

Cause-of-Death Data and the Most Important Sources of Their Deficiencies

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Short abstract

The recent COVID-19 epidemics proved the importance of accurate and timely data on single causes of death. The quality of cause-of-death (CoD) data differs, however, from one country to another, even despite the application of high standards established by the World Health Organization. One of the major reasons for this are imperfect knowledge of medical doctors issuing death certificates that concerns 1) the WHO rules on the choice of the underlying, secondary and direct causes of death, 2) and statistical categories denoting medical conditions included in the WHO's International Statistical Classification of Diseases and Related Health Problems.

The aim of this study is to investigate how the competencies of medical personnel can be improved through a training conducted on-line and in site. Participants included medical students (app. 80) and medical doctors (app. 40) in three European countries with relatively low quality of CoD data: Greece, Poland and Portugal. I identify *a priori* five main types of errors that can be made when filling in death certificates. In the second step, I examine the frequency of these errors among the participants before and after the training. Finally, I compare these results in light of certification practices that for each country under study are slightly different.

Extended abstract

Introduction

The recent COVID-19 epidemics proved the importance of accurate and timely data on single causes of death. The quality of cause-of-death (CoD) data differs, however, from one country to another, even despite the application of high standards established by the World Health Organization. One of the major reasons for this are imperfect knowledge of medical doctors issuing death certificates that concerns 1) the WHO rules on the choice of the underlying, secondary and direct causes of death, and 2) statistical categories denoting medical conditions included in the WHO's International Statistical Classification of Diseases and Related Health Problems.

Objective

The aim of this study is to investigate how the competencies of medical personnel can be improved through a training conducted on-line and in site.

Data

The data refers to medical personnel's competencies before and after a training that presents and explains the main errors that can be made when issuing a death certificate. The training was conducted among:

- app. 80 medical students in Greece, training in site,
- app. 20 medical doctors in Poland, training on line,
- app. 20 medical doctors in Portugal, training on line.

The choice of these three countries: Greece, Poland and Portugal was made because of a relatively low quality of CoD data, especially frequent assignment of deaths to the so-called garbage codes that are meaningless for health policy (i.e. cardiac arrest).

A priori knowledge

A priori, I identified five main types of errors that can be potentially made when filling in a death certificate:

- (1) Using so-called garbage codes, i.e. statistical categories that are not useful in the analyses of public health and mortality and that cannot provide specific recommendations for health policy;
- (2) Describing mode / mechanism of death as a direct cause of death;
- (3) Lack of logical and chronological chain of events leading to death, that is, lack of link between the underlying, secondary and direct causes of death;
- (4) Indicating the type of injury instead of circumstances of event;
- (5) Using trivial diseases as underlying causes of death.

The countries under study differ significantly regarding the frequency of each type of error. In Poland, for instance, the error no. (4) is committed more often than elsewhere. In all these three countries garbage codes (error no. (1)) are very frequently assigned (more than 25% of all death annually) but again, important country differences can be observed: while ‘Generalized and unspecified atherosclerosis’ is often registered in Poland, ‘Heart failure, unspecified’ is often chosen in Greece.

Empirical results

The Greek edition of training takes place in November 2021, whereas two other editions are planned for the beginning of 2022. Therefore, no empirical results are available as of October 2021. The analysis, however, will consist of the comparison of medical personnel’s competencies before and after a training, with a focus on country differences and medical personnel status (students or doctors). In the paper, I also plan to conclude on other elements of CoD registration system that potentially favor eliminating the certification errors, such as automatic coding of the underlying cause of death.