

Abstract

National civil registration systems record major vital events, such as birth and death. These vital event data are used by the Civil Registration and Vital Statistics (CRVS) system to generate vital statistics of a country. These national level vital statistic data play a key role in planning, delivering and monitoring of health and social development programs. Reliable mortality data, which are drawn from quality Cause of Death (COD) information, are essential for the government and their partners, including non-government organizations and academic institutions, to monitor the health of the population, to study disease distribution and emerging or neglected health problems, to address health inequities, to develop evidence-based health policy initiatives and as well as to implement cost-effective public health programs. In Sri Lanka though we have achieved almost 100% death registration, quality of Cause of death data remains questionable.

Objectives: To assess whether Cause of Death Guide mobile application, can be used to improve the quality of COD writing by medical doctors.

Methods: To improve the quality of cause of death written by medical doctors, educational, interactive mobile application, “Cause of Death(CoD) Guide” was developed. Twenty-five hospitals above the base hospital level were selected based on a convenient sampling method and 125 doctors (five doctors from each hospital) were trained on Medical Certification of Cause of Death (MCCOD).

During the MCCOD training program, a pretest was done to assess the quality of cause of death writing done by the participating doctors by asking them to write the cause of death for three standard case scenarios.

After the pretest the mobile application was introduced to doctors and after using the mobile application, a post-test was done by the same methodology as the pretest. Cause of death certifications written by doctors during the pretest and post-test were assessed by using a standard cause of death quality assessment tool developed by the University of Melbourne which assesses the quality of cause of death based on seven types of most common errors which can be identified in certification of cause of death. Assessment of usability of the CoD Guide mobile application and assessment of knowledge in CRVS among participating doctors were also done during the post-test.

Results:

During the pre-test, cause of death written for all three case scenarios by 125 participant doctors, had a mean error count of 3.24 (SD =1.003) and during post-test, cause of death written for all three case scenarios by same group of doctors had a mean error count of 1.06 (SD =1.003). Two means of pre-test and post-test were compared using paired t test and p value was 0.000 ($P < 0.05$). Significant improvement of quality of cause of death written by doctors after using the CoD guide mobile application was shown. Usability of the CoD guide mobile application was rated 86.7% (n=104) as average, above average or excellent and Satisfactory Knowledge in CRVS was shown with average mark of 78.4% (SD=3.0) after using the CoD Guide mobile application.

Conclusion:

It is evident that the Cause of Death Guide mobile application can improve the quality of Medical certification of Cause of Death writing and the application has the potential to be used as an educational tool to improve the quality mortality data by reducing the number of common errors done by doctors in Sri Lanka during cause of death certification.