Abstract

Beginning in 2000, the WHO-FIC Education committee has developed a collaborative program with the International Federation of Health Records Organizations towards international standardized Education of ICD-10 coders for morbidity and mortality data. The aim is to enhance data quality by improving the skills of the coders through core curricula and related approaches.

Still, another important aspect of data quality is the process of certifying the data in the first place. Especially for mortality data the certification on the death certificate targets specific statistical and epidemiological intentions which are reflected in the mortality coding rules of Volume 2 of ICD-10.

The Education Committee considered this situation at its recent meeting in Alexandria, Virginia and decided to take this integral part of mortality data quality into account by developing a corresponding core curriculum for certifiers of mortality data and a "recommendation of best practice" on how to train certifiers of mortality data.

This curriculum and recommendations ideally would then be incorporated into national training programs for certifiers of mortality data.

A proposal of such a curriculum and a "recommendation of best practice" through the authors will be given.
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Introduction
Certification of death in a standardized way started over a hundred years ago and since then has been elaborated worldwide to collect data on the causes of death. In the early 20th century infectious diseases were the leading cause of death in Europe whereas now - with modern treatments for infectious diseases - cardiovascular diseases and neoplastic diseases have reached the top of the leading causes of death.

Over the years the classification used, the ICD, has been modified to be suitable for morbidity as well. Additionally a volume two of the ICD was introduced to explain and standardize the use of the ICD for mortality and morbidity coding.

International forums discuss tricky cases and more and more rules have to be added to Volume 2 in order to explain cases where the certifier was unspecific in his statement on the death certificate.

The mortality data collected with the ICD-10 is used in national and international statistics for research, to start prevention and educational programs and to survey changes in health.

Limitations to data quality
Over the last years the Education Committee of the WHO-FIC Network in collaboration with IFHRO deployed a program to enhance coding quality worldwide and raise it to an international standard. This program is still work in progress but nationally and internationally great interest has been expressed through local organizations. The Core Curricula developed for Mortality and Morbidity Coding Training have been translated to several languages and are about to be incorporated in local education.

But Coding is only one aspect of data quality. Coded data can only be as good as the data provided for coding. In Morbidity coding it is common to code the data in close relationship to the person who collected the data, in some countries it is even done through the same person. Death and its causes however are certified quite commonly through a physician who is not responsible for coding. The Coding will then be done at some other local authority through a coder who sometimes is not able to contact the certifier because of data protection laws.

It is therefore important to certify accurately and according to the sequence intended on the death certificate as the data can only be as good as it is certified.

Another Challenge for the Education Committee
One of the reasons for the establishment of the Education Committee as stated in its Terms of Reference is: “The critical role of education and training for the successful implementation, use and maintenance of a classification system and for the quality of data produced.” As elaborated above the certification is an integral part of data quality and therefore a key objective in educational programs.
With this perception the Education Committee in Collaboration with the IFHRO discussed this topic in its recent meeting in Alexandria, Virginia, USA, and decided to move forward by designing a Core Curriculum for Certifiers of Cause of Death Data. The authors accepted this challenge and after intensive eMail-discussion propose the attached Core Curriculum for discussion at the 2006 annual meeting of the WHO Family of International Classifications (WHO-FIC) Network in Tunis, Tunisia.

The structure and layout is aligned with the other Core Curricula adopted through the WHO-FIC so far in order to show its inseparability in receiving good data.

**Cluster on medical science**

In some countries or rural areas where a physician will not be available mortality data still needs to be collected. In the proposed curriculum a Knowledge cluster on medical science is included to specify the requirements of medical knowledge that a non physician, who is certifying, should have. This cluster should be discussed at the meeting and reviewed accordingly.

**Cluster on specific medical knowledge**

A great number of physicians rarely certify the cause of death. Still, knowledge of forensic medicine, external causes of death and related topics is essential to determine the cause of death. At least in his training the Certifier should have memorized these topics in an extend that allows him at the time of certification to assign the correct cause of death.

**Cluster on legal and ethical issues**

As the regulations and legal obligations of a certifier vary from country to country this cluster is vague on the topics. Still, the legal obligations at the time of the determination of the cause of death are complex and should have been elucidated at the time of training.

**Clusters on the use of the data**

As the certification of death is intended for specific statistical and epidemiological purposes the knowledge of the use of the collected data helps the certifier to specify his statements accordingly. As well the knowledge of the importance of the data and its further processing might encourage the certifier to research the cause of death comprehensively.

**Cluster on “How to certify”**

This cluster is the most important cluster to the training. Emphasis of each training should be placed on this cluster. Intensive knowledge of the WHO-certificate, its allocation of part one and part two and the idea of the sequence of events are essential to correct completion of a death certificate.
Cluster on Quality assurance
In order to achieve high quality data multiple ways of quality assurance should be implemented in each country. The certifier should be aware of these mechanisms and his responsibility for the data quality.

Recommendation for best practice
As the determination of death is a process that some certifiers handle frequently but most certifiers encounter only rarely, the authors would like to give some recommendations of best practice for the training that resulted from the discussions and presentations in Alexandria.

Professional background of certifier
Beyond controversy it is best practice to have medical doctors do the certification of death. Through their training and experience medical doctors will best be able to assign the correct cause of death and sequence of events.

Continuous education
As stated above most certifiers do certify infrequent. Therefore education on certification needs to be brushed up on every once in a while. Education should start in medical school but continue as long as the physician practices. This could be done through different approaches (see below) and should focus on the clusters “use of data” and “how to certify” to remind the physician of the importance of the certification process. Other Clusters, like legal and ethical aspects may change in country specific context over the years. Additional training should be provided in near-time if changes occur.

Multiple Concurrent Approaches
In order to receive best retention with the Trainee it is necessary to use multiple approaches:

- Online and other electronic Training
- Classes or lectures at professional in-service meetings
- Professional Conferences (Talks, poster presentations or exhibits)
- Paper based educational materials
- Instructions readily available at time of certification
- Etc.

Discussion
Education for certifiers of death is an integral part of mortality data quality. With the proposed Curriculum and the recommendations for best practice the authors would like to advance the process of data quality enhancement through the Education
Committee.

In reference to the above given recommendations and the main topic of the WHO-FIC-Meeting we would like to pose the first Cluster of the attached Curriculum for particular discussion.

As well the authors would like to propose the adoption of the Curriculum, probably modified through the discussions, in order to establish an accepted basis for Training Materials for Certifiers. This curriculum can guide development of electronic training tools by WHO with the Education Committee and training materials developed and used by member countries.
DRAFT CURRICULUM FOR CERTIFIERS OF CAUSE OF DEATH

This international curriculum describes minimum requirements for the content of training in certifying causes of death. Its purpose is to provide a basis for education for all countries. Each cluster may be used or not depending on the target to which training is addressed.

Knowledge Clusters:

Knowledge of medical science (To be discussed)

Intent: To develop an understanding of the structure and function of the human body and the nature of disease. This cluster may be specifically addressed to give expertise training for certifying professionals with non-medical background though professional medical background is highly recommended for certifying.

- Anatomy (A study of the structure of the human body utilizing a system approach.)
- Physiology (A study of the functions of the human body.)
- Concept of etiology and risk factors
- Medical terminology (A study of common medical terms related to major disease processes.)
- Pathophysiology (A study of the causes and nature and effects of diseases and the effects of treatment)
- Appropriate exercise in determining death and its cause

Knowledge of specific fields or aspects of certification of causes of death

Intent: To develop the ability to determine the cause of death in a deceased person.

- Forensic medicine (A study of medical knowledge used for legal purposes)
- External causes of death (A study of external circumstances that can impair the health and their occurrence in the chain of events leading to death)
- Post mortem examination and autopsy (A study of best practice in determining the cause of death)

Legal/ethical issues relevant to the country in which certification is done

Intent: To introduce legal and ethical issues applicable to certifying the medical part of a death certificate.
• General privacy and confidentiality principles
  ➢ Adherence to relevant laws and regulations
• Release and dissemination of information
• Completeness of information
• Professional ethics

General uses of mortality data
Intent: To explain the purposes for which underlying cause-of-death data are collected and how they are used.

• Context in which certifying is done
• Purposes for certifying the medical part of the death record
• Statistical outputs
• Evidence for health policy
• Planning and evaluating health services and programs
• Medical and public health research
• Clinical education

Specific uses of underlying cause of death data
Intent: To introduce the specific uses of certified mortality data

• Health situation and trend analysis
  ➢ Leading causes of death
  ➢ Health indicators
  ➢ Trend analyses
  ➢ Multiple cause of death analysis

How to certify
Intent: to provide detailed instruction and experience on how to certify the causes of death on the WHO-recommended death certificate

• Structure and intent of the death certificate as printed in volume 2 of ICD-10
• Concept of underlying cause of death
• Concept of the sequence of two or more conditions
• Differences of part one and part two of the death certificate
• Certification of specific cases (e.g. maternal mortality, infant mortality and external causes)
• Importance of best medical opinion
• Appropriate exercises in certification

Quality Assurance
Intent: To raise awareness about the various factors that influence the quality of certified data.
• Quality of source information
• Validation of source information
• Responsibility for data quality
• Processes for acquiring additional information (e.g. querying practices, autopsy, police record)

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