

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

Country Brief: Zambia

Priority Area: Birth and death notification and registration and cause of death assignment

Introduction and Context

Zambia's CRVS system is functional but requires further improvement. Despite the efforts, **registration completeness** remains relatively low, marginally increasing from about **9.3% in 2015 to 19.3%** in 2018 for births and from **5% in 2015 to 19.6%** in 2018 for deaths, respectively¹. The CRVS challenges include low coverage of birth and death notifications and registration as well as limited institutional linkages to notify vital events for possible registration and certification. Another critical challenge is the lack of a continuous training program for registrars and notifying agents, such as those not directly under the CRVS authority but play a pivotal role in vital event capture; these include local authorities such as municipal councils and Ministry of Health officials as well as the Judiciary. To address some of these problems, robust monitoring systems that can track CRVS performance using key performance and data quality indicators on birth and death notification and registration are needed.

This project, led by the government of Zambia in collaboration with Vital Strategies, Africa CDC 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 Birth and death notification and registration and cause of death assignment

COSMOS, collaborating with the government of Zambia, has proposed setting up a monitoring system for the CRVS centred on the notification and registration of birth and death indicators. However, Cause of death (CoD) indicators have also been incorporated to test whether these indicators can be tracked and thereby enable timely public health intervention.

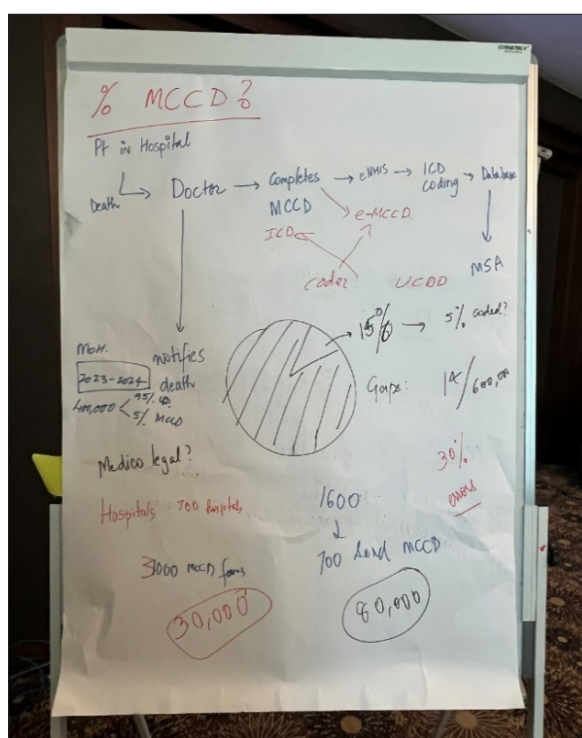
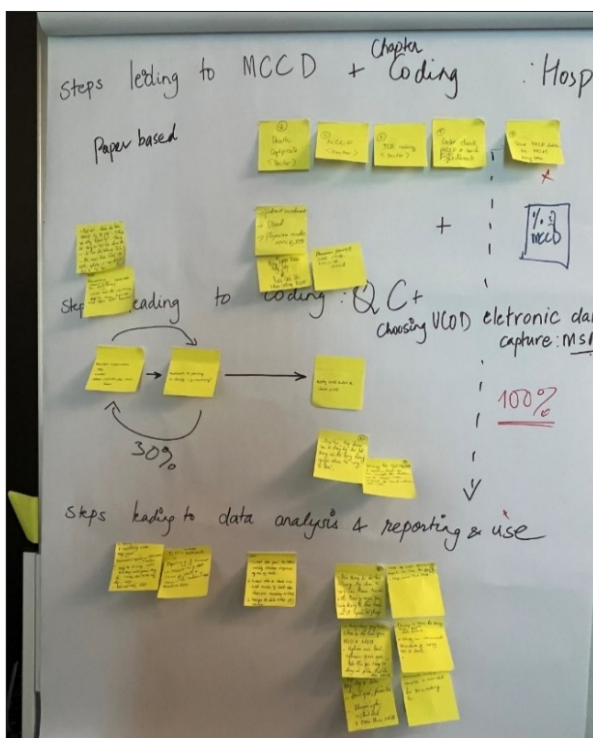
1 Ministry of Home Affairs (2020). Second national strategic action plan for CRVS 2021 – 2025.

Currently, the CRVS authority in Zambia (Department of National Registration, Passports and Citizenship, DNRPC) has established systems to measure the performance of event notification and registration; this is captured in the second National Strategic Action Plan for CRVS of 2021-2025, with coordination established through the CRVS Technical Working Group (TWG). The TWG, comprises of The Department of National Registration Passport and Citizenship (DNRPC) in the Ministry of Home Affairs and Internal Security (MoHAIS), Ministry of Health, the Zambia Statistics Agency (ZamStats), Zambia Public Health Institute (ZNPHI), other government ministries, academia and cooperating partners. While the existing framework primarily focuses on output indicators, it was deemed necessary to complement it by reviewing additional indicators to strengthen the monitoring of the CRVS system in Zambia.

Objectives of the stakeholders meeting

The primary objective of the meeting was to strengthen performance monitoring and data quality measurement framework for CRVS in Zambia. Specifically, the meeting set out to:

1. Review and validate available performance and data quality indicators related to vital event notification and registration.
2. Select indicators for monitoring and determine the appropriate periodicity for data collection.
3. Assign institutional responsibilities for tracking and reporting on selected indicators.
4. Assess roles of stakeholders within the CRVS and their decision-making process.
5. Identify and assess existing data sources for CRVS indicators; and,
6. Develop a monitoring strategy for birth and death notification and registration and Cause of Death.



Methodology

Phase 1 – Virtual Consultations

Two virtual consultative engagements were held on December 9 and 12 2024 with the key stakeholders (participation was mainly by the TWG members) to explore the stakeholders' roles and objectives within the CRVS system, review the existing performance and data quality indicators used for monitoring notification and registration of vital events to identify any existing gaps and potential solutions for improved system performance. Low coverage of birth and death registration is a challenge in Zambia and limited institutional linkages in notification and registration of vital events have been observed.

Table 1. Participants in Zambia's virtual consultations

Date	Number of participants	Stakeholders
09/12/2024	18	<ul style="list-style-type: none"> • Department of National Registration Passport and Citizenship (DNRPC) • Ministry of Health • Zambia Public Health Institute (ZNPHI) • US CDC • D4H initiative • Research and academic institutions (University of Zambia) • Office of State Forensic pathologist
12/12/2024	15	<ul style="list-style-type: none"> • Department of National Registration Passport and Citizenship (DNRPC) • Ministry of Health • Zambia Statistics Agency (ZamStats) • Zambia Public Health Institute (ZNPHI) • US CDC • D4H initiative • Research and academic institutions (University of Zambia) • Ministry of local government and rural development • Office of State Forensic pathologist

The first session focused on identifying the roles, objectives, and data needs of each stakeholder involved in CRVS operations. Discussions highlighted the importance of mutual understanding among stakeholders regarding their responsibilities, particularly around event notification and registration. **Participants acknowledged persistent challenges such as low coverage of birth and death registration** and weak institutional linkages between systems.

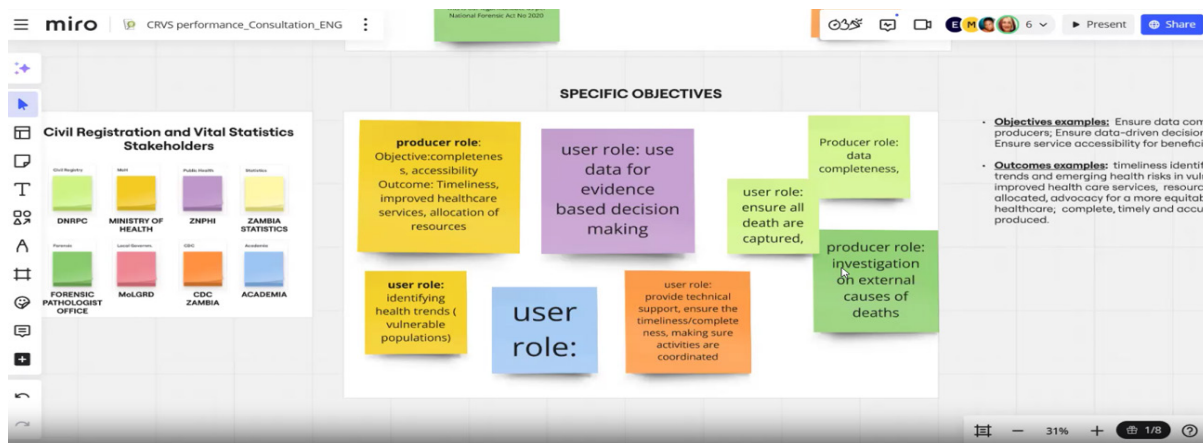


Figure 1. MIRO Board. Zambia’s first virtual consultation. Summary of objectives of the CRVS system actors on the production and use of information.

In the second session, the group reviewed strategic and operational decision-making processes across institutions, assessed current data use, and identified information gaps. Participants reflected on the limitations in data timeliness, completeness, and quality, especially for cause-of-death data and emphasized the need for district-level disaggregation, better monitoring of MCCD data quality, and resource gap analysis.

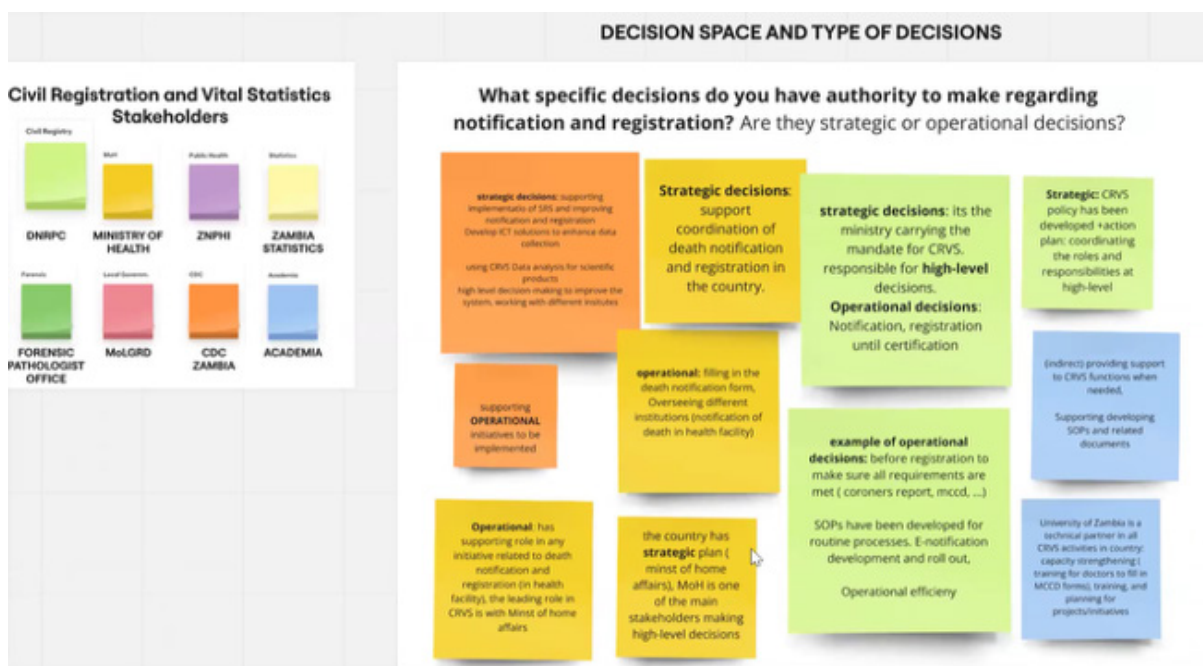


Figure 2. MIRO Board. Zambia’s first virtual consultation. Summary of decisions making by CRVS system actors on the production and use of information.

These initial consultations laid the foundation for the upcoming in-person workshop, by aligning stakeholder priorities and surfacing key barriers and opportunities for CRVS monitoring improvements.

Phase 2 – Workshop

From 13 to 15 May 2025, an in-person workshop was conducted in Lusaka with the objective to (i) review and validate available performance and data quality indicators related to vital event notification and registration; (ii) Select indicators for monitoring and determine the appropriate periodicity for data collection.

The meeting brought together participants from the CRVS authority, the DNRPC, Office of the State Forensic Pathologist in the Ministry of Home Affairs and Internal Security (MoHAIS), Ministry of Health, the Zambia Statistics Agency (ZamStats), Zambia National Public Health Institute (ZNPHI), the Ministry of Local Government and Rural Development, the Ministry of Community Development and Social Services, World Vision, Child-Fund, CIDRZ, Data for Health Initiative (D4H) and the University of Zambia (Department of Demography, Population Science, Monitoring and Evaluation).

The workshop was participatory and combined plenary sessions, stakeholder presentations, interactive discussions and group work. This approach allowed integration of technical knowledge with institutional mandates as well as operational realities.

Using the decision space tool, a facilitated session was conducted to map up the distribution of institutional authority and involvement across six dimensions of CRVS performance. This exercise was critical for several reasons including: groundwork for the selection of relevant indicators; clarifying roles and responsibilities for each stakeholder with the view of reducing duplication of efforts and addressing gaps in leadership or operations; and mapping decision-makers across institutions to facilitate improved coordination between key sectors such as health, statistics, non-governmental organizations and MoHAIS.

Participants were divided into three thematic working groups aligned with indicator categories (birth and death notification, registration, and cause of death assignment). Group composition was guided by institutional mandates and participants' expertise to ensure technical relevance and maximize contributions. For example, ZNPHI, DNRPC and a forensic expert focused on CoD indicators. DNRPC staff members were distributed across all the three groups to provide cross-cutting input and institutional continuity across indicator domains. Each group undertook the following tasks:

- i. Review proposed indicators for technical relevance, data availability and institutional feasibility.
- ii. Refine definitions to align with national terminologies and processes.
- iii. Recommend frequency of data collection and reporting, and
- iv. Propose responsible institutions for each indicator.

The finalized list of indicators represented a harmonized set of measurable elements that reflect Zambia's institutional capacities, data systems and legal context

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

Institution	Profile Participants	Role	Specific Activities in CRVS
ZAMSTATS	1. Principal Statistician	Producer	1. Producing and disseminating Vital Statistics data
Maternal Health Action Zambia	1. Executive Director	User	1. Awareness Raising and increase public Demand for Registration 2. Ensure 10% increase in CRVS funding
ZNPPI	1. Epidemiologist 2. Mortality surveillance coordinator	Producer/User	1. Data collection of vital events for surveillance 2. Provide estimates of vital statistics Training for analysis of Mortality data 3. Emergency response management
The Office of The State Forensic Pathologist	1. State forensic pathologist	Producer	1. Investigate un-natural deaths and those directed under the coroner's office; all other deaths considered un natural or unclear
DNRPC	1. Principal registrar Senior registrar 2. Registrar General	Producer	1. Notification of vital events (Births and Deaths) 2. Registration of vital events (Births and Deaths)
Ministry of Health	1. Senior Monitoring and Evaluation Officer	Producer	1. Recorded births that occur at each health facility in the birth record 2. Advocate for birth and death registration as these events occur by providing key information on the importance of registration. 3. Supply registration forms to applicants 4. Provide guidance to applicants on registration procedures. 5. Maintain a pool of completed forms for processing by DNRPC 6. Maintain an updated births and deaths register at health facilities. 7. Maintain a record of certificates received and issued to applicants at health facilities
MLGRD	1. Planner	Producer	1. Record vital events (Deaths) in the village registers 2. Disseminating vital statistics data 3. Notification of vital events (Deaths) on behalf of DNRPC in rural towns and some urban towns where DNRPC staff are not present.
World vision	1. Child protection specialist	User	1. Provide financial support to CRVS
Child Fund	1. Project officer	User	1. Support awareness campaigns

Phase 3 – Indicator selection

At the conclusion of the workshop, participants collectively developed a consolidated list of indicators reflecting shared priorities and institutional perspectives. In addition to identifying key indicators, the list also outlined corresponding data sources and assigned responsibilities to the relevant institutions for data provision. To support the selection process, countries used a predefined prioritization template (Refer to Consolidated indicators template (.xlsx) provided in the CRVS Monitoring Guidance document). This template helped assess each indicator against standard criteria such as relevance, feasibility, and data quality. Following this structured approach, the indicators underwent a prioritization and standardization process led by CRVS TWG. This ensured that the final selection was both decision-relevant and operationally feasible within the existing data systems. The refined and prioritized list comprising five indicators was selected for piloting in the next phase.

Category	Key Indicator	Use
Birth Notification	% of births notified within 30 days	Measures timeliness and performance of notification systems
Death Notification	Proportion of death notifications made within 30 days of occurrence out of all deaths notified during the previous 12 months.	Measures the timeliness of death notification in a CRVS system
Birth Registration	% of births registered within 30 days of notification	Tracks efficiency of CRVS registration post-notification
Death Registration	% of deaths registered within 30 days of occurrence	Measures timeliness of death registration and accessibility of registration
Cause of Death	% of medically certified deaths within 30 days	Ensures timely and accurate capture of cause-of-death information

Key Findings

Stakeholders' roles and responsibilities

Table 4 presents the key stakeholders involved in the CRVS system in Zambia outlining their mandates, functions and what they do in relation to birth and death notification and registration as well as cause of death

Table 4. Key CRVS's stakeholders in Zambia

Institution	Profile Participants	Role	Specific Activities in CRVS
ZAMSTATS	1. Principal Statistician	Producer	1. Producing and disseminating Vital Statistics data
Maternal Health Action Zambia	1. Executive Director	User	1. Awareness Raising and increase public Demand for Registration 2. Ensure 10% increase in CRVS funding
ZNPHI	Epidemiologist Mortality surveillance coordinator	Producer/User	1. Data collection of vital events for surveillance 2. Provide estimates of vital statistics Training for analysis of Mortality data 3. Emergency response management
The Office of The State Forensic Pathologist	1. State forensic pathologist	Producer	1. Investigate un-natural deaths and those directed under the coroner's office; all other deaths considered un natural or unclear
DNRPC	1. Principal registrar 2. Senior registrar 3. Registrar General	Producer	1. Notification of vital events (Births and Deaths) 2. Registration of vital events (Births and Deaths)
Ministry of Health			1. Recorded births that occur at each health facility in the birth record 2. Advocate for birth and death registration as these events occur by providing key information on the importance of registration. 3. Supply registration forms to applicants 4. Provide guidance to applicants on registration procedures. 5. Maintain a pool of completed forms for processing by DNRPC 6. Maintain an updated births and deaths register at health facilities. 7. Maintain a record of certificates received and issued to applicants at health facilities
	1. Senior Monitoring and Evaluation Officer	Producer	
MLGRD			1 Record vital events (Deaths) in the village registers 2. Disseminating vital statistics data 3. Notification of vital events (Deaths) on behalf of DNRPC in rural towns and some urban towns where DNRPC staff are not present.
	1. Planner	Producer	
World vision	1. Child protection specialist	User	1. Provide financial support to CRVS
Child Fund			
	Project officer	User	1. Support awareness campaigns

Key Findings

- The national TWG on CRVS was well represented at the meeting
- Clarity of each stakeholder's roles and responsibilities within the CRVS system
- Good understanding of the scope of work of the stakeholders enabled assignment of the selected indicators to the relevant institutions for monitoring.
- Stakeholders did not effectively present the indicators they are currently monitoring or the associated data sources relevant to CRVS. As a result, the selection of indicators was largely based on those provided in the CRVS monitoring guidance document.

Decision Space Analysis

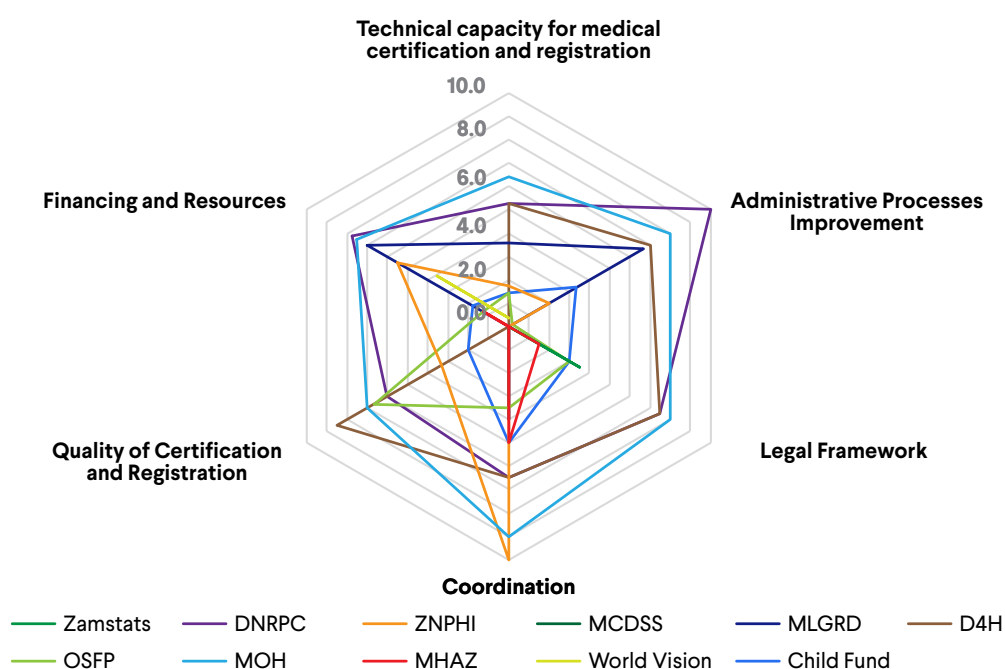


Figure 3. Decision space among actors in Zambia CRVS system

The radar chart in Figure 3 illustrates the perceived decision space of key CRVS actors across six functional areas which include: technical capacity for the notification and registration of births and deaths; administrative process improvement; legal framework; data quality on birth and death notification and registration; financing and resources; and overall technical capacity.

DNRPC demonstrates consistently high scores in administrative process improvement, financing and resources, and technical capacity. In contrast, ZamStats registers particularly high scores under the legal framework dimension, specifically due to its responsibility for the publication and dissemination of vital statistics. The Ministry of Health shows strong technical capacity related to the notification and registration of births and deaths. ZNPHI, by contrast, plays a more prominent coordination role, particularly through its convening of regular stakeholder meetings. Similarly, MHAZ and Child Fund primarily contribute to coordination activities within the CRVS space. World Vision reports high engagement in the financing and resources dimension and finally, the Data for Health (D4H) Initiative demonstrates moderate but balanced involvement across all six components.

Monitoring the process with indicators

Annex 2 presents the list of **26 selected indicators** for inclusion in the pilot phase.

Annexes (Optional)

Annex 1. Acronyms and Abbreviations

CoD	Cause of death
CRVS	Civil registration and vital statistics
D4H	Data for Health
DNRPC	Department of National Registration, Passports and Citizenship
MCCD	Medical certification of cause of death
MHAZ	Maternal Health Action Zambia
MLGRD	Ministry of local government and rural development
MoHAIS	Ministry of Home Affairs and Internal Security
OSFP	Office of the state forensic pathologist
TWG	Technical working group
ZAMStats	Zambia Statistics Agency
ZNPHI	Zambia National Public Health Institute

Annex 2: Indicator Monitoring List for Zambia CRVS System

Category	Indicator	Numerator	Numerator source of information	Denominator	Denominator source of information	Frequency of Data Collection	Institution Responsible for Monitoring	Decisions for which this information is necessary	Disaggregation
Birth Notification	Percentage of births notified within 30 days of occurrence	Total Number of births notified within 30 days of occurrence	DNRPC	Total number of expected births within 30 days	DNRPC	Monthly	DNRPC	Necessary for tracking compliance	Sex, Province, district
	Percentage of late births notification in the previous 12 months	Total number of notifications within 1 month to 12 months in the previous 12 months	DNRPC	Total number of late birth notifications	DNRPC	Monthly	DNRPC	Necessary for tracking compliance	Age, Sex, Location
	Percentage of delayed birth notifications in the previous 12 months	Total number of notifications after 12 months in the previous 12 months	DNRPC	Total number of delayed birth notifications	DNRPC	Monthly	DNRPC	Necessary for tracking compliance	Age, Sex, Location
	Per cent of births occurring in health facilities notified to CR in the previous 12 months	Number of facility births notified within 12 months	DNRPC	Total Number of births in health facilities	ZamStats, MOH	Monthly/ Quarterly/ Annually	DNRPC	Necessary for tracking progress	Separately for each sex, Nationality, Province, District

Appendix 7 | Zambia Case Study

Category	Indicator	Numerator	Numerator source of information	Denominator	Denominator source of information	Frequency of Data Collection	Institution Responsible for Monitoring	Decisions for which this information is necessary	Disaggregation
Death Notification	Per cent of deaths occurring in health facilities notified to CR in the previous 12 months	Number of facility deaths notified within 12 months	DNRPC	Total Number of Deaths in Health Facilities	ZamStats, MOH	Monthly/ Quarterly/ Annually	DNRPC	Necessary for tracking progress	Separately for each sex, Age, Nationality, and Province
	Percentage of current death notifications in previous 12 months	Total number of notifications within 30 days of the previous 12 months	DNRPC	Total number of current deaths notifications	DNRPC	Monthly	DNRPC	Necessary for tracking compliance	Age, Sex, Location
	Percentage of late death notifications in previous 12 months	Total number of notifications between 1 month to 3 months in the previous 12 months	DNRPC	Total number of late death notifications	DNRPC	Monthly	DNRPC	Necessary for tracking compliance	Age, Sex, Location
	Percentage of delayed death notifications in previous 12 months	Total number of notifications after 3 months in the previous 12 months	DNRPC	Total number of delayed death notifications	DNRPC	Monthly	DNRPC	Necessary for tracking compliance	Age, Sex, location
	Percent of deaths recorded by the coroner's system notified to CR in the previous 12 months Separately for Sex	Total number deaths notified by the coroner's system in previous 12 months	Coroner's office	Total number of deaths received by the coroner's system in previous 12 months	Coroner's office	Monthly; Quarterly; Annually	DNRPC		
Birth Registration	Number of births registered within a year	NA	INRIS	NA	INRIS (Based on the count)	Monthly/ Quarterly/ Annually	DNRPC, MOH and ZAMSTATS	To determine the process of birth registration	sex
	Percentage of births registered within 30 days	Number of registered births within 30 days	INRIS	Number of notified births within 30 days	Notice of birth copies	Monthly	DNRPC		

Appendix 7 | Zambia Case Study

Category	Indicator	Numerator	Numerator source of information	Denominator	Denominator source of information	Frequency of Data Collection	Institution Responsible for Monitoring	Decisions for which this information is necessary	Disaggregation
	Sex ratio of birth registration completeness, Total	Number of births registered within a year by sex	INRIS	Total number of births expected to occur in a year by sex	DHIS2	Continuous, Routine,	MOH	To determine the sex ratio at birth to understand to population dynamics	sex
Death Registration	Number of deaths registered within a year	NA	INRIS	NA	INRIS (Based on the count)	Monthly/ Quarterly/ Annually	DNRPC, MOH and ZAMSTATS	To determine the process of birth registration	sex, place of birth, district
	Percentage of deaths registered within 30 days of occurrence	Number of registered deaths within 30 days	INRIS	Number of notified deaths within 30 days	Notice of deaths copies	Monthly	DNRPC		sex, place of death, district
Registration	Proportion of hospitals or other health facilities with registration officers on the premises	Number of hospital facilities with registration officers on the premises	DNRPC and MOH	Total number of health facilities in the country	DNRPC and MOH	Annually	DNRPC and MOH	To determine the extent of birth registration in health facilities.	
Registration	Number of corrections made per 100 registration records (Number of registration violations/number of registrations)	Number of corrections made per registration record	DNRPC and MOH	100 registration records	DNRPC	Continuous, Routine	DNRPC	Assess the quality of reported Vital information	
CoD	Percentage of medically certified deaths within 30 days of occurrence	Number of medically certified deaths within 30 days of occurrence	DNRPC	Total Registered deaths in Zambia in same year	ZAMSTATS	Monthly/ Quarterly/ Annually	DNRPC	Monitoring CRVS report completeness	total sex health facility outside health facility MLDI system

Appendix 7 | Zambia Case Study

Category	Indicator	Numerator	Numerator source of information	Denominator	Denominator source of information	Frequency of Data Collection	Institution Responsible for Monitoring	Decisions for which this information is necessary	Disaggregation
CoD	Percent of medically certified deaths with ill-defined cause of death	Number of ill-defined cause of deaths reported on MCCD	DNRPC	Number of medically certified deaths in Zambia in one year	DNRPC	Monthly/ Quarterly/ Annually	DNRPC	Monitoring quality of MCCD completion	Sex, Health facility, Age, District
CoD	Percent of deaths recorded by the coroner system with medically certified cause	Number of coroner certified deaths	Coroner's office	Total number of non-medically certified deaths	DNRPC/ ZAMSTATS/ MOH/ZNPHI	Monthly/ Quarterly/ Annually	DNRPC/ ZAMSTATS/ MOH/ZNPHI	Monitoring place of death overtime for Civil registration, developmental and public health purposes	Sex, Age, Location, Socioeconomic status
CoD	Percent of hospitals completing quarterly reviews of a sample of MCCD forms using the rapid assessment tool	Number of hospitals completing quarterly reviews of a sample of MCCD forms using the rapid assessment tool	MOH/ZNPHI	All health facilities	MOH/ZNPHI	Monthly/ Quarterly/ Annually	MOH/ZNPHI	To assure quality of MCCD completion in health facilities	Level of Health facility, District, Province
CoD	Percent of MCCDs without errors	Number of MCCDs without errors	MOH/ZNPHI	Number of MCCDs completed	MOH/ZNPHI	Monthly/ Quarterly/ Annually	MOH/ZNPHI	To determine needs assessments for MCCD training	Facility, District, Province
CoD	Percentage of coroner cases with a standardized autopsy report	Number of coroner cases with standardised autopsy reports	Coroner's office/ DNRPC	Number of coroner cases	Coroners office	Monthly/ Quarterly/ Annually	Coroner's office	To track quality of coroners certified deaths	District, Province
CoD	Percentage of non-medically supervised deaths with a Verbal Autopsy	Number of non-medically supervised deaths with verbal autopsy	ZNPHI/MOH	Number of non-medically supervised deaths	DNRPC/ ZAMSTATS	Monthly/ Quarterly/ Annually	ZNPHI	Track verbal autopsy coverage	District, Province, Urban, Rural, Sex, Age, Socioeconomic status

Appendix 7 | Zambia Case Study

Category	Indicator	Numerator	Numerator source of information	Denominator	Denominator source of information	Frequency of Data Collection	Institution Responsible for Monitoring	Decisions for which this information is necessary	Disaggregation
CoD	Proportion of new medical practitioners trained in MCCD	Total number of new medical practitioners trained in MCCD completion	ZMA/MOH/ZNPHI	Total number medical practitioners graduating	HPCZ	Annually	ZNPHI	Assess MCCD completion training needs	Profession, District, Tertiary Institution
CoD	Proportion of in-service medical practitioners trained in MCCD	Total number of in-service medical practitioners trained in MCCD completion	ZNPHI/ZMA/MOH	Total number of eligible in-service medical practitioners in Zambia	MOH	Annually	ZNPHI	Assess MCCD completion training needs	Profession, District, Health Facility
CoD	Development of electronic MCCD tool	Electronic MCCD tool developed	ZNPHI/MOH			Once off	ZNPHI	Increase quality, timeliness of MCCD data	