



CRVS RESOURCES AND TOOLS

# CRVS performance metrics: Indicator guideline (V1.7)

March 2019





## Resources available from the University of Melbourne, Bloomberg Philanthropies Data for Health Initiative

### *CRVS development series*

The CRVS development series, generated through the Initiative, forms a lasting archive of concise and easily accessible evidence and knowledge on strengthening CRVS systems. The content is based on a combination of technical knowledge and country experiences, as well as the scientific literature. The series is intended to stimulate debate and ideas for in-country CRVS policy, planning and capacity building, and promote the adoption of best practice to strengthen CRVS systems worldwide.

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This series focuses on filling a variety of scientific knowledge gaps and offering new tools, methods, findings and approaches for CRVS systems and data improvement. The series has a strong empirical focus. It reports on works in progress, particularly for large or complex technical initiatives, and on specific components of projects that may be of more immediate relevance to stakeholders.

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Many papers from the development and technical outcome series have accompanying action guides or summaries, which provide a succinct overview of key points and, in the case of action guides, a suggested way forward for countries.

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Melbourne School of Population and Global Health  
Building 379  
207 Bouverie Street  
Carlton  
VIC 3053, Australia

+61 3 9035 6560

CRVS-info@unimelb.edu.au

[www.mspgh.unimelb.edu.au/dataforhealth](http://www.mspgh.unimelb.edu.au/dataforhealth)

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### Authors

Daniel Cobos Muñoz, Carmen Sant, Sabine Renggli, and Don de Savigny, Swiss Tropical and Public Health Institute, University of Basel.

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## Introduction

Having a strong monitoring system is essential for any program to function. CRVS systems are complex adaptive systems and as such they perform hundreds of activities every day to register vital events, to provide legal documents to citizens and to produce vital statistics. To monitor CRVS systems we need to understand their complexity and identify appropriate metrics that can be used routinely to assess their performance.

Process mapping has been shown to be an extremely useful methodology to capture this complexity in a simple diagram (process map). It showed the potential to generate discussions about the CRVS system as a whole; and to bring stakeholders together to share ideas and to negotiate solutions to improve the performance of their CRVS system.

Currently, most D4H countries have covered the first phase of their CRVS system analysis. Each country developed a visual description of their core CRVS processes using business process maps and partially captured information flows within those processes. The next step in the Enterprise Architecture (EA) business process improvement (BPI) methodology would be to analyse the current CRVS processes and find ways to improve them.

The basic elements in a monitoring system are:

- **Indicators** used to assess the performance of the system and the corresponding data sources to calculate them;
- **Data collection tools;** and
- **Data analysis, dissemination and use** approaches.

This document addresses the first element by presenting a clear description of the generic indicators that could be used as metrics to assess CRVS process performance. It also describes the data required, the method of measurement or potential approximations as well as the data sources and alternative if these sources are not available.

## CRVS performance indicators

A performance indicator (PI) is an agreed indicator used to determine progress made, or the lack thereof, towards achieving a given objective. A performance metrics is a set of PIs used to assess the overall performance of a given system. A high-quality PI would fulfil the following 10 characteristics (Table 1).<sup>1,2</sup> For the design of the CRVS performance metrics we were guided by the ten CRVS milestones framework that includes all key sub-processes for a CRVS system (Figure 1).

1 Institute of Medicine: Selecting Measures for the National Health Care Quality Data Set. In: Envisioning the National Health Care Quality Report. edn. Edited by Hurtado PM, Swift EK, Corrigan JM. Washington (DC): National Academies Press (US); 2001.

2 Brown D: Good Practice Guidelines for Indicator Development and Reporting. In: Third World Forum on 'Statistics, Knowledge and Policy'. Busan, Korea; 2009.



**Table 1. Characteristics of high-quality performance indicators**

Priority	Characteristic	Description
1	<b>Relevant</b>	The indicator is a relevant/important aspect for measuring the performance of the CRVS system.
2	<b>Accurate</b> (specific)	The indicator measures what it is supposed to measure and there is a clear link between the indicator and what ought to be measured.
3	<b>Reliable</b> and replicable	The indicator should produce the same results when repeated in the same population and setting.
4	<b>Sensitive</b>	The indicator should be responsive to changes in the underlying phenomenon.
5	<b>Meaningful</b>	The indicator should be understandable to at least one of the audiences and help inform them about important issues or concerns.
6	<b>Measurable</b>	The indicator can be measured, has a unit of measure, and the source document/person exists.
7	<b>Trackable</b>	Data required for the indicator can be measured consistently over several years.
8	<b>Feasible</b>	Data required for the indicator can be collected relatively easy, on a timely basis and at a reasonable cost given a limited amount of time and resources.
9	<b>Ability to be disaggregated</b>	The indicator can be broken down into population sub-groups or areas of particular interest, such as ethnic groups or regional areas.
10	<b>Sufficient</b>	The set of indicators is sufficient to measure the intended changes/milestone.

The aim of this document is to define a minimal set of indicators with the above stated characteristics for the various milestones. In order to include different types of indicators, all indicators were classified into four **domains or areas**:

(1) **Quantity** – Indicators measuring quantity give an idea about the coverage or the completeness of a certain CRVS milestone. They generally require collection of data for the numerator and denominator and will be usually expressed in percentage. An example could be the completeness of birth registration; where the denominator would be the estimated number of births that occurred in a given year and the numerator would be the number of births registered in the same year.

(2) **Time** – Indicators measuring time provide information about how long it takes to accomplish a certain CRVS milestone on average. They also allow analysis of whether a given milestone has been accomplished on-time or not, depending on the country’s specific regulations. These indicators are usually measured in days. They only consist of a numerator with no denominator. An example of a time indicator might be the average required time for birth notification, which would be the average number of days between the date of birth and the date of notification of the birth.

(3) **Quality** – Indicators measuring quality look at whether a CRVS milestone has been accomplished in good quality. Quality standards might be imposed from the regulating framework of the CRVS system or they are devised internally. Quality indicators could look at client satisfaction, completeness of forms or databases, consistency of databases, or correctness of processes (e.g. validation processes). They could also consist of indices, whereby different quality components relevant for a certain milestone would be combined. For example, the quality of birth register storage will need to look at data legibility, accessibility, confidentiality, security, etc.

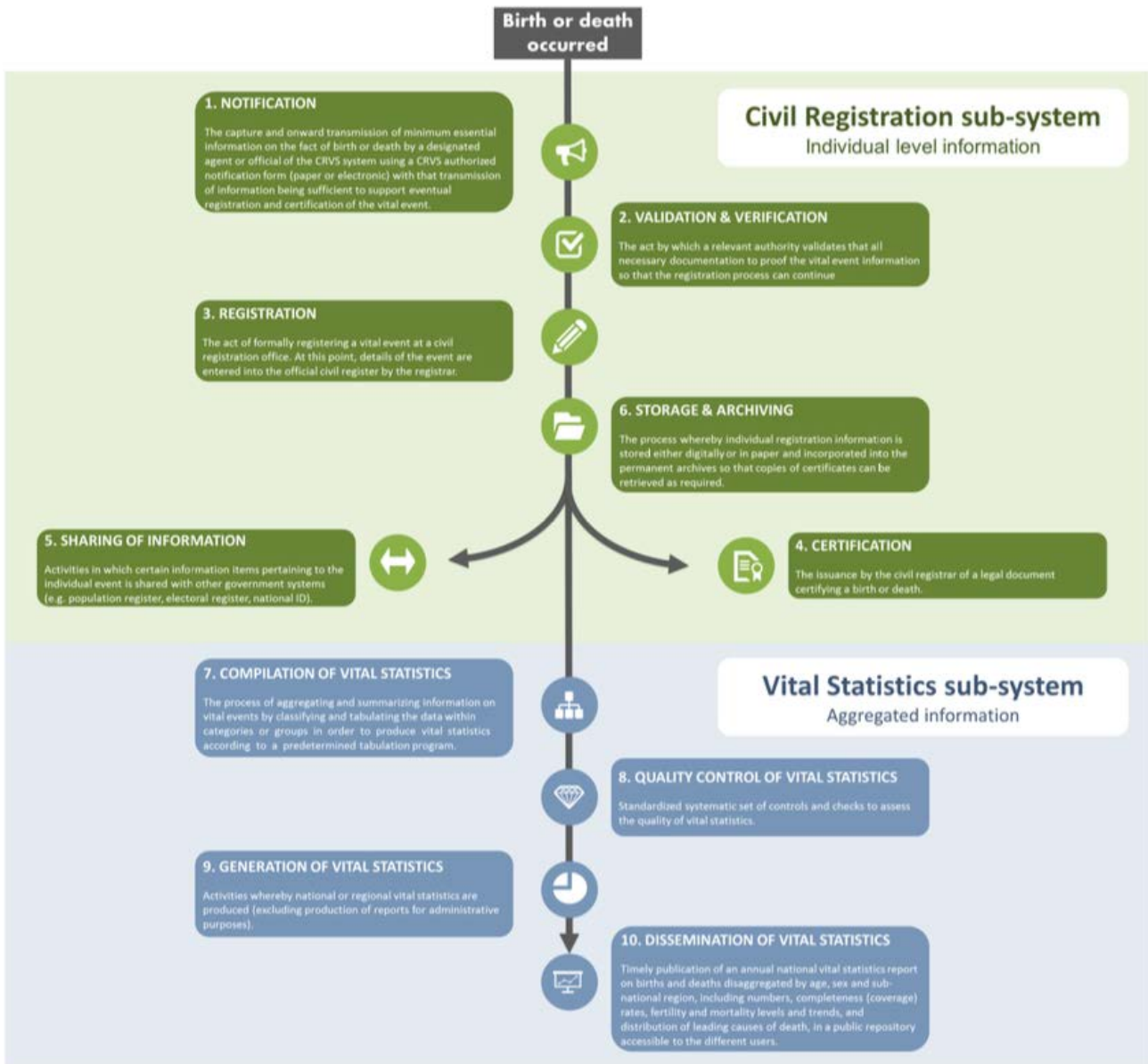
(4) **Cost** – Indicators measuring cost will provide information to assess the resources required to achieve certain milestones. Financial cost will be expressed in USD per milestone or CRVS sub-system (civil registration or vital statistics, see Figure 1). The required personnel will be given in Full Time Equivalents (FTEs), meaning the required number of full-time staff needed to accomplish a certain milestone. An example for a financial cost indicator would be the cost for registering a birth, which would be the total cost of conducting birth registration divided by the number of births registered. The same indicators for required personnel would be the total number of FTEs required to conduct birth registration divided by the number of births registered.

It has to be emphasized that these indicators are not meant to be related to the production of VS, they are rather process statistics and meant **as an aid in the management of civil registration systems**. For this reason, they have also been harmonized with the United Nation Statistics Division Handbook.<sup>3,4</sup>

<sup>3</sup> United Nations: Handbook on Civil Registration and Vital Statistics System: Management, Operation and Maintenance, Revision 1. In. Edited by Mrkic S, Cobos MI, vol. 3rd Draft. New York: United Nations Statistics Division; 2017.

<sup>4</sup> Department of Economic and Social Affairs: Principles and Recommendations for a Vital Statistics System, vol. 19/3. New York: United Nations; 2014.

Figure 1. The ten CRVS Milestones



## Summary table: CRVS performance indicators

No.	Milestone	Indicator name
<i>Quantity</i>		
1.1	Notification	Percentage of VE notified
1.2	Registration	(a) Percentage of VEs registered (b) Percentage of notified VE registered
1.3	Certification	Percentage of registered VE certified
1.4	Storage	Percentage of registered VE stored in (a) the national registration database and (b) the national register archive
1.5	Compilation	Percentage of registered VE shared by the CR sub-system for compilation
1.6		(a) Percentage of registered VE received by VS sub-system for compilation or (b) Percentage of registered VEs compiled by the VS sub-system
1.7	Quality Control	Percentage of compiled VEs with sufficient quality in the VS sub-system database
1.8	Generation	Percentage of quality controlled VEs used for generation of VS by the VS sub-system
1.9	Dissemination	Percentage of VEs used in the generation of the vital statistics used for dissemination of VS by the VS sub-system
1.10		Percentage of registered VEs used for dissemination by the (a) CR sub-system (b) health system
<i>Time</i>		
2.1	Notification	Average number of days between VE and notification
2.2	Registration	Average number of days between notification and registration of VE
2.3	Certification	Average number of days between (a) VE and certification and (b) registration and certification of VE
2.4	Storage	Average number of days between registration and storage of VE in (a) the national registration database and (b) in the register archive
2.5		Average number of days between the VE and storage of VE in the national health system database
2.6	Compilation	Average number of days between the registration of the VE and its compilation for the production of vital statistics
2.7	Quality control	Average number of days between the VS compilation and VS quality control <sup>5</sup> in the VS sub-system
2.8	Generation	Average number of days between VS quality control and VS generation in the VS sub-system
2.9	Dissemination	Average number of days between the VS generation and VS dissemination in the VS sub-system
2.10		Average number of days between the end of the year and VS dissemination in the (a) VS sub-system (b) CR sub-system (c) health system
<i>Quality</i>		
3.1	Validation	Percentage of correctly validated VE notifications
3.2	Registration	Client satisfaction score for CR services at local level
3.3		Percentage of on-time registrations
3.4	Certification	Minimum number of visits needed by the client to achieve certification
3.5	Storage	Ratio of VE data at national level (health system vs. the VS sub-system)
3.6		Quality of VE storage in the (a) national registration database (b) national register archive (c) health system database
3.7	Quality control	Percentage of deaths with (a) a MCCOD (b) with a MCCOD of usable quality
3.8	Generation	Data quality score for VS generation in the VS sub-system
<i>Cost/resources*</i>		



4.1		Average full financial cost to (a) notification (b) registration
4.2	Registration	Average number of registrations per registrar
4.3		Ratio of registrars to the size of the population in each administrative area
4.4	Certification	Direct financial cost carried by the client to achieve certification
* Refer to the CRVS Costing and Budgeting tool for a detailed description of the cost/resource indicators required to monitor CRVS processes		

# 1. Quantity

Indicator name	Percentage of VE notified
Indicator number	1.1
Milestone	Notification
Tracer area	Quantity
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs notified as a percentage of the total number of estimated VEs occurring in a given year
Numerator	Number of notifications submitted to the CR system for a given year (based on the date of VE)
Denominator	Estimated number of VEs for a given year
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	<p>Get the number of notifications done by the official notifiers in the country for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016).</p> <p>Estimate the total number of notifications done in locations and at administration levels where no data is available. Divide the number of notifications by the estimated up-to-date number of expected births/deaths, which occurred in the same year, for each administration level.</p>
Method of approximation	<p>Proxy for annual numbers: use the number of the last three months, estimate the annual figure and back project to the relevant year in the past</p> <p>Proxy for notifications: Number of MCCDs issued by the health sector, number of deaths recorded in the health information system (assuming all of them would have a MCCD)</p>
Measurement administration level	All administrative levels
Measurement frequency	Monthly, Annually
Preferred data source	Notification forms issued and database; up-to-date birth/death estimations from central statistics office
Other possible data source	Registration application; latest census with expected growth rate and most recent crude birth/death rate
Further information/ related links	



Indicator name	(a) Percentage of VEs registered (b) Percentage of notified VEs registered
Indicator number	1.2 a/b
Milestone	Registration
Tracer area	Quantity
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs registered as a percentage of the total number of (a) VEs occurring / (b) VEs notified in a given year
Numerator	Number of VEs registered for a given year (based on the date of VE)
Denominator	Estimated number of (a) VEs for a given year (b) notifications for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ On-time or not;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the number of VEs registered at local registration offices for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016). Use indicator 1.1 for the (b) denominator calculations.
Method of approximation	Proxy for annual numbers: use the number of the last three months, estimate the annual figure and back project to the relevant year in the past
Measurement administration level	All administrative levels
Measurement frequency	Monthly, annually
Preferred data source	Legal registration document
Other possible data source	Registration database (electronic), registration form, statistical summary reports, registration application form (assuming all applications were translated into a registration)
Further information/ related links	



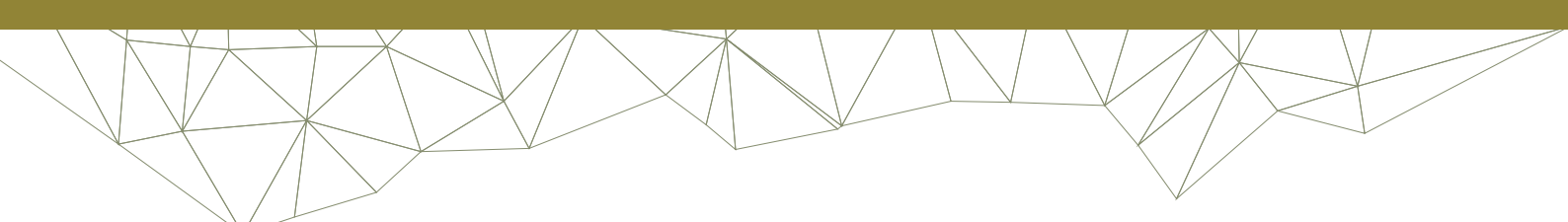
Indicator name	Percentage of registered VE certified
Indicator number	1.3
Milestone	Certification
Tracer area	Quantity
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs certified as a percentage of the total number of VEs registered in a given year
Numerator	Number of 1st/original certificates collected by the family for a given year (based on the date of VE)
Denominator	Number of VEs registered for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ On-time or not;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the number of 1st/original certificates collected by the family (e.g. using a certificate issuing ledger) at local registration offices for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016). Use the indicator 1.2 for the denominator calculations.
Method of approximation	Proxy for annual numbers: use the number of the last three months, estimate the annual figure and back project to the relevant year in the past Proxy for 1st certificates collected by the family could be 1st certificates issued by the system.
Measurement administration level	Local level
Measurement frequency	Monthly, annually
Preferred data source	Certificate ledger
Other possible data source	Certificates collected together with certificates ready for collection
Further information/ related links	

Indicator name	Percentage of registered VE stored in (a) the national registration database and (b) the national register archive
Indicator number	1.4 a/b
Milestone	Storage
Tracer area	Quantity
Key or optional indicator	(a) Key / (b) Optional, if not legally required
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs stored in (a) the national registration database (b) the national register archive of the CR sub-system as a percentage of the total number of VEs registered in a given year
Numerator	Number of VEs stored in (a) the national registration database (b) in the national register archive at the time of the assessment for a given year (based on the date of VE)
Denominator	Number of VEs registered for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ On-time or not;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the number of VEs stored in (a) the national registration database (b) register archive at the time of the assessment for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016). Use the indicator 1.2 for the denominator calculations.
Method of approximation	<ul style="list-style-type: none"> <li>■ Proxy for annual numbers: use number of the last 12 months and back project to the relevant year in the past</li> </ul>
Measurement administration level	All administrative levels
Measurement frequency	Monthly (if electronic storage), annually
Preferred data source	(a) National registration database (b) register archive
Other possible data source	(a) National registration application database
Further information/ related links	



Indicator name	Percentage of registered VE shared by the CR sub-system for compilation
Indicator number	1.5
Milestone	Compilation
Tracer area	Quantity
Key or optional indicator	Optional
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs shared by the CR sub-system with the VS sub-system for VS compilation as a percentage of the total number of VE stored in the national registration database <u>at the time when data was shared</u> for a given year
Numerator	Number of VEs shared by the CR sub-system with the VS sub-system for VS compilation for a given year (based on the date of VE)
Denominator	Number of VEs stored in the national registration database <u>at the time when data was shared</u> with the VS sub-system for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ On-time or not;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the total number of VEs stored in the national registration database <u>at the time when data was shared</u> with the VS sub-system for the year for which the last VS report was published (e.g. 2016). Get the total number of VEs shared by the CR sub-system with the VS sub-system for compilation for the year for which the last VS report was published (e.g. 2016).
Method of approximation	
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	National registration database; VE stored in folder which was shared with the VS sub-system
Other possible data source	National registration application database
Further information/ related links	

Indicator name	Percentage of registered VE (a) received by VS sub-system for compilation (b) compiled by the VS sub-system
Indicator number	1.6 a/b
Milestone	Compilation
Tracer area	Quantity
Key or optional indicator	(a) Optional (b) Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs (a) received by VS sub-system for compilation (b) compiled by the VS sub-system as a percentage of the total number of registered VEs for a given year
Numerator	Number of VEs (a) received by VS sub-system for compilation (b) compiled by the VS sub-system for a given year (based on the date of VE)
Denominator	Number of VEs stored in the national registration database <u>at the time when data was shared</u> with the VS sub-system for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ On-time or not;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the total number of VEs (a) received by VS sub-system (b) used by VS sub-system for compilation at the national statistics office for the year for which the last VS report was published (e.g. 2016). Use indicator 1.5 for denominator calculations.
Method of approximation	Indicator 1.5 could be used as a proxy for this one
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Records used in the VS sub-system
Other possible data source	
Further information/ related links	



Indicator name	Percentage of compiled VEs with sufficient quality in the VS sub-system database
Indicator number	1.7
Milestone	Quality control
Tracer area	Quantity
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs with sufficient quality according to SOPs as a percentage of the total number of compiled VEs for a given year
Numerator	Number of VEs with sufficient quality according to SOPs in the VS sub-system database for a given year (based on the date of VE)
Denominator	Number of VEs used for compilation of VS by the VS sub-system for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ On-time or not;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the total number of VEs with sufficient quality according to SOPs in the VS sub-system database at the national statistics office for the year for which the last VS report was published (e.g. 2016). Use the indicator 1.6 for the denominator calculations.
Method of approximation	<ul style="list-style-type: none"> <li>■ Proxy in case of no SOPs: VEs of sufficient quality based on the responsible person's judgement</li> </ul>
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Records used in the VS sub-system
Other possible data source	
Further information/ related links	

Indicator name	Percentage of quality controlled VEs used for generation of VS by the VS sub-system
Indicator number	1.8
Milestone	Generation
Tracer area	Quantity
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs used for generation of VS as a percentage of the total number of VEs with sufficient quality according to SOPs for a given year
Numerator	Number of VEs with sufficient quality according to SOPs in the VS sub-system database for a given year (based on the date of VE)
Denominator	Number of VEs used for generation of VS by the VS sub-system for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ On-time or not;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the total number of VEs used for generation by the VS sub-system at the national statistics office for the year for which the last VS report was published (e.g. 2016). Use the indicator 1.7 for the denominator calculations.
Method of approximation	
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Records used in the VS sub-system
Other possible data source	
Further information/ related links	

3 World Health Organization. Twentieth World Health Assembly, 1967. Available at: [apps.who.int/iris/bitstream/10665/85800/1/Official\\_record160\\_eng.pdf](https://apps.who.int/iris/bitstream/10665/85800/1/Official_record160_eng.pdf) (accessed 8 November 2018).

4 World Health Organization. Mortality. Available at: [who.int/topics/mortality/en/](https://who.int/topics/mortality/en/) (accessed 31 October 2018).



Indicator name	Percentage of VEs used in the generation of the vital statistics used for dissemination of VS by the VS sub-system
Indicator number	1.9
Milestone	Dissemination
Tracer area	Quantity
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs used in the dissemination of the vital statistics as a percentage of the total number of VEs used in the generation of the vital statistics for a given year
Numerator	Number of VEs used in the dissemination of the vital statistics by the VS sub-system for a given year (based on the date of VE)
Denominator	Number of VEs used for generation of VS by the VS sub-system for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ On-time or not;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the total number of VEs used for dissemination of VS by the VS sub-system at the national statistics office for the year for which the last VS report was published (e.g. 2016). Use the indicator 1.8 for the denominator calculations.
Method of approximation	
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Official national vital statistics report for a given year
Other possible data source	
Further information/ related links	



Indicator name	Percentage of registered VEs used for dissemination by the (a) CR sub-system (b) health system
Indicator number	1.10 a/b
Milestone	Dissemination
Tracer area	Quantity
Key or optional indicator	Optional
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs used for dissemination by the (a) CR sub-system (b) health system as a percentage of the total number of stored VEs for a given year
Numerator	Number of VEs used for dissemination in the (a) CR sub-system (b) health system for a given year (based on the date of VE)
Denominator	Registered VEs for a given year
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ On-time or not;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the total number of VEs stored in (a) the national registration database (b) national health system database <u>at the time when data was compiled</u> within (a) the CR sub-system (b) the health system for the year for which the last VS report was published (e.g. 2016). Get the total number of VEs used for dissemination by the (a) CR sub-system (b) health system for the year for which the last VS report was published (e.g. 2016).
Method of approximation	
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	(a) National registration database (b) national health system database; (a) National registration office report (b) national health system report
Other possible data source	(a) National registration application database
Further information/ related links	

## 2. Time

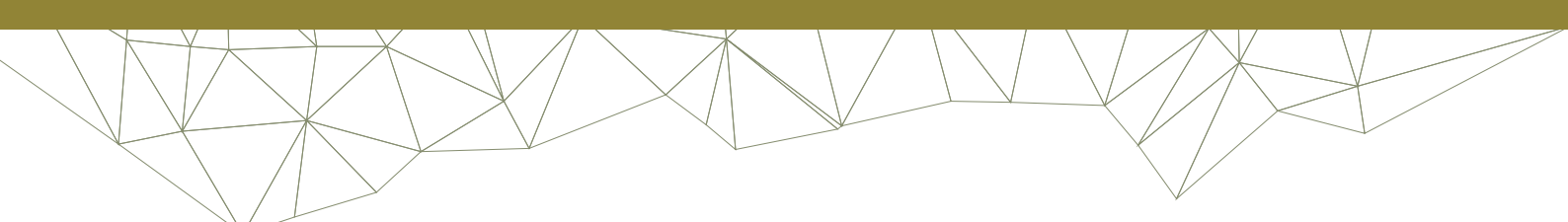
Indicator name	Average number of days between VE and notification
Indicator number	2.1
Milestone	Notification
Tracer area	Time
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between VE and notification (for on-time events)
Numerator	Average number of days between VE and notification (for on-time events)
Denominator	NA
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Calculate the weighted average of the number of days between the date of VE and the date of notification (e.g. noted on the notification form) for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016).
Method of approximation	Proxy for average number of days for a given year: number of the last three months or a systematic sample of a given year
Measurement administration level	All administrative levels
Measurement frequency	Monthly, annually
Preferred data source	Notification forms and database
Other possible data source	Registration application
Further information/ related links	

Indicator name	Average number of days between notification and registration of VE
Indicator number	2.2
Milestone	Notification
Tracer area	Time
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between VE and notification (for on-time events)
Numerator	Average number of days between VE and notification (for on-time events)
Denominator	NA
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Calculate the weighted average of the number of days between the date of notification and the date of registration for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016).
Method of approximation	Proxy for the time between notification and registration: time between VE and registration and subtract indicator 2.1
Measurement administration level	Proxy for average number of days for a given year: number of the last three months or a systematic sample of a given year
Measurement frequency	All administrative levels
Preferred data source	Monthly, annually
Other possible data source	Notification forms and database, legal registration document
Further information/related links	Registration database, registration form, registration application



Indicator name	Average number of days between (a) VE and certification and (b) registration and certification of VE
Indicator number	2.3 a/b
Milestone	Certification
Tracer area	Time
Key or optional indicator	Key
Supply or demand side indicator	(a) Demand (b) Supply
Associated indicators	
Definition	Average number of days between (a) VE (b) registering VE and collecting 1st/original certificate by the family (for on-time events)
Numerator	Average number of days between (a) VE (b) registering VE and collecting 1st/original certificate by the family (for on-time events)
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ On-time or not;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Calculate the weighted average of the number of days between the date of (a) VE (b) the date of registration and the date the certificate was collected by the family at the local registration office for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016).
Method of approximation	Proxy for certificates collected: certificates collected and certificates ready for collection. Proxy for average number of days for a given year: number of the last three months or a systematic sample of a given year
Measurement administration level	All administrative levels
Measurement frequency	Monthly, annually
Preferred data source	Certificate ledger, legal registration document
Other possible data source	Certificates, registration database, registration form, registration application
Further information/ related links	

Indicator name	Average number of days between registration and storage of VE in (a) the national registration database and (b) in the register archive
Indicator number	2.4 a/b
Milestone	Storage
Tracer area	Time
Key or optional indicator	(a) Key (b) Optional, if not legally required
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between registering VE and storing VE in (a) the national registration database (b) in the register archive
Numerator	Average number of days between registering VE and storing VE in (a) the national registration database (b) in the register archive
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ On-time or not;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Calculate the weighted average of the number of days between the date of registration and the date the VE registration was stored in (a) the national registration database (b) in the register archive for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016).
Method of approximation	<p>Proxy for national level storage: subnational level storage and assumption of representativeness for national level figure</p> <p>Proxy for average number of days for a given year: number of the last 12 months or a systematic sample of a given year</p> <p>Proxy for a national representative sample: (a) last batch of registrations stored (b) registers received for all sampled locations and extrapolation to a year based on the estimation of how many batches were received from the selected locations in the year for which the last VS report was published</p>
Measurement administration level	All administrative levels
Measurement frequency	Annually
Preferred data source	(a) National registration database; (b) registers/ register ledger in the national archive
Other possible data source	Registration application database
Further information/ related links	



Indicator name	Average number of days between the VE and storage of VE in the national health system database
Indicator number	2.5
Milestone	Storage
Tracer area	Time
Key or optional indicator	Optional
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between VE and storing VE in the national health system database
Numerator	Average number of days between VE and storing VE in the national health system database
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Calculate the weighted average of the number of days between the date of VE and the date the VE was stored in the national health system database (e.g. DHIS) for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016).
Method of approximation	Proxy for average number of days for a given year: number of the last 12 months or a systematic sample of a given year
Measurement administration level	All administrative levels
Measurement frequency	Annually
Preferred data source	Health information system database (e.g. DHIS)
Other possible data source	
Further information/ related links	

Indicator name	Average number of days between the registration of the VE and its compilation for the production of vital statistics
Indicator number	2.6
Milestone	Compilation
Tracer area	Time
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between the VE registration and sharing of VEs with the VS sub-system for compilation of VS
Numerator	Average number of days between the VE registration and sharing of VEs with the VS sub-system for compilation of VS
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ On-time or not;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	<p>Note down the number of times per year VEs are shared by the CR sub-system with the VS sub-system and the date(s) of sharing for the year for which the last VS report was published (e.g. 2016).</p> <p>Calculate the average number of days between the registration date of VEs and the date the VEs were shared with the VS sub-system for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016).</p>
Method of approximation	Proxy for average number of days for a given year: number of the last 12 months or a systematic sample of a given year
Measurement administration level	All administrative levels
Measurement frequency	Annually
Preferred data source	National registration database, ledger/register with the date of sharing
Other possible data source	Registration application database
Further information/related links	



Indicator name	Average number of days between the VS compilation and VS quality control in the VS sub-system
Indicator number	2.7
Milestone	Quality control
Tracer area	Time
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between the start of VS compilation and the start of VS quality control in the VS sub-system
Numerator	Average number of days between the start of VS compilation and the start of VS quality control in the VS sub-system
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death</li> </ul>
Method of measurement	<p>Note down the number of times VE are quality controlled per year and the date(s) when VS quality control started in the VS sub-system for the year for which the last VS report was published (e.g. 2016).</p> <p>Calculate the average number of days between the start of VS compilation (2.7) and the start of VS quality control.</p>
Method of approximation	Proxy for average number of days for a given year: number of the last 12 months or a systematic sample of a given year
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Statistical programs used in the VS sub-system, ledgers/registers, information from central officers
Other possible data source	
Further information/related links	





Indicator name	Average number of days between VS quality control and VS generation in the VS sub-system
Indicator number	2.8
Milestone	Generation
Tracer area	Time
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between the start of VS quality control and the start of VS generation in the VS sub-system
Numerator	Average number of days between the start of VS quality control and the start of VS generation in the VS sub-system
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death</li> </ul>
Method of measurement	<p>Note down the number of times VEs are generated per year and the date(s) when VS generation started in the VS sub-system for the year for which the last VS report was published (e.g. 2016).</p> <p>Calculate the average number of days between the start of VS quality control (2.7) and the start of VS generation.</p>
Method of approximation	Proxy for average number of days for a given year: number of the last 12 months or a systematic sample of a given year
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Statistical programs used in the VS sub-system, ledgers/registers, information from central officers
Other possible data source	
Further information/related links	



Indicator name	Average number of days between the VS generation and VS dissemination in the VS sub-system
Indicator number	2.9
Milestone	Dissemination
Tracer area	Time
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between the start of VS generation and the date of VS dissemination in the VS sub-system
Numerator	Average number of days between the start of VS generation and the date of VS dissemination in the VS sub-system
Denominator	
Disaggregation	■ Birth/death
Method of measurement	Note down the number of times VE are disseminated per year and the date(s) of VS dissemination in the VS sub-system for the year for which the last VS report was published (e.g. 2016). Calculate the average number of days between the start of VS generation (2.8) and date of dissemination.
Method of approximation	Proxy for average number of days for a given year: number of the last 12 months or a systematic sample of a given year
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	VS report disseminated by the VS sub-system
Other possible data source	Information from central officers
Further information/ related links	

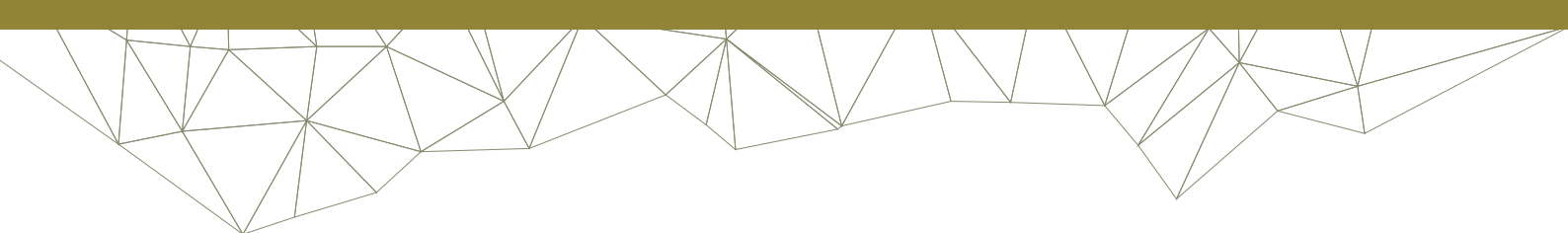
<b>Indicator name</b>	<b>Average number of days between the end of the year and VS dissemination in the (a) VS sub-system (b) CR sub-system (c) health system</b>
Indicator number	2.10 a/b/c
Milestone	Dissemination
Tracer area	Time
Key or optional indicator	(a Key) (b,c) Optional
Supply or demand side indicator	Supply
Associated indicators	
Definition	Average number of days between the end of the year and the date of VS dissemination in the (a) VS sub-system (b) CR sub-system (c) health system
Numerator	Average number of days between the end of the year and the date of VS dissemination in the (a)VS sub-system (b)CR sub-system (c) health system
Denominator	
Disaggregation	■ Birth/death
Method of measurement	Note down the number of times VE are disseminated per year and the date(s) of VS dissemination in the CR sub-system (b) / health system (c) for the year for which the last VS report was published (e.g. 2016). Calculate the average number of days between the end of the year for which the last VS report was published (e.g. 2016) and the date of dissemination based on above and for the VS sub-system use 2.9.
Method of approximation	Proxy for average number of days for a given year: number of the last 12 months or a systematic sample of a given year
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	VS report disseminated by the (a) VS sub-system (b) CR sub-system (c)health system
Other possible data source	
Further information/ related links	



### 3. Quality

Indicator name	Percentage of correctly validated VE notifications
Indicator number	3.1
Milestone	Validation
Tracer area	Quality
Key or optional indicator	Optional
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of VEs validated according to SOPs as a percentage of the total number of VEs notified in a given year.
Numerator	Number of VE notifications validated according to SOPs for a given year (based on the date of VE)
Denominator	Number of notifications for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the number of VE validated according to SOPs at local registration offices for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016). Use the indicator 1.1 for the denominator calculations.
Method of approximation	<ul style="list-style-type: none"> <li>■ Proxy in case of no SOPs: Forms correctly validated based on the responsible person's judgement;</li> <li>■ Proxy for annual numbers: use the number of the last three months, estimate the annual figure and back projected to the relevant year in the past</li> </ul>
Measurement administration level	All administrative levels
Measurement frequency	Annually
Preferred data source	Notification forms
Other possible data source	Registration application
Further information/ related links	

Indicator name	Client satisfaction score for CR services at local level
Indicator number	3.2
Milestone	Registration
Tracer area	Quality
Key or optional indicator	Key
Supply or demand side indicator	Demand
Associated indicators	
Definition	Achieved client satisfaction score for CR services at local level for a given year
Numerator	Achieved client satisfaction score for CR services at local level for a given year
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ On-time or not;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	<p>Calculate a client satisfaction score based on a simple routine questionnaire (preferable in electronic format). This questionnaire will be filled by clients after having received CR services at local registration offices for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016). The questionnaire could look like:</p> <ol style="list-style-type: none"> <li>1. Were you given the opportunity to ask questions?</li> <li>2. Did the officer listen carefully to your concerns and questions?</li> <li>3. Were you given satisfactory answers?</li> <li>4. Did the officer explain to you the subsequent procedures required?</li> <li>5. Were the explanations given in clear and simple terms?</li> <li>6. Did you get the kind of service you wanted?</li> <li>7. Was the quality of the services received sufficient?</li> <li>8. Would you recommend the services received to someone else?</li> </ol> <p>A positive answer would give 1 point and a negative answer 0. The score is then calculated by the number of points achieved divided by the total number of points possible. An "NA" answer reduces the number of points possible.</p>
Method of approximation	
Measurement administration level	All administrative levels
Measurement frequency	Annually
Preferred data source	Electronic client satisfaction questionnaire
Other possible data source	Emoji scale
Further information/ related links	



Indicator name	Percentage of on-time registrations
Indicator number	3.3
Milestone	Registration
Tracer area	Quality
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of on-time VEs registrations as a percentage of the total number of VEs registrations in a given year
Numerator	Number of on-time VE registrations in the national registration database at the time of the assessment for a given year (based on the date of registration)
Denominator	Number of VE registrations in the national registration database at the time of the assessment for a given year (based on the date of registration)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Get the number of (on-time) VE registrations in the national registration database at the time of the assessment for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016). The difference to indicator 1.4 is that you base your selection on the date of registration and not date of VE.
Method of approximation	<ul style="list-style-type: none"> <li>■ Proxy for national level storage: subnational level storage and subsequent estimation of national level figure</li> <li>■ Proxy for annual numbers: use number of the last 12 months and back project to the relevant year in the past</li> </ul>
Measurement administration level	All administrative levels
Measurement frequency	Monthly, annually
Preferred data source	National registration database
Other possible data source	National registration application database
Further information/ related links	

Indicator name	Minimum number of visits needed by the client to achieve certification
Indicator number	3.4
Milestone	Certification
Tracer area	Quality
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	Minimum number of visits needed by the client to achieve certification according to process design
Numerator	Minimum number of visits needed by the client to achieve certification according to process design
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ On-time or not;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Assess the minimum number of visits needed by the client to achieve certification and compare them with the official CR process documentation provided by the national registration office for all sampled locations for the year for which the last VS report was published (e.g. 2016).
Method of approximation	
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Assessing the number of visits will probably require a client survey that could take different forms (exit survey, telephone survey...)
Other possible data source	Information from central officers
Further information/ related links	



Indicator name	Ratio of VE data at national level (health system vs. the VS sub-system)
Indicator number	3.5
Milestone	Storage
Tracer area	Quality
Key or optional indicator	Optional
Supply or demand side indicator	Supply
Associated indicators	
Definition	The ratio of VEs at national level of the health system vs VEs at national level in the the VS sub-system
Numerator	Number of VEs stored in the national health system database at the time when data was compiled within the health system for a given year (based on the date of VE)
Denominator	Number of VEs stored in the national registration database at the time when data was compiled within the CR sub-system for a given year (based on the date of VE)
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ On-time or not;</li> <li>■ Place of occurrence;</li> <li>■ For death: age at death;</li> <li>■ For death: with or without a MCCOD, respectively with or without VA;</li> <li>■ For death: with or without medical attendance</li> <li>■ For death: prior or post burial</li> </ul>
Method of measurement	Use data collected in (1.1) notification in the health system database and (1.4) registrations in the CR sub-system.
Method of approximation	
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	VE entries in national registration database and national health system database
Other possible data source	National registration application database
Further information/ related links	



Indicator name	Quality of VE storage in the (a) national registration database (b) national register archive (c) health system database
Indicator number	3.6 a/b/c
Milestone	Storage
Tracer area	Quality
Key or optional indicator	(a) Key (b)Optional, if not legally required (c) Optional
Supply or demand side indicator	Supply
Associated indicators	
Definition	Storage quality score for the (a) national registration database (b) national register archive (c) health system database for a given year
Numerator	Achieved storage quality score by the (a) national registration database (b) national register archive (c)health system database (c) for a given year
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death</li> </ul>
Method of measurement	<p>Calculate a storage quality score based on a simple checklist for the year for which the last VS report was published (e.g. 2016). The checklist could look like:</p> <p>A positive answer would give 1 point and a negative answer 0. The score is then calculated by the number of points achieved divided by the total number of points possible. An “NA” answer reduces the number of points possible.</p> <p>The criteria for the assessment could be:</p> <ol style="list-style-type: none"> <li><b>1. General infrastructure:</b> <ol style="list-style-type: none"> <li>a. Is the place tidy to preserve hard copies?</li> <li>b. Does the place have good ventilation to preserve the archived items?</li> <li>c. Is there a system to prevent water spoiling documents?</li> <li>d. Is there a fire preventive structure?</li> <li>e. Is there enough space to store the records?</li> <li>f. Is anticorrosion material being used to minimize destruction of records?</li> </ol> </li> <li><b>2. Security &amp; confidentiality</b> <ol style="list-style-type: none"> <li>a. Is data transmitted from local to central level in a safe way, which ensures confidentiality of the data?</li> <li>b. Is there restricted access to authorized staff to the storage place?</li> <li>c. Are records being anonymised before being transmitted to other agencies?</li> </ol> </li> <li><b>3. SOP &amp; regulation</b> <ol style="list-style-type: none"> <li>a. Is there a protocol in place for protecting information on cause of death from being disclosed?</li> <li>b. Are there SOPs in place to ensure data protection/confidentiality of the data?</li> <li>c. Are there SOPs in place for storage procedures?</li> <li>d. Are there SOPs in place for data sharing with other institutions?</li> </ol> </li> <li><b>4. Information management</b> <ol style="list-style-type: none"> <li>a. Is the storage system easy to manipulate?</li> <li>b. Is the system coded to make the records retrievable?</li> <li>c. Are records legible in a way that they can be identified correctly?</li> <li>d. Is a backup of the digital information performed regularly?</li> </ol> </li> <li><b>5. Human resources &amp; training</b> <ol style="list-style-type: none"> <li>a. Are there enough staff at the facility?</li> <li>b. Do the staff have the necessary education to perform their tasks?</li> <li>c. All relevant staff have received training on the data management processes and SOPs?</li> </ol> </li> </ol>
Method of approximation	
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Storage quality assessment checklist
Other possible data source	
Further information/ related links	



Indicator name	Percentage of deaths with (a) a MCCOD (b) with a MCCOD of usable quality
Indicator number	3.7 a/b
Milestone	Quality control
Tracer area	Quality
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	The number of deaths with (a) a MCCOD (b) a MCCOD of usable quality as a percentage of the total number of VEs occurring in a given year
Numerator	Number of deaths with (a) MCCOD (b)MCCOD of usable quality for a given year
Denominator	Estimated number of VEs for a given year
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death;</li> <li>■ Place of usual residence (e.g. region/district);</li> <li>■ Gender of birth/death;</li> <li>■ Health facility or community birth/death;</li> </ul> <p><i>Further options:</i></p> <ul style="list-style-type: none"> <li>■ Urban or rural residency;</li> <li>■ Place of occurrence;</li> <li>■ Age at death;</li> <li>■ With or without medical attendance</li> <li>■ Prior or post burial</li> </ul>
Method of measurement	Get the number of deaths with (a) a MCCOD (b) a MCCOD of usable quality (as calculated by ANACONDA or ANACoD) (b) for all sampled locations and if possible, all administration levels above for the year for which the last VS report was published (e.g. 2016). Use indicator 1.1 for the denominator calculations.
Method of approximation	
Measurement administration level	All administrative levels
Measurement frequency	Annually
Preferred data source	National health system database (a) with quality control done by ANACONDA or ANACoD (b)
Other possible data source	
Further information/ related links	

Indicator name	Data quality score for VS generation in the VS sub-system
Indicator number	3.8
Milestone	Generation
Tracer area	Quality
Key or optional indicator	Key
Supply or demand side indicator	Supply
Associated indicators	
Definition	Data quality score for the quality of data used for VS generation by the VS sub-system for a given year
Numerator	Achieved data quality score used for VS generation by the VS sub-system
Denominator	
Disaggregation	<ul style="list-style-type: none"> <li>■ Birth/death</li> </ul>
Method of measurement	<p>Calculate a data quality score for the quality of data used for generation based on a simple checklist for the year for which the last VS report was published (e.g. 2016). The checklist could look like:</p> <ol style="list-style-type: none"> <li>1. Can data be disaggregated by the required variables?</li> <li>2. Is the data representative for the population and the relevant subpopulations?</li> <li>3. Is data collected at the required frequency?</li> <li>4. Is the data complete (less than 2% missing for key variables)?</li> <li>5. Is the proportion of duplicates below 2%?</li> <li>6. Is the data consistent between datasets?</li> <li>7. Is the percentage of CODs classified as “Ill-defined and unknown causes of mortality” below 15%?</li> </ol> <p>A positive answer would give 1 point and a negative answer 0. The score is then calculated by the number of points achieved divided by the total number of points possible. An “NA” answer reduces the number of points possible.</p>
Method of approximation	
Measurement administration level	National level
Measurement frequency	Annually
Preferred data source	Data quality assessment checklist
Other possible data source	
Further information/related links	

The program partners on this initiative include: The University of Melbourne, Australia; CDC Foundation, USA; Vital Strategies, USA; Johns Hopkins Bloomberg School of Public Health, USA; World Health Organization, Switzerland.

Civil Registration and Vital Statistics partners:



## **The University of Melbourne recognises the Swiss Tropical and Public Health Institute for their partnership and contribution**



### **For more information contact:**

CRVS-info@unimelb.edu.au  
crvsgateway.info

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