



SOUTH AFRICAN NATIONAL CAUSE-OF-DEATH VALIDATION PROJECT

MEDICAL CERTIFICATION OF CAUSE-OF-DEATH TRAINING

SAMRC BURDEN OF DISEASE RESEARCH UNIT | JULY 2020



NATIONAL CAUSE-OF-DEATH VALIDATION PROJECT



Training of doctors

Medical certification of cause of death

Pam Groenewald



WELCOME AND INTRODUCTIONS

- NCODV research team
- Prof Kathy Kahn, Wits
- Geospace – Francois, Leboke and Thulani
- Participants



HOUSEKEEPING

- Training materials
- Confidentiality agreement
- Tablets
- Internet access
- Bathrooms
- Refreshments





health

Department:
Health
REPUBLIC OF SOUTH AFRICA



home affairs

Department:
Home Affairs
REPUBLIC OF SOUTH AFRICA



STATS SA
STATISTICS SOUTH AFRICA



measure it. manage it.



Forensic Pathology Service



Western Cape Government
Health

BETTER TOGETHER.



**UNIVERSITEIT
STELLENBOSCH
UNIVERSITY**



**Centers for Disease
Control and Prevention**
National Center for
Health Statistics



**THE
AUSTRALIAN
NATIONAL
UNIVERSITY**

LEARNING OBJECTIVE

- How to certify the medical cause of death according to ICD-10
- How to read a Verbal autopsy interview and assign an underlying cause of death
- How to use KoboToolBox to capture the cause of death



CONTENT

- Importance of mortality data
- Civil registration and vital statistics in SA
- National cause of death validation study
- Public health research ethics
- **Medical certification of cause of death**
- ICD-10 coding of causes of death
- Kobotools (tablet and laptop)
- **Case scenarios**





IMPORTANCE OF MORTALITY DATA



THE IMPORTANCE OF MORTALITY DATA

- Valid mortality data are essential for **national health planning**
 - to **plan essential health services** for the population
 - to know **where to allocate resources** to health programmes
 - to **monitor progress and assess the impact of interventions**
- In addition, accurate mortality data at **sub-national level** are essential
 - to gauge **inequalities in health status**
 - to indicate differences in **access to and quality of health services** so that these can be addressed



MORTALITY DATA SOURCES IN SA

- Mortality statistics are collected routinely through a **civil registration and vital statistics (CRVS) system** – legal requirement for registration of deaths and medical opinion on cause
- **National CRVS system is best source of mortality data**
 - Legal requirement
 - Universal coverage
 - Routine
 - Continuous
- Confidential enquiry into maternal deaths
- Audits for child and perinatal deaths
- Health & demographic surveillance systems using Verbal Autopsy
 - Agincourt, Dikgale, Africa Centre
- Population censuses and household surveys (limited information)



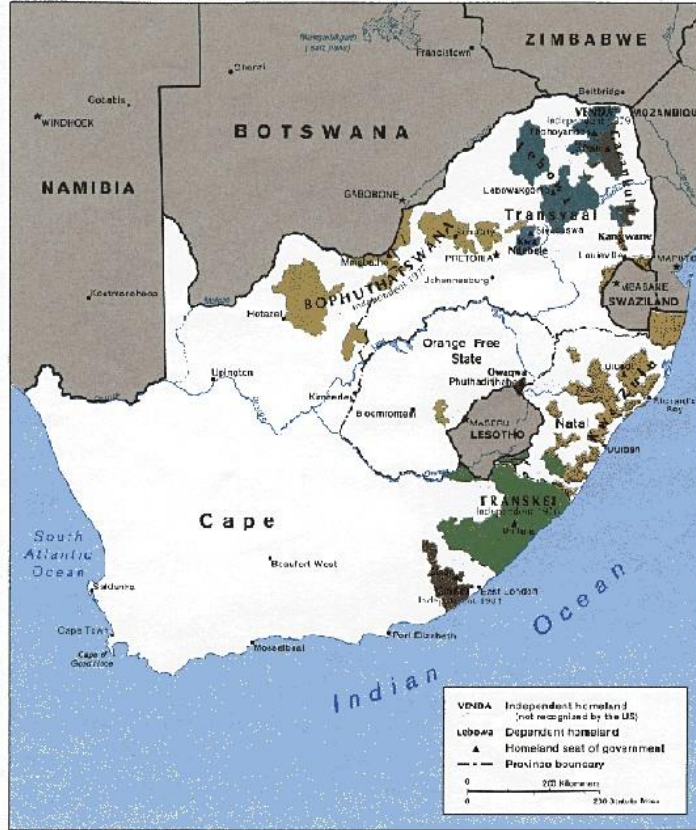


SA CIVIL REGISTRATION AND VITAL STATISTICS SYSTEM



South Africa: before and after 1994

South Africa: Black Homelands



8084-1 (5/90) 1-63

Republic of South Africa



802861 (01/2005) 4-06

DEVELOPMENT OF A CRVS SYSTEM IN SA

- Before 1994 only half of African deaths in rural areas were registered
- The *Births and Deaths Registration Act 51 of 1992*, requires that all people and all geographic areas are included
- In 1998, WHO medical certificate of cause of death was included on Notification of death (BI-1663)
- Notice of death/Stillbirth (DHA-1663) introduced in 2010 - included perinatal cause of death section

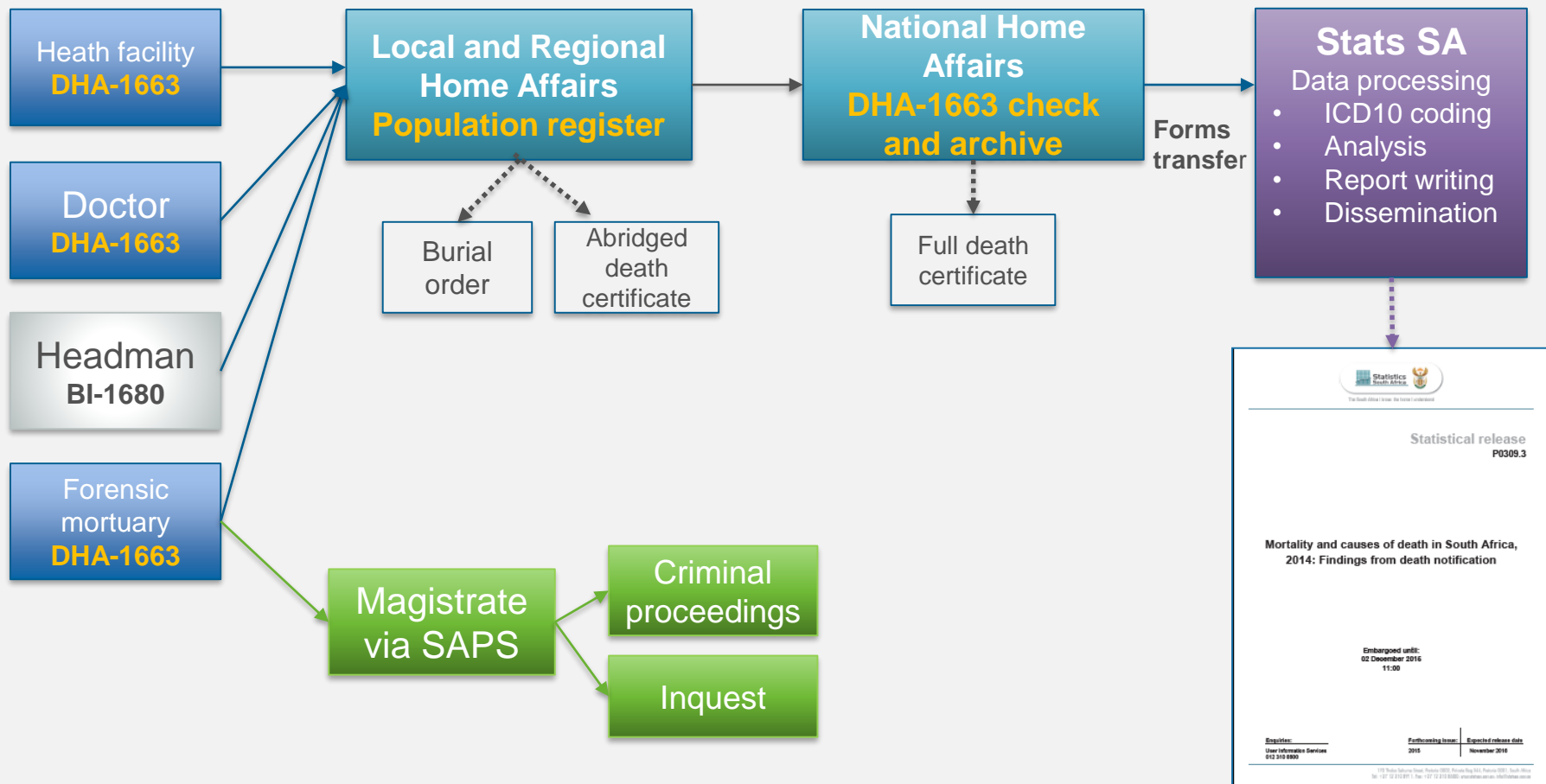


WHO CERTIFICATE OF CAUSE OF DEATH

Cause of death*		Time interval between onset and death
1 Report disease or condition directly leading to death on line a Report chain of events in due to order (if applicable) State the underlying cause on the lowest used line	Direct cause of death	
	a Cerebral haemorrhage	4 hours
	Due to b Metastasis of the brain	4 months
	Due to c Breast cancer	5 years
	d	
2 Other significant conditions contributing to death (time intervals can be included in brackets after the condition)	Arterial hypertension (3 years); Diabetes mellitus (10 years)	
<i>*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</i>		



DEATH REGISTRATION AND DATA FLOW



QUALITY OF SA CAUSE OF DEATH DATA

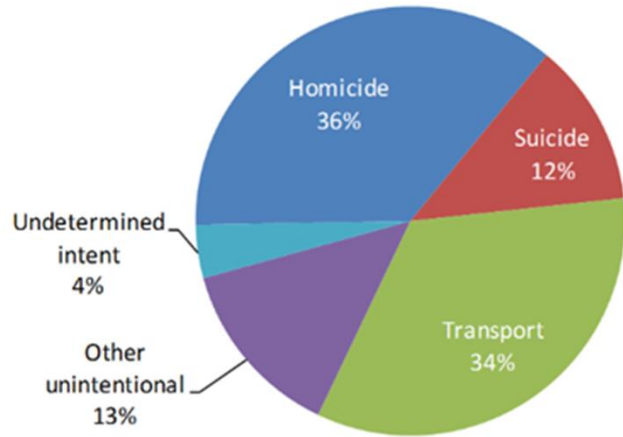
- The registration of SA mortality data has increased since 1994 (from 50% to more than 90% for adults)
- However there are still major challenges with the cause of death data
 - High proportion of deaths with ill-defined (unusable) causes
 - Injury mortality profile inaccurate
 - Misclassification of HIV deaths to other causes (TB, Diarrhoea etc)
- This compromises the use of the official mortality data for health policy



INJURY PROFILE INACCURATE

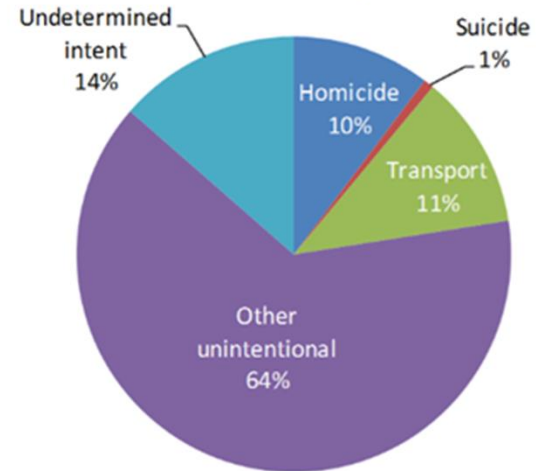
Injury Mortality Survey, 2009

N=52 493



Statistics South Africa, 2009

N=49 456



LEADING CAUSES OF DEATH IN SOUTH AFRICA, 2012

SOUTH AFRICAN NATIONAL BURDEN OF DISEASE STUDY 2012				STATISTICS SOUTH AFRICA 2012			
Rank	Cause of death	Number	% of all deaths	Rank	Cause of death	Number	% of all deaths
1	HIV/AIDS	153661	29.1	1	Ill-defined and unknown causes	65033	13.5
2	Cerebrovascular disease	39830	7.5	2	Tuberculosis	47472	9.9
3	Lower respiratory infections	25977	4.9	3	Influenza and pneumonia	26385	5.5
4	Ischaemic heart disease	24969	4.7	4	Cerebrovascular disease	23994	5.0
5	Tuberculosis	23817	4.5	5	Other forms of heart disease	21612	4.5
6	Diabetes mellitus	18894	3.6	6	Diabetes mellitus	21230	4.4
7	Hypertensive heart disease	18755	3.5	7	HIV/AIDS	18663	3.9
8	Interpersonal violence	18741	3.5	8	Hypertensive diseases	16195	3.4
9	Road injuries	17597	3.3	9	Other viral diseases	15057	3.1
10	Diarrhoeal diseases	16349	3.1	10	Intestinal infections	14948	3.1
Top 10 causes		358590	67.8	Top 10 causes		270589	56.3
Total		528947	100	Total		480476	100

Source: Own analysis of Statistics South Africa data



NATIONAL CAUSE OF DEATH VALIDATION STUDY



AIM

To derive best-estimates of cause-specific mortality patterns in South Africa for 2017 at national, provincial and district level, using vital registration data, that have been validated and adjusted against cause-of-death data from medical and forensic records and verbal autopsies

OBJECTIVES

1. To verify causes of death reported on DNFs against reference diagnoses from **medical & forensic records** and **verbal autopsy interviews with next-of-kin/carer**
2. To derive correction factors to adjust cause-specific mortality data from vital registration according to reference diagnoses at national, provincial and district level



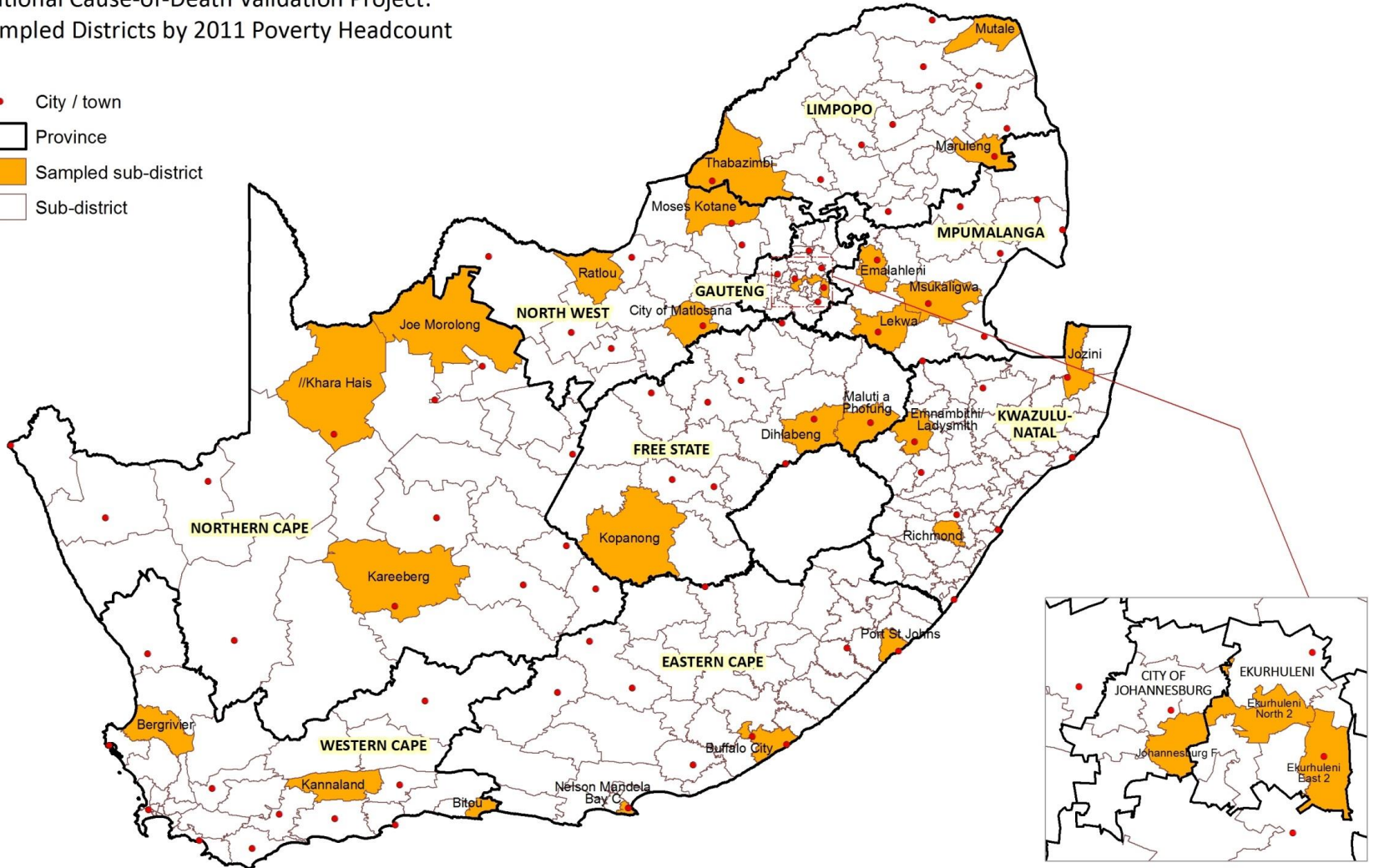
STUDY DESIGN

- A cross-sectional study of deaths that were registered in South Africa during 2017/2018
- A sample of **27 health sub-districts** have been selected, stratified by province (3 per province), with pseudo-stratification by socio-economic index
- **Sample size required: 13000 deaths**



National Cause-of-Death Validation Project:
 Sampled Districts by 2011 Poverty Headcount

- City / town
- Province
- Sampled sub-district
- Sub-district



Phase 1:
Recruitment

- Funeral undertakers recorded deaths during study period and acted as contacts with next-of-kin

Phase 2:
Data
collection

- Verbal autopsy interview with next of kin (6000)
- Medical and forensic records scanned (19000)

Phase 3:
Data
processing

- Review of VA, medical and forensic records
- Assign underlying COD according to ICD-10 guidelines
- Automated coding of UCOD to ICD-10

Phase 4:
Data linkage
and analysis

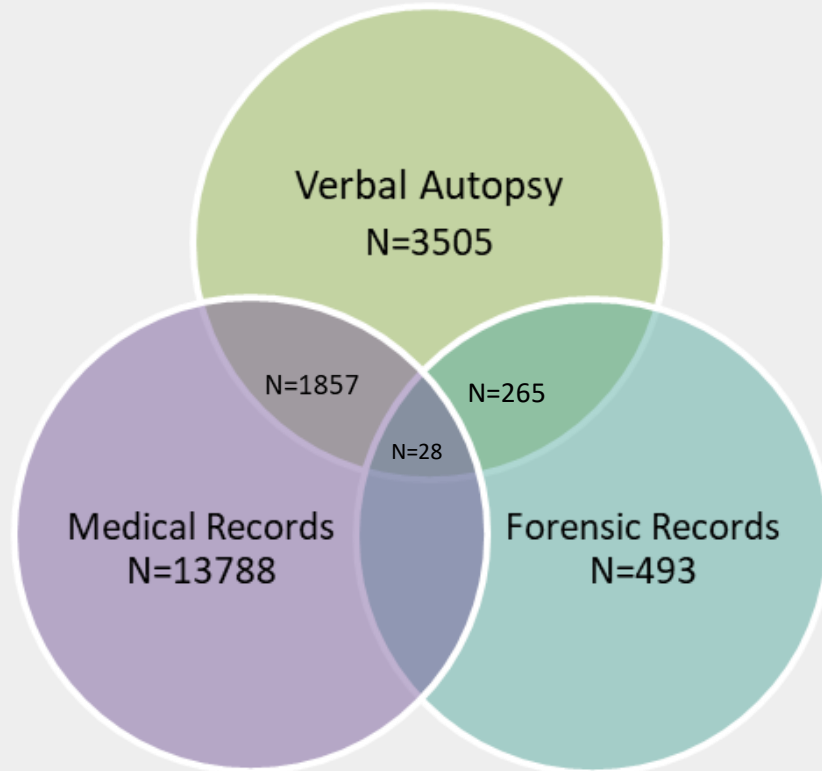
- Link study records with VR records at Stats SA
- Assess agreement between VR UCOD and study UCOD (hierarchy)
- Calculate correction factors for national cause-specific mortality fractions

ETHICS AND PERMISSIONS

- CDC funded (PEPFAR)
- SAMRC Ethics Committee approval (EC004-2-2017)
- NDoH permission
- Stats SA MOU
- DHA permission (Mr VS Mkhize, DDG: Civic services)



DATA COLLECTION STATUS



PHYSICIAN CODING OF VA RECORDS

- 6000 records reviewed independently by 2 drs
- VA record, including narrative, in pdf format to be downloaded and read online to establish cause of death
- Cause of death to be certified according to the international medical certificate of cause of death
- Cause of death certificate to be captured on a tablet using KoboToolBox and uploaded electronically



INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH

	Cause of death	Approximate interval between onset and death
I		
Disease or condition directly leading to death*	(a) .....	.....
	due to (or as a consequence of)	
<i>Antecedent causes</i>	(b) .....	.....
Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	due to (or as a consequence of)	
	(c) .....	.....
	due to (or as a consequence of)	
	(d) .....	.....
II		
Other significant conditions contributing to the death, but not related to the disease or condition causing it	.....	.....

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

Cause of death*

Time interval
between onset
and death

1

Report disease or condition
directly leading to death on
line a

Report chain of events in due
to order (if applicable)

State the underlying cause
on the lowest used line



	Direct cause of death	
a	Cerebral haemorrhage	4 hours
b	Due to Metastasis of the brain	4 months
c	Due to Breast cancer	5 years
d	Due to	

2

Other significant conditions
contributing to death (time
intervals can be included in
brackets after the condition)

**Arterial hypertension (3 years); Diabetes
mellitus (10 years)**

.....

.....

.....

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



MANNER OF DEATH

- Natural / Unnatural / Unknown
- If Unnatural
 - Homicide
 - Suicide
 - Accident
 - Road Accident
 - Other accident
 - Medical or surgical procedure
 - Undetermined



MEDICAL RECORD REVIEWS

- 19000 medical records reviewed by 1 dr
- Medical records recording last admission before death have been scanned (admission notes, ward notes, special investigations, observation chart and prescription chart, discharge summary etc)
- Drs to review the records which are in pdf format
- Capture relevant information on a medical abstraction form on KoboToolBox using an android tablet
- Certify the cause of death and manner of death and certainty of diagnosis of each cause reported



INTERNATIONAL FORM OF THE MEDICAL CERTIFICATE OF CAUSE OF DEATH

	Cause of death	Approximate interval between onset and death	History	Clinical	Haematology	Biochemistry	Microbiology/ Virology	Serology	CVD	Pulmonary	Imaging	Visualization	Histology	Surgery	Autopsy
Part I															
Disease or condition directly leading to death* a)															
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	<i>due to</i>														
	b)														
	<i>due to</i>														
	c)														
	<i>due to</i>														
	(d)														
Part II															
Other significant conditions contributing to the death, but not related to the disease or condition causing it															
*This does not mean the mode of dying e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.															



THE SIMPLE STORY OF THIS PROJECT

If we know what people in South Africa really die of, we would know:

- **what** health priorities to plan for,
- **where** to direct resources,
- **which** interventions to set up or maintain,
- **whether** interventions work, or not.

In short:

Valid cause-of-death data are key to a country's health intelligence.





RESEARCH ETHICS



THE EVOLUTION OF RESEARCH ETHICS – INDIVIDUALS

- Nuremberg code, 1947 (Concentration camps)
- Declaration of Helsinki 1964 (WHO)
- National Research Act, 1974 US (Tuskegee syphilis study)
- Belmont Report, 1979
 - Autonomy (informed consent)
 - Beneficence (welfare of participant)
 - Justice (risks and benefits distributed fairly)
- Good clinical practice (GCP) guidelines



PUBLIC HEALTH RESEARCH

- Health of a population vs individual
 - Autonomy vs public good
 - Confidentiality vs justifiable breaches of confidentiality
- Disease prevention and health promotion vs diagnosis and treatment
- Aims to reduce health inequities
 - Individual rights vs justice
- Low risk of physical harm
 - Other types of harm: stigma; psychological etc



MEDICAL CERTIFICATION OF CAUSE OF DEATH

International Classification of diseases

Tenth revision

WHO



CITY HEALTH PLANNING

- City A



Cardiorespiratory
Arrest

- City B



Heart failure

- City C



HIV/AIDS



UNDERLYING CAUSE OF DEATH (ICD-10)

- Public health aim is to prevent (premature) deaths
 - Need to break the **chain of events** leading to death
 - Most effective public health objective is to prevent the precipitating cause
- **Underlying cause**
 - *Disease or injury which initiated the chain of morbid events leading directly to death*
 - *Circumstances of the accident or violence which produced the fatal injury*



DEATH OFTEN CAUSED BY MULTIPLE CONDITIONS

- **sequential stages** in the natural history of one disease
- **complications** arising from one of the intermediate conditions
- **different diseases** existing simultaneously at the time of death
- Not always easy to identify the underlying cause



INTERNATIONAL MEDICAL CERTIFICATE OF CAUSE OF DEATH

<p>1 Report disease or condition directly leading to death on line a</p> <p>Report chain of events in due to order (if applicable)</p> <p>State the underlying cause on the lowest used line</p>	Cause of death*		Time interval between onset and death
		Direct cause of death	
	a	Cerebral haemorrhage	4 hours
		Due to	
	b	Metastasis of the brain	4 months
		Due to	
	c	Breast cancer	5 years
		Due to	
	d		

2
Other significant conditions contributing to death (time intervals can be included in brackets after the condition)

Arterial hypertension (3 years); Diabetes mellitus (10 years)

.....

.....

.....

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



WHO RECOMMENDED CERTIFICATE - DHA-1663

Causal sequence

		Cause of death*	Time interval between onset and death
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<i>*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</i>			

WHO RECOMMENDED CERTIFICATE - DHA-1663

Causal sequence

Underlying cause

		Cause of death*	Time interval between onset and death
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WHO RECOMMENDED CERTIFICATE - DHA-1663

Causal sequence

Underlying cause

Contributing causes


		Cause of death*	Time interval between onset and death
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	a	Cerebral haemorrhage	4 hours
		Due to	
	b	Metastasis of the brain	4 months
		Due to	
	c	Breast cancer	5 years
	d	Due to	
2 Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		Arterial hypertension (3 years); Diabetes mellitus (10 years)	
<i>*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</i>			

SOUTH AFRICAN NOTICE OF DEATH (DHA-1663)

- The “death certificate”
- The Death Notification Form / Notice of death
 - DHA-1663A with 3 pages (carbon-copied) – registration of death
 - DHA-1663B with 1 page (single page) – cause of death certificate
 - Last page (DHA-1663B) self sealing



SA DEATH CERTIFICATE

A 3345  C [REDACTED] 83/DHA - 5
DEPARTMENT HOME AFFAIRS
REPUBLIC OF SOUTH AFRICA

PARTICULARS FROM THE POPULATION REGISTER I.R.O.:

DEATH / STERFTE

IDNO. : [REDACTED]
IDNR. : [REDACTED]
SURNAME : [REDACTED]
VAN : [REDACTED]

FIRST NAMES : [REDACTED]
VOORNAME : [REDACTED]

DATE OF BIRTH : [REDACTED]
GEBORTE DATUM : [REDACTED]

SEX : **MANLIK**
GESLAG : [REDACTED]

MARITAL STATUS : **GETROUD**
HUWELIKSTATUS : [REDACTED]

DATE OF DEATH : [REDACTED]
DATUM VAN AFSTERWE : [REDACTED]

PLACE OF DEATH : [REDACTED]
PLEK VAN AFSTERWE : [REDACTED]

CAUSE OF DEATH : **NATURAL CAUSES**
OORSAAK VAN DOOD : [REDACTED]

DATE ISSUED : ISSUED BY :
DATUM UITGEREIK : 2010-08-10 UITGEREIK DEUR : YAS215

Government Printing Works (P) Ltd (304-4509)



REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF HOME AFFAIRS

NOTICE OF DEATH / STILL BIRTH

[Births and Deaths Registration Act 51 of 1992]

[Regulations 11 and 14]



1663A1313131

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 application

(Note: The fingerprints of the deceased, the informant and

A. PARTICULARS OF THE DECEASED

Instructions: Section A to be filled out by **Authorised Medical Practitioner**, 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.

A. Particulars of deceased

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 correspond to the description on passport or document

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 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

Home telephone no.

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

8. ID no

9. Age at last birthday if DOB is unknown

9. Age

10. Date of Birth if there is no ID number

Y Y

10. Date of birth

11. Gender

11.1 Male

11.2 Female

11.3 Indet

11. Sex

12. Surname

13. Previous / Maiden Surname

14. Forenames

15. Usual* Residential Address: Street

Town

Province

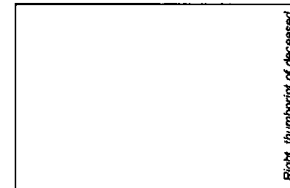
15. Address

Postal code

16. Citizenship



Left thumbprint of deceased



Right thumbprint of deceased



G.P.S. 0909

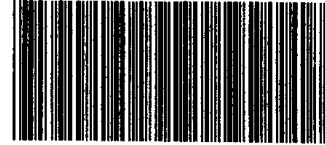


REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF HOME AFFAIRS

NOTICE OF DEATH / STILL BIRTH

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1663A1313131

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 full and submitted at the Department of Home Affairs' office by the informant or authorised funeral undertaker.

All fields are **COMPULSORY**

(Note: The fingerprints of the deceased must be submitted together with the form.)

B: Certificate by attending Medical Practitioner

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. [grid]

24. Surname [grid]

25. Forenames [grid]

26. Name of Health Facility / Practice [grid] 27. Facility / Practice No. [grid]

28. Business Address: Street [grid]

Town [grid] Province [grid]

Telephone No. (Office) [grid] Postal Code [grid] Office stamp of health facility or practice [grid]

I, the undersigned, hereby certify to the best of my knowledge and belief, that the deceased named in Section A, died solely and exclusively due to natural causes. In the event that this is not true, I shall be guilty of perjury and liable to a fine of not more than R100 000 or to both such fine and such imprisonment as the court may impose.

Place signed

Date signed [grid]

**Certificate by attending medical practitioner
NATURAL CAUSES**

"...am not in the position to certify that the deceased died
exclusively due to natural causes"

C. CERTIFICATE BY MEDICAL PRACTITIONER / PROFESSIONAL NURSE

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

29. I, the undersigned, hereby certify that the deceased named in Section B, died solely and exclusively due to natural causes. In the event that this is not true, I shall be guilty of perjury and liable to a fine of not more than R100 000 or to both such fine and such imprisonment as the court may impose.

- 30.1 Natural
- 30.2 Unnatural
- 30.3 Under investigation

C: Certificate by Forensic Pathologist

DHA-1663A

Page 2 of 3

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 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

MP number: _____

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:

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

D: Particulars of Informant

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

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 _____

CAUSE-OF-DEATH CASCADE

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

a) Immediate cause
Due to (or as a consequence of)

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

b) Intermediate cause
Due to (or as a consequence of)

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

c) Intermediate cause
Due to (or as a consequence of)

d) Underlying cause

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

Contributing cause

Time interval

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

For office use only

ICD-10

PART 2

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) _____

Pregnancy status - mark if female

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)



CAUSE-OF-DEATH CASCADE

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

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

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

a) Bleeding oesophageal varices

Due to (or as a consequence of)

b) Intermediate cause

Due to (or as a consequence of)

c) Intermediate cause

Due to (or as a consequence of)

d) Underlying cause

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

Other contributing conditions

Time interval

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

1 day

For office use only

ICD-10

78. If a female, was she pregnant at the time of death or up to 42 days prior to death? ()

82.1 Yes

82.2 No

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

79.1 Autopsy

79.2 Post mortem examination

79.3 Opinion of attending medical practitioner

79.4 Opinion of attending medical practitioner on duty

79.5 Opinion of registered professional nurse

79.6 Interview of family member

79.7 Other (specify) _____

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)

Mark if female



CAUSE-OF-DEATH CASCADE

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

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

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

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

- a) Bleeding oesophageal varices
Due to (or as a consequence of)
 - b) Portal Hypertension
Due to (or as a consequence of)
 - c) Intermediate cause
Due to (or as a consequence of)
 - d) Underlying cause
Due to (or as a consequence of)
- Other contributing conditions

Time interval

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

1 day

2 years

For office use only

ICD-10

78. If a female, was she pregnant at the time of death or up to 42 days prior to death? ()

82.1 Yes

82.2 No

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

79.1 Autopsy

79.2 Post mortem examination

79.3 Opinion of attending medical practitioner

79.4 Opinion of attending medical practitioner on duty

79.5 Opinion of registered professional nurse

79.6 Interview of family member

79.7 Other (specify) _____

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)

Mark if female



CAUSE-OF-DEATH CASCADE

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

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

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

a) Bleeding oesophageal varices

Due to (or as a consequence of)

b) Portal Hypertension

Due to (or as a consequence of)

c) Liver Cirrhosis

Due to (or as a consequence of)

d) Underlying cause

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

Other contributing conditions

Time interval

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

1 day

2 years

10 years

For office use only

ICD-10

78. If a female, was she pregnant at the time of death or up to 42 days prior to death? ()

82.1 Yes

82.2 No

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

79.1 Autopsy

79.2 Post mortem examination

79.3 Opinion of attending medical practitioner

79.4 Opinion of attending medical practitioner on duty

79.5 Opinion of registered professional nurse

79.6 Interview of family member

79.7 Other (specify) _____

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)

Mark if female



CAUSE-OF-DEATH CASCADE

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

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

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

- a) Bleeding oesophageal varices
Due to (or as a consequence of)
- b) Portal Hypertension
Due to (or as a consequence of)
- c) Liver Cirrhosis
Due to (or as a consequence of)
- d) Hepatitis B

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

Other contributing conditions

Time interval

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

1 day

2 years

10 years

15 years

For office use only

ICD-10

78. If a female, was she pregnant at the time of death or up to 42 days prior to death? ()

82.1 Yes

82.2 No

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

79.1 Autopsy

79.2 Post mortem examination

79.3 Opinion of attending medical practitioner

79.4 Opinion of attending medical practitioner on duty

79.5 Opinion of registered professional nurse

79.6 Interview of family member

79.7 Other (specify) _____

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)

Mark if female



DEFINITIONS

- **Sequence** – a chain, or series of events, where each step is a complication of, or caused by, the previous one
- **Causal relationship** – if a condition mentioned on the certificate can be caused by another condition also mentioned on the certificate
- **Terminal / immediate cause of death** – condition entered first on first line of Part 1



DEFINITIONS

- **Contributing conditions** – causes which contributed to the death of the person but do not fit into the causal sequence
- **Mode of dying (mechanism of death)** – the physiological disturbance by which a cause of death exerts its lethal effect (cardiac arrest, metabolic acidosis) *should not be reported*



Definitions

- **Manner of death:**
This gives an indication of the circumstances surrounding the death of the person. It can be classified as homicide, suicide, accidental, natural and (sometimes) undetermined.

Classification	Manner of death
Unnatural deaths	Homicide Suicide
	Accidental <ul style="list-style-type: none">• <i>Road traffic</i>• <i>Medical /surgical</i>• <i>Natural disasters</i>• <i>Other accidents</i>
	Undetermined intent
Natural deaths	Natural diseases
Unknown	Unknown / Could not be determined

MATERNAL DEATH

Death of a woman **while pregnant or within 42 days of termination of pregnancy**, irrespective of duration or site of pregnancy, from any **cause related to or aggravated by the pregnancy or its management**, but not from accidental or incidental causes

Late maternal death is the death of a woman from direct or indirect causes more than 42 days but less than one year after termination of pregnancy.



PERINATAL CAUSE OF DEATH CERTIFICATE

(Stillbirth and death within one week of birth)

<i>Main</i> disease or condition in foetus or infant	
<i>Other</i> diseases or conditions in foetus or infant	
<i>Main maternal</i> disease or condition affecting foetus or infant	
<i>Other maternal</i> diseases or conditions affecting foetus or infant	
Other relevant circumstances	

G.2 FOR STILLBIRTHS AND DEATHS OCCURRING WITHIN ONE WEEK OF BIRTH

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	Child
80. Identity Number <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	89. Type of death: <input type="checkbox"/> 89.1 Still birth <input type="checkbox"/> 89.2 Live birth
81. Date Of Birth <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	90. Birth weight (in grams) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
82. Age of last birthday/ DoB unknown <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	91. This birth was: <input type="checkbox"/> 91.1 Single birth <input type="checkbox"/> 91.2 First twin <input type="checkbox"/> 91.3 Second twin <input type="checkbox"/> 91.4 Other multiple
83. Number of previous pregnancies resulting in: <input type="text"/> <input type="text"/> 83.1 Live births <input type="text"/> <input type="text"/> 83.2 Still births <input type="text"/> <input type="text"/> 83.3 Abortions	92. If still born, heartbeat ceased: <input type="checkbox"/> 92.1 Before labour <input type="checkbox"/> 92.2 During labour but before delivery <input type="checkbox"/> 92.3 Before delivery but not known whether before or during labour
84. Outcome of last previous pregnancy (tick one): <input type="checkbox"/> 84.1 Live birth <input type="checkbox"/> 84.2 Still birth <input type="checkbox"/> 84.3 Abortion	93. If death occurred within 24 hours after birth, number of hours alive <input type="text"/> <input type="text"/>
85. Date of last previous delivery <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	94. Attendant at birth: <input type="checkbox"/> 94.1 Physician <input type="checkbox"/> 94.2 Trained midwife <input type="checkbox"/> 94.3 Other trained person (specify) _____ <input type="checkbox"/> 94.4 Other (specify) _____
86. First day of last menstrual period <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
Or, if unknown, estimated duration of pregnancy (in completed weeks) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
87. Method of delivery: <input type="checkbox"/> 87.1 Spontaneous <input type="checkbox"/> 87.2 Forceps delivery <input type="checkbox"/> 87.3 Forceps and rotation <input type="checkbox"/> 87.4 Vacuum extractor <input type="checkbox"/> 87.5 Caesarean section <input type="checkbox"/> 87.6 Other (specify) _____	
88. Antenatal care two or more visits: <input type="checkbox"/> 88.1 Yes <input type="checkbox"/> 88.2 No <input type="checkbox"/> 88.3 Unknown	

95. CAUSES OF DEATH

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

96. Autopsy information ()

96.1 Certified causes of death has been confirmed by autopsy

96.2 Autopsy information may be available later

96.3 Autopsy not performed

Figure 1: WHO death certificate for all deaths, regardless of age

Administrative Data (can be further specified by country)			
Sex		<input type="checkbox"/> Female	<input type="checkbox"/> Male <input type="checkbox"/> Unknown
Date of birth		Date of death	
Frame A: Medical data: Part 1 and 2			
1		Cause of death	
Report disease or condition directly leading to death on line a		a	Time interval from onset to death
Report chain of events in due to order (if applicable)		b Due to:	
State the underlying cause on the lowest used line		c Due to:	
		d Due to:	
2 Other significant conditions contributing to death (time intervals can be included in brackets after the condition)			
Frame B: Other medical data			
Was surgery performed within the last 4 weeks?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Unknown
If yes please specify date of surgery			
If yes please specify reason for surgery (disease or condition)			
Was an autopsy requested?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Unknown
If yes were the findings used in the certification?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Unknown
Manner of death:			
<input type="checkbox"/> Disease	<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined	
<input type="checkbox"/> Accident	<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation	
<input type="checkbox"/> Intentional self harm	<input type="checkbox"/> War	<input type="checkbox"/> Unknown	
If external cause or poisoning:		Date of injury	
Please describe how external cause occurred (if poisoning please specify poisoning agent)			
Place of occurrence of the external cause:			
<input type="checkbox"/> At home	<input type="checkbox"/> Residential institution	<input type="checkbox"/> School, other institution, public administrative area	<input type="checkbox"/> Sports and athletics area
<input type="checkbox"/> Street and highway	<input type="checkbox"/> Trade and service area	<input type="checkbox"/> Industrial and construction area	<input type="checkbox"/> Farm
<input type="checkbox"/> Other place (please specify):		<input type="checkbox"/> Unknown	
Fetal or infant Death			
Multiple pregnancy		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Unknown
Stillborn?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Unknown
If death within 24h specify number of hours survived		Birth weight (in grams)	
Number of completed weeks of pregnancy		Age of mother (years)	
If death was perinatal, please state conditions of mother that affected the fetus and newborn			
For women, was the deceased pregnant?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Unknown
<input type="checkbox"/> At time of death		<input type="checkbox"/> Within 42 days before the death	
<input type="checkbox"/> Between 43 days up to 1 year before death		<input type="checkbox"/> Unknown	
Did the pregnancy contribute to the death?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Unknown

Main disease or condition in fetus or infant

Main disease or condition in the mother

STILLBIRTH

- A child that had at least 26 weeks of intra-uterine life (or 28 weeks gestation since last menstrual period) but showed no signs of life after complete birth
- *WHO equates 28 weeks gestation with 1000g*

TERMINOLOGY TO AVOID

- Ill-defined / non-specific conditions
 - Old age
 - Headache
 - “Natural causes”
- Mechanisms of death
 - Heart failure
 - Kidney failure
 - Dehydration
 - Hypoxia
 - Sepsis

A mechanism may be written on the very first line, IF it is followed by a proper *disease* as underlying cause of death. But try to avoid it!

TERMINOLOGY TO AVOID

- Abbreviations

- DM II
- MI
- MS
- HONK

Acceptable abbreviations:

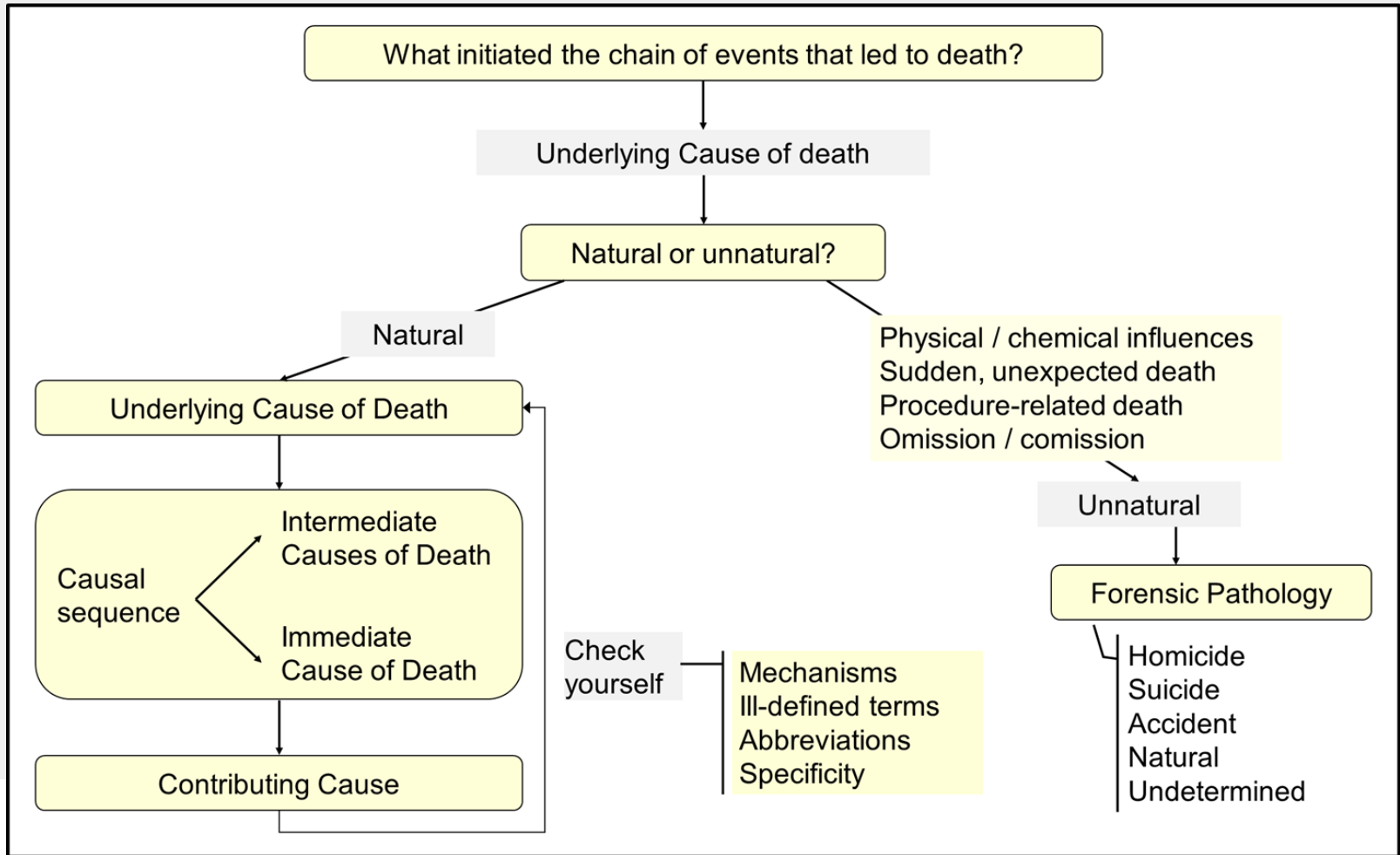
- ❖ TB, PTB
- ❖ HIV
- ❖ AIDS

- Stories

- The patient presented three days ago with severe abdominal pain, but the family says it's been going on for a long time. At surgery, extensive peritoneal sepsis of unknown cause was found.







PART I: CAUSAL SEQUENCE LEADING TO DEATH

- Always use consecutive lines starting at line I a; **never leave blank lines within the sequence**
- If there is only one cause of death report at line I a
- Each condition below line I a is a cause of the one above
- The initiating cause in the sequence is the underlying cause of death (UCOD)



HIV/AIDS

In HIV positive cases where the immediate cause of death is a condition known to be associated with HIV, or an AIDS defining condition, **HIV should be reported in Part I as UCOD (on lowest completed line).**



INJURY DEATHS

- Report the manner of death
 - Natural
 - Homicide
 - Suicide
 - Accident
 - Undetermined
- The circumstances of the injury should be reported as the UCOD on lowest line of Part I
 - Road traffic accident not sufficient – **pedestrian hit by car**
 - Suicide should include method of suicide eg. **Suicide by hanging**
 - Homicide – important to differentiate between firearm and non-firearm homicide



INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH

	Cause of death	Approximate interval between onset and death	
<p>I Disease or condition directly leading to death*</p> <p>Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last</p>	<p style="text-align: center;">Bronchopneumonia</p> <p>(a)</p> <p>due to (or as a consequence of)</p> <p style="text-align: center;">Fracture of left Ischium & Ilium</p> <p>(b)</p> <p>due to (or as a consequence of)</p> <p style="text-align: center;">Accidental Fall</p> <p>(c)</p> <p>due to (or as a consequence of)</p> <p>(d)</p>	<p>6 days</p> <p>7 days</p> <p>7 days</p> <p>.....</p>	
	<p>II Other significant conditions contributing to the death, but not related to the disease or condition causing it</p>	<p style="text-align: center;">Chronic fibrous myocarditis and coronary sclerosis.</p> <p>.....</p>	<p>Unknown.</p> <p>.....</p>
	<p><i>*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</i></p>		

INTERNATIONAL FORM OF THE MEDICAL CERTIFICATE OF CAUSE OF DEATH		
	Cause of death	Approximate interval between onset and death
Part I		
Disease or condition directly leading to death* a)	Traumatic shock	
	<i>due to</i>	
Antecedent causes		
Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last b)	Multiple fractures	1 hr
	<i>due to</i>	
	Pedestrian accidentally hit by a truck	1 hr
	<i>due to</i>	
(d)		
Part II		
Other significant conditions contributing to the death, but not related to the disease or condition causing it		
<i>*This does not mean the mode of dying e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</i>		
FOR WOMEN		
If a female, was she pregnant at the time of death or up to 42 days prior to death?	Yes ___ No ___ Unknown _____	
Did pregnancy contribute to the death	Yes ___ No ___ Unknown _____	
FOR PERINATAL DEATHS		
State conditions of the mother that affected the fetus and newborn		Birthweight (g)



DIABETES AS A CAUSE OF DEATH

- Document type of Diabetes if known (type I or II)
- Diabetes mellitus can be
 - the **underlying cause of death** (UCOD)
 - a **risk factor** for another UCOD
- General rules
 - If person died from a **complication of diabetes** (ie diabetic nephropathy) document diabetes (type 1 or II) as UCOD in **Part I**
 - If person died from stroke or acute myocardial infarction, document diabetes in **Part 2** as **risk factor**.



KOBOTOOLBOX

- Kobotools is the app to be used for data entry
- Can be used on tablet or PC
- Ease of use and functionality
- Data captured is sent via Internet connection to central server where it is stored, can be accessed, verified, analysed and downloaded into various formats
- Output will be used for data analysis



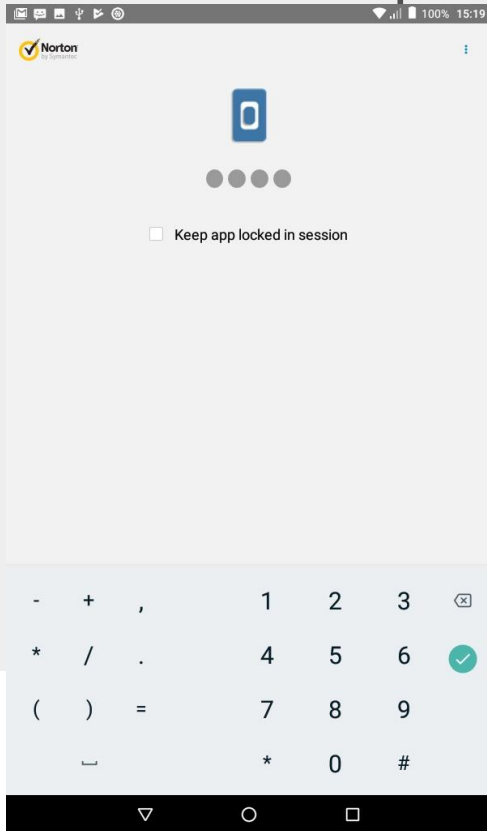
USING THE APP ON YOUR TABLET

- Find the KoboCollect icon on the tablet and open



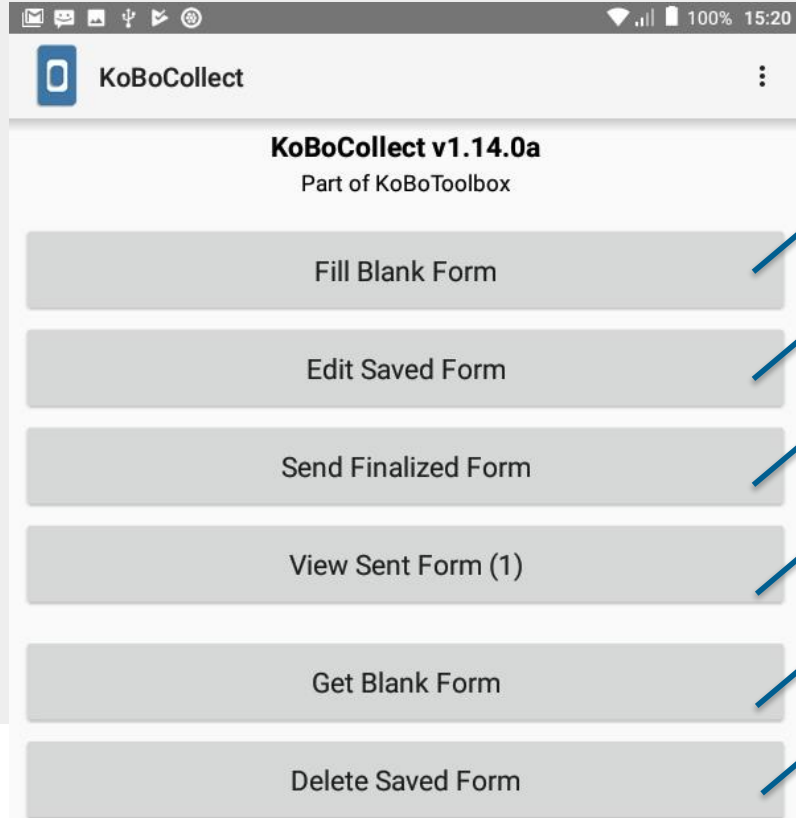
USING THE APP ON YOUR TABLET

- To enhance security, for the app to open, a password is needed. The password is 1835



USING THE APP ON YOUR TABLET

- The KoboCollect Dashboard will open:



Use to open and complete a form

Use to edit a saved form

Use to send a finalised form up to central server

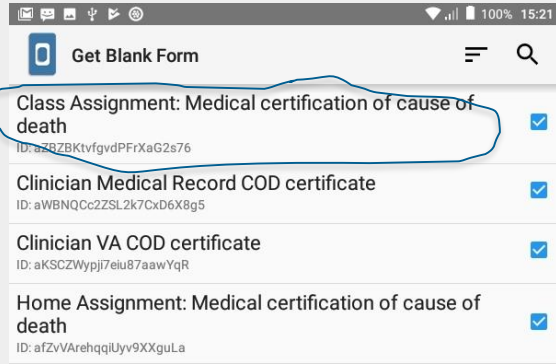
Use to view all forms sent (cannot edit)

Use to download forms created by MRC

Use to delete completed forms and actual questionnaire



USING THE APP ON YOUR TABLET



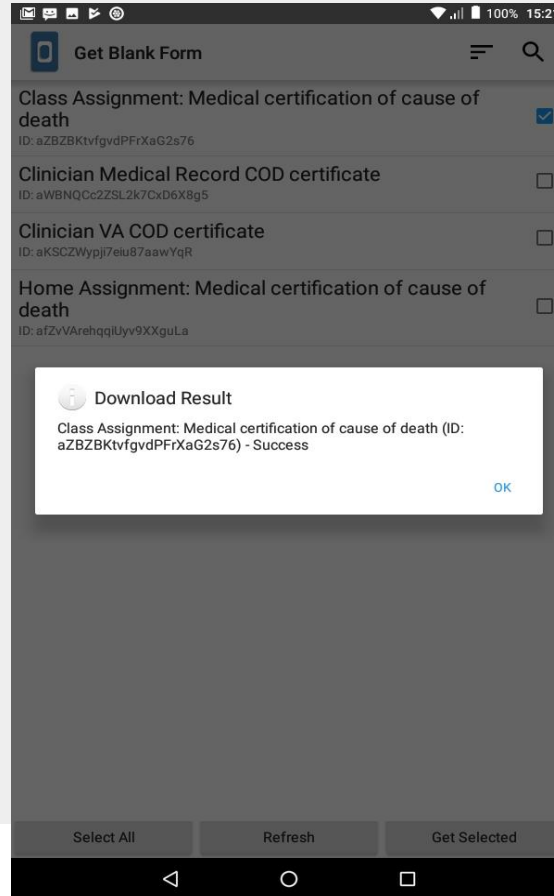
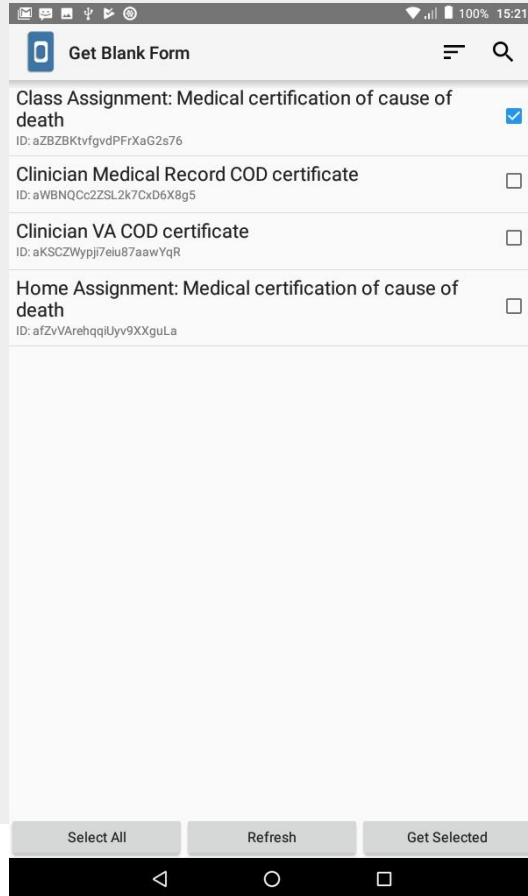
Download base questionnaire/form to be used for data entry (only needs to be done once – however, each time there is an update, old form needs to be deleted and new one downloaded. Click

Get Blank Form

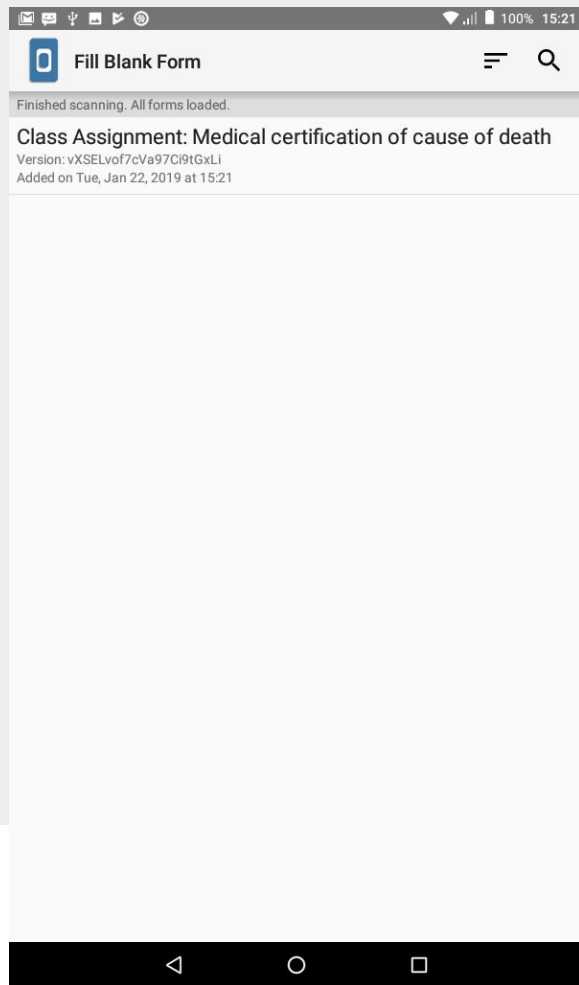
Unselect all except; Class assignment: Medical certification of cause of death – then click Get Selected



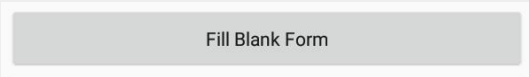
USING THE APP ON YOUR TABLET



USING THE APP ON YOUR TABLET



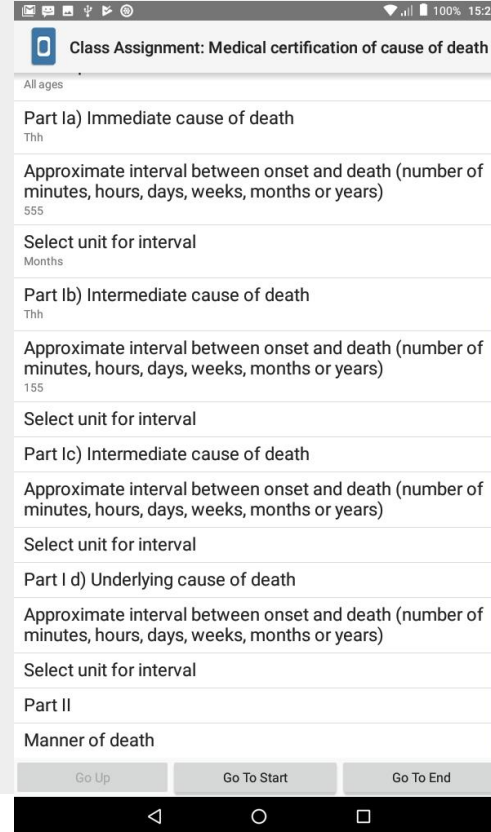
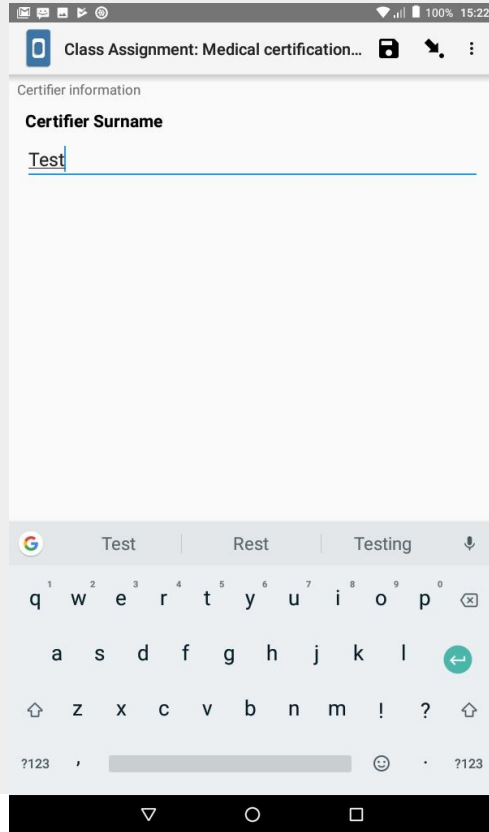
To complete a form, click



You will see the form you just downloaded. Double click form to open



USING THE APP ON YOUR TABLET



You can begin completing the form using the prescribed methodology while assessing the previously collected data. Swipe left or right to go to next/previous question/screen

Note the 

When you click this, it will allow you to review and edit questions in list format



USING THE APP ON YOUR TABLET

Class Assignment: Medical certification...

You are at the end of Class Assignment: Medical certification of cause of death.

Name this form

Class Assignment: Medical certification of cause of death

Mark form as finalized

Save Form and Exit

death | deaths | deathly

q w e r t y u i o p

a s d f g h j k l

z x c v b n m ! ?

7123

Replace this text with a unique form ID

Only mark as Finalized if you are sure you do not want to do any editing later on

When you have completed the form, you will need to rename and save the form – you do this on the last screen

Click Save Form and Exit to save form to tablet

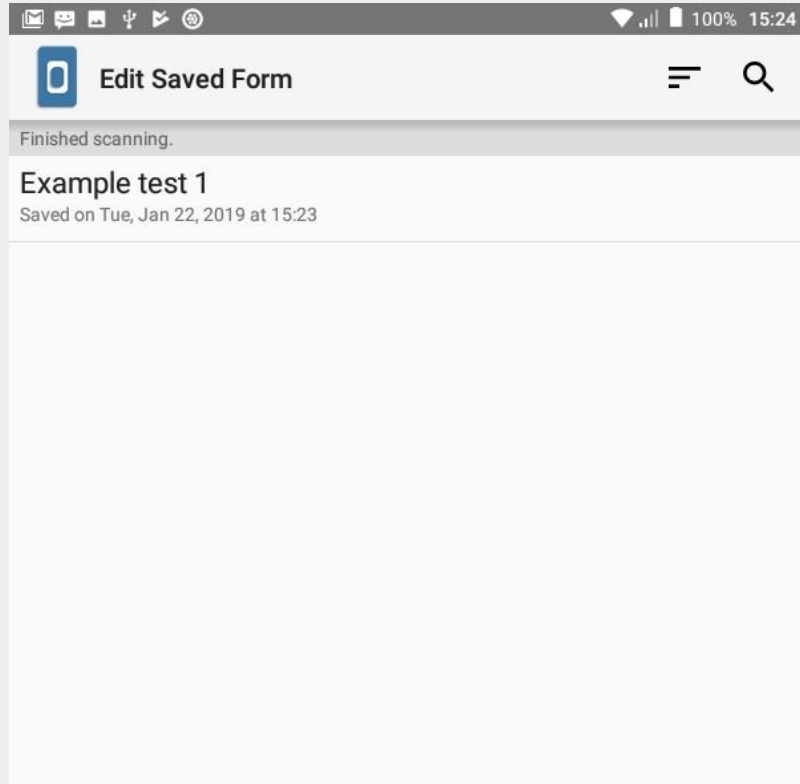


USING THE APP ON YOUR TABLET

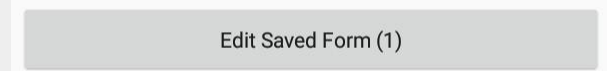
The screenshot shows a mobile application interface on a tablet. At the top, the status bar displays notification icons, signal strength, 100% battery, and the time 15:23. Below the status bar, the app title is "Class Assignment: Medical certification...". The main content area contains the text: "You are at the end of Class Assignment: Medical certification of cause of death." Below this, there is a label "Name this form" and a text input field containing "Example test 1". A blue circle highlights the text "Example test 1". Underneath the input field is a checkbox labeled "Mark form as finalized" which is currently unchecked. At the bottom of the form area is a grey button labeled "Save Form and Exit". Below the form area is a Google search bar and a standard Android numeric keypad with symbols and a checkmark.



USING THE APP ON YOUR TABLET



To edit a form, click



The form with the Unique ID you saved will be shown. The more forms you completed and saved, the more will be shown. Double click on the form you want to edit to open



USING THE APP ON YOUR TABLET

Class Assignment: Medical certification of cause of death

Certifier Surname
Test

Certifier First name
Ttgd

HPCSA registration number
Fgh

Case Scenario number

Indicate whether this was a death or a stillbirth.

Sex
Female

Agegroup
1 - 11 months

Select preferred medical certificate of cause of death
All ages

Part Ia) Immediate cause of death
Thh

Approximate interval between onset and death (number of minutes, hours, days, weeks, months or years)
555

Select unit for interval
Months

Part Ib) Intermediate cause of death
Thh

Approximate interval between onset and death (number of minutes, hours, days, weeks, months or years)
155

Go Up Go To Start **Go To End**

Class Assignment: Medical certification...

You are at the end of Class Assignment: Medical certification of cause of death.

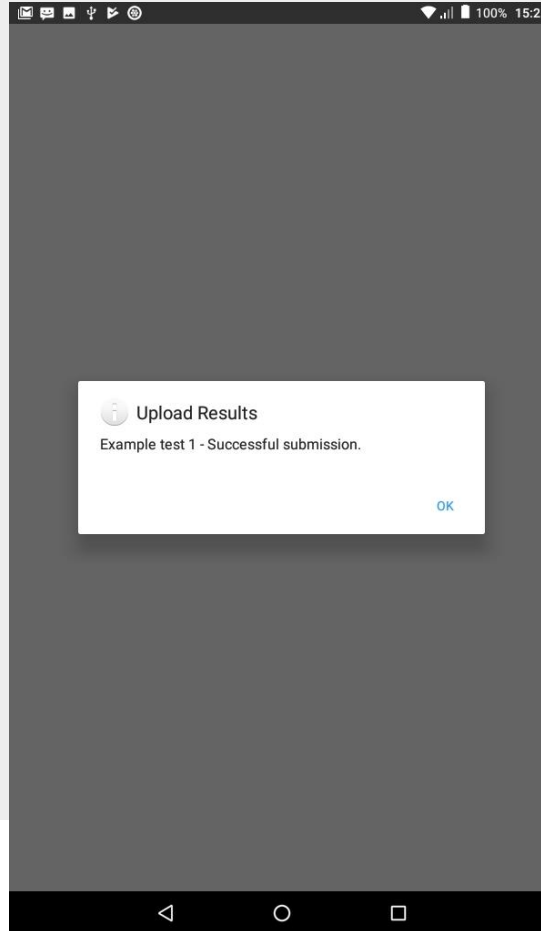
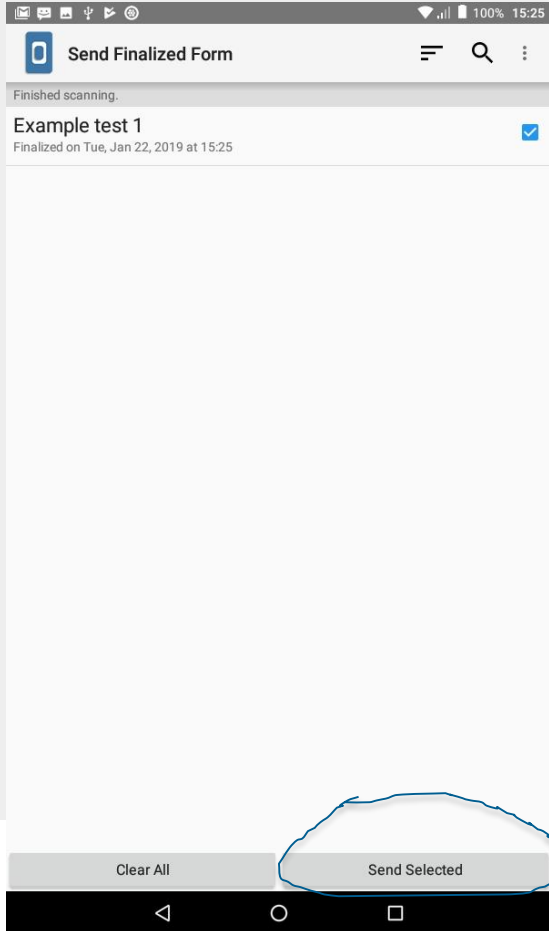
Name this form
Example test 1

Mark form as finalized

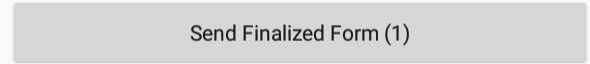
Save Form and Exit

Scroll and select the question you want to edit, click “Go To End, tick Mark as Finalized and Save again

USING THE APP ON YOUR TABLET



To send up a form to the central server, click



Tick the form you want to send up, and click Send Selected. You may send up more than one form at a time. **IMPORTANT!**

Once you send up a form, you will not be able to edit it anymore, you will only be able to view it



CASE SCENARIOS



CASE SCENARIO 1

A 3-month-old child is brought to the emergency room, but is clearly dead on admission. She had a history of vomiting and diarrhea for three days, and appears severely dehydrated, with a sunken fontanel and sunken eyes. The child had been looked after by her grandparents, because the mother was ill. No signs of any injury were found on the body and an unnatural cause of death was not suspected.



CASE SCENARIO 1

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

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

77. CAUSES OF DEATH

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

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

a) Gastroenteritis

Due to (or as a consequence of)

3 days

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



CASE SCENARIO 2

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, with a distended abdomen and loss of muscle mass, 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.



CASE SCENARIO 2

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

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

77. CAUSES OF DEATH

Part 1	Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line	Approximate interval between onset and death (Days / Months / Years)
IMMEDIATE CAUSE (final disease or condition resulting in death)	a) <u>Bronchopneumonia</u> Due to (or as a consequence of)	<u>1 day</u>
Sequentially list conditions, if any, leading to immediate cause.	b) <u>H influenza Meningitis</u> Due to (or as a consequence of)	<u>4 days</u>
Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in 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 underlying cause given in Part 1	
	<u>Malnutrition</u>	

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



CASE SCENARIO 3

- A 60 year old woman was diagnosed of carcinoma of breast 5 years back and was treated with Mastectomy and radiotherapy.
- She was well until 6 months ago and was diagnosed of secondary carcinoma of femur.
- She was admitted to the hospital 2 days ago with a pathological fracture. She died of pulmonary embolism within few minutes of its onset.
- She had Non Insulin Dependent Diabetes Mellitus for last 10 years.

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH

	Cause of death	Approximate interval between onset and death
<p>I</p> <p>Disease or condition directly leading to death*</p>	<p>(a) Pulmonary embolism .</p> <p>due to (or as a consequence of)</p>	<p>Minutes</p> <p>.....</p>
<p>Antecedent causes</p> <p>Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last</p>	<p>(b) Pathological fracture . .</p> <p>due to (or as a consequence of)</p>	<p>.... 2 Days</p>
	<p>(c) Secondary carcinoma of femur . .</p> <p>due to (or as a consequence of)</p>	<p>..... 6 months .</p>
	<p>(d) Carcinoma of breast . .</p>	<p>.... 5 years ...</p>
<p>II</p> <p>Other significant conditions contributing to the death, but not related to the disease or condition causing it</p>	<p>..... Diabetes Mellitus-</p> <p style="text-align: center;">Non Insulin dependant</p> <p>.....</p>	<p>..... 10 years ...</p> <p>.....</p>
<p><i>*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</i></p>		

CASE SCENARIO 4

- A male aged 64 years was admitted to hospital with cerebral infarction 5 weeks back and while in hospital he developed hypostatic pneumonia due to prolonged inactivity.
- The sputum culture showed Klebsiella pneumonia and despite treatment with IV antibiotics he died after 4 days.

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH

	Cause of death	Approximate interval between onset and death
I Disease or condition directly leading to death*	(a) Klebsiella Pneumonia due to (or as a consequence of)	4 days
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	(b) Inactivity due to (or as a consequence of)	5 weeks
	(c) Cerebral Infarction due to (or as a consequence of)	5 weeks
II Other significant conditions contributing to the death, but not related to the disease or condition causing it	(d) ..... ..... .....	..... ..... .....
<i>*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</i>		

CASE SCENARIO 5

- A 75-year-old male was admitted to the hospital complaining of severe chest pain. He had a 10-year history of arteriosclerotic 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 anemic, with an haematocrit of 17, and to have occult blood in the stools. A barium enema revealed a large polypoid mass in the caecum 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 this hospital admission. On this admission the ECG was diagnostic of an acute anterior wall myocardial infarction. He expired 2 days later

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH

	Cause of death	Approximate interval between onset and death
<p>I Disease or condition directly leading to death*</p> <p>Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last</p>	<p>(a) Acute Myocardial Infarction</p> <p>due to (or as a consequence of)</p>	<p>2 days</p>
	<p>(b) Atherosclerotic Heart Disease</p> <p>due to (or as a consequence of)</p>	<p>10 years</p>
	<p>(c)</p> <p>due to (or as a consequence of)</p>	<p>.....</p>
	<p>(d)</p>	<p>.....</p>
<p>II Other significant conditions contributing to the death, but not related to the disease or condition causing it</p>	<p>Carcinoma of Cecum</p>	<p>5 months</p>
	<p>Congestive Cardiac Failure</p>	<p>10 years</p>
<p><i>*This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</i></p>		

CASE SCENARIO 6

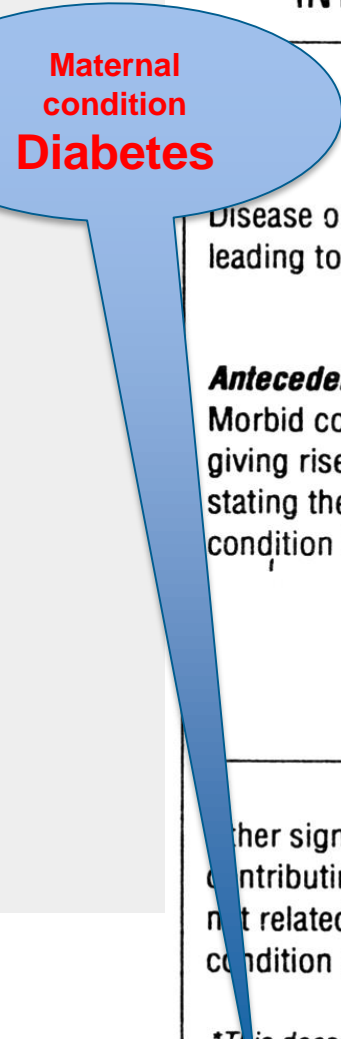
- A pregnant mother with poorly controlled Diabetes Mellitus delivered a infant weighing 3.5 kg at 37 weeks of gestation.
- The baby developed hypoglycaemia and had a loud murmur and a large heart on chest xray.
- The echocardiogram showed multiple anomalies in the heart. The baby died on the second day of life.

CAUSE-OF-DEATH

Perinatal Cause of death (Stillbirth and death within one week of birth)

<i>Main</i> disease or condition in foetus or infant	Multiple congenital abnormalities of the heart
<i>Other</i> diseases or conditions in foetus or infant	Hypoglycaemia
<i>Main maternal</i> disease or condition affecting foetus or infant	Diabetes mellitus
<i>Other maternal</i> diseases or conditions affecting foetus or infant	
Other relevant circumstances	

INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH



Maternal
condition
Diabetes

Cause of death

**Multiple congenital anomalies
of the heart**

**Approximate
interval between
onset and death**

From Birth

Disease or condition directly
leading to death*

(a)

.....

due to (or as a consequence of)

Antecedent causes

Morbid conditions, if any,
giving rise to the above cause,
stating the underlying
condition last

(b)

.....

due to (or as a consequence of)

(c)

.....

due to (or as a consequence of)

(d)

.....

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

Hypoglycaemia
.....

.....

.....

.....

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

Case scenario 7

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 diarrhea. HIV tests were positive. A chest X-ray showed pulmonary cavitation suggestive of tuberculosis. Tuberculosis was confirmed by a positive sputum smear. The patient did not respond to standard tuberculosis treatment. His condition deteriorated rapidly and he died a month later.

Case scenario 7

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)
<p>IMMEDIATE CAUSE (final disease or condition resulting in death)</p> <p>Sequentially list conditions, if any, leading to immediate cause.</p> <p>Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)</p>	<p>a) <u>Pulmonary tuberculosis</u> Due to (or as a consequence of)</p> <p>b) <u>Acquired HIV/AIDS deficiency syndrome</u> Due to (or as a consequence of)</p> <p>c) <u>Human immunodeficiency virus</u> Due to (or as a consequence of)</p> <p>d) _____ Due to (or as a consequence of)</p>	<p><u>1 month</u></p> <p><u>> 9 months</u></p> <p><u>> 9 months</u></p> <p>_____</p>
<p>Part 2 Other significant conditions contributing to death but not resulting in underlying cause given in Part 1 _____</p>		
<p>78. If a female, was she pregnant at the time of death or up to 42 days prior to death? (<input checked="" type="checkbox"/>) <input type="checkbox"/> 82.1 Yes <input type="checkbox"/> 82.2 No</p>		

Case scenario 8

A 48-year-old male developed cramping epigastric pain which radiated to his back shortly after dinner on the day prior to admission. This was followed by nausea and vomiting. The pain was not relieved by positional changes or antacids and 24 hours after the onset the patient sought medical attention. He had a 10-year history of excessive alcohol consumption and a 2-year history of recurrent episodes of similar epigastric pain. The diagnosis on admission was an acute exacerbation of chronic pancreatitis. Serum amylase was 4,032 units per litre. After admission the patient seemed to improve but the next evening he became restless, disorientated and hypotensive. Despite treatment, he remained hypotensive and died. An autopsy revealed many areas of fibrosis in the pancreas, with some areas showing multiple foci of acute inflammation and necrosis.

Case scenario 8

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

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

77. CAUSES OF DEATH

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

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

a) **Acute pancreatitis**

Due to (or as a consequence of)

1 day

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

b) **Chronic pancreatitis**

Due to (or as a consequence of)

2 years

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

Chronic alcoholism

(10 yrs)

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

CASE SCENARIO 9

- A woman infected with HIV has a spontaneous abortion that becomes infected. She dies from septic shock and renal failure.



INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH

	Cause of death	Approximate interval between onset and death
I Disease or condition directly leading to death* Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	Renal failure	2 hours
	(a) .....	.....
	due to (or as a consequence of) Septic shock	24 hours
	(b) .....	.....
	due to (or as a consequence of) Septic miscarriage	36 hours
	(c) .....	.....
	due to (or as a consequence of)	
	(d) .....	.....
<hr/>		
II	HIV	
Other significant conditions contributing to the death, but not related to the disease or condition causing it	.....	.....

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

Was the woman pregnant at the time of death or within 42 days of termination of pregnancy? **Yes**



WHAT IS WRONG?

What's wrong?

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

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

77. CAUSES OF DEATH

Part 1	Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line	Approximate interval between onset and death (Days / Months / Years)
IMMEDIATE CAUSE (final disease or condition resulting in death)	a) <u>Pulmonary embolism</u> Due to (or as a consequence of)	_____
Sequentially list conditions, if any, leading to immediate cause.	b) <u>Chest pain</u> Due to (or as a consequence of)	_____
Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	c) <u>Hyperkalemia</u> 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 <u>Fractured pelvis, motor vehicle accident</u>	_____

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

What's wrong?

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

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

77. CAUSES OF DEATH

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

a) Due to

Likely cardiac event + PE –
advanced debilitation Severe COPD,
osteoporosis B/L Tib/Fib Frs. Died
in Nursing Home during sleep – H/o
A-fib Alcoholism

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

b) Due to

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

c) Due to

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

What's wrong?

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

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

77. CAUSES OF DEATH

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

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

a) CCF, COPD, HPT, IHD, DMII
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

What's wrong?

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

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

77. CAUSES OF DEATH

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

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

IMMEDIATE CAUSE (final disease or condition resulting in death)

a) **Natural causes**
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

What's wrong?

G MEDICAL CERTIFICATE OF CAUSE OF DEATH		Approximate interval between onset and Death (Days / Months / Years)	FOR OFFICE USE ONLY ICD-10
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.			
IMMEDIATE CAUSE (Final disease or condition resulting in death)	(a) Cardiac failure Due to (or a consequence of)	<input type="text"/> <input type="text"/> <input type="text"/>
Sequentially list conditions, if any, leading to immediate cause.	(b) Renal failure Due to (or a consequence of)	<input type="text"/> <input type="text"/> <input type="text"/>
Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	(c) Septicaemia Due to (or a consequence of)	<input type="text"/> <input type="text"/> <input type="text"/>
	(d)..... Due to (or a consequence of)	<input type="text"/> <input type="text"/> <input type="text"/>
PART 2 Other significant conditions contributing to death but not resulting in the underlying cause given in Part 1			<input type="text"/> <input type="text"/> <input type="text"/>

What's wrong?

G MEDICAL CERTIFICATE OF CAUSE OF DEATH		Approximate interval between onset and Death (Days / Months / Years)	FOR OFFICE USE ONLY ICD-10
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.			
IMMEDIATE CAUSE (Final disease or condition resulting in death)	(a) Myocardial infarction Due to (or a consequence of)		<input type="text"/>
Sequentially list conditions, if any, leading to immediate cause.	(b) Angina Due to (or a consequence of)		<input type="text"/>
Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	(c) Hypertension Due to (or a consequence of)		<input type="text"/>
	(d) Due to (or a consequence of)		<input type="text"/>
PART 2 Other significant conditions contributing to death but not resulting in the underlying cause given in Part 1			<input type="text"/>

What's wrong?

G MEDICAL CERTIFICATE OF CAUSE OF DEATH		Approximate interval between onset and Death (Days / Months / Years)	FOR OFFICE USE ONLY ICD-10
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.			
IMMEDIATE CAUSE (Final disease or condition resulting in death)	(a) Myocardial infarction Due to (or a consequence of)		<input type="text"/>
Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	(b) Coronary atherosclerosis Due to (or a consequence of)		<input type="text"/>
	(c) Due to (or a consequence of)		<input type="text"/>
	(d) Due to (or a consequence of)		<input type="text"/>
PART 2 Other significant conditions contributing to death but not resulting in the underlying cause given in Part 1	Rib fractures, pneumothorax		<input type="text"/>



EXAMPLES OF INCORRECT CERTIFICATION

Example 1

	Incorrect Certificate	Correct Certificate
PART-I	(a) Diabetes (b) Gangrene Foot (c) Carcinoma Pancreas and chronic bronchitis .	(a) Gangrene Foot (b) Diabetes (c) Carcinoma Pancreas
PART-II	.....	Chronic Bronchitis

Example 2

	Incorrect Certificate	Correct Certificate
PART-I	(a) Retention of Urine with Hypertrophy of Prostatic with Uraemia (b) Cataract (c) Ischaemic Heart Disease	(a) Uraemia (b) Retention of Urine (c) Hypertrophy of Prostate
PART-II	..... .	Ischaemic Heart Disease

Example 3

	Incorrect Certificate	Correct Certificate
PART-I	(a) Polycystic Kidney (b) Renal Failure and Hypertension (c) Ischaemic Heart Disease	(a) Renal Failure (b) Hypertension (c) Polycystic Kidney
PART-II	..... .....	Ischaemic Heart Disease



ICD-10 MORTALITY CODING & TABULATION LISTS



International Statistical Classification of Diseases (ICD–10)

- A standard classification of diseases is essential for the systematic collection and study of causes of death so that mortality data will be comparable between places and time
- ICD-10
 - Volume 1: Tabular list of codes
 - Volume 2: Instruction manual
 - Volume 3 Alphabetical index



ICD CAUSE OF DEATH CODING RULES

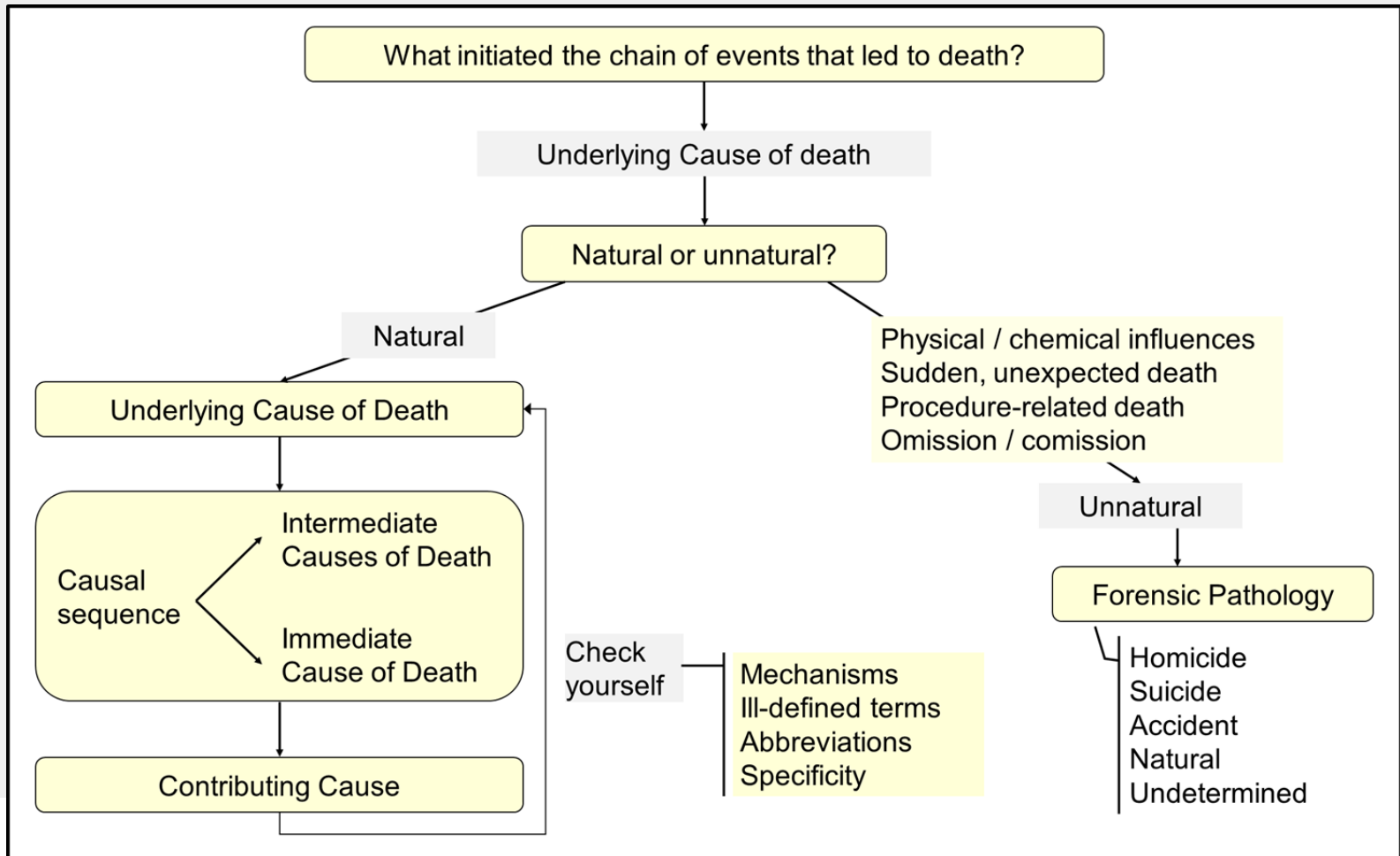
- To ensure comparability of data across time and place
- **Multiple cause coding** – assigning a code to each cause reported on certificate
- **Selection of a single underlying cause** (should be cause on lowest completed line of Part 1)



SELECTION OF UNDERLYING CAUSE

- Where UCOD is **not** reported on the lowest completed line, a set of **selection rules** guides the selection of UCOD
- **Modification rules** applied in some cases
 - Special instructions - atherosclerosis
 - Specificity - Tuberculous meningitis





DIFFICULT SITUATIONS: HIV

- Drs reluctant to report HIV as a cause of death
 - Stigma
 - HIV exclusion clauses of insurance policies
 - Confidentiality concerns
- As a result mortality data are inaccurate
 - immediate causes of death (TB, diarrhoea, pneumonia)
 - euphemisms for HIV (immuno-compromised, retroviral disease, RVD etc)
- Facts
 - Drs have a legal obligation to provide accurate cause of death (Births and Deaths registration Act, no 51, 1992) provided available confidentiality measures used
 - Insurers have the right to access medical records and death certificates, but HIV exclusion policies were scrapped in 2005 so policies will be paid even if death due to HIV – *there may be a waiting period which applies to all natural causes*
- *If you know or strongly suspect that HIV is a cause of death you should state it on the DHA-1663*



NATIONAL CAUSE-OF-DEATH VALIDATION PROJECT

