

Chapter 2

Digitalization of Death Certification Model: Transformation Issues and Implementation Concerns

Dalibor Stanimirovic
University of Ljubljana, Slovenia

ABSTRACT

Accurate and consistent death certification facilitates evidence-informed health policies, morbidity and mortality surveillance on the national level, and consequently serves increasingly demanding medical and statistical needs. This paper initially explores the current situation concerning the death certification in Slovenia, and identifies related deficiencies and systemic problems. Based on the research findings, the paper outlines a construction of ICT-based model of death certification and provides applicable guidelines for its implementation at the national level. The research is based on focus group methodology. Structured discussions were conducted with 29 experts from cross-sectional areas related to death certification. Research results imply that effective ICT-based transformation of the existing death certification model should involve a redefinition of functions and relationships between the main actors, as well as a reconfiguration of the technological, organizational, and regulatory elements in line with the long-term public health objectives.

INTRODUCTION

Death certification, in various forms and with different purposes, has been one of the essential measures for the monitoring of personal and legal existence since the medieval history (Glasser, 1981; Sim & McKee, 2011). As such, it is still one of the most typical instruments, which allows the analysis of different aspects, patterns and causes of death in the modern public health era. Certification of death has been recurrently highlighted as a foundation for monitoring mortality patterns and documenting the leading causes of death, with the results being used to inform health policies and improve prevention strategies (Sibai, 2004; Burger et al., 2015). Mortality statistics including the causes of death are essential data to

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monitor population health, undertake epidemiological studies, and international comparisons (Lefeuve et al., 2014). Research to date underline that comprehensive approach to death certification provides a valuable platform for the multi-stakeholder dialogues, as well as allocation of resources and prioritization of health programs and initiatives.

Mortality statistics are widely used and often provide a major and only source of data for comparing health characteristics between different countries. Because causes-of-death statistics relate to all deaths, the problems of biases and representation due to sampling are avoided (European Commission, 2001). Results of these comparisons have been used as a starting point to investigate the causes of differences in the level of mortality, health prevention policies and quality of health care. The ability to access and use complete records of deaths in a population has been noted as vital to the compilation of public health statistics (Flanders, 1992; Hill & Rosenwaike, 2001; Ali & Hamadeh, 2013). Clearly in order for anyone to make use of this kind of information, the cause of death must be determined by a qualified person, and reported to a central agency in a systematic, accurate and consistent way (D'Amico et al., 1999; Cohen et al., 2007). The only way to obtain good-quality mortality statistics is to have deaths certified by a medically trained and experienced doctor. How well a doctor manages to diagnose the diseases and conditions that led to a person's death depends upon a number of factors and circumstances (Lu, 2003). To ensure that doctors are able to competently certify deaths in accordance with World Health Organization (WHO) guidelines and standards (International Statistical Classification of Diseases and Related Health Problems – ICD, WHO, 1992), they must receive basic training in death certification and must understand the importance of good cause-of-death information.

Apart from considerable functions in the field of public health, death certificate has an important role for individuals as well. It is a significant document involving permanent legal and administrative implications for the deceased's family. It reveals underlying cause of death, provides a legal basis for cremation or burial services and is essential for arrangement of the property issues and civil status (insurance, pensions and other benefits). Because of such complex and profound implications, it is important that death certificates are filled out completely, accurately, and promptly (Brooks & Reed, 2015).

The death certification system itself is rather complex, in part because several organizations, professional groups and departments are involved in the process of certification and registration of death (Rahimi et al., 2015). These agencies include doctors and/or coroners, government bodies (who employ the registrar of births and deaths), the police, the local authorities (responsible for appointing coroners), and the national statistics agencies (Crowcroft & Majeed, 2001). Quality death certification process contains four elements of particular concern (Figure 1): the certifier, the certificate, the deceased and the cause of death, however in order to provide a consistent sequence of activities throughout the whole death certification process, appropriate organizational and legal infrastructure must be in place (Maudsley & Williams, 1994; Sibai, 2004).

Throughout the European Union (EU), as in most other parts of the world, the completion of a death certificate is a mandatory requirement of the doctor or other qualified individual reporting the death, however the accuracy of the recorded cause of death has often been called into question (Myers & Farquhar, 1998; Swift & West, 2002; Dash et al., 2014). In order to facilitate high quality death certification and to standardize reporting and coding practices among various countries, the United Nations (UN) and WHO periodically develop protocols and guidelines for the management, operation and maintenance of civil registration and death certification (UN, 2001; Nojilana et al., 2013). Moreover, WHO and other organizations produce rules and guidelines for mortality and morbidity coding (WHO, 2013). Notwithstanding the significant efforts made by the several international organizations, in order to standardize

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