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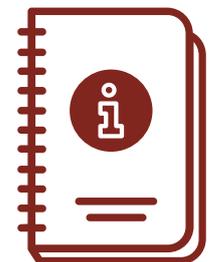


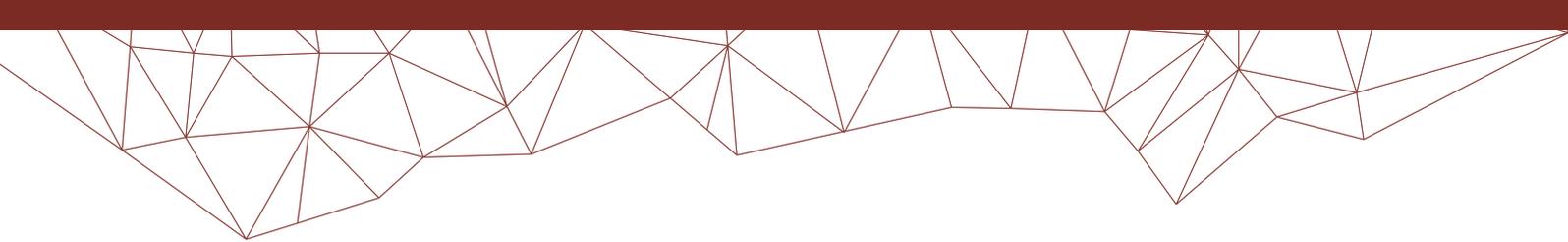
DATA FOR  
HEALTH INITIATIVE

# CRVS technical guide

Manual ICD-10 mortality  
coding quality assessment tool:  
User guide

March 2020





## Resources available from the University of Melbourne, Bloomberg Philanthropies Data for Health Initiative

### *CRVS course prospectuses*

These resources outline the context, training approach, course content and course objectives for the suite of CRVS trainings delivered through the Bloomberg Philanthropies Data for Health Initiative. Each course focuses on a specific CRVS intervention or concept, and is designed to support countries to strengthen their CRVS systems and data.

### *CRVS Fellowship reports and profiles*

The CRVS Fellowship Program aims to build technical capacity in both individuals and institutions to enhance the quality, sustainability and health policy utility of CRVS systems in Fellows' home countries. *Fellowship reports* are written by Fellows as a component of the program, and document, in detail, the research outcomes of their Fellowship. *Fellowship profiles* provide a summary of Fellows' country context in relation to CRVS, an overview of the Fellowship experiences, the research topic and the projected impact of findings.

### *CRVS analyses and evaluations*

These analytical and evaluative resources, generated through the Initiative, form a concise and accessible knowledge-base of outcomes and lessons learnt from CRVS initiatives and interventions. They report on works in progress, particularly for large or complex technical initiatives, and on specific components of projects that may be of more immediate relevance to stakeholders. These resources have a strong empirical focus, and are intended to provide evidence to assist planning and monitoring of in-country CRVS technical initiatives and other projects

### *CRVS best-practice and advocacy*

Generated through the Initiative, CRVS best-practice and advocacy resources are based on a combination of technical knowledge, country experiences and scientific literature. These resources are intended to stimulate debate and ideas for in-country CRVS policy, planning, and capacity building, and promote the adoption of best-practice to strengthen CRVS systems worldwide.

### *CRVS country reports*

CRVS country reports describe the capacity-building experiences and successes of strengthening CRVS systems in partner countries. These resources describe the state of CRVS systems-improvement and lessons learnt, and provide a baseline for comparison over time and between countries.

### *CRVS technical guides*

Specific, technical and instructive resources in the form of *quick reference guides*, *user guides* and *action guides*. These guides provide a succinct overview and/or instructions for the implementation or operation of a specific CRVS-related intervention or tool.

### *CRVS tools*

Interactive and practical resources designed to influence and align CRVS processes with established international or best-practice standards. These resources, which are used extensively in the Initiative's training courses, aim to change practice and ensure countries benefit from such changes by developing critical CRVS capacity among technical officers and ministries.

Published by the University of Melbourne, Civil Registration and Vital Statistics Improvement, Bloomberg Philanthropies Data for Health Initiative.

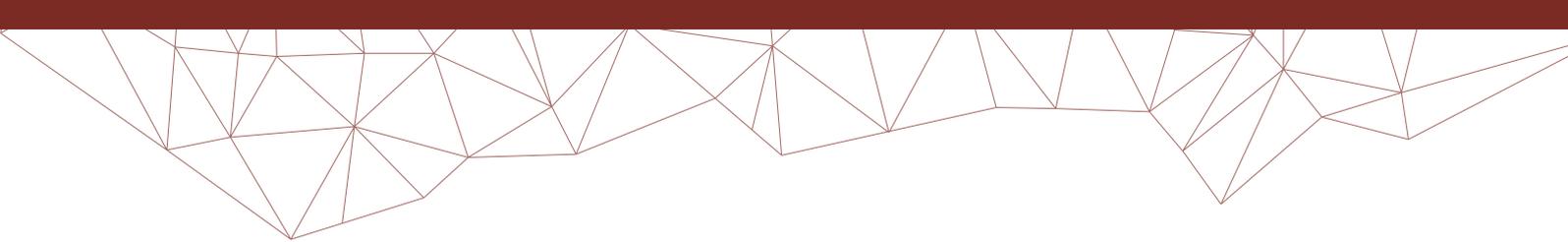
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# Manual ICD-10 mortality coding quality assessment tool: User guide

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This user guide describes how to conduct an evaluation of the quality of ICD coding using the *Manual ICD-10 mortality coding quality assessment tool*, developed by the Bloomberg Philanthropies Data for Health Initiative at the University of Melbourne, available at: <https://crvsgateway.info/Library~23>

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## Background and rationale for tool

### Procedure for manually assessing the quality of ICD-10 coding

#### Selection of death certificates and tabulation of scores

#### Using the scoring tool

### Frequency for evaluation of ICD-10 mortality coding quality

## Background and rationale for tool

Code accuracy is defined as the extent to which the International Statistical Classification of Diseases and Related Health Problems (ICD) nosologic codes reflects a patient's disease pattern and underlying cause that led to death. Code accuracy directly impacts the quality of decisions based on the data derived from medical records and death certificates, and is therefore is of great importance to code users. A number of factors influence the quality of coding and can lead to errors, such as: available diagnostic or disease information on the death certificate; ability to communicate with certifiers; clinician's knowledge and experience, and; the experience and quality of the training of the coder.

Periodic evaluation of coding is recommended to ensure that quality is maintained and to determine the need for retraining. The training of coders is always on a smaller scale than that of physician death certification training, since there are far fewer coders than physicians. Given the smaller scale, an evaluation of the quality of ICD coding practices is relatively straightforward, particularly if coding is a centralised processes within a country's civil registration and vital statistics (CRVS) system.

## Procedure for manually assessing the quality of ICD-10 coding

Evaluating the quality of ICD coding consists of re-coding a sample of death certificates. The re-coding can be done either by a coding expert, or Iris automated coding.<sup>1</sup> Re-coding of the selected death certificates is based on established criteria as described in Volume 2 of the ICD Tenth Revision (ICD-10),<sup>2</sup> and involves the coding expert comparing the underlying cause of death and multiple cause codes from the certificate received from the coder's office.

The persons involved in the quality assessment are:

- Person A: Original coder or the group of coders
- Person B: Nosologist (coding expert) or Iris automated coding

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<sup>1</sup> For more information on Iris automated coding, see: <https://crvsgateway.info/Iris-ICD-coding-tool-397>

<sup>2</sup> Available at: [https://www.who.int/classifications/icd/ICD-10\\_2nd\\_ed\\_volume2.pdf](https://www.who.int/classifications/icd/ICD-10_2nd_ed_volume2.pdf)



## Step 1: Entering the data

The scoring form consists of 12 columns requiring data input or calculation. For each death certificate:

### Column 1: Death certificate number

- Enter the number for each death certificate.

### Column 2: Number of codes (Person A) (a)

- Enter the total number of codes assigned by the original coder.

### Column 3: Number of codes (Person B) (b)

- Enter the total number of codes assigned by the nosologist.

### Column 4: Missing codes

- Indicate whether the original coder has missed any codes.
  - i. Missed = 1
  - ii. Not missed = 0

### Column 5: Number of correct codes (c)

- Enter the number of correct codes assigned by the original coder.

### Column 6: FUCOD correct

- Indicate the accuracy of the FUCOD code assigned by the original coder:
  - i. If correct = 1
  - ii. If incorrect = 0

### Column 7: Coding errors

- Indicate the presence or absence of any coding errors:
  - i. All codes are correct (no coding errors) = 1
  - ii. At least one code is wrong (coding errors present) = 0

### Column 8: Score totality (d) (maximum score 25)

- Calculate totality =  $\frac{(\text{no. codes (Person A) (a)})}{(\text{no. codes (Person B) (b)})} \times 25$

### Column 9: Score accuracy (e) (maximum score 25)

- Calculate accuracy =  $\frac{(\text{no. correct codes (Person A) (c)})}{(\text{no. codes (Person B) (b)})} \times 25$

### Column 10: Score FUCOD (f)

- Indicate the accuracy of the original coder's FUCOD:
  - i. If correct = 50
  - ii. If incorrect = 0

### Column 11: Total score (d+e+f)

- Calculate the total score = Score totality (d)+Score accuracy (e) + Score FUCOD (f)

### Column 12: Quality

- Assign one of the following three broad categorisations for each individual record:
  - i. Poor quality (P)                    0 – 50
  - ii. Moderate quality (M)            51 – 74
  - iii. Good quality (G)                75 – 100



The program partners on this initiative include: The University of Melbourne, Australia; CDC Foundation, USA; Vital Strategies, USA; Johns Hopkins Bloomberg School of Public Health, USA; World Health Organization, Switzerland.

Civil Registration and Vital Statistics partners:



## For more information contact:

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