaline membrane disease *due to* prematurity, 28 weeks, *due to* placental abruption *due to* blunt trauma to mother's abdomen).

When Sudden Infant Death Syndrome (SIDS) is suspected, a complete investigation should be conducted, typically by a Forensic Pathologist. If the infant is under one-year of age, and no cause of death is determined after scene investigation, review of clinical history, and a complete autopsy, the death can be reported as SIDS by the forensic medical practitioner.

If a body is brought to a hospital for completion of the DHA-1663, after death has occurred, some effort from the certifier can have great value. Often family members of the deceased or ambulance personnel accompany the body, and they should be questioned about the circumstances surrounding the death and the previous medical history of the deceased. The individual may have been a patient of that specific hospital, in which case the folder should be retrieved and perused for more clinical information. The unclothed body of the deceased must be examined for any signs of injury or natural disease. If any concerns arise regarding the manner of death, the case should be discussed with, or referred to Forensic Pathology Services. On the other hand, if all the available evidence points towards a specific natural cause of death, the death may be certified on the DHA-1663. At this time, a note may be made in the hospital folder of the deceased, stating the information obtained, and the sources of information that were used to determine the cause of death.

2.4 Terms requiring additional information about aetiology

When processes such as the following are reported, additional information about the aetiology should be reported:

Term	**Additional information required**
Abscess	Site
	Cause/organism
Adhesions	If following an operation, the underlying condition for which surgery was performed and length of time since surgery.
Agranulocytosis	Cause. If due to drug therapy, specify condition for which drug was given.
Airways disease (chronic)	Nature of disease (e.g. obstructive)
Anaemia	Primary (specify type)
	Secondary (specify underlying cause)
Aneurysm	Site (e.g. cerebral, aortic)

Term	Additional information required
Aneurysm (continued)	Cause (e.g. arteriosclerotic)
	Ruptured or dissecting
Antepartum haemorrhage	Cause (e.g. coagulation defects, placenta praevia)
Anoxia (foetal)	If occurred before or during labour Cause (e.g. obstructed labour)
Appendicitis	Whether acute or chronic
	With peritonitis or abscess
Arteriosclerosis, Atheroma or Atherosclerosis	Arteries involved (e.g. coronary, cerebral)
Arteritis	Arteries involved (e.g. coronary, cerebral)
	Cause (e.g. arteriosclerotic, syphilitic)
Arthritis	Type (rheumatoid, juvenile)
	Cause (e.g. traumatic)
	Site
Asphyxia (foetal)	If occurred before or during labour Cause (e.g. obstructed labour)
Aspiration of vomitus	Cause (e.g. acute alcoholic toxicity, drug overdose, chronic alcohol abuse, or circumstances of drug use i.e. addict, occasional user).
Asthma	Allergic or late onset
Atelectasis	Underlying cause
Birth injury	Site
	Type of injury
	Cause
Bronchitis	Type: Acute or chronic
	With: Asthma, emphysema etc.
Bronchopneumonia	Primary, hypostatic or aspiration
	Causative agent and underlying cause if any contributing disease or condition.
Burns	Site, Percentage and degree of burns

Term	Additional information required
Cachexia	Circumstances
	(See Malnutrition)
Calculus	Site and if with obstruction
Cancer, carcinoma	(See Neoplasms)
Cardiac failure dilation hypertrophy	Underlying disease causing this condition.
Cardiovascular disease	Specific disease condition e.g. hypertensive.
Carditis	Site: Myocardium
	Endocardium
	Pericardium
	Type: Acute
	Rheumatic
	Bacterial or viral
Cerebral degeneration	Underlying cause
Cerebral sclerosis	Atherosclerosis or disseminated sclerosis
Cerebrovascular disease	Nature of disease (e.g. atherosclerosis causing infarction, haemorrhage, occlusion - thrombotic/embolic).
CVA – Cerebrovascular accident	Cause: infarction, haemorrhage, thrombotic/embolic.
	Avoid abbreviation
Chorea	Type: Rheumatic
	With heart involvement
	Without heart involvement
	Huntington's
	Gravidarum
Cirrhosis of liver	Cause (e.g. alcoholic)
Corpulmonale	Underlying cause, and whether acute or chronic.

Term	Additional information required
Coryza	Complication leading to death.
Curvature of spine	Type: Acquired (e.g. tuberculosis).
	Congenital
	With: Heart disease and/or hypertension.
	Complication leading to death.
Cytomegalovirus infection	If due to AIDS or other HIV illness.
Debility	Underlying cause.
Deep venous thrombosis	If following an operation, condition for which operation performed.
	If due to inactivity, the condition causing the inactivity.
Dementia	Cause (e.g. senile, alcoholic, atherosclerotic, Alzheimer's or multi-infarct).
Dermatitis	Type.
	Cause e.g. drug induced (state condition necessitating drug therapy).
Diabetes mellitus	Type: Insulin dependent or non-insulin dependent diabetes.
	With: Complication(s) e.g. nephropathy, peripheral vascular disease.
Diarrhoea	Underlying cause (if unknown, whether believed infectious or not).
Dysentery	Type: Amoebic (and, if so, whether acute or chronic).
	Bacterial
	Other protozoan.
Embolism	Site and type (e.g. thrombo-embolism).
	If following an operation: condition for which surgery performed.
	If due to inactivity: underlying condition causing the inactivity.
Encephalitis	Type: Acute viral
	Late effect of viral
	Post-vaccinal
	Idiopathic
	Meningococcal
	Suppurative
	Tuberculosis

Term	Additional information required
Endocarditis	Acute or chronic
	Site: Mitral valve, aortic valve.
	Cause: Rheumatic, bacterial.
Failure, Renal	Acute or chronic.
	Cause: Analgesic, diabetes etc. (Renal Failure).
Fatty degeneration	Site e.g. of heart or liver.
	Cause (e.g. alcoholic fatty liver disease).
Fractures	Site
	Pathological or traumatic (if due to trauma, state circumstances of trauma).
Gangrene	Site
	Type: Atherosclerotic, diabetic, due to gas bacillus etc.
Gastro-enteritis	Cause: Infectious or non-infectious.
Goitre	Type: Simple.
	Toxic
	Diffuse
	Uni-nodular
	Multi-nodular
Haematemesis	Cause: Gastric ulcer, adverse effects of medication etc.
Haemorrhage	Site
	Cause (if due to trauma, state circumstances of trauma).
Hemiplegia	Cause and duration (e.g. spinal cord injury from road traffic incident - 20 years previously).
Hepatitis	Type: Acute or chronic.
	Alcoholic
	Of newborn
	Of pregnancy, childbirth or puerperium
	Viral (and if so, whether Type A, B, C, D, E).
Hydrocephalus	Congenital or if acquired, and if so, the underlying cause.

Term	Additional information required
Hypertension	With: Heart involvement
	Cerebrovascular involvement
	Renal involvement
	Pregnancy
	If secondary, specify underlying cause.
Immaturity	Cause
	Complication leading to death.
Influenza	With: Pneumonia
	Other manifestation leading to death (specify).
Injury	Site and type of injury.
	Circumstances surrounding the injury(s) and if due to accident, suicide, homicide.
Intestinal infection, intestinal obstruction, occlusion,	Causative organism.
Stenosis or stricture	Cause
Kaposi's sarcoma	If due to HIV/AIDS.
Leukaemia	Acute, sub-acute or chronic.
	Type e.g. Lymphatic.
	Myeloid
	Monocytic
Liver failure; hepatic failure	Cause (e.g. acute infective, post-immunisation, post-transfusion, toxaemia of pregnancy or of puerperium).
Lung disease (chronic)	Nature of disease (e.g. obstructive).
Infarction - cerebral	If due to occlusion, stenosis, embolism/thrombosis.
Infarction – myocardial	Site
	Acute, healed or old.
	Complication, if present.
Lymphadenitis	Cause (e.g. tuberculosis, septic wound).

Term	Additional information required
Lymphoma	Type (e.g. Hodgkin's disease; Non-Hodgkin's lymphoma, mixed-cell type).
Malignant neoplasm	(See Neoplasms)
Malnutrition	Type:
	If due to deprivation or disease (specify).
	Protein deficient, (specify type and degree of severity).
Melaena	Underlying cause e.g. Primary carcinoma of transverse colon.
Meningitis	Cause: Meningococcal
	Tuberculosis
	Haemophilusinfluenzae
	Other organism (specify).
Mental retardation	Underlying physical condition causing death.
Myocarditis	Acute or chronic.
	Cause (e.g. rheumatic fever, atherosclerosis).
Neoplasm	Type: Benign or malignant.
	Site of primary growth (indicate if unknown).
	Sites of metastases, if present.
Nephritis/Glomerulonephritis	Type: Acute, sub-acute.
	Chronic
	With oedema.
	Infective or toxic (cause).
	If associated with: Hypertension.
	Arteriosclerosis
	Heart disease
	Pregnancy
Obstruction of intestine	Cause
	If paralytic following operation, state condition for which surgery performed.

Term	Additional information required
Obstructive airways disease	Type: Chronic
	Acute lower respiratory infection
	Acute exacerbation of asthma, bronchiectasis, emphysema etc.
Occlusion – cerebral	Site
	With: infarction, due to embolism, thrombosis etc.
Oedema of lungs	Type acute, hypostatic.
	Secondary to heart disease.
	With hypertension.
	If hypostatic or terminal, specify conditions necessitating inactivity.
	If chronic and due to external agents (specify cause).
Paget's disease	Of bone, breast, skin (specify site) or malignant.
Paralysis, paresis	Cause (e.g. due to birth injury, syphilis).
	Precise form (e.g. infantile, agitans).
Paralytic ileus	Underlying cause.
Pelvic abscess, Parametritis, Peritonitis	Cause, particularly whether due to puerperal or post-abortive infection.
Peptic ulcer With: haemorrhage, perforation	Site: Stomach, gastric duodenum.
Peripheral vascular disease	Cause (e.g. atherosclerosis).
Pleural effusion	Cause, particularly whether tuberculosis.
Pneumoconiosis	Whether: Silicosis.
	Anthraco-silicosis
	Asbestosis
	Associated with tuberculosis
	Other (specify)
Pneumocystis pneumonia	If due to HIV/AIDS.

Term	Additional information required
Pneumonia	Type of organism.
	If hypostatic or terminal, specify underlying Illness.
Pneumothorax	Cause
Prematurity	Cause
	Complication leading to death.
Pulmonary embolism	Type (e.g. thrombus, fat, bone marrow, etc.)
	If following an operation, condition for which surgery performed.
	If due to inactivity, the condition causing the inactivity.
Pulmonary oedema	Cause
Renal disease or failure	Acute or chronic.
	Underlying cause e.g. diabetic nephropathy.
	With: hypertension, heart disease, necrosis.
Respiratory failure	Underlying cause.
Respiratory infection	Nature, location and causative organism if known.
Rheumatic fever	Active or inactive.
	With: Nature of heart disease.
	Hypertrophy, carditis, endocarditis.
Sclerosis	Arterial: Coronary;
	Cerebral (specify whether disseminated or atherosclerosis);
	Disseminated, spinal (lateral, posterior), renal.
Scoliosis	Acquired (e.g. tuberculosis, osteoporosis). Congenital
Senility	With: Dementia, Alzheimer's disease etc.
Septicaemia	Underlying illness/site of infection
	Type of organism
Septic infection	If localised, specify site and organism

Term	Additional information required
Shock	Type (e.g. Septic, haemorrhagic, hypovolaemic, etc)
	Underlying cause
Silicosis	If associated with tuberculosis
Softening of brain	Cause: Embolic, arteriosclerotic etc.
Spondylitis	Whether: Ankylosing
	Deformans
	Gonococcal
	Sacro-iliac
	Tuberculous
Stenosis, stricture	Site
	If congenital or acquired (specify cause)
Syphilis	Site affected
	Type: Congenital
	Early or late, primary, tertiary, secondary
Tetanus	If following minor injury (specify)
	If following major injury (specify)
	Puerperal, obstetric
Thrombosis	Arterial (specify artery)
	Intracranial sinus: Pyogenic
	Non-pyogenic
	Late effect
	Post-abortive
	Puerperal
	Venous (specify site)
	Portal
	If post-operative or due to confinement in bed, specify condition which necessitated operation or immobilization.

Term	Additional information required
Toxaemia	Underlying cause
	Pregnancy (specify): Albuminuria
	Eclampsia
	Hyperemesis
	Hepatitis
	Hypertension
	Pre-eclampsia
Toxoplasmosis	If due to HIV/AIDS
Tuberculosis	Primary site
	Associated pneumoconiosis if present
	If due to HIV/AIDS
Tumours	(See Neoplasms)
Ulcer	Site
	Perforated or with haemorrhage
Ulcer, leg	Nature (e.g. peripheral, varicose)
	Cause (e.g. atherosclerosis)
Uraemia	Cause
	Associated childbirth or pregnancy
Urinary tract infection	Primary: Specify organism and precise location, e.g. ureter or kidney.
	Secondary: Specify underlying disease, e.g. diabetes.
URTI	Complication leading to death
	Organism if identified
	Avoid abbreviation
Valvular disease	Valve(s) affected
	Acute or chronic
	If rheumatic: Active or inactive
	If non-rheumatic: Specify cause

Term	Additional information required
Vascular disease	Nature (e.g. hypertensive, peripheral)
	Cause
Wounds	Site
	Cause
	Circumstances surrounding wounds (place of occurrence, activity etc.)

3. Confidentiality and legal considerations

3.1 Reasons for confidentiality

The maintenance of confidentiality of patient information is a legal and ethical duty of medical practitioners imposed by common law, the Bill of Rights of the Constitution of the Republic of South Africa (Act No. 108 of 1996), statute (National Health Act, No 61 0f 2003), ethical rules of the Health Professions Council of South Africa (HPCSA) and international medical ethical principles. In terms of the HPCSA rules and international medical ethical declarations, the duty to maintain patient confidentiality also applies after the patient's death. However, there are times when it is legally justifiable to breach patient confidentiality and these include:

- where the patient or the deceased's next-of-kin gives consent (*Note: when a person signs a life insurance policy, the person gives consent to the insurer to access any medical information required for processing of the claim after their death. This includes the DHA-1663*);
- where there is a statutory duty to disclose (e.g. Births and Deaths Registration Act, No. 51 of 1992); and
- if there is a moral, legal or social duty to disclose (e.g. to a referring healthcare practitioner or member of a treatment team, or to a relative of the patient if the relative's health is in danger)[2]

Statistics SA employees are also legally required to maintain confidentiality of patient information according to the Statistics Act (Act No. 6 of 1999).

For years, HIV was a much stigmatised condition, and life insurance policies had HIV/AIDS exclusion clauses which meant that they did not pay out for HIV related deaths. For these reasons doctors were reluctant to report HIV on the death certificate and, although there never was a governmental directive that doctors should *not* write HIV on the notice of death form, this was often the practice in hospitals. Since 2005 all HIV/AIDS exclusion clauses have been scrapped, even retrospectively on existing policies. This means that the life insurance claim will be paid even if the death is due to HIV. However, some policies have a waiting period which applies to all natural causes including HIV, and if the death occurs during this period the payment would be declined. In cases where there was material non-disclosure at application, claims may be declined, however in practice retrospective underwriting is done and the premium and/or insured amount is adapted as if full disclosure had been done.

3.2 Confidentiality measures

In principle, the confidentiality of the cause of death stated on the last page (page 1 of 1, DHA-1663 B) of the death notification form (DHA-1663) should be maintained, as this page is required to be sealed in an envelope. The level of security provided by this method is minimal and in practice the information on page 1 of 1, DHA-1663B is frequently accessed by various persons who are not entitled to do so. For this reason many medical practitioners are reluctant to fulfil the legal requirement of accurately stating the cause of death on the DHA-1663.[3] This is particularly so in cases where HIV infection and AIDS are the underlying cause of death. However, failure to accurately state the cause of death will result in inaccuracy in the national statistics of causes of death.[3]In terms of

Section 29 2(b) of the Births and Death Registration Act (Act No. 51 of 1992), the Director-General of the Department of Home Affairs may furnish any information about a decedent to any person provided he/she is satisfied that this is in the interest of the decedent or in the public interest, but there is a directive to local offices not to issue page 1 of 1 of DHA-1663B to anyone.[4] As mentioned earlier, the consent clause used in the insurance industry and signed by the client gives the insurer access to any information about the client deemed necessary by the insurer which includes access to the DHA-1663.

3.3 Legal obligation to provide accurate medical cause of death

The Births and Deaths Registration Act (Act No. 51 of 1992) places a legal obligation on medical practitioners to state the cause of death on the DHA-1663. The making of a false statement on the DHA-1663 is a criminal offence and on conviction a practitioner is liable for a fine or imprisonment, or both. The HPCSA ethical rules also recognise that statutory duty may require a practitioner to disclose information about the deceased's health status. It is therefore not unethical to disclose the cause of death on the DHA-1663 as long as the practitioner carries out the instructions to maintain confidentiality, however imperfect the safeguards may be. An expert in medical law, Professor David McQuoid-Mason,[5] has concluded "*Whatever the shortcomings regarding confidentiality caused by the DHA-1663 form, medical practitioners are obliged to complete it properly and to indicate the medical cause of death on the last page for statistical purposes*."

3.4 Completion of DHA-1663 by medical interns

The question often arises as to whether it is permissible for an intern or community service medical officer to complete a Notice of Death/Stillbirth Form (DHA-1663). The Births and Deaths Registration Act (Act No. 51 of 1992) refers to a 'medical practitioner' completing the DHA-1663. In terms of the Health Professions Act (Act No. 56 of 1974) a medical practitioner is a person registered as such by the statutory body, the Health Professions Council of South Africa (HPCSA). A community service medical officer is a registered medical practitioner and may therefore complete a DHA-1663. An intern is not a registered medical practitioner. However, Section 36(2) of the Health Professions Act allows an intern to perform any function or issue any certificate or other document which in terms of any law other than the Health Professions Act itself, may be or is required to be performed by a medical practitioner. It is therefore legally permissible for an intern to complete and issue a DHA-1663.

3.5 Completion of DHA-1663 for unnatural deaths

In South Africa the circumstances of all unnatural deaths must be investigated by the police and the death certified by a forensic pathologist/medical practitioner after a medico-legal examination or forensic autopsy where a body is available (Section 3, Inquests Act No. 58 of 1959). In cases where no criminal proceedings are instituted in connection with the death, the cause, or likely cause, of death is determined by a magistrate at an inquest, once all the circumstances of death have been considered. Section 20(4) of the Inquests Act states the following :*"Any person who prejudices, influences or anticipates the proceedings or findings at an inquest shall be guilty of an offence and liable on conviction to a fine not exceeding R2 000 or to imprisonment for a period not exceeding six months, or to both such fine and such imprisonment."* As a result many South African forensic pathologists are

reluctant to certify the alleged manner of death (e.g. homicide/assault, suicide/self-harm, accident) on the DHA-1663, for fear of pre-empting the inquest findings. However, the opinion of two inquest magistrates consulted in this regard in December 2011, is that it should be acceptable for the pathologist to state that the circumstances of death were “alleged homicide”, or “alleged road traffic accident”, etc. on the DHA-1663, purely for statistical purposes. This recommendation should not influence the way the cause of death is indicated on the autopsy report.

The National Health Act stipulates regulations (last revision printed in 2007) regarding the rendering of Forensic Pathology Service. In these regulations “unnatural death, for the purposes of the medico-legal investigation of death” is defined as:

(a) *any death due to physical or chemical influence, direct or indirect, or related complications;*
Physical influences would include, for example, motor vehicle accidents and stab wounds, while chemical influences may be drug overdoses. This part of the definition also includes “natural occurrences”, like lightning related deaths or dog-bites. In addition, if the deceased died due to any complication that can directly be linked to any injury, the case should be referred to Forensic Pathology Service.

(b) *any death, including those deaths which would normally be considered to be a death due to natural causes, which in the opinion of a medical practitioner, has been the result of an act of commission or omission which may be criminal in nature; or*

(c) *where the death is sudden and unexpected, or unexplained, or where the cause of death is not apparent.*

Please note: Section 48 of the Health Professions Act (no 56 of 1974) also defines “procedure-related deaths” as unnatural deaths. The law states: *The death of a person undergoing, or as a result of, a procedure of a therapeutic, diagnostic or palliative nature, or of which any aspect of such a procedure has been a contributory cause, shall not be deemed to be a death from natural causes.*

Before a doctor starts to complete the DHA-1663, he/she should make sure that the death was not caused by unnatural causes (see Figure 2). If an unnatural death is suspected, the case should be referred to FPS or at least discussed with a forensic pathologist. Once the cause and circumstances of the death have been determined the manner of death is classified using the ICD-10 classification of manner of death i.e. homicide, suicide and accidents.

4. Public health importance of mortality data

4.1 Uses of mortality data

Mortality data collected through death registration provide essential statistics required by countries to monitor health status of populations. These include indicators to track the Millennium Development Goals such as the Under-5 Mortality Rate, the Infant Mortality Rate and the Maternal Mortality Ratio as well as other important indices such as the life expectancy, the adult mortality rate ($_{45}q_{15}$) and the neonatal mortality rate.

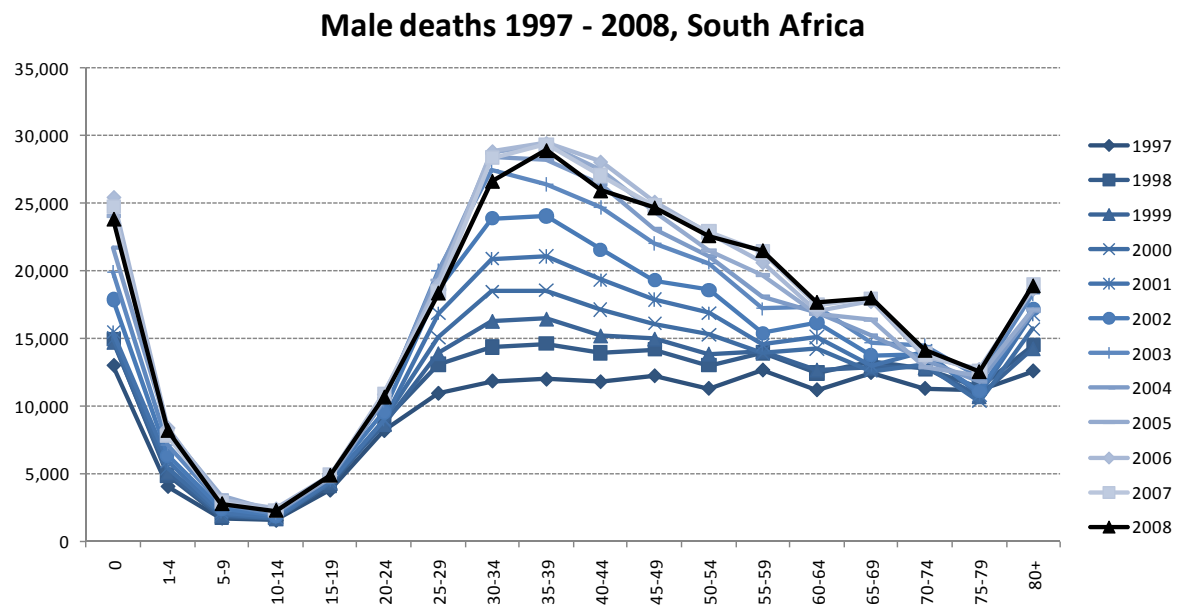
Information about the leading causes of death provides insight into the health problems of the population. Variations by gender, region and socio-economic status highlight the differences in health status and trends over time indicate the transitions that are underway.

Vital statistics and cause of death data informs decisions about health policy and strategy and can be used to identify service delivery requirements, evaluate health outcomes and identify the factors associated with premature mortality. In addition, data on multiple causes provide clues for epidemiological research.

4.2 Challenges in South African mortality data

There are several challenges in the South African cause of death data that need to be addressed so that the cause of death statistics can be used reliably to inform health policy. Firstly, there is extensive under-reporting of HIV as the underlying cause of death. South African mortality data shows a year-on-year increase in the number of deaths in both males and females in the young adult age groups between 1997 and 2006 followed by a decrease to 2008 (Figure 2). This increase in mortality has been attributed to HIV/AIDS. The trend in the proportion of deaths in each disease category over the same period shows a marked increase in infectious and parasitic diseases (Figure 3). However, when looking at the 2008 data by single cause (Table 2) the ill-defined natural causes rank highest, followed by tuberculosis, pneumonia and diarrhoea. HIV/AIDS ranks ninth and only accounts for 2,5% of deaths. The low ranking of HIV reflects doctors' reluctance to certify HIV as a cause of death, because of confidentiality and other concerns. They often choose to certify the immediate cause of death in HIV cases (e.g. tuberculosis, diarrhoea, pneumonia), or use euphemisms for HIV (e.g.. retroviral disease, RVD, immune-deficiency or immuno compromised). The policy at Statistics South Africa states "what you see is what you code" which means that euphemisms for HIV are not coded to HIV but to *other retroviral diseases* (ranked 14th) or *certain disorders involving the immune system* (ranked 10th).[6]It is thus imperative that doctors state HIV on the DHA-1663 in these cases, so that the quality of South African mortality statistics will improve in accuracy.

Figure 3: Number of deaths by age and sex, Stats SA 1997–2008



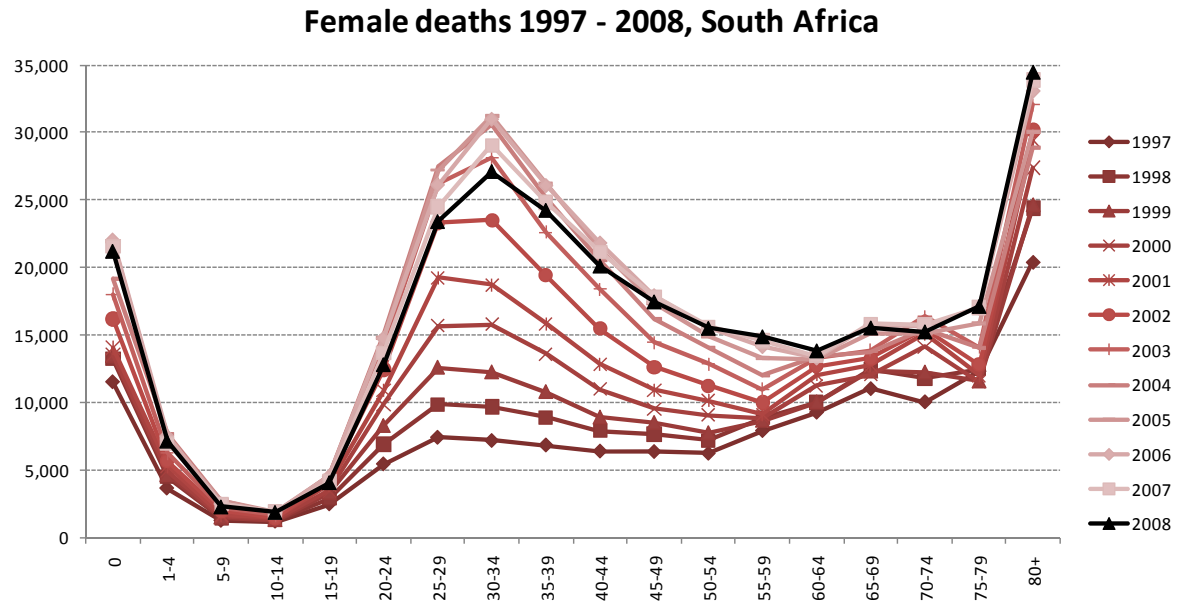


Figure 4: Leading categories of deaths, Stats SA 1997–2008

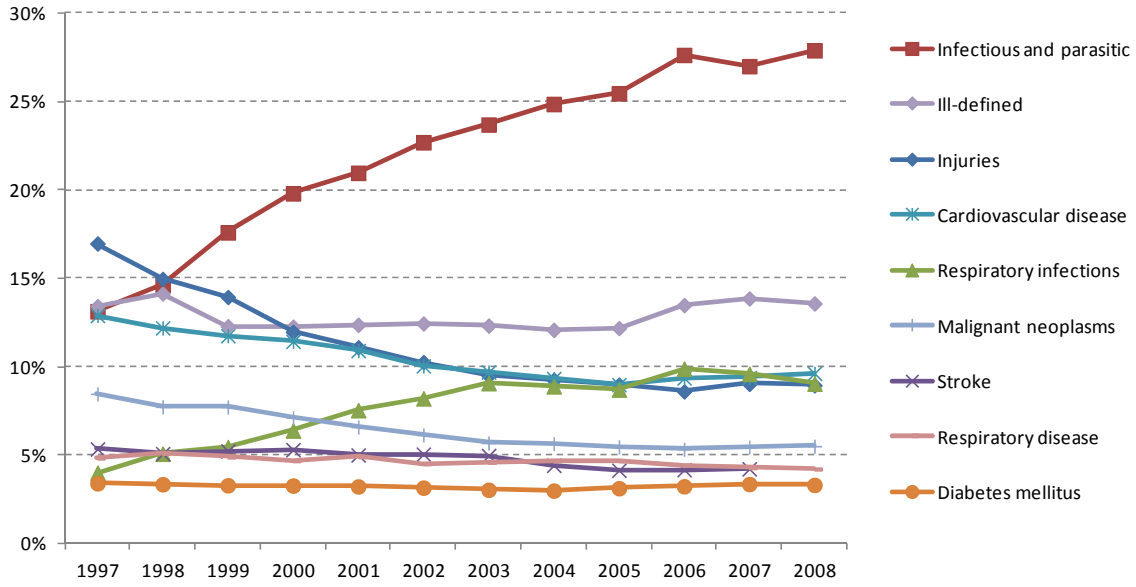


Table 2: Top 10 causes of death, Stats SA 2008

	Cause of death	Number	% of all deaths
1	Ill-defined and unknown causes	80 515	13,6
2	Tuberculosis	74 863	12,6
3	Influenza and pneumonia	45 602	7,7
4	Intestinal infectious diseases	39 351	6,6
5	Other external causes of accidental injury	33 983	5,7
6	Other forms of heart disease	26 190	4,4
7	Cerebrovascular disease	24 363	4,1
8	Diabetes mellitus	19 558	3,3
9	HIV	15 097	2,5
10	Certain disorders involving the immune system	14 639	2,5

The second major challenge is the ill-defined and "garbage" codes. Ill-defined causes arise when medical doctors certify the cause of death as "*natural causes*", "*unknown*", or as due to symptoms and signs. There is an unacceptably high proportion of deaths (13,6%) that are due to ill-defined causes (ICD-10 codes: R00-R99). However, ill-defined conditions constitute only part of what the Global Burden of Disease (GBD) experts have termed "garbage" codes. ***Garbage codes in mortality data are those codes which do not signify an underlying cause of death***. In addition to the chapter of ill-defined signs and symptoms, other International Classification of Disease (ICD10) codes considered to be garbage include: intermediate causes of death (e.g. septicaemia), mechanisms of death (e.g. cardiac arrest) or partially specified causes (e.g. cancer with unknown site).[7] Thus, **Conditions that are not causes of death** in Table 3 include more than just the ill-defined chapter codes (R00-99) which account for 13,6% of the deaths as shown in Table 2 above. For the list of ICD-10 codes included see Table 2 in *Naghavi M, Makela S, Foreman K, O'Brien J, Pourmalek F, Lozano R. Algorithms for enhancing public health utility of national causes-of-death data. Population Health Metrics. 2010 May 10;8:9.***7**

Table 3: Number of deaths in garbage categories, Stats SA 2008

Garbage categories	N	% of total
Conditions that are not causes of death	90 410	15,3
Intermediate causes of death	48 609	8,2
Mechanisms	5 400	0,9
Not clearly specified	30 453	5,1
Total garbage categories	**174 872**	**29,5**
Total deaths	**592 073**	**100,0**

A third challenge with the cause of death data can be found in the external causes of unnatural deaths (injuries). The classification of the causes of death is shown in Table 4. At the first level, deaths are classified as unnatural or natural, depending on whether the death was caused by an external cause or a natural disease. At the next level, unnatural deaths are grouped on the basis of intent and manner of death (assault, self-harm, legal intervention and war, accidents and intent undetermined/unknown).

Table 4: The classification of causes of death

Classification	Manner of death	Intent
Unnatural deaths	Assault Self-harm Legal intervention/War	Intentional
	Accidents	Unintentional
	Undetermined intent	Undetermined
Natural deaths	Natural Disease	
Unknown	Unknown/Could not be determined	

Table 5: External causes of death by manner of death

Manner of injury	Assault *X85-Y09*		Self harm *X60-X84*		Legal/War *Y35-Y36*	Transport accidents *V01-V99*		Other accidents *W00-X59*		Undetermined Intent	
External cause	Drugs, poisons, gases	X85-X90	Drugs, poisons, gases	X60-X69		Pedestrian	V01-V09	Falls	W00-W19	Drugs, poisons, gases	Y10-Y19
	Hanging, strangulation, suffocation	X91	Hanging, strangulation, suffocation	X70		Pedal cyclist	V10-V19	Inanimate mechanical forces *(falling objects, firearm, machinery)*	W20-W49	Hanging, strangulation suffocation	Y20
	Drowning	X92	Drowning	X71		Motorcyclist/3-wheeler	V20-V39	Exposure to animate forces *(dog bite, shark attack)*	W50-W64	Drowning	Y21
	Firearm	X93-X95	Firearm	X72-X74		Car, pick up, truck, bus occupant: *Driver, passenger*	V40-V79	Accidental drowning	W65-W74	Firearm	Y22-Y24
	Explosives	X96	Explosives	X75		Other transport occupant *(rail etc)*	V80-V89	Other accidental threats to breathing *(Suffocation, hanging, cave-in, aspiration)*	W75-W84	Explosives	Y25
	Smoke, fire, flames, steam	X97-X98	Smoke, fire, flames, steam	X76-X77		Water transport	V90-V94	Electric current, radiation *(electrocution)*	W85-W99	Smoke, fire, flames, steam	Y26-Y27
	Sharp object	X99	Sharp object	X78		Air/space transport	V95-V97	Exposure to smoke, fire, flames; heat and hot substances	X00-X19	Sharp object	Y28
	Blunt object	X100	Blunt object	X79				Venomous animals and plants	X20-X29	Blunt object	Y29
	Pushing from high place	Y01	Jumping from high place	X80				Forces of nature *(heat, cold, sun, lightning, earthquake)*	X30-X39	Jumping from high place	Y30
	Pushing in front moving object	Y02	Jumping in front moving object	X81				Poisoning (drugs, poisons, gases)	X40-X49	Jumping in front moving object	Y31
	Crashing motor vehicle	Y03	Crashing motor vehicle	X82				Overexertion, travel, privation	X50-X57	Crashing motor vehicle	Y32
	Sex assault	Y04-Y05									
	Neglect, maltreatment	Y06-Y07						Complications of medical/surgical care	Y40-Y84		
	Other specified	Y08	Other specified	X83		Other specified	V98	Other specified	X58	Other specified	Y33
	Unspecified	Y09	Unspecified	X84		unspecified	V99	Unspecified	X59	Unspecified	Y34

For unnatural deaths, it is important to know the specific external cause of injury as well as the manner of death (Table 5). The same external cause could cause death by different manners of death and may require different preventive interventions. For example, if a person died from drowning, it may be a case of (intentional) assault (X92), (intentional) suicide (X71), accidental drowning (W65-W74), or the circumstances might be unknown (Y21). Prevention of accidental drowning requires different interventions from drowning by suicide or assault. Similar examples are indicated by the shading in Table 5.

From Table 6, it can be seen that in 47% of injuries the specific external cause is unknown. According to ICD-10 guidelines both the nature of the injury (e.g. gunshot wound on the head) and the external cause (e.g. hunting accident or interpersonal violence), which indicates the circumstances or the manner of injury, should be stated on the medical certificate of death. The external cause code (ICD-10: V00–Y98) is used for tabulation of the underlying cause of death. This code indicates the manner of death and circumstances of the injury such as assault (firearm, blunt object, sharp object etc.), suicide (firearm, hanging, poisoning etc.), accident (road traffic accidents and other accidents such as falls, dog bites, bee stings etc.) and provides information essential for the development of public health interventions which is not provided by merely reporting the nature of the injury (ICD-10: S00-T99).

Currently, the circumstances (manner, external cause and intent) of almost half of the injury deaths in South Africa are unknown. This is because only the nature of the injury is reported on the DHA-1663 with no external cause or manner of death, or the external cause may be reported, but not the intent, so the manner of death is unknown. As mentioned before, accurate data on the manner of injury is of paramount importance for planning preventive interventions. The extremely high injury death rates in South Africa[8]makes it imperative that accurate and complete data on the external causes of death is routinely collected and made available for health policy planning.

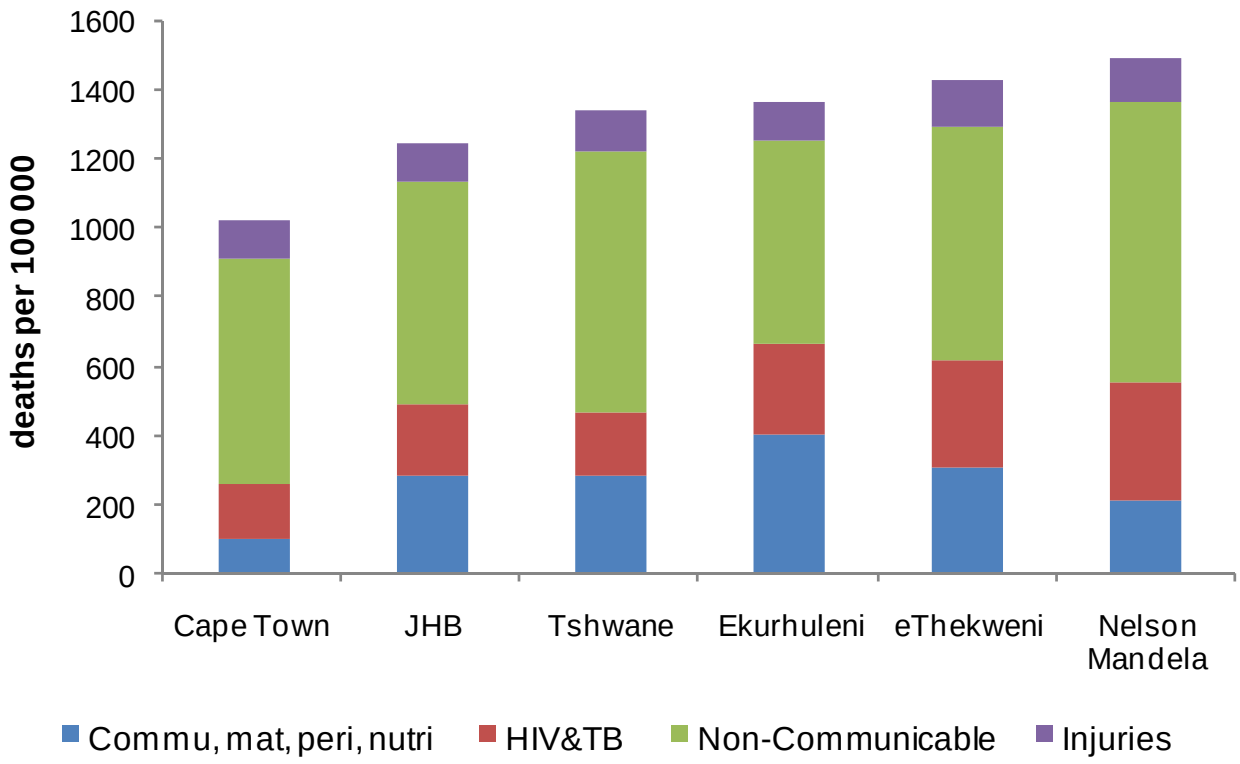
Table 6: Number of unnatural deaths by external cause, Stats SA 2008

Cause of Death	ICD 10	Number	% of total
Exposure to unspecified factor	X59	***18 418***	***34,8***
Injuries with undetermined intent	Y10 - Y34	***6 502***	***12.3***
Road and other transport injuries	V01-V06, V09-V89, V91, V93-V99, Y85	5 796	10,9
Mechanical forces (accidental)	W24-W34, W45-W46	5 549	10,5
Interpersonal violence	X85-X99, Y00-Y08	5 467	10,3
Hanging, strangulation and other threats to breathing (accidental)	W75-W84, Y37	4 446	8,4
Fires, heat and hot substances (accidental)	X00-X19	2 375	4,5
Drowning (accidental)	V90, V92, W65-W70, W73, W74	1 479	2,8
Poisonings (accidental)	X40-X49, Y67	814	1,5
Adverse effects of medical and surgical treatment	Y39-Y66, Y68-Y84, Y88	758	1,4
Self-inflicted injuries	X60-X84	442	0,8
Exposure to natural forces (accidental)	X30-X39	358	0,7
Other unintentional injuries	W20-W23, W35-W44, W49-W52, W60, W64, W85-W94, W99, X28, X50-X58, Y38	322	0,6
Falls (accidental)	W00-W19	150	0,3
Animal contact (accidental)	W53-W59, X20-X27, X29	74	0.1
Total		**52 950**	**100,0**

4.3 Analysis of cause of death data

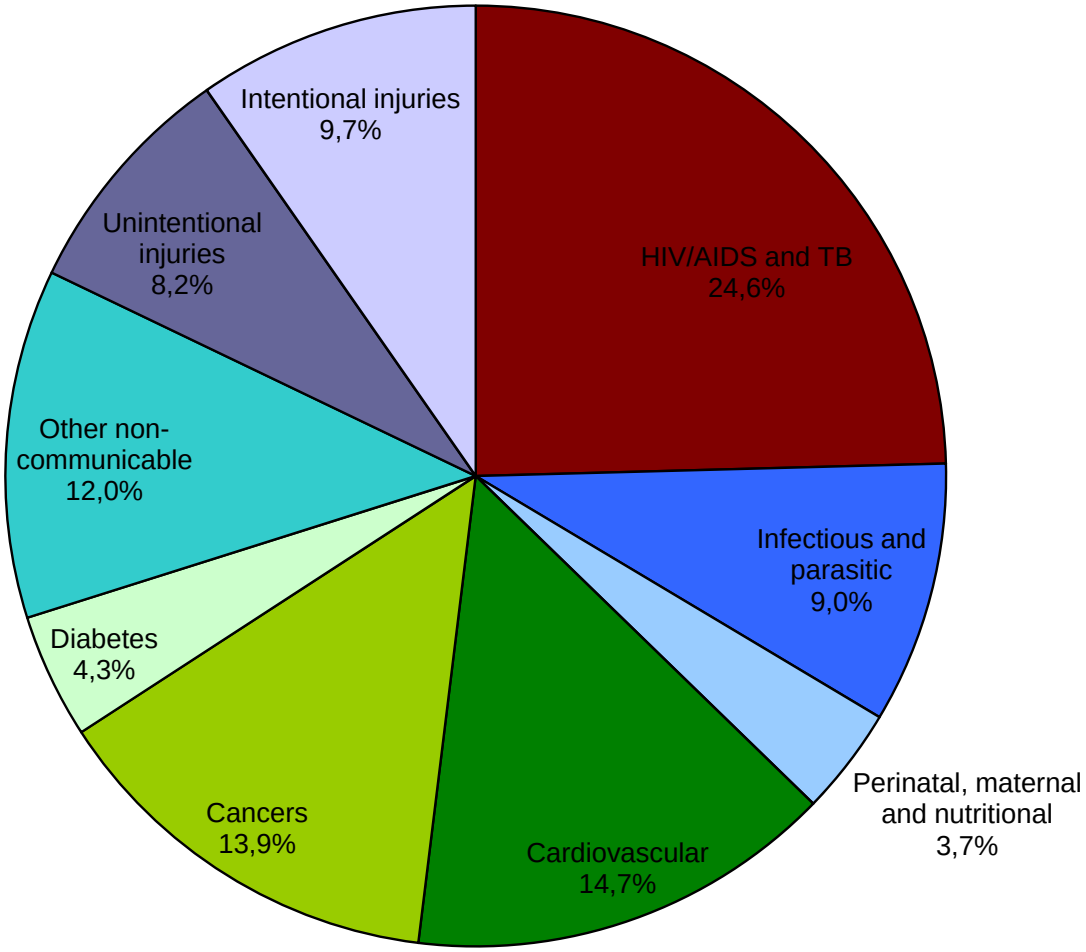
The 2008 cause of death statistics were analysed by broad cause groups for the six metros in South Africa. The age standardised death rates for each metro are shown in Figure 4. The overall rate is lowest in the Cape Metro and highest in the Nelson Mandela Metro, resulting from a high contribution of non-communicable diseases as well as HIV and TB.

Figure 5: Age standardised death rates by broad cause, South African Metros 2008



Data from the Western Cape are used to illustrate years of life lost as a measure of premature mortality (Figure 5). This measure takes into account the age at which the death occurred and counts the number of years of life lost for each death according to cause. In this example, the ill-defined causes have been proportionately redistributed so as to provide an overall estimate of the profile of the causes of premature mortality. It can be seen from Figure 6 that HIV/AIDS and TB constituted the biggest category of premature mortality, accounting for 24,5%. This is followed by cardiovascular diseases that account for 14,7%.

Figure 6: Years of life lost, Western Cape 2009



5. Further sources of information and resources

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5. http://www.e-lfh.org.uk/projects/medical_examiner/index.html

6. *The Virtual Autopsy* http://www.le.ac.uk/pa/teach/va

7. *E-learning website for Death Certification*

8. http://ec.europa.eu/eurostat/health/deathcert/test.cfm?section=3&page=85

9. New Mexico Department of Health. 2005. *Death certification manual*, Vital Records and Health Statistics, New Mexico.

10. WHO ICD-10 online training http://apps.who.int/classifications/apps/icd/icd10training/

11. The New York City Department of Health and Mental Hygiene

12. http://www.nyc.gov/html/doh/media/video/icdr/index.html

6. Glossary

Activity

Description of what the decedent was doing while he/she sustained the injury when a death from an external cause occurs. This is vital information for injury prevention.

Automated coding system

Software tools-based systems which assign ICD codes to the entities (see item) reported on death certificates and, through the application of ICD rules, determine the underlying cause of death. The utilisation of such tools avoids bias in coding and allows reproducibility and comparability between countries.

Birth weight

The weight of the foetus or new born obtained immediately after birth.

- Extremely low birth weight - Less than 1 000 g (up to and including 999 g) (WHO).
- Very low birth weight - Less than 1 500 g (up to and including 1 499 g) (WHO).
- Low birth weight - Less than 2 500 g (up to and including 2 499 g) (WHO).

Cause of death

Any condition which leads or contributes to death, and is classifiable according to the International Classification of Diseases (ICD).

Circumstances of injury, poisoning or violence

All the events surrounding and/or causing the injury, poisoning or violence.

Coding rules

Coding rules contained in the applicable revision of the ICD, published by the World Health Organization, allow systematic selection of an underlying cause of death from all entities reported on the death certificate. These coding rules improve the usefulness and comparability of mortality statistics among countries by giving preference to certain categories and by consolidating conditions.

Contributory cause

Any cause of death that is neither the immediate, intervening, originating antecedent nor underlying, is a contributory cause of death (i.e. conditions that should be reported on Part 2).

Death certificates

Official records of individual deaths, containing information on the cause of death certified by a physician, or other legally appointed official, and any other required demographic information.

Duration of disease

Time elapsed between the onset of the disease and the death.

Entity

A diagnostic term or condition entered on the notification of death that constitutes a codable entry.

Epidemiology

The study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems.

External causes of death

Deaths due to accidents and violence including environmental events, circumstances and conditions as the cause of injury, poisoning, and other adverse effects. Broad categories include accidents, suicides, medical misadventures or abnormal reactions, homicide, legal intervention, and injury from war operations.

Family of classifications

This concept, developed by WHO, suggests that health-related problems may be classified with the use of several different classifications depending on the user needs and purposes. ICD-10 forms the 'core' of this family, but it is now flanked by different adaptations for specific fields (oncology, psychiatry, etc.) based on diagnosis and by different classifications not based on diagnosis (ICF, medical procedures, etc.) that may be used coupled with ICD-10 or autonomously.

Garbage codes

Global Burden of Disease (GBD) experts coined this term for ICD codes for mortality data which do not signify an underlying cause of death. This includes ill-defined signs and symptoms, intermediate causes of death (e.g. septicaemia), mechanisms of death (e.g. cardiac arrest) or partially specified causes (e.g. cancer with unknown site).

Gestational age

The duration of gestation is measured from the first day of the last normal menstrual period in weeks.

- Gestational Age, Post-term - More than 42 completed weeks of gestation (WHO).
- Gestational Age, Term - From 37 completed weeks to less than 42 completed weeks of gestation (WHO).
- Gestational Age, Pre-term - Less than 37 completed weeks of gestation (WHO).

ICD-10 code

A single ICD alphanumeric string, representing a single disease or injury or a group of related conditions.

Immediate cause of death

Any disease or condition entered on line (a) in Part 1 of the death certificate directly leading to death and consequent to diseases entered on lower lines of Part 1. Also known as the terminal, direct or final cause of death.

Inquest

Legal proceedings presided over by a magistrate, held to determine the cause of death, the identity of the deceased, the date of death, and/or whether any person was responsible for the death.

Intermediate cause

Any cause between the underlying cause and the immediate cause of death, or, if the certificate has not been filled out correctly, any condition that the certifier should have reported there. Also known as a complication of the underlying cause.

International Classification of Diseases (ICD)

International Classification of Diseases. A widely used system of classifying diseases and injuries. Each disease or set of diseases has an ICD code or ICD group assigned to it.

Late maternal death

The death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy (WHO).

Live birth

The complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which after such separation, breathes or shows other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born (WHO). In South Africa the legal definition of live birth is given by the Criminal Procedures Act No. 51 of 1977:“a child is deemed to have been born alive, if the child is proved to have breathed, whether or not the child had an independent circulation, and it shall not be necessary to prove that such a child was, at the time of its death entirely separated from the body of its mother.” This definition is given specifically with regards to persons being prosecuted for concealment of birth and/or murder of the child, and is not the opposite of stillbirth.

Manner of death

Manner of death helps to clarify the modality/intention surrounding the deceased. The most common options for the classification of this variable are: natural, accident, intentional self-harm (including suicide), assault (homicide) and undetermined.

Maternal death

The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. (WHO)

Mechanism of death

The physiological disturbance in the body at the time of death, e.g. metabolic acidosis, hypokalaemia, acute cardiac failure.

Multiple causes of death

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.

Neonatal period

Begins at birth and ends 28 completed days after birth. Neonatal deaths (deaths among live births during the first 28 completed days of life) may be subdivided into early neonatal deaths, occurring during the first seven days of life, and late neonatal deaths, occurring after the seventh day but before 29 completed days of life (WHO).

Originating antecedent cause

This term indicates the condition entered on the lowest used line in Part 1, or, if the certificate has not been filled out correctly, the condition that the certifier should have reported there. The originating antecedent cause is, from a medical point of view, the starting point of the train of events that eventually caused the death; in this manual it is commonly referred to as ´underlying cause of death´.

Perinatal period

Begins at 26 completed weeks (154 days) of gestation since last menstrual period (when birth weight is 500 g) and ends seven completed days after birth (WHO definition begins at 22 completed weeks).

Period of gestation

See gestational age.

Place of death

The place where the death occurred.

Place of injury

Place where the injury took place.

Deaths occurring in pregnancy, childbirth and the puerperium. (Pregnancy-related deaths or maternal death)

A death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective to the cause of death. (WHO)

Procedure-related death

Defined by the Health Professions Act, No. 56 of 1974, Section 48: The death of a person undergoing, or as a result of, a *procedure of a therapeutic, diagnostic or palliative nature*, or of which *any aspect* of such a procedure has been a contributory cause, shall not be deemed to be a death from natural causes**.**

Sequence

Two or more conditions entered on successive lines of Part 1, each condition being an acceptable cause of the one entered on the line above it.

Stillbirth (Foetal death or dead born foetus)

According to the Births and Deaths Registration Act, No. 51 of 1992, stillbirth with regards to an infant means that the foetus had at least 26 weeks of intra-uterine existence, but showed no signs of life after complete birth. Twenty-six weeks of intra-uterine life equals a gestation of 28 weeks since last menstrual period. Signs of life might include breathing, beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

Sudden infant death syndrome

The sudden and unexpected death of a baby during sleep, usually occurring between birth and 2 years, most commonly between 1 month and 1 year. The babies are clinically healthy before death with minor symptoms like mild upper respiratory tract or gastrointestinal tract infection. The diagnosis is made by exclusion of other causes through a thorough death scene investigation, autopsy and laboratory examinations.

Transport accident

Any accident involving a device designed primarily for, or being used at the time primarily for, conveying people or goods from one place to another.

Trend

Temporal evolution of a phenomenon.

Underlying cause of death

The disease or injury which initiated the train of morbid events leading directly to death or the circumstances of the accident or violence that produced the fatal injury (WHO). Also called the primary medical cause of death.

Vital statistics

Data collected from continuous or periodic recording or registration of all ´vital events´, such as births, deaths, marriages and divorces.

7. References

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8. List of abbreviations and acronyms

AIDS	Acquired Immunodeficiency Syndrome
BI-1663	Notification/Register of Death/ Stillbirth
Comm	Communicable Disease
CVA	Cerebro-vascular accident
DHA	Department of Home Affairs
DHA-14	Burial Order
DHA-1663	Notice of Death/Stillbirth
DHA-1680	Death Report Form
ECG	Electrocardiogram
FPS	Forensic Pathology Services
GBD	Global Disease Burden
H Influenzae	HaemophilusInfluenzae
HIE	Hypoxic Ischaemic Encephalopathy
HIV	Human Immunodeficiency Virus
HPCSA	Health Professions Council of South Africa
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th Revision
IN	Intern Number
IV	Intravenous
JHB	Johannesburg
mat	Maternal conditions
MI	Myocardial infarction/Mitral Incompetence
MP	Medical Professional
NICU	Neonatal Intensive Care Unit
NPR	National Population Register
nutri	Nutritional conditions
PCP	Pneumocystis jiroveci pneumonia (previously known as Pneumocystis cariniipneumonia)
peri	Perinatal conditions
PTB	Pulmonary Tuberculosis
RVD	Retroviral Disease
SA	South Africa
SAPS	South African Police Services
SIDS	Sudden Infant Death Syndrome
Stats SA	Statistics South Africa
TB	Tuberculosis
U.S.	United States
WHO	World Health Organisation
WHO-FIC	World Health Organisation Family of International Classifications