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CRVS DEVELOPMENT SERIES

Why the Sustainable Development Goal agenda needs strong civil registration and vital statistics systems

August 2018



Strengthening CRVS systems

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

CRVS development series

The CRVS development series, generated through the Initiative, form 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 are 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 world-wide.

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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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Abbreviations

COD	cause of death
CRVS	civil registration and vital statistics
D4H Initiative	Data for Health
MDG	Millennium Development Goal
SDG	Sustainable Development Goal
UN	United Nations
WHO	World Health Organization

Summary

Civil registration is the process whereby major vital events – such as marriages, births, deaths and causes of death – occurring in a population are officially recorded, thus providing people with documentation of identity and civil status. Vital statistics are the statistical outputs of a civil registration system. A well-functioning civil registration and vital statistics (CRVS) system registers all vital events; issues marriage, birth and death certificates; and compiles and disseminates vital statistics, including COD information.

CRVS systems are important from a population health perspective. Accurate birth and death statistics, including COD data, are key to informing evidence-based health policy and planning, and allocating limited financial and human resources cost-effectively.

- A robust civil registration and vital statistics (CRVS) system is important to improve the health of a population, by informing evidence-based health policy and planning, and allocating limited financial and human resources cost-effectively.
- The Sustainable Development Goals (SDGs) include CRVS systems strengthening as one of the targets.
- Well-functioning CRVS systems will play an important role in assisting countries and regions to measure, monitor and meet their SDG targets.
- The SDG agenda presents an opportunity to advance health information systems world-wide, including through CRVS systems strengthening efforts.
- The Data for Health Initiative developed a number of interventions, described in this paper, aimed at improving various components of a CRVS system. Countries may wish to consider these as part of their CRVS systems strengthening efforts.

Sustainable Development Goals, and civil registration and vital statistics systems

The 17 Sustainable Development Goals (SDGs) were unanimously agreed on by United Nations (UN) Member States at the UN Sustainable Development Summit in New York in September 2015. They represent the direction of global development efforts between 2015 and 2030. The SDGs considerably expand the scope and ambition of their precursor, the Millennium Development Goals (MDGs) of 2001.

CRVS systems support achieving the SDG framework in four ways:

- Strengthening of CRVS systems is an SDG outcome in and of itself.
- CRVS systems are the best source of data to monitor many of the SDG targets and associated indicators, especially for Goal 3 (Ensure healthy lives and promote well-being for all at all ages).
- CRVS systems provide legal documentation for proof of identity, providing protection and facilitating inclusion and access to social services, which is needed to achieve many of the SDG targets.
- CRVS systems are critical for effective disaster preparedness and response; an added focus of the SDG agenda.

Accurate and reliable data from well-functioning CRVS systems will play an important role in assisting countries and regions to measure, monitor and meet their SDG targets, as the SDGs require:

- Timely and continuing data series to enable comparisons over time
- Data at national and sub-national administrative levels
- Data disaggregated by key stratifiers, such as indigenous status and gender, as part of the 'Leaving no one behind' strategy.



Many of the SDG indicators are population based and given its continuous and compulsory nature, civil registration is critical for this, especially when examining sub-national or more vulnerable populations. Well-functioning CRVS systems, and the population data they generate, will underpin sustainable SDG performance management systems.

Civil registration and vital statistics systems strengthening

The SDG agenda presents an enormous opportunity to advance health information systems world-wide, including through CRVS systems strengthening efforts, because:

- 7 of the 17 SDGs, and 17 of their corresponding indicators, require cause-specific mortality data that only a functioning CRVS system can generate.
- 16 targets and 24 indicators require data that are best generated from a CRVS system.
- 106 of the 232 indicators are population based, and will thus benefit from the up-to-date and disaggregated birth and death data generated from CRVS systems.
- Achieving the targets related to 102 of the indicators greatly depends on people having access to birth, death and marriage certificates – a critical service that only CRVS systems can provide.

This CRVS development series paper and the framework in Annex 1 clearly demonstrate the linkages among the SDG targets and indicators and the vital statistics data needed to measure the targets. In addition, this paper discusses how strong CRVS systems will affect SDG targets being achieved. Importantly, the paper also outlines a number of interventions aimed at improving various components of a CRVS system, developed as part of the Data for Health (D4H) Initiative. Countries may wish to consider these interventions as part of their CRVS systems strengthening efforts.

Key interventions that countries can implement to strengthen their CRVS systems, which the D4H Initiative supports, include:

- Using process mapping to describe, analyse, compare and visualise the organisation, processes, workflows and functionality of a CRVS system
- Strengthening the registration of vital events by, for example, establishing national CRVS stakeholder committees, reviewing CRVS legislation and implementing standard operating procedures
- Improving the medical certification of COD
- Implementing or strengthening mortality coding
- Implementing automated verbal autopsy to determine the most likely COD for community deaths
- Building analytical capacity in producing and disseminating vital statistics.

Why the Sustainable Development Goal agenda needs strong civil registration and vital statistics systems

A functional civil registration and vital statistics (CRVS) system is the best source of continuous data on how many babies are born, how many people die and what people are dying from. These data provide important information about vital events for everyone in the population, which is a key Sustainable Development Goal (SDG) concept linked to the vision of 'leaving no one behind'.

This *CRVS development series* paper identifies and describes how strengthened CRVS systems will significantly contribute to country achievement of the SDG agenda, and describes:

- The vital statistics data needed for measuring achievement of the corresponding SDG indicators
- How strong CRVS systems will help to achieve SDG targets.

The paper also outlines a number of interventions aimed at improving various components of a CRVS system, developed as part of the Data for Health Initiative. Countries may wish to consider these interventions as part of their CRVS systems strengthening efforts.

Civil registration and vital statistics

What are civil registration and vital statistics systems?

Why are they important?

The Sustainable Development Goals

How can CRVS systems contribute to the SDG agenda?

Interventions to strengthen CRVS systems

Framework for using CRVS to move the SDG agenda forward

Civil registration and vital statistics

What are civil registration and vital statistics systems?

Key characteristics of CRVS systems are that they are continuous, permanent, universal and compulsory

Civil registration is a process whereby major vital events occurring in a population are officially recorded. It is defined by 'the continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events in a population', according to a country's legal requirements.¹ The goal of civil registration is to record all vital events that occur in a country as they occur. Vital events covered in a civil registration and vital statistics (CRVS) system include events that:

- Occur at the level of individuals – live births, deaths and fetal deaths
- Relate to family and civil status – marriages, registered partnerships, separations, divorces, legal dissolution of registered partnerships and marriage annulments
- Relate to descendants – adoption, legitimation and recognition (**Figure 1**).

According to the World Health Organization (WHO), 'a well-functioning CRVS system registers all births and deaths, issues birth and death certificates, and compiles and disseminates vital statistics, including cause of death information'.² Civil registration is a **foundational system**.³ The office of the civil registrar maintains registers that contain information about vital events and issues legal certificates on demand to entitled claimants. People can use this legal documentation to underpin claims of nationality, identity, civil status and family relationships.

1 United Nations Department of Economic and Social Affairs (Statistical Division). *Principles and recommendations for a vital statistics system, revision 3*. New York, USA: United Nations; 2014.

2 World Health Organization. *Health statistics and information systems: civil registration and vital statistics (CRVS)*. Available at: who.int/healthinfo/civil_registration/en/

3 University of Melbourne. *Civil registration and identification*. CRVS summaries. Melbourne, Australia: University of Melbourne, Civil Registration and Vital Statistics Improvement, and Bloomberg Philanthropies Data for Health Initiative; 2016.

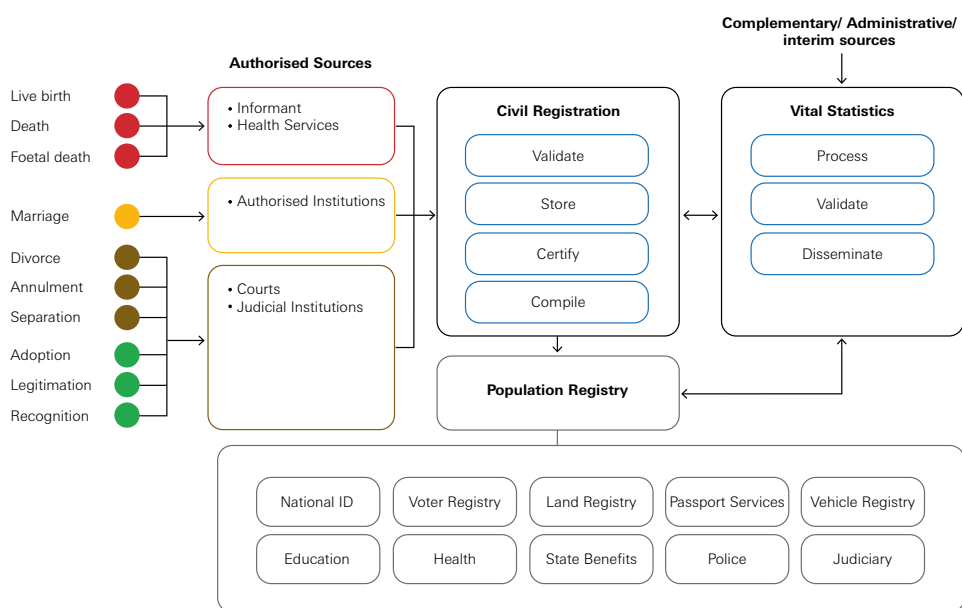
A foundational system provides legal documentation, such as an official birth certificate, which can be used for multiple purposes when proof of identity is required.

In addition to this legal function, the information collected through the civil registration system is aggregated, analysed and disseminated in the form of vital statistics of the population.

Vital statistics include numbers and rates of:

- Births, and key characteristics of births such as births by sex, location and maternal age.
- Deaths, and key characteristics of deaths such as age, sex, location and cause of death (COD).
- Events such as marriage, divorce, and adoption.

Figure 1: Elements of a civil registration and vital statistics system



Source: United Nations Department of Economic and Social Affairs (Statistical Division). *Principles and recommendations for a vital statistics system*, revision 3. New York, USA: United Nations; 2014.

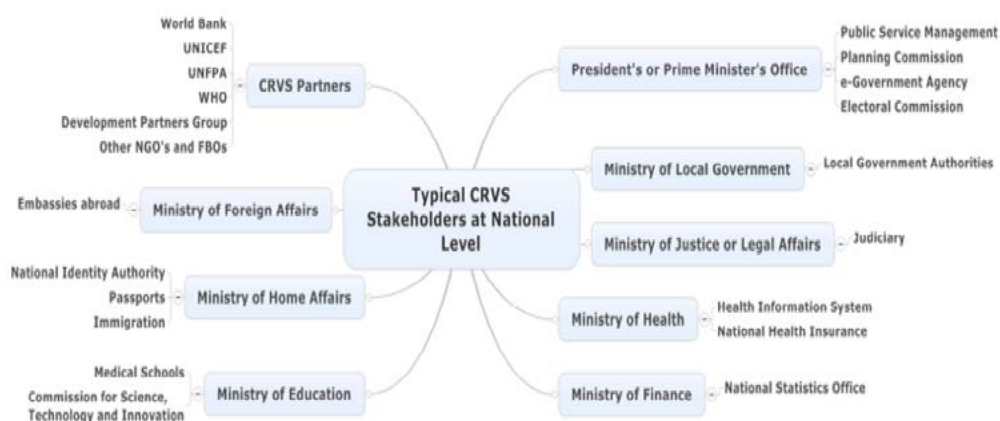
As **Figure 2** illustrates, there are many actors and stakeholders in a country’s CRVS system, spanning a variety of government departments, businesses, and community and civil society organisations. Stakeholders also include bilateral and multilateral development partners, such as WHO, the World Bank and the United Nations Children’s Fund. Governments require collaborative partnerships at multiple levels (local, regional, national and international) to have a successful CRVS system and usable data for policy.⁴ Currently, many countries do not have adequate CRVS systems in place. Globally, the births of nearly 230 million children under 5 years old have never been recorded⁵ and more than half of all deaths remain unregistered.⁶

4 University of Melbourne. *Strong CRVS systems – country partnerships are paramount*. CRVS summaries. Melbourne, Australia: University of Melbourne, Civil Registration and Vital Statistics Improvement, and Bloomberg Philanthropies Data for Health Initiative; 2017.

5 United Nations Children’s Fund. *Every child’s birth right: inequities and trends in birth registration*. New York, USA: UNICEF; 2013.

6 Wang et al. GBD 2016 Mortality Collaborators. Global, regional, and national under-5 mortality, adult mortality, age-specific mortality, and life expectancy, 1970–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet* 2017; 390(10100):1084-1150.

Figure 2: Typical civil registration and vital statistics stakeholders at the national level



CRVS = civil registration and vital statistics; FBO = faith-based organisation; NGO = nongovernmental organisation; UNFPA = United Nations Population Fund; UNICEF = United Nations Children’s Fund; WHO = World Health Organization

Why are civil registration and vital statistics systems important?

There is a growing body of evidence that countries with functioning CRVS systems have better health outcomes:^{7, 8}

- Good CRVS system performance leads to good health, irrespective of income and other factors likely to affect health status. Also, improving CRVS systems coincides with improved health outcomes world-wide in a consistent manner over time.⁹
- Accurate birth and death statistics (including COD data) from reliable and complete CRVS systems are key to formulating evidence-based health policy, and broader population policy and planning. This allows cost-effective allocation of the country’s limited financial and human resources.
- Real-time and accurate statistics on mortality and CODs are essential for countries to plan and respond to emerging health threats and epidemics.
- Disaggregated statistics that are generated by reliable and strong CRVS systems help countries to reduce health inequities.
- Birth certification enables people to access social services such as public health insurance, and medical and other allied healthcare services, and facilitates universal health coverage.

Countries with strong CRVS systems and good-quality data have better health outcomes.

7 Shibuya K, Boerma JT. Measuring progress towards reducing health inequalities. *Bulletin of the World Health Organization* 2005; 83(3):162.

8 Setel et al, on behalf of the Monitoring of Vital Events (MoVE) Writing Group. A scandal of invisibility: making everyone count by counting everyone. *The Lancet* 2007; 370(9598):1569-1577.

9 Phillips et al. Are well functioning civil registration and vital statistics systems associated with better health outcomes? *The Lancet* 2015; 386(10001):1386-1394.

Although vital statistics can be produced from other data sources (that is, censuses, household surveys and demographic surveillance sites), complete civil registration is better than sampled data. CRVS systems generate continuous, timely information that represents the national and local administrative levels, allowing informed local-level decision-making.^{10, 11}

Advocates for CRVS strengthening frequently emphasise that, in addition to maximising population health, strong CRVS systems and data promote good governance (decision-making accountability and transparency) and human rights (including children's and women's rights). CRVS systems and data also strengthen countries' economic planning and development efforts, including reporting on aid effectiveness.^{12, 13, 14} Accordingly, 'such information is essential for countries to monitor the needs of their populations and to be held accountable by their populations and the international community'.¹⁵

Why are civil registration and vital statistics systems important?

There are 17 Sustainable Development Goals, 169 targets and 232 indicators for measurement.

On 25 September 2015 at a United Nations (UN) High-Level Summit in New York, the UN Member States unanimously voted for the UN General Assembly resolution, *Transforming our world: the 2030 Agenda for Sustainable Development* (UN SDG resolution). This UN SDG resolution is a 'plan of action for people, planet and prosperity'. It extends the global development focus to include not just eradicating poverty, as emphasised by the Millennium Development Goals (MDGs), but also improving sustainable development. The UN SDG resolution also reinforces the inclusive nature of the new goals through its central principle – 'that no one will be left behind'.¹⁶

This formative resolution sets out the global community's post-2015 SDG action plan for the 15 years up to 2030. The action plan for the 2030 Agenda comprises 17 SDGs and 169 associated targets, and means of implementation. As of April 2018, the Inter-Agency and Expert Group on SDG Indicators has agreed to 232 indicators for monitoring the goals and targets. The 17 SDGs considerably expand the MDG agenda of 2001 in a number of ways.

The SDG agenda expands on that of the MDGs. It is universal, recognises the broad dimensions of sustainable development and encourages the 'data revolution'.

The SDGs have adopted a holistic approach for ensuring healthy lives and promoting wellbeing. While the MDGs were restricted to child and maternal mortality, and a small set of communicable diseases, the SDGs are wide-ranging and include indicators to measure:

- Health outcomes
- Access to services
- Support for research and development for vaccines and medicine
- Increased health financing
- Strengthened early warning, risk reduction and management of health risks.¹⁷

The social determinants of health are also addressed through related goals on, for example, poverty, hunger, education, clean water and sanitation.

¹⁰ Rommelmann et al. Costs and results of information systems for health and poverty indicators in the United Republic of Tanzania. *Bulletin of the World Health Organization* 2005; 83(8):569-577

¹¹ Jimenez-Soto et al. A framework for the economic analysis of data collection methods for vital statistics. *PLoS One* 2014; 9(8):e106234.

¹² The World Bank. *Global civil registration and vital statistics scaling up investment plan 2015–2024*. Available at: worldbank.org/en/topic/health/publication/global-civil-registration-vital-statistics-scaling-up-investment


¹³ Brolan et al. Beyond health: five global policy metaphors for civil registration and vital statistics. *The Lancet* 2017; 389(10074):1084-1085.

¹⁴ López et al. Civil registration, human rights, and social protection in Asia and the Pacific. *Asia-Pacific Population Journal* 2012; 29(1):75-97.

¹⁵ Brolan CE, Gouda H. Civil registration and vital statistics, emergencies, and international law: understanding the intersection. *Medical Law Review* 2017; 25(2):314-339.

¹⁶ UN General Assembly (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. A/RES/70/1. Available at: sustainabledevelopment.un.org/post2015/transformingourworld

¹⁷ Kumar et al. Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs): addressing unfinished agenda and strengthening sustainable development and partnership. *Indian Journal of Community Medicine* 2016; 41(1):1-4.



The SDGs are universal and set out a single normative base for all nations. The MDGs, on the other hand, focused on improving development conditions prevalent in the global south.

The SDGs recognise the economic, social and environmental dimensions of sustainable development. Unlike the MDGs, the SDGs are premised on the interdependence of social, economic and environmental values, giving greater weight to the dangers of climate change and ecological limitations.

SDG monitoring and reporting encompass and encourage the data revolution. The SDG monitoring and reporting framework is enabled by technological innovations and scientific advances that were not present during the MDG rollout. For example, technological advances in data collection, storage and analysis allow for greater flexibility in indicator selection.

Implementation of the SDG agenda is not debated separately from issues of global finance. The UN SDG resolution acknowledges the principle that funding for development and development priorities should be shared.

How can civil registration and vital statistics systems contribute to achieving the Sustainable Development Goals?

CRVS systems are the cornerstone of sustainable development.¹⁸ Improved CRVS systems provide individuals with legal identification, and they lead to better health outcomes for the population as a whole, irrespective of a country's wealth or health system coverage.¹⁹ Furthermore, CRVS systems support achieving the SDG framework in four important ways:

1. **Strengthening of CRVS systems is an SDG outcome in and of itself.** As such, to fully achieve the SDG agenda, CRVS systems must be robust with near-complete registration of births and deaths.
2. **CRVS systems are the best source of data to monitor many of the SDG targets and associated indicators, especially for Goal 3 (Ensure healthy lives and promote well-being for all at all ages).** Nearly half of all the indicators are population based, and could benefit from improved information on births and deaths at the national and sub-national level. CRVS systems are also the best source for continuous COD data, which is required by 17 of the indicators.
3. **CRVS systems provide legal documentation for proof of identity,** which provides protection, and facilitates inclusion and access to education, employment, economic resources, social protection systems and services, and legal and political rights and entitlements. Many of these services, such as access to universal education, are SDGs themselves, or are required for achieving goals and targets.
4. **CRVS systems are critical for effective disaster preparedness and response.** Strong CRVS systems can build resilience to disasters in addition to aiding in the identification of populations at risk of being affected. CRVS systems provide a legal identity that facilitates access to social protection systems and to services such as property insurance, which helps to build resilience against disasters.

¹⁸ CRVS systems: a cornerstone of sustainable development [editorial]. *The Lancet* 2015; 385(9981):1917.

¹⁹ Phillips et al. Are well functioning civil registration and vital statistics systems associated with better health outcomes? *The Lancet* 2015; 386(10001):1386-1394.

Contribution one – complete birth and near-complete death registration is a Sustainable Development Goal target

SDG Target 16.9 aims to have legal identity for all, including birth registration, by 2030.

CRVS systems – notably for birth and death registration – are defined as SDG targets in and of themselves because of their contribution to reliable administrative and statistical systems and to the realisation of human rights through legal recognition. SDG Target 16.9 is that by 2030 countries will provide ‘legal identity for all, including birth registration’.

SDG Target 17.19 calls on the international community to support ‘effective and targeted capacity building in developing countries’ and is monitored by ‘the proportion of countries that have achieved 100 percent birth registration, and 80 percent death registration’. In line with this, Target 17.18 calls for ‘capacity-building support to developing countries...to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts’. This cannot be achieved without CRVS data. Furthermore, Indicator 17.18.1, ‘the proportion of sustainable development indicators produced at the national level with full disaggregation’ will be significantly lower if quality data from CRVS systems are unavailable.

Contribution two – the vital statistics from civil registration and vital statistics systems are needed to directly measure many targets

A functional CRVS system with medical certification of death and/or verbal autopsy is the only routine source of cause-specific mortality data.

The vital statistics on births, deaths and COD that a CRVS system produces are essential for monitoring progress towards SDG metrics (that is, the goals, targets and indicators), particularly in, but not limited to, the health sector.^{20, 21} A functional CRVS system, with medical certification of COD and verbal autopsy (VA), where required, is the **best source of the cause-specific mortality data** required to monitor these indicators. Few low-income countries currently have such systems in place. Continued investment in CRVS systems is necessary to enable countries to measure progress in confronting the burden of premature mortality, and to design effective policies to address threats such as emerging infectious diseases and the growing prevalence of non-communicable diseases. Further, the detailed, disaggregated data from CRVS systems are key to identifying and reducing health inequities across populations and can contribute to greater health systems strengthening.

Additionally, to monitor population-based indicators, robust population projections for each sub-national or vulnerable population will require reliable and accurate birth and death data generated by CRVS systems. Indicators derived from household surveys can benefit from these population projections by using them to ensure their sampling frame is inclusive of vulnerable or sub-national populations of interest. Moreover, the increased use and potential linkage of administrative databases to monitor indicators will rely on robust data from CRVS systems. **This means that nearly half of all indicators can benefit from data generated from CRVS systems to ensure that no one is left behind.**

20 Sankoh O, Byass P, on behalf of INDEPTH Network and Partners. New INDEPTH strategy for the SDGs using robust population data. *The Lancet Global Health* 2017; 5(7):e647-e648.

21 He et al. National and subnational all-cause and cause-specific child mortality in China, 1996–2015: a systematic analysis with implications for the Sustainable Development Goals. *The Lancet Global Health* 2017; 5(7):e186-e197.

Contribution three – the legal documentation of identity facilitates inclusion and access to services

Birth and death certificates, as provided through civil registration, are critical in the achievement of many of the goals, targets and indicators.

The legal documentation of identity, civil status and family relationships through CRVS systems facilitates:

- Social, economic and political inclusion
- Access to civil, economic, health and education services
- Employment.

Providing people with this documentation is crucial for advancing the human rights of vulnerable and marginalised populations around the globe. For example, birth certificates are often needed to register for school, and thus would be necessary for the achievement of SDG 4, achieving 'inclusive and equitable quality education'. Additionally, birth certificates are often needed to gain employment, open a bank account, apply for a loan and register a business. Therefore, they are critical for the achievement of SDG 8, 'Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all'.

Birth, death, and marriage certificates generated from robust CRVS systems will also be crucial for achieving SDG 1, 'End poverty in all its forms everywhere', as birth certificates facilitate access to social protection systems and services, education and employment. The inability to acquire both marriage and death certificates can adversely impact the economic well-being of women and their children as they may need these documents to inherit property and receive social services they are entitled to, such as pensions of their deceased spouses. Therefore, they are necessary to achieve Target 1.4, 'By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance'.

Birth certificates will also support Goal 10, 'Reduce inequality within and among countries', by providing social, economic and political inclusion of all (Target 10.2) as well as by facilitating orderly, safe, regular and responsible migration (Target 10.7). Finally, birth certificates as a form of legal identity will be critical in achieving universal health coverage as called for by Target 3.8.

Legal identity documents can help ensure the achievement of many of the targets related to ensuring the rights of women and girls.

Additionally, the legal documentation of identity, civil status and family relationships through CRVS systems can help ensure that the rights of women and girls are achieved, as well as cross-cutting gender rights, and the development imperative of SDG 5, 'Achieve gender equality and empower all women and girls'. Failure to register girls at birth is a major contributing factor to their invisibility and lack of empowerment throughout their childhood, youth and adulthood. Establishing and/or confirming a child's legal identity through birth registration is vital for a range of actors – government, civil society, the private sector, legal advocates and communities – to successfully build a protective environment against forced labour, forced marriage, trafficking and prostitution, all of which disproportionately affect women and girls.^{22, 23}

CRVS systems also provide another opportunity to improve women's and girls' rights – through marriage registration. Registering marriages in an official state registry must be compulsory to stop underage or forced marriages.²⁴ Registering marriages and deaths are also important to ensure economic empowerment and inheritance for the surviving spouse, especially for women.

22 Plan International. *Counting the invisible: using data to transform the lives of girls and women by 2030*. Surrey, UK: Plan International Inc.; 2016.

23 Harbitz M, del Carmen Tamargo M. *The significance of legal identity in situations of poverty and social exclusion: the link between gender, ethnicity, and legal identity*. Washington, USA: Inter-American Development Bank; 2009.

24 UN Human Rights Council. *Birth registration and the right of everyone to recognition everywhere as a person before the law*. Report of the Office of the UN High Commissioner for Human Rights, 17 June 2014, A/HRC/27/22.

Contribution four – civil registration and vital statistics systems are critical for disaster preparedness and response

Strong CRVS systems can build resilience to disasters, and help to identify the number and sociodemographic make-up of populations at-risk. CRVS systems provide people with a legal identity, which facilitates access to social protection systems and to services such as property insurance. This, in turn, helps to build resilience against disasters.²⁵ When countries respond to catastrophic disasters and crises, birth registration can allow legal documentation of identity to be reissued and replaced quickly, as per SDG 13. Additionally, CRVS systems are critical for monitoring the impact of disasters on mortality. The Sendai Framework for Disaster Risk Reduction 2015–2030 calls for ‘a mechanism of case registry and a database of mortality caused by disaster in order to improve the prevention of morbidity and mortality [to be established]’. CRVS systems strengthening will be critical for achieving this goal.²⁶

Functional CRVS systems can provide legal documentation to assist people with accessing services after a disaster.

Certainly, functioning civil registration systems can provide displaced individuals with essential legal documentation to access basic public services during a time of great need. Children who have been separated from their parents and family networks are particularly vulnerable in emergencies, and accessible and reliable birth registration records can help re-unite families and ensure that the rights of displaced and at-risk children are protected. For example, after the December 2004 Indian Ocean tsunami, registration records helped re-unite families and identify those lost in Thailand and Malaysia.²⁷

The timely issuance of death documentation in disaster settings can be critical to enable next of kin to access insurance payments, social protection systems and welfare services. It also helps with access to inheritance, business, property, nationality, and other rights and entitlements. Therefore, it is critical that even in protracted emergency situations births and deaths continue to be registered, and lost birth and death certificates are quickly and easily replaced.²⁶

Interventions to strengthen civil registration and vital statistics systems

Countries can use several potential interventions to strengthen components of their CRVS system, in line with the SDG agenda, and draw from a growing body of experience, such as from the Data for Health (D4H) Initiative. The D4H Initiative is working with 16 countries and 2 cities to:

- Increase birth and death registration
- Improve the quality of COD information at hospitals
- Use VA to better understand probable COD in communities
- Produce high-quality datasets and data analysis skills for policy and program analysis.

As outlined below, the D4H Initiative is supporting some key interventions to improve civil registration and vital statistics.

²⁵ Pacific Civil Registrars Network. Report of the Pacific Civil Registrars Network Disaster Preparation and Response Workshop, Suva, Fiji, 2–4 October 2017.

²⁶ United Nations Office for Disaster Risk Reduction. *Sendai framework for disaster risk reduction 2015–2030*. Geneva, Switzerland: UNISDR, 2015.

²⁷ United Nations Children’s Fund. *Birth registration: the record in tsunami-affected areas – getting it right in East Asia and the Pacific*. Bangkok, Thailand: UNICEF, East Asia and Pacific Regional Office; 2005.

Undertaking process mapping

Process mapping can be used to describe, analyse, compare and visualise the organisation, processes, workflows and functionality of a CRVS system. Process maps help to show the interfaces and links between functionally distinct parts of the system, such as how data relating to a vital event ‘moves’ through the system. Such maps also highlight overlap and duplication of activities, system bottlenecks, and where losses in time, data and data quality occur.²⁸

Strengthening the registration of vital events

A civil registration system encompasses a range of practices involving many institutions. Activities include notifying and registering events and issuing certificates. The institutions involved in a CRVS system include the civil registration department, the health department, police, the national identification office, funeral directors, religious institutions and the national statistics office. A number of activities can be implemented to improve registration, including:

- Establishing national CRVS stakeholder committees
- Reviewing CRVS legislation and regulations²⁹
- Implementing standardised data collection forms and data transfer management processes
- Training in methods to estimate the completeness of registration.

Improving the medical certification of cause of death

Medical certification of COD is an important part of a physician’s duties, because the information recorded in a medical death certificate helps decision-makers to determine health priorities, allocate resources and introduce preventive interventions. Activities to improve the medical certification of COD include:

- Establishing national/hospital mortality committees
- Introducing the International Form of Medical Certificate of Cause of Death
- Training physicians in medical certification of COD
- Integrating training curricula into medical training and continuing medical education
- Measuring and monitoring the quality of medical certification.³⁰

28 de Savigny D, Cobos Muñoz D. *Understanding CRVS systems: the importance of process mapping*. CRVS development series. Melbourne, Australia: University of Melbourne, Civil Registration and Vital Statistics Improvement, and Bloomberg Philanthropies Data for Health Initiative; 2017.

29 Schwid et al. *CRVS legal and regulatory review tools and methodology*. New York, USA: Vital Strategies and Global Health Advocacy Incubator; 2018.

30 University of Melbourne. *Strategies for improving the quality of cause of death data in hospitals*. CRVS development series. Melbourne, Australia: University of Melbourne, Civil Registration and Vital Statistics Improvement, and Bloomberg Philanthropies Data for Health Initiative; 2018.

Implementing or strengthening mortality coding

Mortality coding is a complex process. All diseases and conditions recorded on a medical death certificate are transformed from text to alpha-numeric codes, following strict procedures set out by the International Classification of Diseases, 10th revision (ICD-10). To do this correctly, mortality coders have to be well trained in ICD-10 rules and regulations. Depending on country requirements, activities to implement or strengthen mortality coding may include:

- Developing a coding strategy for country implementation, including identifying local ‘master trainers’ to provide ongoing support and in-country training
- Developing ICD-10 coding training materials and tools such as the WHO Startup Mortality List³¹
- Implementing Iris, an automated coding software package³²
- Developing monitoring and evaluation guidelines.

Implementing verbal autopsy

Governments need COD information to make effective policies and plans, and allocate resources. VA is a method for determining the most likely COD based on information collected from caregivers or family members about the signs and symptoms experienced by the deceased in the period before she or he died.

As a part of VA implementation, a comprehensive training and support package is needed. Training and support covers aspects such as:

- Resources to understand the broad systems issues
- Prerequisites for VA implementation, documentation and training materials
- Skills to analyse and interpret results
- A monitoring and evaluation framework³³
- Integrating business processes, including roles and responsibilities of all stakeholders, into the operational architecture of the health and CRVS systems.³⁴

VA generally comprises the following:

- A VA interview that is ideally performed within 3 months after death, but can extend to 1 year; the interview consists of a series of structured questions on the key demographic characteristics of the deceased, as well as signs and symptoms that he or she experienced before death
- A validated, automated algorithm for diagnosing and coding the most probable underlying CODs
- A target cause list mapped to the ICD-10
- A means of compiling summary and disaggregated cause-specific mortality fractions at the population level.

³¹ For more information, see who.int/healthinfo/civil_registration/smol/en

³² For more information on Iris ICD coding tool, see crvsgateway.info/learningcentre/improving-quality-and-presentation-of-crvs-data/iris-icd-coding-tool

³³ de Savigny et al. Integrating community based verbal autopsy into civil registration and vital statistics (CRVS): system-level considerations. *Global Health Action* 2017; 10(1):1272882.

³⁴ For more information, see crvsgateway.info/learningcentre/cause-of-death-in-crvs/the-implementation-of-verbal-autopsy

Building analytical capacity in the production and dissemination of vital statistics

A common concern with mortality datasets, including data produced from civil registration systems, is their reliability in describing actual mortality patterns in the population to which they refer. It is critical to have capacity in the following areas:

- Data cleaning and basic quality assessment, to check for potential errors in the individual record data and in compiled or aggregated data³⁵
- Estimating the completeness of birth and death registration using a range of methods; this would help data users adjust for biases when using vital statistics to generate policy-relevant fertility and mortality measures
- Conducting and interpreting basic vital statistics data analysis, including how to create high-quality visualisations and reports, and how to effectively disseminate CRVS data to multiple audiences
- Comprehensively and systematically assessing the quality of mortality and COD data, including understanding the epidemiological and demographic concepts linked to mortality statistics and how to use these to assess the plausibility of local datasets (ANACONDA is an electronic tool that is widely used as part of the D4H Initiative to assist in building such a capacity)³⁶
- Interpreting COD data as generated through routine VAs, including how to assess for plausibility and make sense of 'undetermined' and 'residual' CODs.³⁷

Conclusions

Robust CRVS systems are critical for monitoring the health of a population. They provide information for evidence-based health policy and planning and for the allocation of limited financial and human resources. The importance of CRVS system strengthening is recognised in the SDGs with a Target of 'legal identity for all, including birth registration' and a specific indicator monitoring near-complete registration of births and deaths. An additional 17 SDG indicators will require COD data that is best generated from well-functioning CRVS systems. CRVS systems further support the achievement of the SDG agenda by providing legal documentation for proof of identity, providing protection and facilitating inclusion and access to social services, which is needed to achieve many of the SDG targets. Finally, CRVS systems are critical for effective disaster preparedness and response; an added focus of the SDG agenda.

The SDG agenda presents an opportunity to advance health information systems world-wide, including through CRVS systems strengthening efforts. The Data for Health Initiative developed a number of interventions, described in this paper, aimed at improving various components of a CRVS system. Countries may wish to consider these as part of their CRVS systems strengthening efforts.

³⁵ University of Melbourne. *Improving vital statistics for informed policy: the importance of data quality*. CRVS development series. Melbourne, Australia: University of Melbourne, Civil Registration and Vital Statistics Improvement, and Bloomberg Philanthropies Data for Health Initiative; 2018.

³⁶ Mikkelsen L, Lopez AD. *Guidance for assessing and interpreting the quality of mortality data using ANACONDA*. CRVS resources and tools. Melbourne, Australia: University of Melbourne, Civil Registration and Vital Statistics Improvement, and Bloomberg Philanthropies Data for Health Initiative; 2017.

³⁷ The University of Melbourne, as part of the D4H Initiative, is currently developing guidelines and a tool to assist countries in interpreting and analysing verbal autopsy data.



Annex 1: A framework for moving the Sustainable Development Goal agenda forward using civil registration and vital statistics

As of February 2018, 232 indicators have been finalised and entered into the Global SDG Indicator Database.³⁸ Almost half of these indicators are population-based, which means they can benefit from the birth and death data generated from CRVS systems, especially when population projections at the sub-national level or for vulnerable populations of interest are needed. In addition, achieving the targets related to 102 of the indicators greatly depends on people having access to birth, death or marriage certificates – key functions of a CRVS system.

The breadth of targets and indicators in the SDG agenda is in marked contrast to the eight goals and their associated targets in the MDG agenda that followed the Millennium Declaration in 2000. With such a challenging roadmap ahead for ‘people, planet and prosperity’, it is likely that, in the early years of the SDG rollout, the volume of goals and scale of global development ambition will overwhelm some countries. However, ‘you can’t manage what you can’t measure’. In a study examining successful MDG implementation, it was found that countries that progressed most towards the MDGs were generally those that could measure and quantify the MDG targets and indicators.³⁹

CRVS systems are critical in achieving the SDG agenda, just as strengthened CRVS systems enabled measurement and quantification of MDG targets and indicators.

The rest of this annex is a framework that sets out the clear linkages among the SDG targets and indicators and CRVS systems, and the vital statistics data needed for measuring achievement of the targets.

The framework also shows how strong CRVS systems will affect SDG target and/or indicator achievement, and highlights how the intersection between CRVS and SDG metrics is unequivocal.⁴⁰ This framework is useful for CRVS advocates to demonstrate to countries and their partners the vital role that CRVS will play in achieving the SDGs.

³⁸ United Nations Department of Economic and Social Affairs (2018). SDG indicators. Available at: unstats.un.org/sdgs/indicators/indicators-list

³⁹ Jacob A. Mind the gap: analyzing the impact of data gap in Millennium Development Goals’ (MDGs) indicators on the progress toward MDGs. *World Development* 2017; 93:260-278.

⁴⁰ Pacific Community (Statistics for Development Division). *CRVS and the Sustainable Development Goals*. Noumea, New Caledonia: SPC; 2017.

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 1. End poverty in all its forms everywhere					
1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)		+	BC	Birth certificates (a form of legal identification issued by civil registration) facilitate access to education, employment, economic resources, social protection systems and services, and legal rights and entitlements. Marriage and death certificates facilitate surviving kin's access to social protection systems and services, survivor benefits (eg pensions), and legal rights and entitlements (eg property, business and inheritance rights, nationality).
1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	1.2.1 Proportion of population living below the national poverty line, by sex and age		+	BC	
1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions		+	BC	
1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	1.3.1 Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable		+	DC	Birth and death registration data disaggregated by key stratifiers can help generate the evidence on which countries and local governments can base policy frameworks and disaster risk reduction strategies. CRVS systems can help to identify the number and sociodemographic make-up of the populations at risk of being affected by disasters. During emergencies, they can provide information rapidly on who is living in affected regions, which can save lives.
1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	1.4.1. Proportion of population living in households with access to basic services	D ICD	✓	MC	

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 1. End poverty in all its forms everywhere					
<p>1.A Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions</p>				<p>BC DC MC</p>	<p>Reissuing lost or destroyed birth certificates/legal identification facilitates access to social protection systems and services, and legal rights and entitlements.</p> <p>Birth and death data ensure population projections are up to date when calculating per-capita or proportion-based indicators, and also inform survey sampling frames.</p>
<p>1.B Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions</p>				<p>BC DC MC</p>	
SDG 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture					
<p>2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round</p>	<p>2.1.1 Prevalence of undernourishment</p>		+	<p>BC</p>	<p>A key measurement of the end of hunger is the number of deaths attributed to malnourishment each year.</p>
<p>2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons</p>	<p>2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)</p>	D ICD	✓ +	<p>BC</p>	<p>To measure infant nutrition, the number of births is required for the denominator.</p> <p>Birth certificates (a form of legal identification issued by civil registration) facilitate access to social protection systems and services, and legal rights and entitlements.</p>

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 1. End poverty in all its forms everywhere					
<p>2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment</p>	<p>2.3.2 Average income of small-scale food producers, by sex and indigenous status</p>		+	BC DC MC	<p>Marriage and death certificates facilitate surviving kin's access to social protection systems and services, survivor benefits (eg pensions), and legal rights and entitlements (eg property, business and inheritance rights, nationality).</p> <p>Birth and death data ensure population projections are up to date when calculating per-capita or proportion-based indicators, and also inform survey sampling frames.</p>
SDG 3. Ensure healthy lives and promote well-being for all at all ages					
<p>3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births</p>	<p>3.1.1 Maternal mortality ratio 3.1.2 Proportion of births attended by skilled health personnel</p>	B D ICD	✓	BC	<p>Reliable and accurate birth, death and COD data generated by strong CRVS systems are required to directly measure many of these targets.</p>
<p>3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births or less, and under-5 mortality to 25 per 1000 live births or less</p>	<p>3.2.1 Under-five mortality rate 3.2.2 Neonatal mortality rate</p>	B D	✓	BC	<p>Birth certificates (a form of legal identification issued by civil registration) facilitate access to social protection systems and services, legal rights and entitlements (such as medical care), and education and other professional training services.</p>
<p>3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, waterborne diseases and other communicable diseases</p>	<p>3.3.1 Number of new HIV infections per 1000 uninfected population, by sex, age and key populations 3.3.2 Tuberculosis (TB) incidence per 1000 population 3.3.3 Malaria incidence per 1000 population 3.3.4 Hepatitis B incidence per 100 000 population 3.3.5 Number of people requiring interventions against neglected tropical diseases</p>		✓	BC	<p>A key measurement of the end of these epidemics is the number of deaths attributed to them each year.</p> <p>CRVS systems collect important monitoring information such as whether a skilled birth attendant was present during delivery.</p>

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
<p>3.4 By 2030, reduce by one-third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being</p>	<p>3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease 3.4.2 Suicide mortality rate</p>	<p>D ICD</p>	<p>✓</p>	<p>BC</p>	<p>Birth and death registration data disaggregated by key stratifiers can help generate the evidence on which countries and local governments can base policy frameworks and emergency risk reduction strategies.</p>
<p>3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol</p>	<p>3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders 3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol</p>		<p>✓ +</p>	<p>BC</p>	<p>Accurate data on maternal age is valuable to understand early childbearing, ensure appropriate care and take actions to delay early childbearing.</p> <p>Birth and death data ensure population projections are up to date when calculating per-capita or proportion-based indicators, and also inform survey sampling frames.</p>
<p>3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents</p>	<p>3.6.1 Death rate due to road traffic injuries</p>	<p>D ICD</p>	<p>✓</p>	<p>BC</p>	
<p>3.7 By 2030, ensure universal access to sexual and reproductive healthcare services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs</p>	<p>3.7.1 Proportion of women at reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods 3.7.2 Adolescent birth rate (aged 10–14 years; aged 15–19) per 1000 women in that age group</p>	<p>B</p>	<p>+ ✓</p>	<p>BC</p>	

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
<p>3.8 Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all</p>	<p>3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, noncommunicable diseases and service capacity and access, among the general and the most disadvantaged population)</p> <p>3.8.2 Proportion of population with large household expenditures on health as a share of total household expenditure or income</p>		<p>✓ +</p>	<p>BC</p>	
<p>3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination</p>	<p>3.9.1 Mortality rate attributed to household and ambient air pollution</p> <p>3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)</p> <p>3.9.3 Mortality rate attributed to unintentional poisoning</p>	<p>D ICD</p>	<p>✓</p>	<p>BC</p>	
<p>3.A Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate</p>	<p>3.A.1 Age-standardized prevalence of current tobacco use among persons aged 15 years and older</p>		<p>+</p>		

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
<p>3.B Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all</p>	<p>3.B.1 Proportion of the population with access to affordable medicines and vaccines on a sustainable basis</p>		✓	BC	
<p>3.C Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States</p>	<p>3.C.1 Health worker density and distribution</p>		✓	BC	
<p>3.D Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks</p>	<p>3.D.1 International Health Regulations (IHR) capacity and health emergency preparedness</p>		✓		

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 4. Ensure inclusive and equitable education and promote lifelong learning opportunities for all					
4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	4.1.1 Proportion of children and young people: (a) in grades 2 or3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex		+	BC	Birth certificates (a form of legal identification issued by civil registration) facilitate access to schools and other educational training services.
4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial wellbeing, by sex 4.2.2 Participation rate in organised learning (one year before the official primary entry age), by sex		+	BC	Birth certificates are a prerequisite for other forms of identification, such as passports, which allow freedom of movement for educational and training opportunities.
4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	4.3.1 Participation rate of youth and adults in formal and nonformal education and training in the previous 12 months, by sex		✓	BC	Birth and death data ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.
4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	4.4.1 Proportion of youth and adults with information and communications technology skills, by type of skill		+	DBC	
4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated		✓	BC	

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
<p>4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy</p>	<p>4.6.1 Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex</p>		+	BC	
<p>4.B By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries</p>				BC	
<p>4.C By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States</p>					

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 5. Achieve gender equality and empower all women and girls					
5.1 End all forms of discrimination against all women and girls everywhere				BC	Reliable and accurate marriage data generated by strong CRVS systems are required to directly measure Target 5.3.1.
5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age 5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence.		+	BC	Women and girls who have a birth certificate are better protected from violence, trafficking and other harmful practices. Marriage and death certificates facilitate surviving kin's access to social protection systems and services, survivor benefits (eg pensions), and legal rights and entitlements (eg property, business and inheritance rights, nationality). Women and girls who have a birth certificate (a form of legal identification issued by civil registration) are better able to participate in society; have better access to educational and economic opportunities; and have better access to social protection systems and services, legal rights and entitlements, and medical care.
5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.1 Proportion of women aged 20–24 years who were married or in a union before age 15 and before age 18 5.3.2 Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age	M	+ ✓	BC MC	
5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location		+	BC	Birth certificates, or other forms of legal identification, are often needed to register for a mobile phone account.
5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.2 Proportion of women in managerial positions		+	BC	Birth and death data ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	5.6.1 Proportion of women aged 15–49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care		+	BC	
5.A Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws	5.A.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure		+	BC DC MC	
5.B Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	5.B.1 Proportion of individuals who own a mobile telephone, by sex	M	✓	BC	
5.C Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels				BC	

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 6. Ensure access to water and sanitation for all					
6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1 Proportion of population using safely managed drinking water services		+		Birth and death registration data disaggregated by key stratifiers can help generate the evidence for countries and local governments to base policy frameworks on. Birth and death data ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.
6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water		+		
SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all					
7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.1 Proportion of population with access to electricity		+	BC	Birth certificates (a form of legal identification issued by civil registration) facilitate access to services. Birth and death registration data disaggregated by key stratifiers can help generate the evidence on which countries and local governments can base policy frameworks. Birth and death data ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.
SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all					
8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries	8.1.1 Annual growth rate of real GDP per capita		✓		Reliable and accurate birth, death and COD data generated by strong CRVS systems are required to directly measure Target 8.8.

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
<p>8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors</p>				BC	<p>Birth certificates (a form of legal identification issued by civil registration) facilitate access to education and other training opportunities, and employment, and are often needed to open a bank account, apply for a loan and register a business.</p>
<p>8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services</p>				BC	<p>Children who have a birth certificate, legal identity and stated date of birth (and thus age) are better protected from forced labour and trafficking.</p> <p>Orderly migration relies on adequate identity documentation (such as birth certificates and passports), provided by trusted sources such as CRVS systems. People who have a birth certificate, and thus legal identity, are better protected from forced labour. They also have better access to secure employment.</p>
<p>8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead</p>	<p>8.4.1 Material footprint, material footprint per capita, and material footprint per GDP 8.4.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP</p>		✓		<p>Birth and death data ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.</p>
<p>8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value</p>	<p>8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities 8.5.2 Unemployment rate, by sex, age and persons with disabilities</p>		+	BC	

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training	8.6.1 Proportion of youth (aged 15–24 years) not in education, employment or training		+	BC	<p>Birth certificates (a form of legal identification issued by civil registration) facilitate access to education and other training opportunities, and employment, and are often needed to open a bank account, apply for a loan and register a business.</p> <p>Children who have a birth certificate, legal identity and stated date of birth (and thus age) are better protected from forced labour and trafficking.</p> <p>Orderly migration relies on adequate identity documentation (such as birth certificates and passports), provided by trusted sources such as CRVS systems. People who have a birth certificate, and thus legal identity, are better protected from forced labour. They also have better access to secure employment.</p> <p>Birth and death data ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.</p>
8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms	8.7.1 Proportion and number of children aged 5–17 engaged in child labour, by sex and age		+	BC	
8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	8.8.1 Frequency rates of fatal and nonfatal occupational injuries, by sex and migrant status	D ICD	✓	BC	
8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all	8.10.1 (a) Number of commercial bank branches per 100 000 adults and (b) number of automated teller machines per 100 000 adults 8.10.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider		✓ +	BC	
8.B By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization				BC	

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation					
9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.1 Proportion of the rural population who live within 2 km of an all-season road		✓	B	Birth certificates (a form of legal identification issued by civil registration) facilitate access to educational training services and employment. Birth certificates, or other forms of legal identification, are often needed to register for a mobile phone or internet service provider account.
9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	9.2.1 Manufacturing value added as a proportion of GDP and per capita 9.2.2 Manufacturing employment as a proportion of total employment		✓ +	BC	Birth and death data ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.
9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	9.5.2 Researchers (in full-time equivalent) per million inhabitants		✓	BC	
9.C Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	9.C.1 Proportion of population covered by a mobile network, by technology		✓	BC	




SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 10. Reduce inequality within and among countries					
10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average	10.1.1 Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population		✓ +	BC	Birth certificates (a form of legal identification issued by civil registration) facilitate access to education, employment, economic resources, social protection systems and services, and legal rights and entitlements. Orderly migration relies on adequate identity documentation (such as birth certificates and passports), provided by trusted sources such as CRVS systems. Birth and death data ensure population projections are up to date when calculating per-capita or proportion-based indicators, and also inform survey sampling frames.
10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	10.2.1 Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities		+	BC	
10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard	10.3.1 Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law		+	BC	
10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality				BC	
10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies				BC	

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable					
11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing		+	BC	Reliable and accurate birth, death and COD data generated by strong CRVS systems are required to directly measure Target 11.5.
11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities		✓ +	BC	Birth certificates (a form of legal identification issued by civil registration) facilitate access to social protection systems and services, legal rights and entitlements, ownership of economic resources, and insurance and social protection systems, which can provide resilience to economic and social shocks.
11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	11.3.1 Ratio of land consumption rate to population growth rate		✓	BC	Reliable and accurate birth and death data generated by CRVS systems are required to ensure population projections are up to date for sub-regions affected by disasters. This can help account for the number of missing people and those in need after a disaster.
11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage and type of private funding		✓	BC	Birth and death registration data disaggregated by key stratifiers can help generate the evidence on which countries and local governments can base policy frameworks and disaster risk reduction strategies on.
11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	11.5.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100 000 population	D ICD	✓	BC	Birth and death data ensure population projections are up to date when calculating per-capita or proportion-based indicators, and also inform survey sampling frames.

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)		✓		
11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities 11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months		✓ +		
11.A Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning	11.A.1 Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city		✓		
11.B By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels				BC DC MC	

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 12. Ensure sustainable consumption and production patterns					
<p>12.2 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average</p>	<p>12.2.1 Material footprint, material footprint per capita, and material footprint per GDP 12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP</p>		✓		<p>Birth and death registration data disaggregated by key stratifiers can help generate the evidence on which countries and local governments can base policy frameworks.</p> <p>Birth and death data are required to ensure population projections are up to date when calculating per-capita-based indicators, and also inform survey sampling frames.</p>
<p>12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses</p>	<p>12.3.1 Global food loss index</p>		✓		
<p>12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment</p>	<p>12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment</p>		✓		

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 13. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries					
13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	13.1.1 Number of deaths, missing persons and persons affected persons attributed to disasters per 100 000 population	D ICD	✓	BC DC MC	Reliable and accurate birth, death and COD data generated by strong CRVS systems are required to directly measure Target 13.1.
13.2 Integrate climate change measures into national policies, strategies and planning				BC DC MC	Birth certificates (a form of legal identification issued by civil registration) facilitate access to ownership of economic resources, and insurance and social protection systems, which can provide resilience to economic and social shocks.
13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning				BC DC MC	CRVS systems can help to identify the number and sociodemographic make-up of the populations at risk of being affected by disasters. During emergencies, they can provide information rapidly on who is living in affected regions, which can save lives.
13.B Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities				BC DC MC	Reliable and accurate birth and death data generated by CRVS systems are required to ensure population projections are up to date for sub-regions affected by disasters. This can help account for the number of missing people and those in need after a disaster.

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
SDG 14. Conserve and sustainably use the oceans, seas and marine resources					
14.B Provide access for small-scale artisanal fishers to marine resources and markets				BC	Birth certificates (a form of legal identification issued by civil registration) facilitate access to legal rights and entitlements, and are often needed to open a bank account, apply for a loan and register a business.
SDG 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable and inclusive institutions at all levels					
16.1 Significantly reduce all forms of violence and related death rates everywhere	16.1.1 Number of victims of intentional homicide per 100 000 population, by sex and age 16.1.2 Conflict-related deaths per 100 000 population, by sex, age and cause 16.1.3 Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months 16.1.4 Proportion of population that feel safe walking alone around the area they live	D ICD	 	BC	Reliable and accurate birth, death and COD data generated by strong CRVS systems are required to directly measure many of these targets. A key measurement of ending violence against children is the number of child deaths attributed to violence each year. Equal access to justice for all can be ensured, facilitated and improved when people have a birth certificate or another form of legal identification.
16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children	16.2.1 Proportion of children aged 1–17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month 16.2.2 Number of victims of human trafficking per 100 000 population, by sex, age and form of exploitation 16.2.3 Proportion of young women and men aged 18–29 years who experienced sexual violence by age 18			BC	Strengthening CRVS systems allows States to know who is residing on their territory, which increases national security. Additionally, civil registration systems provide individuals with a legal identity, which protects them against trafficking and other forms of violence, and facilitates equal access to justice. Birth and death data are required to ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all				BC	
16.5 Substantially reduce corruption and bribery in all their forms	16.5.1 Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months		+		
16.6 Develop effective, accountable and transparent institutions at all levels	16.6.2 Proportion of the population satisfied with their last experience of public services		+		
16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	16.7.2 Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group		+	BC	
16.9 By 2030, provide legal identity for all, including birth registration	16.9.1 Proportion of children under 5 years of age whose births have been registered with a civil authority, by age	B	✓	BC	
16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements	16.10.1 Number of verified cases of killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and human rights advocates in the previous 12 months	D ICD			

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
<p>16.A Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime</p>				<p>BC DC MC</p>	
<p>16.B Promote and enforce non-discriminatory laws and policies for sustainable development</p>	<p>16.B.1 Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law</p>		<p>+</p>	<p>BC</p>	
<p>SDG 17. Strengthen the means of implementation and revitalise the global partnership for sustainable development</p>					
<p>17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection</p>				<p>BC</p>	<p>Reliable and accurate birth, death and COD data generated by strong CRVS systems are required to directly measure many of these targets.</p> <p>Complete birth registration allows States to understand who is residing on their territory and can increase their tax base.</p>
<p>17.6 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons</p>	<p>17.6.2 Fixed Internet broadband subscriptions per 100 inhabitants, by speed</p>		<p>✓</p>	<p>BC</p>	<p>The SDG agenda cannot be accomplished in entirety without robust CRVS systems</p> <p>Robust CRVS systems generate high-quality, timely and reliable population data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.</p>

SDG Goals and Targets	SDG Indicator (derived from CRVS systems)	Vital statistics data required for direct target and/or indicator measurement	Birth and death data contribute to (disaggregated) population data	Registration of vital event and issuance of certificate supports goal and/or target	Detailed role of CRVS systems
<p>17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology</p>	<p>17.8.1 Proportion of individuals using the Internet</p>		+	BC	<p>Birth certificates, or other forms of legal identification, are often needed to register for an internet service provider.</p> <p>Birth and death data are required to ensure population projections are up to date when calculating proportion-based indicators, and also inform survey sampling frames.</p>
<p>17.18 By 2020, enhance capacity-building support to developing countries, including for least-developed countries and small island developing states, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts</p>	<p>17.18.1 Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the Fundamental Principles of Official Statistics 17.18.2 Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics 17.18.3 Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding</p>	B D ICD	✓	BC DC MC	
<p>17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries</p>	<p>16.6.2 Proportion of the population satisfied with their last experience of public services</p>	B D	✓	BC DC	

B = birth data; BC = birth certificate; COD = cause of death; D = death data; DC = death certificate; ICD = cause of death data coded to ICD-10; M = marriage data; MC = marriage certificate

✓ = Birth and death data from CRVS systems contribute to up to date and disaggregated population projections needed for the denominator of this indicator.

+ = Birth and death data from CRVS systems contribute to up to date and disaggregated population projections which can inform survey sampling frames so that they represent vulnerable populations and populations of interest when reporting on this indicator. In some cases, data from CRVS systems, when linked with data from other administrative data systems, could be used to calculate the indicator.

Related resources and products

University of Melbourne, D4H Initiative, CRVS Knowledge Gateway: Library <https://crvsgateway.info/Library~23>

A framework for evaluating national CRVS systems at baseline. CRVS technical outcome series.

A new method for estimating the completeness of death registration. CRVS summaries.

Assessing the quality of death certificates: guidance for the rapid tool. CRVS resources and tools.

Guidance for assessing and interpreting the quality of mortality data using ANACONDA. CRVS resources and tools.

Improving registration: best practice guidelines. CRVS summaries.

Intervention: Automated verbal autopsy. CRVS summaries.

Intervention: Improving CRVS system design. CRVS summaries.

Intervention: Improving registration. CRVS summaries.

Intervention: Medical certification of cause of death. CRVS summaries.

Intervention: Mortality coding. CRVS summaries.

Strategies for improving the quality of cause of death data in hospitals. CRVS development series.

Strengthening CRVS systems through effective legislation. CRVS development series.

Sustainable Development Goal achievement will depend on CRVS systems. CRVS summaries.

Understanding CRVS systems: the importance of process mapping. CRVS development series.

University of Melbourne, D4H Initiative, CRVS Knowledge Gateway: Learning Centre <https://crvsgateway.info/Learning-Centre~22>

Topic 1: Introduction to CRVS.

Topic 2: CRVS governance and architecture.

Topic 3: CRVS processes.

Topic 4: Cause of death in CRVS.

Topic 5: Improving quality and presentation of vital statistics.

Topic 6: CRVS tools.

University of Melbourne, D4H Initiative, CRVS Knowledge Gateway: Courses <https://crvsgateway.info/Courses~24>

Analysis of Causes of (National) Death for Action (ANACONDA).

Data analysis and use.

Enterprise architecture/business process mapping for countries.

Estimating completeness of birth and death registration.

ICD-10 coding.

Iris.

Medical certification of cause of death.

SmartVA.

Further reading

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Schwid et al. *CRVS legal and regulatory review tools and methodology*. New York, USA: Vital Strategies and Global Health Advocacy Incubator; 2018. Available at: vitalstrategies.org/wp-content/uploads/2018/01/CRVS-Legal-Toolkit_11_29_17.pdf

Shibuya K, Boerma JT. Measuring progress towards reducing health inequalities. *Bulletin of the World Health Organization*. 2005; 83(3):162. Available at: ncbi.nlm.nih.gov/pmc/articles/PMC2624204

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United Nations General Assembly (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. A/RES/70/1. Available at: sustainabledevelopment.un.org/post2015/transformingourworld

United Nations (2017). *Annex. Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development*. A/RES/71/313. Available at: unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework_A.RES.71.313%20Annex.pdf

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:



For more information contact:

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