Reviewer’s report

Title: Injury death certificates without specification of the circumstances leading to the fatal injury - the Norwegian Cause of Death Registry 2005-2014

Version: 0 Date: 21 Feb 2018

Reviewer: Mohsen Naghavi

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Injury death certificates without specification of the circumstances leading to the fatal injury - the Norwegian Cause of Death Registry 2005-2014

This paper discussed about correction of Causes of Death, especially on one of important ill-defined code in COD with the name of X59

Method and result in paper is very well defined and in its area can be one of the best paper.

There are some issue about this paper. Fixing of these issues seems necessary.

Main issues

1- In the injury chapter of ICD10 there are 2 important ill-defined code, one is X59: "Exposure to unspecified factor" and other one is Y34: "Unspecified event, undetermined intent". Conceptually these are 2 separate codes one of them for assignment to unintentional unspecified event and one of them for undetermined intent for unspecified event. Assignment death to the X59 or Y34 is different by the countries. Then is it possible in some countries some part of X59 included in the Y34 or vice versa. It was much better if author's included Y34 for this analysis, unless they have a very good reason for do not include this code. As we see in the result of commination with the doctors they got numbers of suicide that cannot be under X59.

2- Age pattern of X59 is very important and correction of miss assignment have to be by age. In many countries some death in young age assigned to X59 and Y34. Then correction of miss assignment have to explain by age. Certainly possibility of reassignment of X59 by fall cannot be correct in under50 and 50-59. In other word reassignment of X59 is very different between age under60 with reassignment of X59 by age over 80. If we consider different age specific mortality rate due to X59 and Y34 in the different countries we can understand applicability of this aggregated age group for different countries is not enough and useful. Then highly recommend to present this result by age.
3- Authors have used individual record of multiple causes of death in Norway for this analysis. Accessibility to multiple causes of death in many countries is restricted. Just there are 2 or three countries in the world that individual record with multiple causes of death is publicly available. Then results of this study can be very effective for other country with no accessibility to individual record of multiple causes of death. Based on this reasons any detail of result by age and wider grouping of S and T can be very useful.

4- In the paper is not clear; what they did with the severity of nature of injuries in the death chain. Usually in the other causes (death chain) there are more than one N code. For example if somebody had Head/neck injury with hip injury they included which one in analysis and why?

5- Based on table 3, 21% of injured people had non Hip/thigh injury. What was the reassignment for these people? For example we have 6 person with Suffocation/drowning, but we do not see related external cause for this sever N code.

6- Grouping of S and T codes is crude, I think reorganized this grouping based on pathology of injury will help to get correct result. Here example of ICD code under Hip/thigh shows this grouping is just based on Anatomy not based on trauma pathology

| S70   | Superficial injury of hip and thigh                |
| S71   | Open wound of hip and thigh                        |
| S72   | Fracture of femur                                  |
| S73   | Dislocation and sprain of joint and ligaments of hip |
| S74   | Injury of nerves at hip and thigh level            |
| S75   | Injury of blood vessels at hip and thigh level      |
| S76   | Injury of muscle, fascia and tendon at hip and thigh level |
| S77   | Crushing injury of hip and thigh                   |
| S78   | Traumatic amputation of hip and thigh              |
| S79   | Other and unspecified injuries of hip and thigh    |

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