Electronic Certification of Death in Slovenia – System Considerations and Development Opportunities

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Introduction

• Facilitates morbidity and mortality surveillance, and consequently supports evidence-informed health policies and prevention strategies
• Monitoring population health, epidemiological studies and international comparisons
• Often inadequate and fragmented (diagnostic/coding errors, missing information, unavailability of medical records, etc.)
• eDeath certification:
  • access to deceased's medical record
  • faster execution of business processes /speed of data transmission
  • the confidentiality of personal data
  • data archiving and standardization of death certification practices
Motivation and research objectives

• The current death certification practice in Slovenia is obsolete and non-compliant with the legislation in some parts
• It prevents the cross functional integration of processes and considerably inhibits the utilization of the stakeholders’ organizational capabilities.
• Interrelated research objectives:
  • An overview and analysis of the death certification practice in Slovenia and identification of related deficiencies and system inconsistencies.
  • Conceptualization of ICT-based model of death certification including renovation of business processes and organizational changes.
Methods

- Focus group methodology (January 2014 - December 2015)
- The final sample size comprised 29 experts (ministries and public bodies, coroners, and ICT industry).
- Equal distribution in terms of gender, age between 40–60 years
- The role of the participating experts was twofold:
  - analysis of the existing death certification practice,
  - provide their vision of the transformation, and propose a conceptual design of the ICT-based death certification model.
Results 1

• The occurrence of death generates a very complicated course of action that triggers activities in different institutional subsystems

• Legal and administrative issues
• Regulated from three perspectives: medical, administrative and general
• Several inconsistencies concerning legal and administrative issues were revealed:
  • Non-compliance with the existing legislation in the field
  • Specific authorizations and licenses to the coroners have not been issued
  • Divergence between legislation and practice can be frequently detected
  • The normative acts do not foresee the possibilities for eDeath certification
Results 2

• **Education and training issues**
  - Coronary service in Slovenia is exclusively performed by the medical doctors
  - Education and training programs for post mortem examination service have not been defined

• **Organizational issues**
  - Although rather clear and strict legal provisions, there are several organizational discrepancies in practice:
    - A network of post mortem examination services has not been established
    - Official post mortem examination services are available only in large medical centres (services in rural areas are mainly carried out by family doctors)
    - Inconsistent practices (between municipalities and large medical centres)
Results 3

- **Informational issues**
- Insight uncovered significant inconsistencies and shortcomings:
  - Death certification process is not optimally organized and structured (paper-based manual data entries)
  - Inadequate legal regulation and non-compliance
  - Unresolved issues concerning the licensing, status and jurisdiction of the coroners
  - Unsecured and untimely information flows between the main stakeholders
- The issues revealed are manifested in several limitations:
  - The slow data and information flow between the stakeholders and the absence of fast and effective control of the data entered (paper-based forms, doubled data)
  - Rights of access to information are vaguely defined (unauthorized access)
  - Inaccessibility of data from the medical records of the deceased, etc.
Conceptualization of ICT-based model of death certification

- Addressing the identified issues (ICT-based solution, promotion of the national guidelines)
- Conceptual proposal:
  - Exceeds the current incapacities concerning the data flows
  - Access to deceased’s medical documentation
  - Higher quality and control of data, adequate documentation and archiving
  - Protection of personal data
  - Optimized and streamlined business processes and considerable organizational changes (regulatory amendments, certification of coroners, education and training, network of coronary services, etc.)
  - Redefinition of functions and relationships between the main actors, as well as a reconfiguration of the technological, organizational, and regulatory elements according to declared public health objectives
Conceptual design of ICT-based model of death certification

1. Occurrence of death
2. Deceased’s medical documentation
   - Certified coroner
   - Data entry on the deceased person
   - Application (eDeath certification)
     - Autopsy based on the cause of death
     - National Institute of Public Health
     - Verification, revision, completion
       - Medical death certificate and report on the cause of death
         - Access according to the legal regulations (health care institutions, eHealth applications, government and non-government bodies, etc.)
   - Death certificate
     - Ministry of the interior (Central Population Registry)
     - Data export
     - Different purposes
     - Transport
     - Relatives
Discussion

• Consider the wide array of factors from the health care and administrative ecosystems

• The main methodological dilemmas:
  • somewhat arbitrary identification of the potential effects of informatization,
  • conceptualization of the transformed death certification model (hypothesized without prior pilot testing and practical validation in the health care environment)

• The research presented does not seek to impose a ‘one-size-fits-all’ solution

• A valuable insight into the complex dynamics of the existing death certification practice

• The groundwork for further developments in this area

• Better utilization of public health resources and tangible public health benefits
Thank you!

Questions?

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