Opinion

Electronic Death Registration System (EDRS) in Iran

Narjes Mirabootalebi [1], Hamidreza Mahboobi [2, 3], Tahereh Khorgoei [4, 5]

1: Hormozgan University of Medical Sciences (HUMS), Bandarabbas, Iran
2: Student Research Committee, Hormozgan University of Medical Sciences (HUMS), Bandar Abbas, Iran
3: Payam Noor University (PNU), Tehran, Iran
4: Psychiatric Research Center, Hormozgan University of Medical Sciences, Bandar Abbas, Iran
5: Infectious and Tropical Disease Research center, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

* Corresponding Author: Hamidreza Mahboobi, Shahid Mohammadi Hospital, Bandar Abbass, Iran. Tel: +98.9364300250. Email: hamidrezamahboobi@yahoo.com

Annually, millions of deaths occur worldwide. Information about the number and the causes of death is important for health care providers and for health policy managers for planning healthcare services, targeting primary prevention, allocating funds, initiating public health measures, etc (1).

Due to the large numbers of deaths occurring in each area of the world, obtaining accurate statistics about the number and the cause of death isn't simple (2).

Traditionally, death registration was a paper-based process and death certificate registration was also paper-based. Problems with the paper-based registration of death certificates include (3):

1- There is potential for permanent destruction of the records due to natural events such as burning or flooding.
2- The registration process, copying of, and transportation of these the records is time consuming and expensive.
3- Access to the records is limited.
4- It is very difficult to detect and correct possible mistakes in the registration process.
5- Collection of data at a national level and even at a local level within a death registration office is a very difficult process.
6- Each local death registration office may have a different method for reporting deaths. This may increase the difficulty of collecting and interpreting the information provided (4) An example of this is in the case of cardiopulmonary arrest and subsequent death in the context of Chronic Renal Failure (CRF). This can be attributed to renal disease or cardiovascular disease. Such differences can change statistics regarding cause of death and, potentially, health policy manager decisions (5).

These problems prompted the development of a new "Electronic Death Registration System" (6). EDRS is a web-based registration system that allows users to create and edit death certificates online and gives the users the ability to access the information online (7). In this system, computers are used to enter

and maintain the data rather than the traditional method of paper death certificates.

EDRS is safe from natural disasters because of the ability to create backups, is more time efficient, facilitates easy and quick copying of records, allows access to records via Internet by multiple uses, ensures easy correction of mistakes, and results in easy and quick transport of the records from local to national and international offices (8).

By using EDRS, all local offices can choose a common method for reporting deaths, which will help with the collection and interpretation of the data at the national and international level (9). Information about new deaths can be collected as the users enter the data in the software and data analysis can be performed more easily (10). Possible risks of errors will be reduced by using EDRS for analyzing death information at the national or international level.

Despite these advantages, EDRS has some limitations that prevent complete replacement of manual death registration systems. The limitations of EDRS are discussed below:

1) EDRS needs specific hardware and software and also requires Internet access. This limits its use in certain local areas. Providing necessary equipment to local offices requires financial support, which may not be feasible in all countries.

2) Office workers, physicians, and medical examiners who are new to EDRS would need education and training before undertaking the task of registration of death certificates. (11) In addition, all users of EDRS need to have basic computer skills and be competent in Internet use.

3) Concern about the safety of digital records is common. One can reach the records on EDRS by finding the username and password.(12)

Taking into account the above limitations, EDRS offers a way of providing a strong national and international death registration system to allow quick and easy access to accurate information. However, the use of EDRS should be piloted in selected local offices in developing countries prior to widespread implementation to ensure that all advantages and limitations, and the significance of these, are better understood.

In Iran in 2005, a standard death certificate was developed. This was the first step for development of EDRS. But EDRS in Iran is still in its initial stages. As a result, problems are still inherent within it. These include:

1- Lack of written instructions for correct completion of the items in the software
2- Lack of written instructions for writing the cause of death
3- Users are not limited (by their professional field)
4- There is no written protocol for collecting the data

Also there are problems in the system software that should be solved.

1- One cannot create a backup using the current software.
2- Lack of the possibility to define a specific user for the software
3- One cannot return to previously inputted information to correct the mistakes
4- The software cannot detect duplicate records therefore information may inputted several times

We suggest the following for development of EDRS in Iran.

1- Designing a system for sending information online
2- Periodic education for physicians and other staff members is needed
3- ICD-10 could be used as a reference for causes of death
4- Users in the field of medical records who are familiar with statistics, medical vocabulary and information technology can be helpful
5- For each part of EDRS, complete and accurate instructions should be prepared

In summary, noting the great number of deaths occurring annually in Iran and other developing countries, and the importance of data obtained from the causes of death registered in national databases annually, development of EDRS is necessary. Although there are problems currently associated with the use of EDRS pilots in local offices, these problems and limitations can be solved. This requires collaboration among physicians, health care policy makers, hospitals, and other enters related to death registration. Research projects in this field are lacking.

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