Bloomberg Philanthropies

DATA FOR HEALTH INITIATIVE

# MORTALITY CODING

**Mortality coding involves transforming information on death certificates into alpha-numeric codes. This allows for the tabulation and aggregation of mortality statistics for monitoring the patterns of mortality in a population.**

## The Challenge

Reliable knowledge on the mortality and causes of death in a population are critical for policy making. Ideally, analyses are based on the **underlying cause of death,** which is recorded on the medical certificate of cause of death. However, it is estimated that 140 countries with 80% of the world's population do not have reliable cause of death data.

Mortality coding is a complex process by which all diseases and conditions recorded on a death certificate are transformed from text to alpha-numeric codes, following strict procedures as set out by the International Classification of Diseases 10th Edition (ICD-10). To be able to do this correctly **mortality coders have to be well trained in ICD-10 rules and regulations.**

For many countries, manually coding their death certificates is a slow and costly process, often leading to backlogs and the late release of statistics. Due to the high-turnover of staff, significant resources have to be spent on ensuring the quality coding and on training and re-training coders. Given the costs involved in training, many coders are provided with 'on-the-job' training, which can lead to misunderstandings on the conventions and guidelines that are used in ICD-10 coding.

## Our Approach

As part of the Bloomberg Philanthropies Data for Health (D4H) Initiative, countries will be provided with guidance and advice on how to implement or improve mortality coding according to ICD-10 coding rules.

For countries with no or very new coding systems, training and support will be provided on manual coding practices. Pending country requirements, activities may include developing:

- A coding strategy for country implementation, including identifying local 'master trainers' to provide ongoing support and training in-country
- ICD-10 coding training materials and a training agenda
- Monitoring and evaluation guidelines.

Countries that have established coding systems will be supported to implement Iris, an automated coding software package. As well as the activities mentioned above, countries implementing Iris will also be provided with technical assistance around the information technology (IT) specifications for integrating Iris into existing data systems. Manual coders will be provided with the skills necessary to deal with rejects from the automated system, which are often the most difficult to code.

## Expected Benefits

Mortality statistics on causes of death are one of the principal data sources for assessing a population's health and guiding public priorities. High-quality coding of death certificates is an essential part of generating **reliable and accurate mortality statistics**. The ICD-10 allows the systematic recording, analysis, interpretation and comparison of mortality data collected in different countries or areas, over time.

Coders must have the necessary skills and knowledge to code and select the UCOD following ICD-10 rules. The purpose of coder training is to produce high-quality cause of death information that uses internationally agreed standards that are useful for civil registration and vital statistics, public health planning, and health facility management.

Training of manual coders underpins the overall D4H strategy to improve the consistency and quality of COD data by reducing potential coder error. Further, automating this process with the coding software, Iris, will lead to significant **improvement of the quality of coding and timeliness of cause of death statistics.** Overall, expected benefits from this intervention include creating a cadre of ICD-10 coders and master trainers in each country, developing a periodic evaluation program for coding, and ensuring that coded COD data are available and used for public health planning and development of health policy.

**For more information about mortality coding, contact your CRVS Data for Health Country Coordinator, Technical Lead, or Program Officer.**

Figure 1: Gold standard process for cause of death data

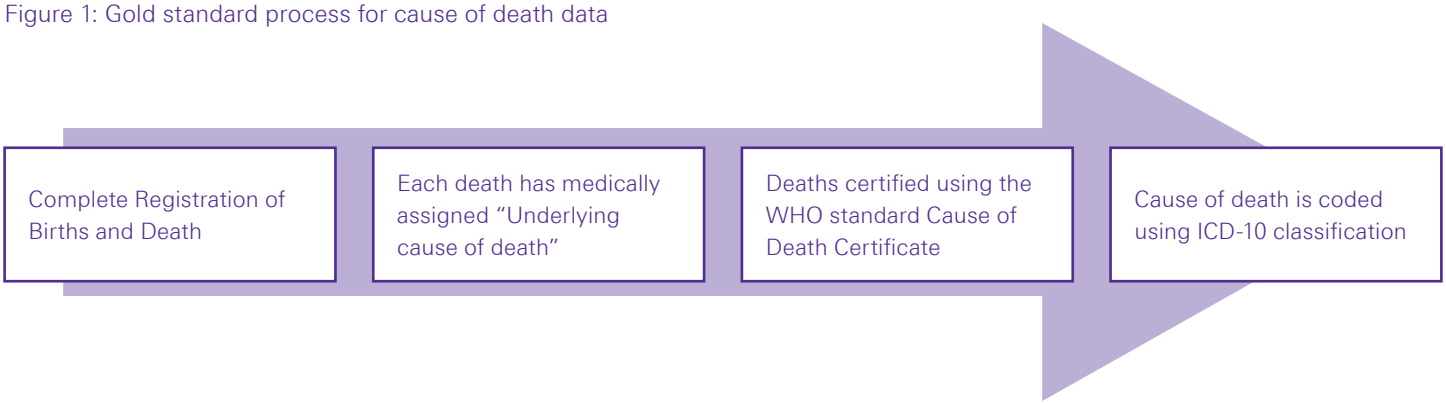


Figure 2: International Form of Medical Certificate of Cause of Death

| *Administrative Data* (can be further specified by country) | | | | |
|---|---|---|---|---|
| Sex | ☐ Female | | ☐ Male | ☐ Unknown |
| Date of birth | D D M M Y Y Y Y | | Date of death | D D M M Y Y Y Y |
| ***Frame A*: Medical data: Part 1 and 2** | | | | |
| 1 Report disease or condition directly leading to death on line a<br>Report chain of events in due to order (if applicable)<br>State the underlying cause on the lowest used line | | | Cause of death | Time interval from onset to death |
| | | a | Traumatic shock | 1 hour |
| | | b | Due to: Multiple fractures | 5 hours |
| | | c | Due to: Pedestrian hit by truck | 5 hours |
| | | d | Due to: | |
| 2 Other significant conditions contributing to death (time intervals can be included in brackets after the condition) | | | | |

Underlying cause of death

- XX External causes of morbidity and mortality
  - V01-X59 Accidents
    - V01-V99 Transport accidents
      - V01-V09 Pedestrian injured in transport accident
        - V01 Pedestrian injured in collision with pedal cycle
        - V02 Pedestrian injured in collision with two- or three-wheeled motor vehicle
        - V03 Pedestrian injured in collision with car, pick-up truck or van
        - V04 Pedestrian injured in collision with heavy transport

ICD-10 code

**For more information, contact:**

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