KINGDOM OF ESWATINI

MINISTRY OF HEALTH

Reflections on Using ICD-11 in Eswatini: A Regional Hospital Perspective

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Introduction & Context

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- Role: Senior Medical Officer and Clinical Hospital Manager at Piggs Peak Government Hospital.
- Eswatini Health System: Public hospitals central to service delivery
- Pigg's Peak Government Hospital, is a regional referral hospital serving 22 clinics and two health centres in northern Hhohho.
- The hospital has a bed capacity of 220, however, the number of beds in use is 155 (65 beds not in use due to ongoing renovations)
- Piggs Peak Hospital pilots many digital transformation projects by the Ministry of Health Eswatini and its partners.

Piggs Peak Government Hospital
Medical Records Department

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- Handles the files and records of inpatients.
- Processing of Medical Certificates of Death.
- Analyses outpatient data through dashboard of electronic records system.
- Member of facility's Monitoring and Evaluation Committee.
- HR: One (1) records officer.
- Currently giving IT support to clinicians, due to absence of facility data clerk/IT office.

Client Management Information System (CMIS)

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- Client Management Information System (CMIS) was piloted at Piggs Peak Hospital in 2021.
- Modular digital tool that has a diagnostic ICD-11 coding base.
- Utilised in Outpatient Clinics, except for Gynaecology and Maternity departments (modules still in development).
- All clinicians, prescribers, medical records officer have access to platform.

CMIS Usage at Piggs Peak Hospital

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- Outpatients: CMIS used. ICD coding automated
- Admissions: Physical Documents used. No coding done on admission to ward. Coding done by Medical Records post discharge.
- Discharges: Physical summary document used. No coding done by clinician on discharge. Coding done by Medical Records post discharge.
- Deaths: Medical Certificate of Cause of Death (MCCoD) filled out by clinicians. Register in each ward. Has space for codes and instructions on filling out of Immediate Cause of Death, Intermediate and Underlying CoD.
- Digital Module on CMIS also available, some clinicians utilise it. MR Officer uses HMIS portal to capture COD. Has automated ICD-11 coding.

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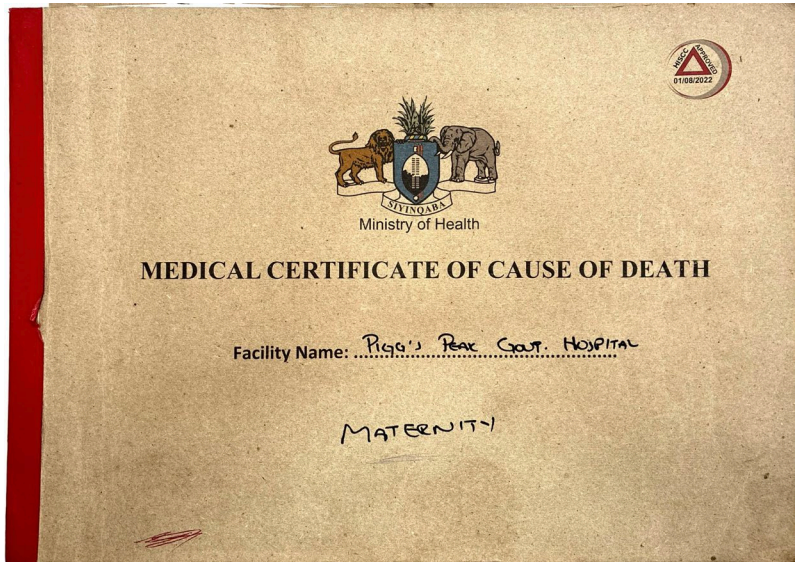
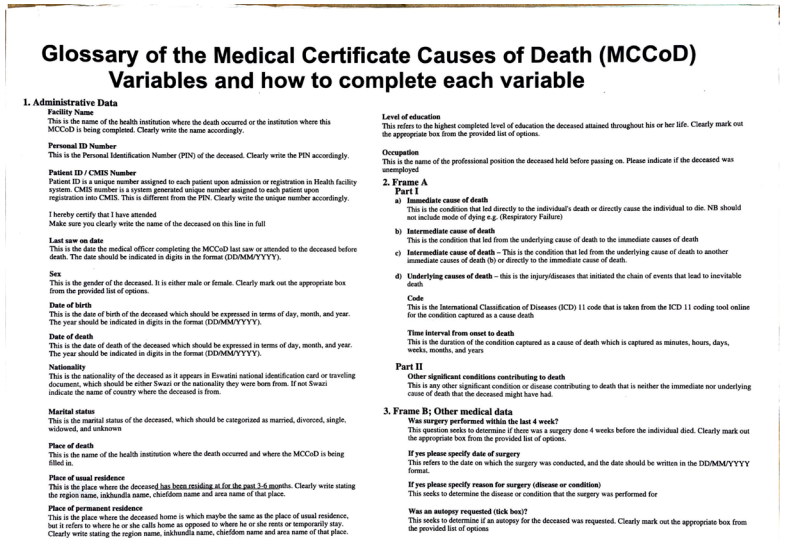
MCCOD Register





Glossary of the Medical Certificate Causes of Death (MCCoD) Variables and how to complete each variable

1. Administrative Data

Facility Name
This is the name of the health institution where the death occurred or the institution where this MCCoD is being completed. Clearly write the name accordingly.

Personal ID Number
This is the Personal Identification Number (PIN) of the deceased. Clearly write the PIN accordingly.

Patient ID / CMIS Number
Patient ID is a unique number assigned to each patient upon admission or registration in Health facility system. CMIS number is a system generated unique number assigned to each patient upon registration into CMIS. This is different from the PIN. Clearly write the unique number accordingly.

I hereby certify that I have attended
Make sure you clearly write the name of the deceased on this line in full

Last saw on date
This is the date the medical officer completing the MCCoD last saw or attended to the deceased before death. The date should be indicated in digits in the format (DD/MM/YYYY).

Sex
This is the gender of the deceased. It is either male or female. Clearly mark out the appropriate box from the provided list of options.

Date of birth
This is the date of birth of the deceased which should be expressed in terms of day, month, and year. The year should be indicated in digits in the format (DD/MM/YYYY).

Date of death
This is the date of death of the deceased which should be expressed in terms of day, month, and year. The year should be indicated in digits in the format (DD/MM/YYYY).

Nationality
This is the nationality of the deceased as it appears in Eswatini national identification card or traveling document, which should be either Swazi or the nationality they were born from. If not Swazi indicate the name of country where the deceased is from.

Marital status
This is the marital status of the deceased, which should be categorized as married, divorced, single, widowed, and unknown

Place of death
This is the name of the health institution where the death occurred and where the MCCoD is being filled in.

Place of usual residence
This is the place where the deceased has been residing at for the past 3-6 months. Clearly write stating the region name, inkhundla name, chiefdom name and area name of that place.

Place of permanent residence
This is the place where the deceased home is which maybe the same as the place of usual residence, but it refers to where he or she calls home as opposed to where he or she rents or temporarily stay. Clearly write stating the region name, inkhundla name, chiefdom name and area name of that place.

Level of education
This refers to the highest completed level of education the deceased attained throughout his or her life. Clearly mark out the appropriate box from the provided list of options.

Occupation
This is the name of the professional position the deceased held before passing on. Please indicate if the deceased was unemployed

2. Frame A

Part I

a) **Immediate cause of death**
This is the condition that led directly to the individual's death or directly cause the individual to die. NB should not include mode of dying e.g. (Respiratory Failure)

b) **Intermediate cause of death**
This is the condition that led from the underlying cause of death to the immediate causes of death

c) **Intermediate cause of death** – This is the condition that led from the underlying cause of death to another immediate causes of death (b) or directly to the immediate cause of death.

d) **Underlying causes of death** – this is the injury/diseases that initiated the chain of events that lead to inevitable death

Code
This is the International Classification of Diseases (ICD) 11 code that is taken from the ICD 11 coding tool online for the condition captured as a cause death

Time interval from onset to death
This is the duration of the condition captured as a cause of death which is captured as minutes, hours, days, weeks, months, and years

Part II

Other significant conditions contributing to death
This is any other significant condition or disease contributing to death that is neither the immediate nor underlying cause of death that the deceased might have had.

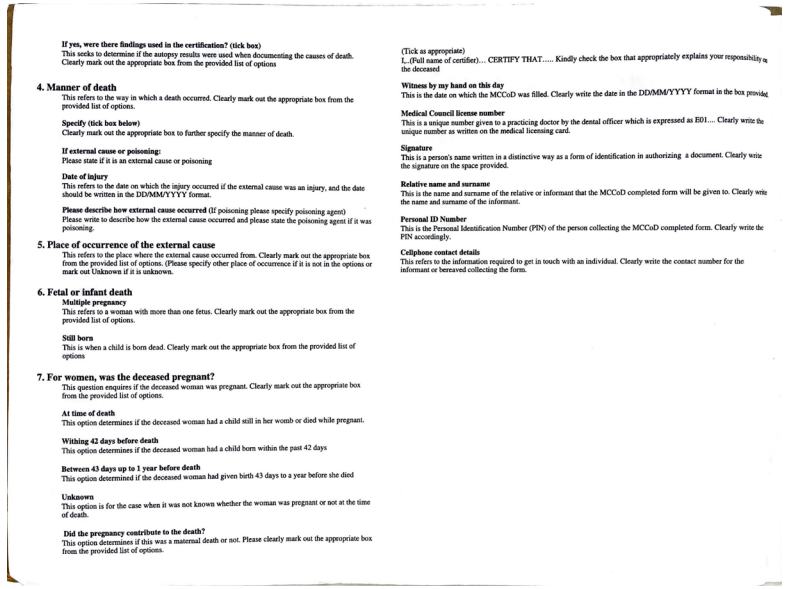
3. Frame B; Other medical data

Was surgery performed within the last 4 week?
This question seeks to determine if there was a surgery done 4 weeks before the individual died. Clearly mark out the appropriate box from the provided list of options.

If yes please specify date of surgery
This refers to the date on which the surgery was conducted, and the date should be written in the DD/MM/YYYY format.

If yes please specify reason for surgery (disease or condition)
This seeks to determine the disease or condition that the surgery was performed for

Was an autopsy requested (tick box)?
This seeks to determine if an autopsy for the deceased was requested. Clearly mark out the appropriate box from the provided list of options



If yes, were there findings used in the certification? (tick box)
This seeks to determine if the autopsy results were used when documenting the causes of death. Clearly mark out the appropriate box from the provided list of options

4. Manner of death
This refers to the way in which a death occurred. Clearly mark out the appropriate box from the provided list of options.

Specify (tick box below)
Clearly mark out the appropriate box to further specify the manner of death.

If external cause or poisoning:
Please state if it is an external cause or poisoning

Date of injury
This refers to the date on which the injury occurred if the external cause was an injury, and the date should be written in the DD/MM/YYYY format.

Please describe how external cause occurred (If poisoning please specify poisoning agent)
Please write to describe how the external cause occurred and please state the poisoning agent if it was poisoning.

5. Place of occurrence of the external cause
This refers to the place where the external cause occurred from. Clearly mark out the appropriate box from the provided list of options. (Please specify other place of occurrence if it is not in the options or mark out Unknown if it is unknown.

6. Fetal or infant death

Multiple pregnancy
This refers to a woman with more than one fetus. Clearly mark out the appropriate box from the provided list of options.

Still born
This is when a child is born dead. Clearly mark out the appropriate box from the provided list of options

7. For women, was the deceased pregnant?
This question enquires if the deceased woman was pregnant. Clearly mark out the appropriate box from the provided list of options.

At time of death
This option determines if the deceased woman had a child still in her womb or died while pregnant.

Withing 42 days before death
This option determines if the deceased woman had a child born within the past 42 days

Between 43 days up to 1 year before death
This option determined if the deceased woman had given birth 43 days to a year before she died

Unknown
This option is for the case when it was not known whether the woman was pregnant or not at the time of death.

Did the pregnancy contribute to the death?
This option determines if this was a maternal death or not. Please clearly mark out the appropriate box from the provided list of options.

(Tick as appropriate)
I...(Full name of certifier)... CERTIFY THAT..... Kindly check the box that appropriately explains your responsibility re the deceased

Witness by my hand on this day
This is the date on which the MCCoD was filled. Clearly write the date in the DD/MM/YYYY format in the box provided

Medical Council license number
This is a unique number given to a practicing doctor by the dental officer which is expressed as E01.... Clearly write the unique number as written on the medical licensing card.

Signature
This is a person's name written in a distinctive way as a form of identification in authorizing a document. Clearly write the signature on the space provided.

Relative name and surname
This is the name and surname of the relative or informant that the MCCoD completed form will be given to. Clearly write the name and surname of the informant.

Personal ID Number
This is the Personal Identification Number (PIN) of the person collecting the MCCoD completed form. Clearly write the PIN accordingly.

Cellphone contact details
This refers to the information required to get in touch with an individual. Clearly write the contact number for the informant or bereaved collecting the form.

MCCOD Form

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ESWATINI GOVERNMENT

Ministry of Health

HISCC APPROVED 01/08/2022

MEDICAL CERTIFICATE OF CAUSE OF DEATH

Serial No. 2024 -01717

Facility Name: Health Facility Name.....

Personal ID Number

Patient ID/CMIS Number:

I hereby certify that I have attended: Name & Surname.....

that I last saw on D D M M Y Y Y Y

1. Administrative Data

Sex (tick box)	☐ Female	☐ Male		
Date of birth	D D M M Y Y Y Y	Date of death	D D M M Y Y Y Y	
Nationality(tick box)	☐ Swazi	☐ Others Specify	Name of country if Known	
Marital status(tick box)	☐ Married	☐ Divorced	☐ Single	☐ Widowed ☐ Unknown
Place of death Health institution /estate/town		Region of Place of Death	Region of place of death	
Place of Usual residence	Region:	Inkhundla:	Chiefdom:	Area:
Place of Permanent residence	Region:	Inkhundla:	Chiefdom:	Area:
Level of Education : ☐ No Education ☐ Primary ☐ Secondary ☐ High school ☐ Tertiary				
Occupation :				

2. Frame A: Medical data: Part I and II — Cause of death

(PRINT IN BLOCK LETTERS ONLY . NO ABBREVIATION)

Report chain of events in due to order (if applicable) State the underlying cause of death in section (d)

	Code	Description	Time interval from onset to death
a			
b Due to			
c Due to			
d		Please write underlying cause of death	

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

**This does not mean the mode of dying, e.g. Heart failure, asthenia, etc. it means the disease, injury, or complication which caused death.*

3. Frame B: Other medical data

Was **surgery** performed within the last 4 weeks? (tick box)	☐ Yes	☐ No	☐ Unknown
If yes please specify date of surgery	D D M M Y Y Y Y		
If yes please specify reason for surgery (disease or condition)			
Was an autopsy requested? (tick box)	☐ Yes	☐ No	☐ Unknown
If yes were the findings used in the certification? (tick box)	☐ Yes	☐ No	☐ Unknown

4. Manner of death (tick box): ☐ Natural ☐ Un-natural

Specify (tick box below):

☐ Disease	☐ Assault	☐ Could not be determined
☐ Accident	☐ Legal intervention	☐ Pending investigation
☐ Intentional self-harm	☐ War	☐ Unknown

5. Place of occurrence of the external cause(tick box):

☐ At home	☐ Residential institution	☐ School, other institution, public administrative area	☐ Sports and athletics area
☐ Street and highway	☐ Trade and service area	☐ Industrial and construction area	☐ Farm
☐ Other place (please specify):			Unknown

If external cause or poisoning: Date of injury D D M M Y Y Y Y

Please describe how external cause occurred (If poisoning please specify poisoning agent)

6. Fetal or infant Death (tick box)

Multiple pregnancy	☐ Yes	☐ No	☐ Unknown
Stillborn?	☐ Yes	☐ No	☐ 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			

7. For women, was the deceased pregnant? (tick box)	☐ Yes	☐ No	☐ Unknown
☐ At time of death	☐ Within 42 days before the death		
☐ Between 43 days up to 1 year before death	☐ Unknown		
Did the pregnancy contribute to the death?	☐ Yes	☐ No	☐ Unknown

(Tick as appropriate)

I.....CERTIFY THAT ☐ I attended the deceased before death ☐ I examined the body after death ☐ I conducted a post-mortem of the body and hereby certify that I have medically attended the above deceased and that the particulars and the cause of death written are true to the best of my knowledge and belief.

Witness by my hand this day D D M M Y Y Y Y

Medical Council License Number.....

Signature: .....

OFFICIAL STAMP

Relative Name and Surname .....

Personal ID Number

Contact Number

Afri Print: 2404 2216

MCCOD

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2. *Frame A*: Medical data: Part I and II — Cause of death

Report chain of events in due to order (if applicable)
State the underlying cause of death in section (d)

	(PRINT IN BLOCK LETTERS ONLY . NO ABBREVIATION)		Time interval from onset to death
	Code	Description	
a			
b Due to			
c Due to			
d		Please write underlying cause of death	

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

**This does not mean the mode of dying, e.g. Heart failure, asthenia, etc. it means the disease, injury, or complication which caused death.*

Inpatient CMIS Pilot

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- CMIS Inpatient piloted in June 2024 at Piggs Peak Hospital.
- Tablet use, admissions and discharges done on inpatient module.
- Diagnosis drop down menu with ICD Codes.
- Pilot was extended, however paused due to DataFi funding interruption in February 2025.
- Anticipated to resume soon under HMIS MoH (Q3 2025)

Capturing Episodes of Care

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- **1. Definition: patient journey from first contact → discharge/follow-up**
- An *episode of care* is the full sequence of health services a patient receives for a condition, from the first encounter through diagnosis, treatment, and follow-up.
- Example: A patient with pneumonia → initial outpatient visit, admission, lab tests, antibiotic treatment, discharge, follow-up check. ICD-11 can capture the *whole chain*.

- **2. Why it matters**
- **Continuity of care**: ensures that patient information flows across departments and visits.
- **Quality of care**: highlights whether patients received complete, appropriate treatment.
- **Health statistics**: generates more accurate data on disease burden and service use.
- **Policy and planning**: supports resource allocation, workforce planning, and monitoring of national health priorities.

Capturing Episodes of Care

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- **3. Eswatini Context**
- Currently, records are fragmented — outpatient, inpatient, and follow-up often sit in different registers or files, making it hard to trace the patient's full journey.
- With ICD-10, coding tends to capture only the "admission diagnosis" or "cause of death," missing the complexity of the care process.
- ICD-11 provides tools to connect encounters into a full episode, improving visibility of care pathways.

Lessons Learned

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- **Early Wins:**
- **Improved case clarity**: Using ICD-11 helps capture more precise diagnoses, making patient records clearer.
- **Raised clinician awareness**: Engaging with ICD-11 has started shifting mindsets; clinicians are seeing the value of detailed coding, not just as an administrative task but as a clinical tool.
- **Momentum for change**: Initial experiences show feasibility, building confidence for broader adoption. Engaging clinicians on benefits with regards to monitoring outcomes helpful in encouraging use.

Opportunities

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- **Training and mentorship**
  - Ongoing training for clinicians, nurses, and M&E officers to build confidence in ICD-11.
  - Peer mentorship (Champions) to spread knowledge in hospitals and health centres.

Opportunities

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- **Integration into electronic medical records (EMRs)**
- Linking ICD-11 codes directly into digital patient files to reduce duplication.
- Makes coding part of routine care, not an afterthought.
- Enables seamless automated reporting to district, national, and WHO systems.

- **Strengthening national data systems**
- ICD-11 adoption creates an opportunity to standardize data collection nationwide.
- More reliable statistics for disease burden, service use, and outcomes.
- Supports policymaking, health planning, and resource allocation at national level.

Benefits

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- **1. Better granularity of diagnosis codes**
- ICD-11 has far more detail than ICD-10, with over 55,000 unique codes.
- Clinicians can record conditions with greater precision (e.g., type, stage, severity).
- This reduces ambiguity and improves the quality of health records.
- **2. Captures multimorbidity and complexity**
- Many patients present with more than one condition.
- ICD-11 allows coding of multiple diagnoses and links them within an episode of care.
- This reflects real patient journeys, especially in settings with high burden of chronic and infectious diseases (e.g. HIV and NCDs)

Benefits

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- **3. More clinically meaningful**
- The terminology is updated to match current medical practice and language.
- Codes align better with how clinicians think and document care, reducing the gap between medical notes and coded data.
- This makes ICD-11 easier to use in day-to-day clinical practice.
- **4. Potential to strengthen research and reporting**
- Richer, standardized data improves hospital statistics and public health surveillance.
- Supports monitoring of disease trends, resource needs, and outcomes.
- Enables international comparability, aligning Eswatini's data with global health standards.

Future

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- **<u>Activities</u>**:
- New Computers have been procured and are still to be distributed to facility, to replace older and slower models.
- Tablets are to going to be distributed to clinicians and assigned individually in the month of September 2025.
- Annual sensitization and training workshops of clinicians, data clerks and medical records officers at facilities needed as part of inservice training plan.

Key Takeaways

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- ICD-11 is more than coding: supports better patient journeys.
- Episodes of care are critical for continuity and outcomes.
- With support, Eswatini can leverage ICD-11 for stronger data and better patient outcomes.

Closing

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- WHO-FIC CC
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