

Country-owned and led performance and data quality monitoring in CRVS systems

Country Brief: Bolivia

Priority Area: Cause of death assignment

Introduction and Context

In Bolivia, according to the National Health Information System (SNIS-VE), despite efforts to improve the CRVS system, **death registration coverage remained at 61%** in 2022, and only **56% of deaths had a medical death certificate with cause-of-death** information¹.

The country is currently engaged in a broad initiative to enhance its CRVS system, aiming to improve data coverage and quality and establish it as a reliable foundation for national decision-making. Between 2022 and 2023, a multi-sectoral team including INE (Statistics), SERECI (Civil Registry), SEGIP (Police), IDIF (Forensic services), the nine SEDES (MoH), and SUIS (Planning, Epidemiology, and Health Services Directorates) conducted a comprehensive **process analysis** to map roles, functions, and bottlenecks within the system. Building on these findings, the next priority is to develop a robust monitoring framework to track and drive system performance.

This project, led by the Ministry of Health in collaboration with Vital Strategies and Swiss Tropical and Public Health Institute, aimed to define key performance and data quality indicators to support routine monitoring of CRVS system with focus on availability of high-quality **cause-of-death data** for informed decision-making.

¹ Evaluation Report: Analysis and Redesign of the Processes of the Civil Registration and Vital Statistics System of Bolivia. Ministry of Health and Sports, National Institute of Statistics, Civil Registration Service, General Personal Identification Service. La Paz, April 2024.

Methodology

The monitoring framework was developed through participatory processes, applying a system thinking approach and maintaining a strong focus on informing decision-making.

To develop practical, country-specific tools, the active involvement of all stakeholders in the CRVS system was essential. Consultations, workshops, and field visits helped identify key decisions and end-user information needs, ensuring the monitoring system is relevant, aligned with national priorities, and sustainable. Below, we briefly describe the activities conducted, structured across four phases.

Phase 1 – Virtual Consultations

Two virtual consultations were held on 13 and 16 December 2024 to map key stakeholders in the CRVS system and understand their objectives and information needs. Participants included the National Institute of Statistics (INE), Provincial Health Services (SEDES), Civil Registry Service (SRECI), public sector physicians and cause-of-death coders from the Ministry of Health; the Institute of Forensic Investigations (IDIF) was not able to join at this stage.

Table 1. Participants in Bolivia’s virtual consultations

Date	Number of participants	Stakeholders
13/12/2024	16	<ul style="list-style-type: none"> • National Institute of Statistics (INE) • Provincial Health Services (SEDES) • Civil Registry Service (SRECI) • Public sector physicians • Mortality coders
16/12/2024	15	<ul style="list-style-type: none"> • National Institute of Statistics (INE) • Provincial Health Services (SEDES) • Civil Registry Service (SRECI) • Public sector physicians • Mortality coders

The first session used a structured, participatory approach supported by the MIRO platform (<https://miro.com/app/board/uXjVL4Quamo=/>) and a set of questions (Annex 1) to guide discussion and documentation.

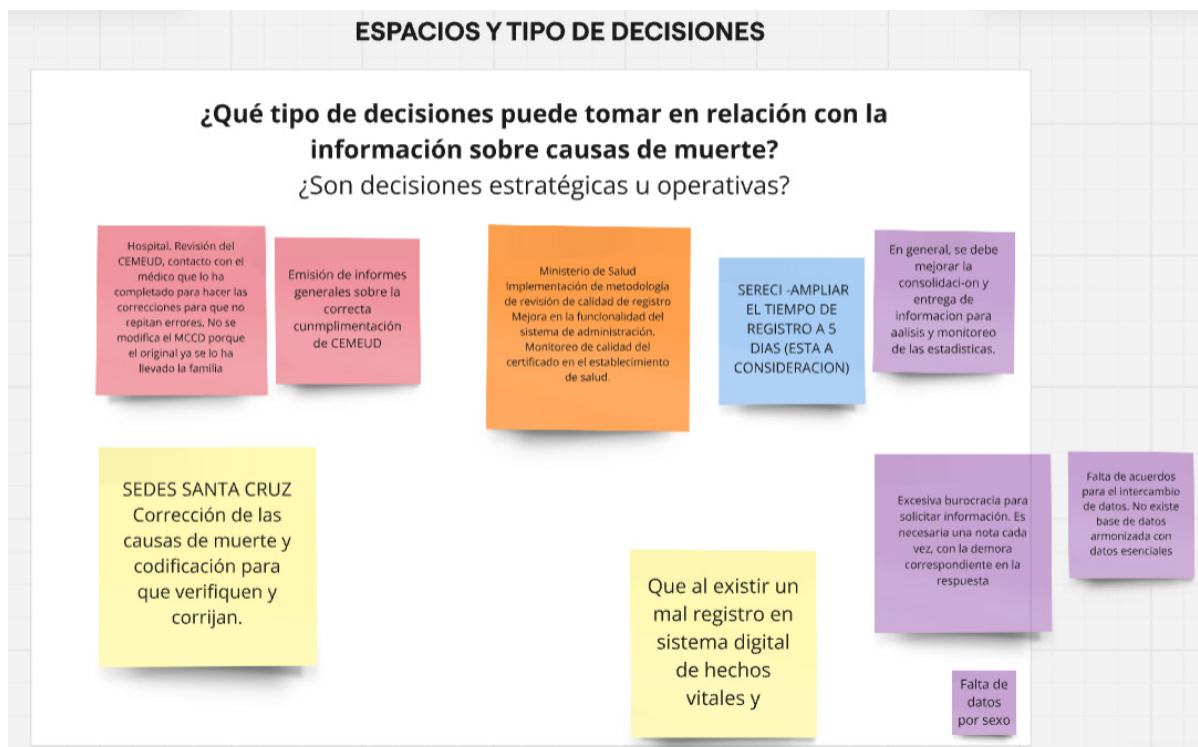


Figure 1. MIRO Board. Bolivia’s first virtual consultation. Summary of decisions made by CRVS system actors on the production and use of cause-of-death information.

In the second session, participants reviewed a process flowchart outlining the flow of cause-of-death information through Bolivia’s CRVS system, with emphasis on three milestones: issuance of the medical death certificate, coding and digitization, and registration and production of vital statistics.

Finally, all the indicators drawn from national documents and the virtual consultations were reviewed to identify information gaps. The resulting process map, indicators, and insights provided the groundwork for the multi-sectoral in-person workshop.

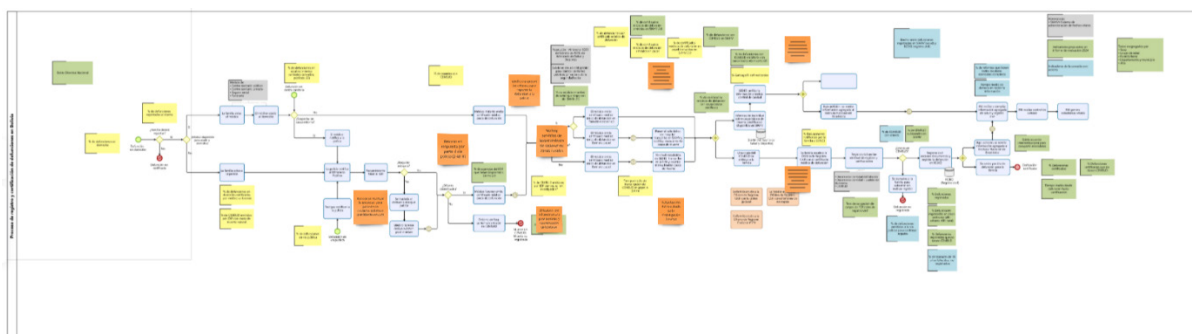


Figure 2. Indicator mapping along the simplified flow of cause-of-death information in Bolivia’s civil registration and vital statistics system. Initial draft.

Phase 2 – Field Visits & Workshop

On 10 and 11 March 2025, in-person visits were conducted to institutions involved in Bolivia's CRVS system. Through unstructured interviews, these visits provided an opportunity to observe actual workflows, tools, and interactions within each institution, offering a clearer understanding of how processes operate in practice. They also revealed informal practices, workarounds, and contextual constraints that shape daily decision-making.

Table 2. Schedule of individual in-person meetings with key stakeholders in Bolivia's CRVS system

Institution	Date	Theme
National Institute of Statistics (INE)	10 March 2025	Processes for the use of information and their regulation.
Civil Registry Service (SERECI)	10 March 2025	Birth and death registration processes.
Institute of Forensic Investigations (IDIF)	11 March 2025	Processes for the registration of external cause deaths.
La Paz Provincial Health Services (SEDES)	11 March 2025	Processes for monitoring and management of the Vital Events Management System and reporting of births and deaths (SIAHV).
Northern Hospital	12 March 2025	Processes for birth and death registration in Hospitals

All the information elaborated so far was presented and discussed at the multi-sectoral workshop held on 13-14 March 2025 in La Paz. Participants invited are presented in table 3.

During the workshop, participants engaged in presentations, group work, and plenary discussions. A participatory, systems-oriented approach was applied using tools such as the simplified process map. An Excel-based tool (Decision Space template (.xlsx)) supported the identification of each institution's decision space across six areas: technical capacity for medical certification and registration; administrative process improvement; legal framework and standardization; coordination and resource generation; quality of certification and registration; and funding and resources.

Phase 3 – Indicator selection

By the end of the workshop, a consolidated list of indicators was produced, capturing the priorities and perspectives of all participants. Alongside the selected key indicators, the list also mapped key data sources and designated the institutions responsible for supplying the required information. This first list included 44 indicators.

These indicators were then prioritized, standardized, and documented through a structured process by the core group at the Ministry of Health. A set of predefined criteria guided the initial prioritization, followed by an assessment of data availability for each indicator. Refer to Consolidated indicators template (.xlsx). This approach ensured that the selected indicators were both relevant for decision-making and feasible to operationalize within the current data landscape in the country. The final list to be piloted at this stage included **32 indicators**.

Table 3. Participants of the workshop in Bolivia for the definition of performance indicators of the CRVS system.

Institution	Profile	Role In The Workshop
SERECI National	<ol style="list-style-type: none"> 1. National Director General of SERECI 2. Head of Standards and Regulations 3. Vital Statistics Coordinator 4. Technical Professional in Planning or Systems 	<ol style="list-style-type: none"> 1. Strategic decision making 2. Processes counselling 3. Indicators counselling 4. Operational decision making
SERECI LA PAZ	<ol style="list-style-type: none"> 1. Director of SERECI 2. Legal Director of SERECI 3. IT Systems 4. EL ALTO Civil Registry Office (ORC) 5. LA PAZ Civil Registry Office (ORC) 6. Planning Professional 	<ol style="list-style-type: none"> 1. Decision maker 2. Technical work/Legal consultancy 3. Support to process design and implementation 4. Operational decision making
INE	<ol style="list-style-type: none"> 1. Statistical Methods Technician 2. Health Information Analyst 3. Planning specialist 	<ol style="list-style-type: none"> 1. Technical advice on indicators 2. Support in the design and planning of processes
UDAPE	<ol style="list-style-type: none"> 1. Head of the Social and Economic Policy Analysis Unit 2. Head of Data Use 	<ol style="list-style-type: none"> 1. Technical advice on indicators 2. Support in the design and planning of processes
SEDES-SDIS (La Paz)	<ol style="list-style-type: none"> 1. Head of Vital Events 2. Head of the Vital Events System 3. Head of Coding 4. Quality Manager 5. Epidemiologist 	<ol style="list-style-type: none"> 1. Identify improvements in the management of the data system. 2. Identify improvements in the management of the data system. 3. Identify improvements in the management of the data system. 4. Identify improvements in the management of the data system.
Health facilities	<ol style="list-style-type: none"> 1. Epidemiologist (Hospital del Norte) 2. Statistical Coder (Hospital del Norte) 3. Internal Medicine Doctor (Hospital del Norte) 4. General Practitioner (Primary Level) 	<ol style="list-style-type: none"> 1. Identification of death certification processes 2. Identification of death certification processes 3. Identification of death certification processes
IDIF (La Paz)	<ol style="list-style-type: none"> 1. Director of IDIF 2. Forensic Doctor (IDIF La Paz) 3. Morgue technician 	<ol style="list-style-type: none"> 4. Advisory in forensic processes 5. Development of indicators related to deaths from external causes 6. Provide technical advice in forensic processes
Ministry of Health	<ol style="list-style-type: none"> 1. Directorate of Planning 2. The Continuum 3. Vital Events (SUIS) 4. Health Services Network (Redes) 5. Epidemiology 	<p>Technical advice on indicators</p> <p>Support in the design and planning of processes</p> <p>Evaluate logistical flows related to records</p>
Funeral Homes (La Paz)	<ol style="list-style-type: none"> 1. Secretary of Health 2. Funeral home manager La Paz Municipality 3. Representative of the Funeral Homes Association 4. Medical Officer in Charge of Death Certification Processes 	<p>Evaluate logistical flows related to records</p> <p>Evaluate logistical flows related to records</p>

Key Findings

Stakeholders' roles and responsibilities

Figure 3 presents the key stakeholders involved in the CRVS system in Bolivia. SERECI is legally responsible for registration of deaths, the Ministry of Health is responsible for medical certification and cause-of-death coding, and INE consolidates and disseminates national mortality statistics. Despite these defined roles, the system operates in a fragmented manner, with coordination mechanisms still underdeveloped. A key gap is the large discrepancy between the number of deaths registered by SERECI and those captured in the Ministry of Health's information system. Additionally, IDIF continues to use its own certification procedures and has shown resistance to fully adopting the standardized national CEMEUD form.

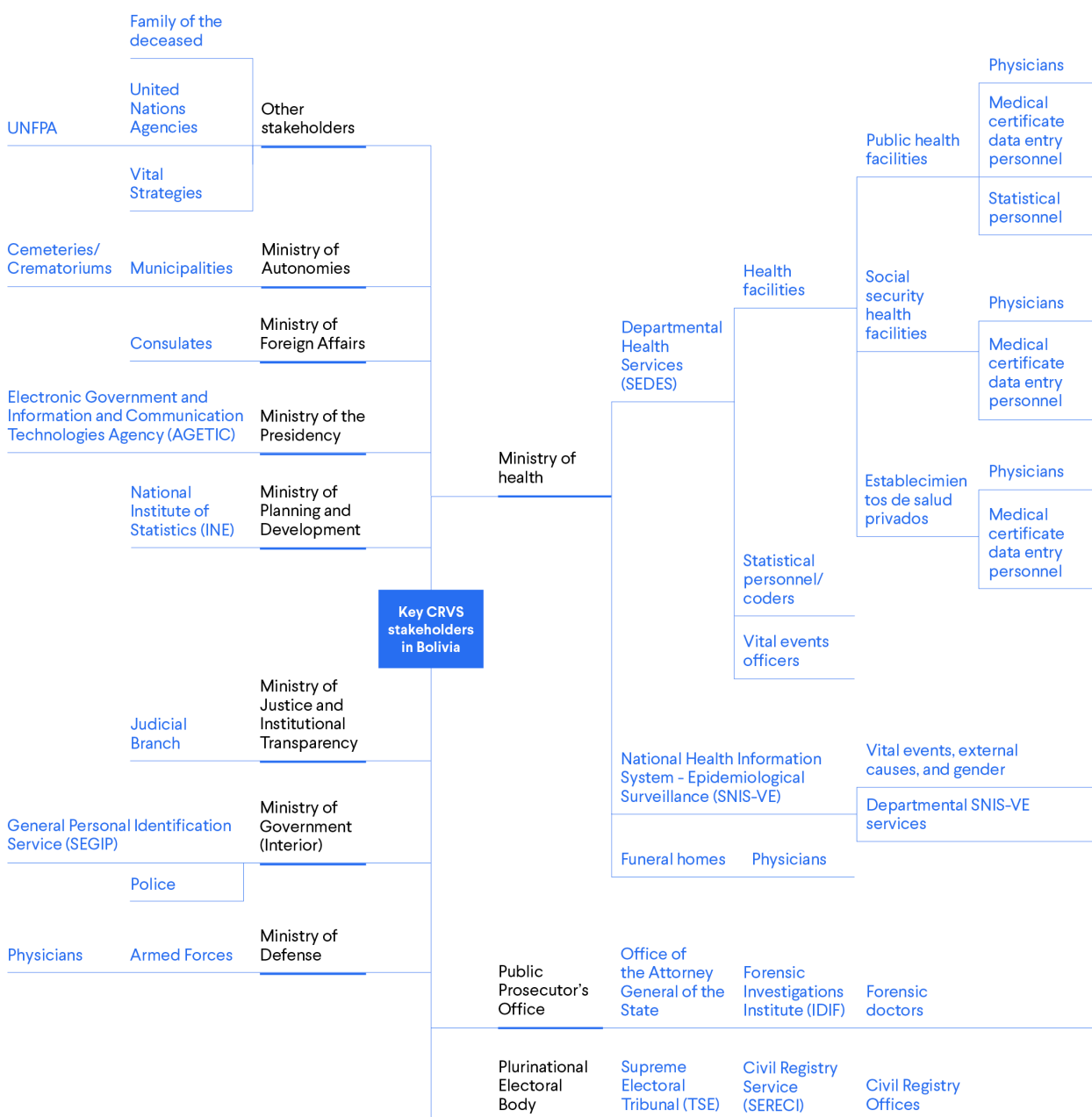


Figure 3 Key CRVS's stakeholders in Bolivia

During first consultation, discussions focused on clarifying the roles of key institutions in certifying, registering, and coding deaths, and highlighted how mortality data have been used to inform decisions in recent months. Participants noted persistent limitations in standardization and data quality, particularly within SERECI and health facilities, alongside fragmented feedback mechanisms for correcting errors. Weak inter-institutional coordination and lack of data harmonization emerged as critical barriers to producing reliable statistics. Under-registration remains a major concern, especially for deaths outside health facilities and among children, driven in part by short legal deadlines and the absence of incentives for families to complete registration. While there has been progress toward adopting the standardized CEMEUD form nationwide, resistance (particularly from IDIF) continues to delay full implementation.

During the second session, participants first described the operational challenges of certifying deaths that occur outside health facilities, particularly among terminally ill patients who die at home. Physicians reported uncertainty about when to refer cases to the forensic service (IDIF), compounded by police delays in rural and some urban areas and a lack of morgues in hospitals. The continued use of different death certificate forms by IDIF and the Ministry was flagged as a source of inconsistency. In the second block, the limited coverage of the Ministry's digital registration system (SIAHV2) was noted, with coding responsibilities distributed across multiple levels and variable data quality controls. The third block focused on the production and use of vital statistics: the Ministry of Health collects cause-of-death data but does not analyze it, and no standardized database is shared across institutions. Bureaucratic hurdles and limited disaggregation further restrict data use, particularly by the National Statistics Institute (INE), which receives only aggregated information.

Key Findings

- SERECI records ~60–70% of expected deaths; under-registration is significant.
- Health Ministry's data system (SIAHV2.0) captures fewer deaths than civil registration; not yet scaled to all health facilities and community deaths missing.
- Lack of data harmonization limits completeness and utility of vital statistics. No shared, essential dataset exists across CRVS institutions.
- No routine analysis of cause-of-death data exists at the Ministry of Health.
- INE lacks disaggregated data and faces bureaucratic delays in data access.
- IDIF has been reluctant to adopt CEMEUD, even though there are formal agreements with the Ministry of Health; the transition is in progress.
- Forensic "pending" cause-of-death (CODs) are rarely updated in official systems.
- Legal deadline (24h) for death registration hinders compliance.
- Delays in police response and lack of morgue facilities hinder proper certification of non-natural deaths in some areas.
- Coding quality control is mostly at the SEDES level, with urban areas performing better than rural ones

Decision Space Analysis

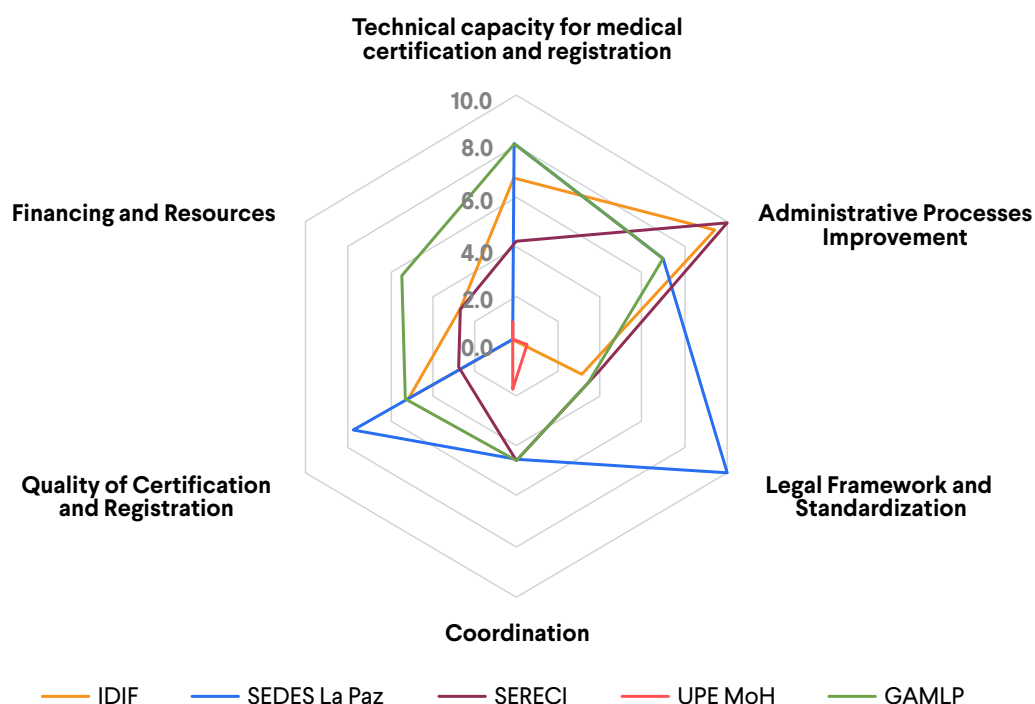


Figure 4. Decision space among actors in Bolivia’s CRVS system

The radar chart illustrates the perceived decision space of key CRVS actors across six functional areas. SEDES La Paz reported broad authority, particularly in legal standardization and quality assurance. IDIF and SERECI showed higher decision space in administrative processes, though with limitations in coordination and legal alignment. UPE MoH identified very restricted capacity across all areas, highlighting its limited operational autonomy. GAMLP demonstrated moderate influence, especially in technical and administrative domains. Overall, the chart reflects asymmetric roles and uneven authority, underscoring the need for better coordination and clearer institutional mandates across the CRVS system.

Monitoring the process with indicators

Table 8 presents the final list of selected indicators for inclusion in the pilot phase. Additionally, annex 1 contains a simplify map that offers an overview of the process and the specific step being monitored by each indicator.

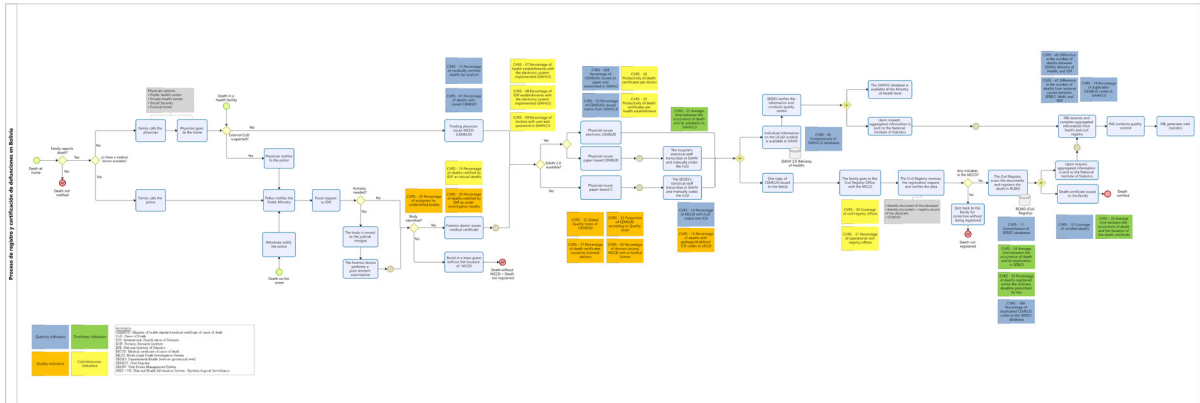
Table 8. Indicator Monitoring List for Bolivia's CRVS System with a focus on medical certification

ID	Indicator	Institution data source	CRVS milestone	Performance domain	Desagregation level
CVRS - 01	Percentage of deaths with issued CEMEUD	MoH (SIAHV2)	Medical certification	Quantity	Sex, age group, department, issuing institution of the CEMEUD
CVRS - 02B	Percentage of CEMEUDs issued on paper and transcribed in SIAHV2.0	MoH (SIAHV2)	Medical certification	Quantity	Sex, age group, department, issuing institution of the CEMEUD
CVRS - 03	Percentage of CEMEUDs issued online from SIAHV2.0	MoH (SIAHV2)	Medical certification	Quantity	Sex, age group, department, issuing institution of the CEMEUD
CVRS - 05	Completeness of SIAHV2.0 databases	MoH (SIAHV2) - INE	Medical certification	Quantity	Sex, age group, department
CVRS - 07	Percentage of health establishments with the electronic system implemented, by year	MoH (SIAHV2)	Medical certification	Cost/resources	Department, subsector
CVRS - 08	Percentage of IDIF establishments with the electronic system implemented	IDIF	Medical certification	Cost/resources	Department
CVRS - 09	Percentage of doctors with user and password in SIAHV2.0	SIAHV2- SIREPRO	Medical certification	Cost/resources	Department, Institution, Subsector
CVRS - 10	Coverage of certified deaths by year of occurrence	SERECI - INE	Certification	Quantity	Sex, age group, department
CVRS - 11	Completeness of SERECI databases (= coverage of deaths registered in the SERECI databases)	SERECI - INE	Registration	Quantity	Sex, age group, department
CVRS - 13	Percentage of medically certified deaths by location (health establishment, home, public space, other)	MoH (SIAHV2)	Notification	Quantity	Department, subsector
CVRS - 14	Percentage of medical certificates with cause of death coded in ICD	MoH (SIAHV2)	Cause of death coding	Quantity	Sex, age group, department, subsector
CVRS - 15	Percentage of deaths with incorrect/misdefined ICD codes as the underlying cause of death	MoH (SIAHV2)	Cause of death coding	Quality	Sex, age group, department, subsector
CVRS - 18	Percentage of duplicated CEMEUD codes in SIAHV2.0	MoH (SIAHV2)	Quality control	Quantity	Sex, age group, department, subsector
CVRS - 18A	Percentage of duplicated CEMEUD codes in the SERECI database	SERECI	Quality control	Quantity	Sex, age group, department, subsector
CVRS - 19	Percentage of deaths certified by IDIF as natural deaths	IDIF	Medical certification	Cost/resources	Sex, age group, department
CVRS - 20	Percentage of deaths certified by IDIF as "under investigation" deaths	IDIF	Medical certification	Quality	Sex, age group, department
CVRS - 23	Average time between the occurrence of death and its validation in SIAHV2.0	MoH (SIAHV2)	Notification	Timeliness	Sex, age group, department, subsector
CVRS - 24	Average time between the occurrence of death and its registration in SERECI	SERECI	Registration	Timeliness	Sex, age group, department
CVRS - 25	Percentage of deaths registered within the ordinary deadline prescribed by law	SERECI	Registration	Timeliness	Sex, age group, department
CVRS - 26	Average time between the occurrence of death and the issuance of the death certificate in SERECI	SERECI	Certification	Timeliness	Sex, age group, department
CVRS - 28	Productivity of death certificates per doctor	MoH (SIAHV2)	Medical certification	Cost/resources	Department
CVRS - 29	Productivity of death certificates per health establishment	GAMy SIAHV 2.0	Medical certification	Cost/resources	Department, Subsector
CVRS - 30	Coverage of civil registry offices	SERECI	Registration	Cost/resources	Department
CVRS - 31	Percentage of operational civil registry offices	SERECI	Registration	Cost/resources	Department
CVRS - 32	Global Quality Index of CEMEUD	MoH	Medical certification	Quality	Sex, age group, department, subsector
CVRS - 33	Proportion of CEMEUD according to Quality Scale	MoH	Medical certification	Quality	Sex, age group, department, subsector
CVRS - 36	Percentage of doctors issuing death certificates with a medical license	MoH (Human resources)	Medical certification	Quality	Department, Subsector
CVRS - 37	Percentage of death certificates issued by licensed doctors	MoH (SIAHV2)	Medical certification	Quality	Department, Subsector
CVRS - 39	Percentage of autopsies for unidentified persons	IDIF-MoH	Medical certification	Quality	Sex, age group, department
CVRS - 40	Difference in the number of deaths between SERECI, Ministry of Health, and IDIF	IDIF-SERECI-MoH	Registration	Quantity	Sex, age group, department
CVRS - 41	Difference in the number of deaths from external causes between SERECI, Ministry of Health, and IDIF	IDIF-MoH	Medical certification	Quantity	Sex, age group, department

Annexes

Annex 1. Selected CRVS indicators mapped in a high-level overview of Bolivia's processes

Please, find a legible version of the document attached



Annex 2. Acronyms and Abbreviations

CEMEUD	Ministry of Health standard medical certificate of cause of death
CoD	Cause of death
GAM	Autonomous Municipal Government
IDIF	Forensic Research Institute
INE	National Institute of Statistics
MLDI	Medicolegal Death Investigation System
MoH	Ministry of Health
SEDES	Departmental Health Services (provincial level)
SERECI	Civil Registry
SIAHV	Vital Events Management System
SICE	Integrated medical records system in hospitals
SNIS – VE	National Health Information System - Epidemiological Surveillance
UCoD	Underlying cause of death