



Summary: Strengthening Perú's national death registry information system

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Quality of mortality statistics in Perú

Civil registration and vital statistics (CRVS) systems are one of the most important sources of information on a population's health status, recording information on vital events like births and deaths.¹

Reliable mortality statistics, which are drawn from quality cause of death (COD) data, are essential for governments seeking to develop evidence-based health policies and programs. In Perú, however, only 54 per cent of deaths have a COD recorded, and about 30 per cent of these causes are classified as poorly-defined or not useful for the formulation of public policy.

To register a death in Perú's Civil Registry, a death certificate must be presented. However, supervision of death certificates completed in paper form can be difficult, resulting in low coverage. The paper form of the death certificate is composed of two sections; a death certificate and a statistical report of death, which doctors must complete and submit to a health facility. In some cases, the doctor may submit one section without the other, meaning that essential information on deaths is lost.

Moreover, the COD information contained on these paper forms have data limitations. One study conducted in the Ica region found that 28 per cent of death certificates contained errors,² highlighting poor medical certification of cause of death practices.

Improving mortality data

In response to these problems, the Ministry of Health (MINSa) together with the National Registry of Identification and Civil Status (RENIEC) and the National Institute of Statistics and Informatics (INEI) partnered with the Bloomberg Philanthropies Data for Health (D4H) Initiative to undertake several CRVS-strengthening activities. These activities addressed the following areas:

- management of the mortality information system
- process standardization
- use of information and communication technology
- coverage of medically certified deaths
- improving quality of information
- development of studies and monitoring of processes.

A key focus of these efforts was the implementation of the National Death Registry Information System (SINADEF), which is an application allowing doctors to complete death certificates in real-time immediately after verifying that a death has occurred.

Management of the mortality information system

In April 2016, MINSa established the Procedure for Certification of Deaths. This regulated the use of SINADEF for online death certification and introduced a new paper form of the death certificate incorporating barcodes for increased data security. In addition, a Convention Framework of Interinstitutional Cooperation between INEI, MINSa, and RENIEC was developed, as well as a subcommittee to monitor the management of mortality information.

Process standardisation

At a workshop, civil registrars and statisticians made process maps from the occurrence of a vital event (birth or death) until the official publication of the death report, allowing stakeholders to visualise data flows and weaknesses. A Technical Guide for correct death certification was created and approved by MINSa in April 2017, recommending flows to produce death certificates in various circumstances (eg in a hospital or at home) and identifying regulatory gaps (**Figure 1**).

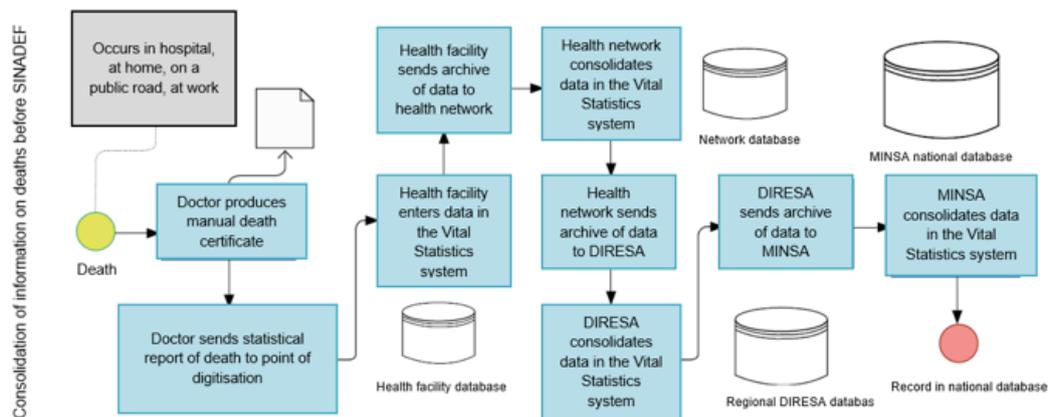
1 AbouZahr C, de Savigny D, Mikkelsen L, Setel PW, Lozano R, Nichols E, et al. Civil registration and vital statistics: progress in the data revolution for counting and accountability. *Lancet*. 2015;386(10001):1373-1385.

2 Valdez W, Gutiérrez C, Siura G. Análisis de la calidad de la certificación de defunciones en la región Ica, 2007 [Analysis of the quality of death certification in the Ica region, 2007]. *Rev Peru Epidemiol*. 2013;17(1).

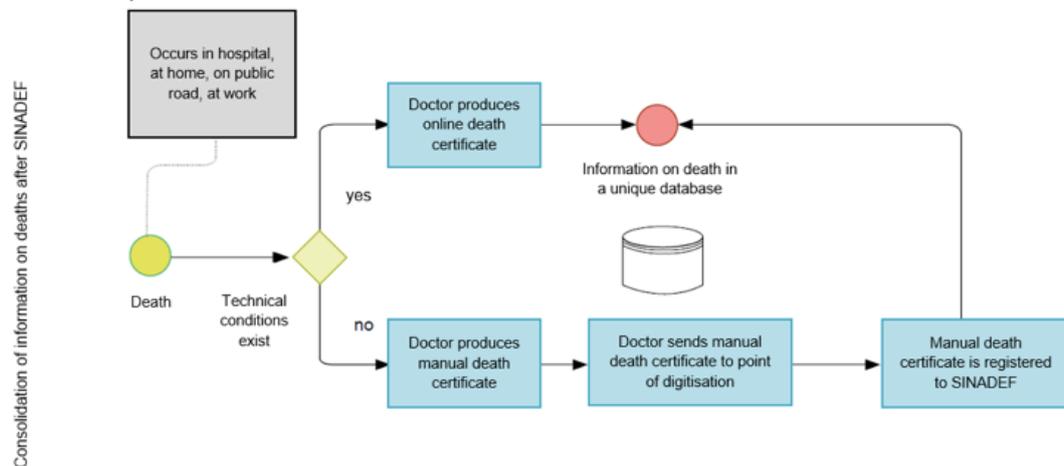


Figure 1. Flow of consolidation of death certificate information in the national database

A. Before implementation of SINAEF



B. After implementation of SINAEF



DIRESA: Dirección Regional de Salud (Regional Health Management)

Source: Vargas-Herrera J, et al. Rev Peru Med Exp Salud Publica. 2018;35(3):505-14. doi: 10.17843/rpmesp.2018.353.3913

Use of information and communications technology

SINADEF allows all information to be entered using the same web application, and it stores the data in a single database. Since the implementation of SINADEF in August 2016 until July 2018, 28,407 users of the SINADEF application have been created and a total of 122,411 deaths have been registered. The quality of data recording, including the COD, has been improved.

Coverage of medically certified deaths

In its efforts to improve coverage of medically certified deaths, MINSA restricted the distribution of paper death certificates in hospitals that had internet access (so that doctors would instead certify deaths online) and replaced the old Vital Statistics system with SINADEF. Several incentives were also proposed – such as linking burial allowance payments with online death certification through SINADEF – aimed at promoting the use of SINADEF and increasing its coverage. (Figure 2).

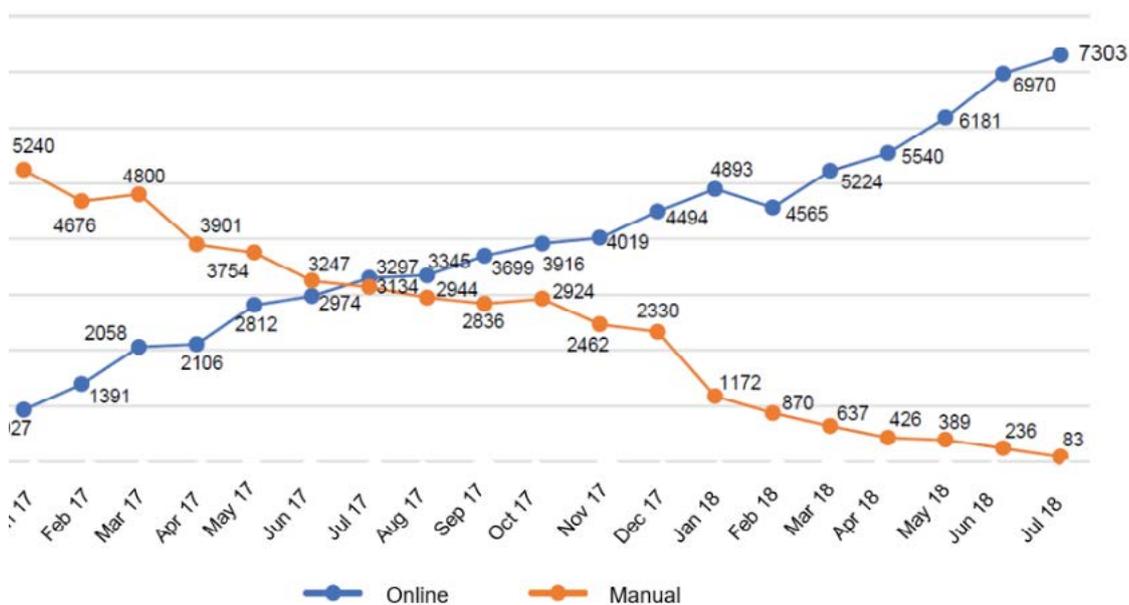
Improving quality of information

Several training workshops on correct medical certification practices – including an online workshop – were held for doctors, university processors, and medical students. This process resulted in about 6660 professionals trained. Training courses were also held on mortality coding using ICD-10, use of the ANACONDA tool for evaluating the quality of mortality statistics, and development of population demographic estimates at the sub-national level.

Development of studies and monitoring of processes

A dashboard for monitoring the SINADEF implementation process is available on the MINSA website, and several studies have been carried out. Two studies were carried out on the quality of death certificates – one showing that time between registration of COD and the death improved by 66 per cent amongst deaths certified online nationwide,³ and another study in two Lima hospitals showing that registration improved by up to 45 per cent after trainings.⁴ A project is underway to test the use of a verbal autopsy questionnaire for determining COD.⁵

Figure 2. Death certificates online and in paper format (manual), Peru, January 2017 – 2018



Source: Vargas-Herrera J, et al. Rev Peru Med Exp Salud Publica. 2018;35(3):505-14. doi: 10.17843/rpmesp.2018.353.3913

3 Cordero Muñoz L. Informe de Consultoría: Estudio de diagnóstico de barreras y oportunidades para el registro de defunciones en Lima, Loreto, Piura y Puno [Consultancy Report: Diagnostic study of barriers and opportunities for registration of deaths in Lima, Loreto, Piura and Puno]. Lima: Bloomberg Philanthropies Data for Health Initiative; 2017.

4 Vidal Anzardo M. Consultoría: Informe de Consultoría: Estudio de evaluación de certificados de defunción de dos hospitales de Lima, Perú [Consultancy: Consultancy Report: Study of evaluation of death certificates from two hospitals in Lima]. Lima: Bloomberg Philanthropies Data for Health Initiative; 2018.

5 França E, Campos D, Guimarães MD, Souza M de FM. Use of verbal autopsy in a national health information system: Effects of the investigation of ill-defined causes of death on proportional mortality due to injury in small municipalities in Brazil. *Popul Health Metr.* 2011;9:39.

Moving forward: Next steps

Although the process of strengthening the mortality information system is not yet complete, the positive changes seen have the potential to multiply in coming years. Moving forward, the Peruvian government together with Data for Health will focus on political advocacy to extend the use of SINADEF to rural districts, link burial allowance payments to death certification through SINADEF, institutionalise medical certification education and training, and implement the use of verbal autopsy in areas where medical certification is not possible. As Perú makes strides to improve its CRVS system, it must continue to ensure the coverage and quality of its mortality data and consolidate progress that is being made.

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