WHO Application of ICD-10 for low-resource settings initial cause of death collection

The Startup Mortality List (ICD-10-SMoL)

V2.1

World Health Organization

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V1.01: corrected numbering: 5-75 is now "Diseases of skin and subcutaneous tissue" (formerly 5-76; 5-75 was missing); 5-76 is "Diseases of the musculoskeletal system and connective tissue" (formerly duplicate 5-77)
V1.02: reinstated missing codes for 'syphilis' and 'other sexually transmitted diseases'
V1.03: edited main title, aligned death certificate form with the 2016 update of ICD-10, and variables accordingly
V2.0: added code 5-87.9 for 'Other and unspecified disorders relating to length of gestation and fetal growth'; removed code 5-102.3 for 'food poisoning'; clarified coding of 'cardiac arrest' in 5-95,'Signs and symptoms'; clarified exclusions regarding neoplasms and cancer; added code references to ICD‐10; added list of rules; update death certificate form to full 2016 format.

V2.1: added code 5-201 for 'Sepsis and other infectious conditions of the newborn'. Clarified inclusion note for malaria 5-21, pneumonia 5-67, liver cirrhosis 5-73

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Introduction

The SMoL has been designed to be in line with the ICD, and informs setting public health priorities and tracking progress towards national and international targets and goals such as the post-2015 health and development agenda. This list is designed to be a first step towards standardized reporting of causes of death.
Countries lacking the capacities to code to ICD 3- or 4-digits should use the Startup Mortality List. Wherever capacity exists or completeness of reporting is sufficient, the full ICD should be used, ideally in combination with electronic coding tools.

The Structure

The SMoL is based on the ICD general mortality special tabulation list, but it includes categories for maternal and perinatal deaths, and some detail proven useful in GBD. Added detail includes: leprosy; syphilis; dengue; hepatitis B; confirmed tuberculosis; confirmed malaria; benign neoplasms; alcohol; other substance abuse; liver cirrhosis; obstructed labour; maternal haemorrhage; maternal sepsis, prematurity; low birth weight; few malformations; poisoning: alcohol, drug, food. Some of the additions are optional. Atherosclerosis has been removed as it is redistributed in all statistics.
Users are free to add additional detail as long as that detail allocated within the framework provided by the categories of this simple mortality
Instructions in the SML instruct what to include or exclude in certain categories. These instructions are indicated by the terms “includes” or “excludes”.

Use of the SMoL

The cause(s) of death are reported on a standard WHO medical certificate of cause of death. The underlying cause is coded with the SMoL. Reported causes, age, sex, location and the code of the underlying cause of death are recorded for every individual case. For cases where more than one cause of death is reported, the SMoL selection rules will help to identify the single underlying cause in a way that is compatible with ICD.

Prerequisites

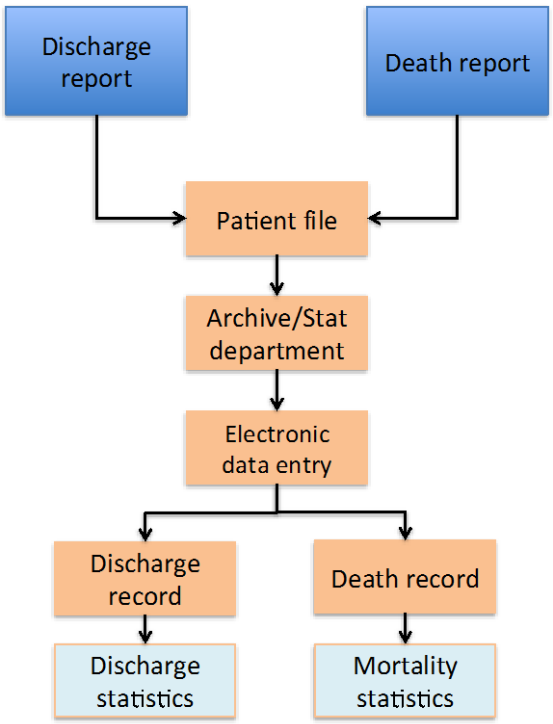
Implement the WHO medical certificate of cause of death.

Physicians are trained in filling in the WHO medical certificate of cause of death.

Ideally, a list of causes reported on local death records is compiled (local index or dictionary) and linked to the SMoL. A coding specialist and a separate ICD correspondence list will help to pre-code the local list of terms with the help of the ICD index.

The workflow for collection of cause of death information is not different from the one for formulating and archiving a hospital discharge report.

Framework - ICD



Death form (WHO recommended variables)

Physician

Hospital administration

Death form (WHO recommended variables)

includes simplified ICD coding

Deaths in the Hospital System

Health care facilities, especially hospitals, are critical sources of data on mortality by age, sex and cause. These statistics are important markers of quality of hospital care and provide essential inputs for national and subnational health policy and planning. Facility-based mortality statistics should be seen as part of the backbone of a country system of continuous mortality data collection and as key elements of the civil registration and vital statistics (CRVS) system, for example, through notification of deaths and associated characteristics to civil registries.

Hospitals should routinely report diagnoses and deaths for administration and quality assurance purposes. Physicians should be assigned responsibility for certifying deaths and in particular their causes. They should have the training and skills necessary to do so in accordance with global standards, namely the International Classification of Diseases (ICD). Every death can be seen by a physician and has been diagnosed during the stay in the hospital. In addition, the health care system can link to other sources of mortality data, for example mortuary data. Thus, hospital reporting is a good starting point for the collection of statistics on mortality, including causes of death.

Investments

Time, money and personnel are necessary for:

1. Planning, national coordination, and ongoing monitoring of the mortality collection system
2. Sharing Information about the strategy, the project and its progress with stakeholders and involved parties
3. Building an infrastructure that has at least one electronic data collection point per facility
4. Establishing a process and an infrastructure that makes sure the reported information is forwarded to the subnational and national level.
5. Ensuring that data collection and management personnel can input data and keep the system functioning at local, subnational and national level
6. Conducting training and refresher courses for managers, physicians, data personnel and other involved parties; material needs to be adapted and translated
7. Analyzing the data and dissemination of the information
8. Piloting tools, training, and workflows
9. Establishing and running a national centre of excellence that can provide technical support

Implementing a simple system

Implementing a simple system for collection of mortality and causes of death information should be done with scalability and sustainability in mind, in terms of the level of cause specific detail, completeness and timeliness of hospital reporting, and mechanisms for dealing with deaths that occur outside the hospital.

Some specific aspects that relate to the implementation of a simple system for collection of causes of death are mentioned here:

1. Even in settings where physicians are not always available to ensure medical certification of cause of death, all deaths occurring in hospitals and other health

facilities should be reported by age, sex, date of death and location (see also Annex for additional variables).

2. It is essential to be clear that the initial hospital admission diagnosis is not identical with the eventual cause of death. Causes of death must always be reported and stored separately from information on the initial diagnosis and treatments received.
3. Reporting forms for causes of death – whether electronic or in paper – should be in line with ICD standards. In such way, the system can be expanded at later stages without troubling the physicians. Also preexisting training material can be easily reused.
4. A startup list of causes of death (see Annex – Startup Mortality List) can deliver data in a timely manner and keep the burden of implementing a coding system low in new mortality systems. This list is fully compatible with ICD, so that expansion into more detail at a later stage is easily possible. This compatibility also facilitates comparison of so collected data with other sources.
5. Training of physicians is critical to success. The physicians need to understand the concept of underlying cause of death, the notion of the sequence of events that lead to death, and the importance of reporting complete diagnoses. Good input from certifying physicians at the beginning will result in useful data and simplify the task for statistical coders.
6. The coders need to be able to transform the reported terms into statistical ICD codes; a local index containing all terms that are usually reported will facilitate this task, in conjunction with a set of simplified coding instructions and related training. Later, there may be expansion to centralized coding and use of automated systems.
7. Data analysis and reporting back to the originators allow for quality assurance and motivate the physicians to provide good quality input to the system.

Materials

A set of materials is made available in support of designing the process and conducting training:

1. Short list of causes of death that is in line with ICD has been designed by WHO
2. Simple coding instructions
3. Instructions for creation a local or national index
4. Training material for physicians
5. A template plan for designing and rollout of ICD and cause of death data

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