The Republic of Rwanda

NATIONAL INSTITUTE OF STATISTICS OF RWANDA

Rwanda Vital Statistics Report 2019

National Institute of Statistics of Rwanda

The Republic of Rwanda

NATIONAL INSTITUTE OF STATISTICS OF RWANDA

Rwanda Vital Statistics Report 2019

May 2020

National Institute of Statistics of Rwanda

The Rwanda Vital Statistics Report 2019 is produced by the National Institute of Statistics of Rwanda

Additional Information about the Rwanda Vital Statistics Report 2019 may be obtained from the National Institute of Statistics of Rwanda, Po.Box 6139 Kigali Rwanda, Telephone: +250-788383103 or 4321, email:info@statistics.gov.rw

ISBN: 978-99977-43-98-5

Recommended citation:

National Institute of Statistics of Rwanda (NISR), May 2020, Rwanda Vital Statistics Report 2019

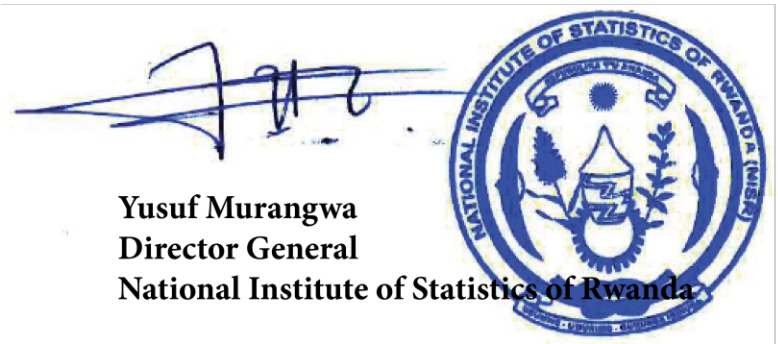
Preface

This report is produced based on data collected in 2019 to showcase the progress made by Rwanda in improving civil registration and vital statistics system and to assess how far we are toward attaining the targets set under the Civil Registration and Vital Statistics (CRVS) strategic plan elaborated in 2017. It will therefore be a useful tool to inform related policies and decisions and guide strategic interventions aimed at boosting implementation of the strategic plan. Ideally, vital statistics are used to derive the fundamental demographic and epidemiological measures that are needed in national planning across multiple sectors such as education, labour and health. They are also critical for a wide range of government activities (e.g. population registers and other administrative registers) and commercial enterprises (e.g. life insurance, marketing of products).

The data used in this report were mainly generated by the CRVS web-based system, an online platform initiated to ease the collection of civil registration data and facilitate the timely production of vital statistics reports. This system was developed in 2015 to collect data from the information source immediately by the time of occurrence of the event. The CRVS web-based system-generated data were indeed triangulated with data from routine HMIS DHIS2 data, survey-based data and data from administrative sources for comparison purposes to pinpoint the level of reliability of the results obtained.

The report compilation was mainly performed by National Institute of Statistics Rwanda (NISR) staff in charge of regular monitoring of CRVS data collection who provided the first draft, under the direction of NISR leadership. The draft was thereafter reviewed by experts in vital statistics report production facilitated by Bloomberg Philanthropies Data for Health (D4H) Initiative to provide an added value to the report in terms of enriching the report contents and aligning it to international standards. The comments provided by experts were further discussed in a workshop that gathered them with technical staff from CRVS key stakeholder-institutions namely: NISR, Rwanda Bio-Medical Centre (RBC), Ministry of Health (MOH), Ministry of Local Government (MINALOC) and the National Identification Agency (NIDA), for the sake of having a common understanding on them and jointly adapt them to our country context.

The Rwanda Vital Statistics report 2019 extends to births, deaths and causes of deaths, marriages and divorces collected countrywide. It is the Rwanda's first vital statistics report, which is expected to be a benchmark for the following reports and a reference source for future publications within the same scope.



Yusuf Murangwa
Director General
National Institute of Statistics of Rwanda

Acknowledgments

The completion of this report is a joint effort of different staff from various institutions and organizations. Therefore, NISR wishes to acknowledge the efforts of several organizations and individuals who contributed in one way or another, to the successful process of strengthening civil registration and vital statistics system in Rwanda that led to the production of the first vital statistics report. First, we would like to acknowledge the financial support from the government of Rwanda, the United Nations Population Fund (UNFPA), and the United Kingdom Department for International Development (DFID).

We would like also to express a word of appreciation to the Key CRVS stakeholders namely: MINALOC, NIDA, MoH, MINIJUST and MIGEPROF for their sustained contribution to the journey of strengthening civil registration and vital statistics system in Rwanda. Special appreciation goes to health facilities' data managers and sector civil registration officers as day to day CRVS data providers as well as district statisticians for their important role in coordinating civil registration data collection activities at the district level.

We gratefully acknowledge the support provided by Bloomberg Philanthropies D4H through both expert review and financial means released to support the production of this report. We also acknowledge the technical support provided by WHO in the collection and reporting of mortality statistics following international standards and guidelines as well as in capacity building of NISR technical staff. Their contribution has been a cornerstone of the improvement of data collection tools, especially at the health facilities level.

Finally, a word of appreciation goes to NISR's CRVS technical team and technical staff from key stakeholder institutions who provided all they had in terms of technical skills to compile and produce this report in partnership with experts from Bloomberg Philanthropies D4H.

Contents

List of tables

List of figures

Acronyms and abbreviations

ANACONDA	**Analysis of National Causes of Death for Action**
APAI-CRVS	Africa Programme For Accelerated Improvement of Civil Registration and Vital Statistics
ASBR	Age-Specific Birth Rate
ASFR	Age-Specific Fertility Rate
ASMR	Age-Specific Mortality Rate
CBR	Crude Birth Rate
CDR	Crude Death Rate
COD	Cause of Death
CR	Civil Registrar
CRO	Civil Registration Officer
CRVS	Civil Registration and Vital Statistics
D4H	Data for Health
DHIS2	District Health Information System
ENMR	Early Neonatal Mortality Rate
GFR	General Fertility Rate
HBCP	Home-Based Care Practitioner
HMIS	Health Management Information System
ICD-10	International Classification of Causes of Deaths Version 10
IECMS	Integrated Electronic Case Management System
LNMR	Late Neonatal Mortality Rate
MAS2	Second Mortality Assessment Survey
MCCOD	Medical Certification of Cause of Death
MIGEPROF	Ministry of Gender and Family Promotion
MINALOC	Ministère de L'Administration Locale (Ministry of Local Government)
MINIJUST	Ministry of Justice
MOH	Ministry of Health
NGO	Non-Governmental Organizations
NIDA	National Identification Agency
NISR	National Institute of Statistics of Rwanda
NMR	Neonatal Mortality Rate
NSDS	National Strategy for Development of Statistics
RBC	Rwanda Biomedical Centre
RPHC	Rwanda Population and Housing Census
TFR	Total Fertility Rate
UN	United Nations
UNECA	United Nations Economic Commission for Africa
UNICEF	United Nations Children's Fund
VS	Vital Statistics
VSR	Vital Statistics Report
WHO	World Health Organization

Definitions of key concepts

Age-specific fertility rate (ASFR): The annual number of births to women of a specified age or age group per 1,000 women in that age group.

Age-specific mortality rate (ASMR): A mortality rate limited to a particular age group. The numerator is the number of deaths in that age group; the denominator is the number of persons in that age group in the population.

Cause of death: All those diseases, morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced any such injuries.

Child mortality rate: The probability (expressed as a rate per 1,000 live births) of dying between the first and the fifth birthday.

Civil Registration: UN defines civil registration as "the continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events pertaining to the population as provided through decree or regulation in accordance with the legal requirements of a country. This process establishes and provides legal documentation for such events.

Completeness of registration: The proportion of vital events that are registered. It is the number of registered vital events divided by the 'actual' number of vital events that occurred in the same population during a specific period of time.

Crude birth rate (CBR): The number of live births relative to the size of that population during a given period, usually one year. It is expressed in numbers of births per 1,000 population per year.

Crude death rate CDR): The number of deaths relative to the size of the population during a given period, usually one year. It is expressed in numbers of deaths per 1,000 population per year.

Death: The permanent disappearance of all evidence of life at any time after live birth has taken place (postnatal cessation of vital functions without capability of resuscitation). This definition excludes foetal deaths, which are defined separately.
Delayed registration: is a registration that arrives too late for inclusion in the annual (or monthly or quarterly) statistics; after one year of occurrence of the event.

Ill-defined cause of death: Any code that cannot or should not be used for the underlying cause of death (generally referring to 'R codes' in the International Classification of Diseases). For instance, a 'mode of death' such as heart failure or kidney failure; symptoms such as back pain or depression; and risk factors such as high blood pressure, are all uninformative codes for public health purposes.

Infant mortality rate (IMR): Probability (expressed as a rate per 1,000 live births) of a child born in a specific year or period dying before reaching the age of one, if subject to age-specific mortality rates of that period.

Late registration: is vital events that are registered after the deadline for registration according to the law of the country.

Life expectancy at birth: The average number of years that a newborn could expect to live if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her birth, for a specific year, in a given country, territory, or geographic area.

Live birth: The complete expulsion or extraction from the mother of a product of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born (all live-born infants should be registered and counted as such, irrespective of gestational age or whether alive or dead at the time of registration, and if they die at any time following birth, they should also be registered and counted as deaths).

Low Birth Weight (LBW) refers to the weight at birth of fewer than 2,500 grams (5.5 lbs.) as per World Health Organization definition.

Marriage is a special contract of permanent union between a man and a woman entered into in accordance with law for the establishment of conjugal and family life.

Neonatal mortality rate (NMR): Number of deaths during the first 28 completed days of life per 1,000 live births in a given year or period.

Place of Occurrence refers to the place where the vital event took place,

Sex ratio at birth: The number of male births for a specific area and during a specified period divided by the number of female births for the same area and period.

The general fertility rate (GFR) is the number of resident live births for a specific area during a specified period divided by the female population age between 15 and 49 years (usually estimated at mid-year) for the same area and period multiplied by 1,000.

Timely registration: is the registration effected within the time stipulated by the law (30 days for births and death in Rwanda).

Total fertility rate (TFR): The sum of age-specific fertility rates for females aged between 15 and 49 years during a specified period, usually one year. It is an estimate of the average

number of children a cohort of women would bear if they went through their child-bearing years experiencing the same age-specific fertility rates.

Under-five mortality rate (U5MR): Is the probability for a new-born to die before his/her fifth anniversary. Under-five mortality rate is the probability of dying between birth and exactly 5 years of age, expressed per 1,000 live births.

Underlying cause of death: The cause of death to be used for primary statistical tabulation purposes has been designated as the underlying cause of death. The underlying cause of death is defined as "(a) the disease or injury which initiated the train of events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury" (ibid., sect. 4.1.2).

Vital statistics system: A vital statistics system is defined as the total process of (a) collecting information by civil registration or enumeration on the frequency of occurrence of specified and defined vital events, as well as relevant characteristics of the events themselves and the person or persons concerned, and (b) compiling, processing, analysing, evaluating, presenting and disseminating theses data in statistical form.

Executive summary

The National Institute of Statistics of Rwanda (NISR) within the third National Strategy for Development of Statistics (NSDS3), which is being implemented from 2019/20 to 2023/24, is committed to strengthening administrative data collection system including Civil Registration and Vital Statistics System (CRVS) in Rwanda to complement official statistics from surveys and censuses.

To facilitate the collection, storage and use of vital statistics data; a CRVS web-based system was initiated and started to be operational in 2015. The main purpose of collecting data via the CRVS web-based system is to enable the production of vital statistics reports. The current report is mainly based on data collected via that web-based system in 2019.

The report is organized within 6 chapters namely: 1) Introduction and background; 2) Rwanda's civil registration system; 3) data quality, timeliness of registration and registration completeness; 4) births statistics, 5) deaths and causes of death statistics; 6) marriages statistics. To assess the reliability of results obtained, a comparative analysis involving data from other sources was performed. Only vital events that occurred in 2019 were considered in this report.

Birth statistics:

The comparison of registered births with estimated live births showed a registration completeness rate of 87% countrywide with an insignificant difference between male and female registration rate. Concerning the legal registration time respect, analysis showed timely registration rate equivalent to 78% of the total number of births registered in 2019.

The computed fertility indicators using the 2019 data showed a crude birth rate (CBR) equivalent to 27.2‰ and a sex ratio at birth equivalent to 102 male births per 100 females. CRVS data showed a general fertility rate (GFR) equivalent to 103.3‰ and total fertility rate (TFR) equivalent to 3.8. By comparison, RDHS 2014/15 showed a TFR and GFR equivalent to 4.2 and 142‰ respectively. Concerning the weight at birth, CRVS showed average weight at birth equivalent to 3,100 grams. Low birth weight was found to be 7.4% of the total live births recorded something that appears to be a little bit high when compared to 6% obtained from the fifth Rwanda Demographic and Health Survey (RDHS 2014/15).

Death statistics:

Vital statistics on deaths showed a total of 23,791 deaths registered in 2019 of which 56.5% occurred in the community. The comparison of registered deaths with expected deaths gives 31.4%, completeness of death registration. Mortality statistics showed a high number of deaths among males compared to females with a sex ratio at death equivalent to 124.4 males' deaths per 100 females' deaths. Due to the low completeness rate in death registration, adjustment techniques were used to obtain country representative estimates.

Cause of deaths:

Analysis of causes of death data showed that at the early stages of life, most death causes are due to a group of communicable diseases, maternal, perinatal and nutritional conditions while the group of non-communicable diseases is more prominent after the age of 10. More focus should be given to the non-communicable conditions to bring down mortality rates. The external causes and injuries were found to be more frequent in males than females.

Marriage statistics:

Vital statistics on marriages were computed based on legal marriages registered in 2019. There was a total of 48,526 registered legal marriages, with a crude marriage rate of 3.9‰. The analysis of marriage records showed that the most frequently chosen matrimonial regime is "Universal community of property" representing 98.2% of the total marriage regimes recorded.

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1. Background

An effective registration and vital statistics system provides essential data, rates and other quantitative measures for the accurate planning of programmes designed to promote the wellbeing of the citizens. The data collected from vital events registration are essential to planning for social development, including the design and implementation of public health measures, maternal and child care, family planning, social security, education, housing and economic development. At the local level, accurate information is essential for proper planning for the needs of the community, particularly for health and education facilities, as well as for housing and the labour market. Accurate and comprehensive vital statistics generated from civil registration provide for comparison and evaluation of differences among regions, between districts and wards within a region, and at the international level between countries. Death records are of particular importance in public health, for identifying the magnitude and distribution of major disease problems, epidemics and pandemics. Data from these records can be used for epidemiological studies. Cause of death information is essential for medical research into such major causes of death as cancer and heart disease.

As a source of vital statistics, civil registration has important uses for individuals, societies and the government. For individuals, copies of registration records can be used as legal documents for evidentiary purposes. Information compiled from registration records is needed for administrative applications such as national identity programmes and the electoral roll. It also serves as the starting point for several operational programmes, particularly in family planning, medical research, maternal and child care programmes, historical demography, genetic studies and so forth. The establishment of the vital events registration system is in-line with the national development plan of Rwanda.

Civil registration has administrative and legal use on the one hand, and statistical, demographic and epidemiological use on the other. Vital statistics are used to get precise and up-to-date measurements of demographic changes and for the study and analysis of trends. Vital statistics are also primary data sources for the health sector in the implementation, monitoring and evaluation of different health interventions and epidemiological studies.

The global 2030 development agenda implicitly recognizes and underlines the importance of individual and aggregate records and data on birth and death in the realization of basic human and civil rights as well as in the monitoring of development. The Sustainable Development Goals (SDGs), anchored on the vision of eradicating extreme poverty from the face of the earth by the year 2030, have as the first of its five transformative shifts to “Leave no one behind.” They emphasise on the need to ensure that no person is excluded or denied universal human rights and access to basic economic opportunities. The domestication of SDGs in Rwanda re-emphasized the crucial role of CRVS data in monitoring a successful implementation and measuring achievements. The African Agenda 2063 similarly re-echoes social inclusiveness as a prerequisite to the continent’s growth and development. A fundamental challenge to the realization of these visions remains the fact that civil registration systems are largely very weak in most of the developing world; hence a majority of the population remain legally “invisible” in the eyes of the state, denying them the right to

be known and planned for by their governments, access to fundamental opportunities and services, as well as the ability to claim their rights or to participate in governance processes.

Individual identity records and documents generated from a CRVS system help to fulfill the first fundamental human right that every individual is entitled to upon birth i.e. the right to a name and an identity; from which other human and civil rights are founded. The recognition of the existence of persons by their governments, and the ability of individuals to transact with each other and with the state, through legal identity documents, are fundamental attributes good governance that can only be realized by states where complete civil registration systems exist. Records of birth, marriage, divorce and death derived from civil registration systems also provide a permanent, continuous, universal and reliable source of vital statistics for accurate and timely planning, resource allocation and for good governance. Vital statistics are used to get precise and up-to-date measurements of demographic changes and for the study and analysis of trends. Vital statistics are also primary data sources for the health sector in the implementation, monitoring and evaluation of different health interventions and epidemiological studies. Measurements and monitoring of many of the SDGs indicators require vital statistics data on a continuous and timely basis.

Civil registration and vital statistics system in Rwanda is still under development and as a result, like in many other African countries, some of our people have come into this world and left without leaving a trace on official records. However, efficient civil registration and vital statistics system is a precondition for enabling regular production of vital statistics reports that are essential for informing policies and programs for various purposes. In its place, the need for vital statistics was met by conducting expensive periodic surveys and decennial population censuses; something that produces reliable data but late compared to the CRVS system.

Despite that, an efficiently working CRVS system enables a continuous supply of reliable data on vital events to support informed policy-making, implementation and monitoring of development plans. Also, in the absence of reliable information on causes of death there is no solid basis to determine which diseases have major impacts on the population.

This report was produced based on the guideline for producing vital statistics that was developed by Statistics Norway in 2015 for Economic Commission for Africa (ECA). The guideline was produced in line with the United Nations *Principles and Recommendations for a Vital Statistics System* (United Nations 2014). The guideline is a comprehensive document which provide detailed background information that is useful and recommended by the UN in the preparation of the Vital Statistics Reports.

Vital events that are covered in this report are births, deaths, and marriages that took place in 2019 and reported via the CRVS web-based system. The annual vital statistics report presents a great opportunity to learn from experience in terms of the registration of births, deaths and causes of death and evaluate the quality of the available data in the country. This report is also expected to be a benchmark for the next reports and a reference source for further publications in the same scope.

1.2. Objectives, Scope and organization of the report

1.2.1. General Objective

The main objective of producing this vital statistics report is to showcase the current status of vital events registration for informing policies and decisions in this regard, identifying gaps and strengths within the system, and to track the progress made toward achieving the target set under the CRVS strategic plan elaborated in 2017.

1.2.2. Specific objectives include:

i. To assess the level of completeness in birth and death registration;
ii. To highlight limitations/challenges in the data in terms of coverage, quality and timeliness for registration of civil events;
iii. To assess the level of reliability of demographic indicators obtained from CRVS data through comparison with indicators from other sources

1.2.3. Scope of the report

The United Nations recommends that countries should register and collect information on the following vital events for civil registration and vital statistics purposes: birth; death; foetal death; marriage; divorce; annulment; judicial separation; adoption; legitimation (acknowledgment); and recognition (judicial declarations of paternity) (UN, 2014). However, Rwanda does not record some of the vital events recommended by the UN, although it remains to be the eventual goal. The African Ministers responsible for civil registration have also recommended the recording of the four vital events. In September 2016, the civil registration law assigned an order of registration priority by selecting most of the internationally recommended vital events and by dropping some which were considered less important. In line with these recommendations, the scope of the CRVS improvement process has been set to address births, deaths, and marriages. In this regard, the top priority vital events to be recorded are births, marriages, and deaths. Therefore, taking into consideration the aforementioned background and the relative weight attributed to vital events in terms of policy orientation for our country context, the content of this report is limited to the registration of birth; death and causes of deaths; and marriages that occurred in 2019.

1.2.4. Organization of the report

The report is organized in six chapters namely (1) Introduction and background; (2) Rwanda's civil registration system; (3) Data quality, timeliness and completeness of registration (4) Births statistics (5) Deaths and cause of deaths statistics (6) Marriages statistics. Descriptive narratives were made to clarify the results.

- Chapter 1 presents the introduction and the general overview of the role of vital statistics, objectives and scope of the report.
- Chapter 2 describes Rwanda's civil registration system including history, legal background, administrative structure; organizational structure, registration process and the flows of information; organization of vital statistics production and

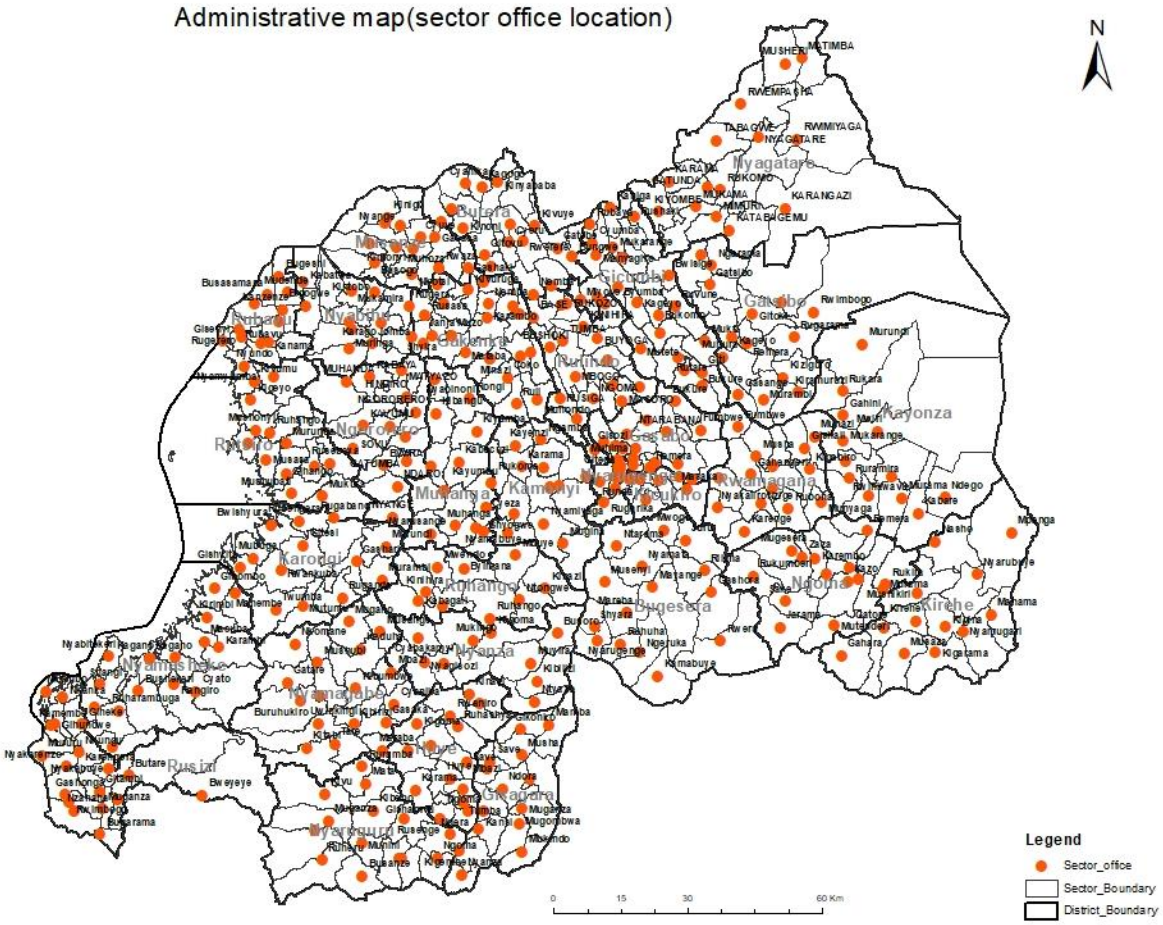
dissemination plan; incentives and disincentives for civil registration, and plans for further improvement of CRVS.

- Chapter 3 describes the quality and coverage of civil registration data
- Chapter 4 gives statistical data on births, disaggregated in accordance with various aspects and with explanatory narratives;
- Chapter 5 gives disaggregated statistics on deaths and causes of deaths with explanatory narratives;
- Chapter 6 gives disaggregated statistics on marriages with explanatory narratives.
- Finally, the appendix showcases references and other informative attachments that are meaningful to the process of vital statistics data collection.

1.3. Country demographic and social profile

Rwanda is located in central Africa and has a surface area of 26,338 square kilometers. It is bordered by Uganda to the north, Tanzania to the east, the Democratic Republic of the Congo to the west, and Burundi to the south.

Figure 1: Map of Rwanda by administrative divisions

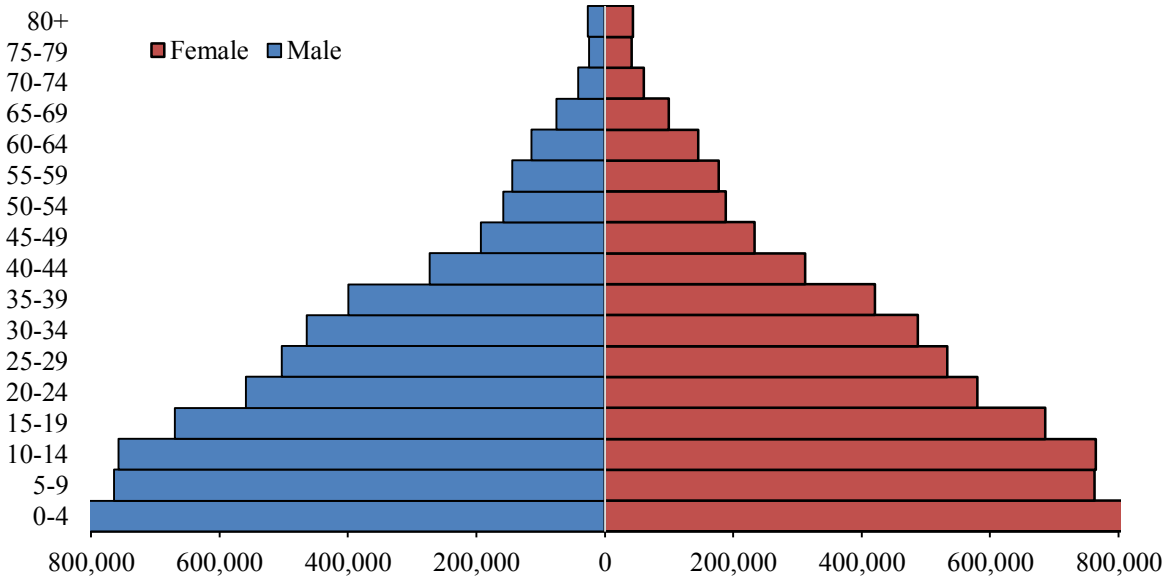


Rwanda is a mountainous country with the lowest point about 950 meters above sea level and the highest point about 4,507 m. The terrain is hilly and the country is often referred to as "the land of a thousand hills".

The Rwandan population is essentially young, with 43.4 percent of all Rwandans under age 15 according to the RPHC4. According to the 2014/15 Rwanda Demographic and Health Survey, 56 percent of children under 5 years of age were officially registered

The fourth population and housing census in 2012 showed that 52 percent and 48 percent of the Rwandan population were female and male, respectively. According to projections, Rwanda's population would grow to 12,374,397 in 2019; the population more than doubled between 1978 and 2012. The increase was essentially due to rapid population growth, which remains high despite the progressive decreases in the natural growth rate and the total fertility rate. In fact, according to census estimates, the natural growth rate was 2.6 percent between 2002 and 2012 and 3.1 percent between 1978 and 1991. The low natural growth rate of 1.2 percent between 1991 and 2002 is due to the high number of deaths caused by the 1994 genocide committed against Tutsi. The population density is high across the country and has increased steadily over the years, up to 500 inhabitants per square kilometer in 2020. The population is largely rural; according to the RPHC4, almost 84 percent of the country's residents live in rural areas.

Figure 2: 5-Years Age-group Population Pyramid (Projected population, 2019)



Source: 4th PHC Population projections, 2019

The illiteracy rate in Rwanda has significantly declined for the past years. As per the fifth Integrated Households Living Conditions Survey (EICV5), men in the older age range (15 years and above) continued to have the highest literacy rate in EICV5 compared to women (78% and 69% respectively). On the contrary, in younger age cohort (15-24 years) females registered again the highest literacy rate in EICV5 (89% for females against 84% for males). Although numerous religions are practiced in Rwanda, the 2012 census showed that Christianity is by far the dominant faith, practiced in some form by 93 percent of the population (44 percent are Catholic, 38 percent are Protestant, and 12 percent are Adventist).

The Muslim population remained steady at 2 percent from 2002 to 2012. Only 0.4 percent of the population profess to have no religion. Nearly all Rwandans speak the same language, Kinyarwanda, which is the country's official first language, followed by English and French. Kiswahili, the third most common foreign language, is generally spoken in some areas of the districts bordering other countries where this language is widely spoken, such as the Democratic Republic of the Congo and Tanzania. The fifth RDHS has shown that maternal mortality ratio has declined significantly to 210 deaths per 100,000 live births in 2014/15 down from 1,071 in 2000 and under-five mortality dropped to 50 deaths per 1000 in 2014/15 from 196 deaths per 1000 in 2000.

CHAPTER 2: RWANDA'S CIVIL REGISTRATION SYSTEM

2.1. History and Legal Background

In Rwanda, as in most African countries, registration of vital events started during the colonial period. However, the registration laws were only for the nationals of the colonial powers. The laws which were regulating civil registration in Rwanda evolved in connection with the stages of its political and administrative history. During the colonial period, from 1931 up to the end of 1961, under the decree of May 4, 1895, on the Civil Code of persons-book one, all Rwandans aged 18 years and above were issued identity cards known as identity booklet or "Ibuku". This card was written in Dutch and Kinyarwanda languages. Information entered into the booklet was a set of characteristics such as names, approximate date of birth, parents' names, sex, and marital status, height, names of descendants, profession and ethnic or clan affiliation (NISR, November 2016).

In the early days of independence, the registration of the civil status of the population in Rwanda was governed by the order issued by the Belgian Governor on the 25th of July 1961. This order continued to be used after independence in 1962 with few amendments such as assigning the civil registration responsibilities to the Ministry of Internal Security. From the 27th of October 1988, the order was repealed and replaced by Law nº 42/1988 which instituted the Preliminary Title and Book One of the Civil Code. This law made registration of vital events compulsory on the Rwandan territory and was in place until the 28th of August 2016 when the new law No 32/2016 governing persons and family was enacted; the same law was amended on 17th February 2020. After the publication of the new law No 32/2016 governing persons and families, the mandate of civil registration was transferred from the Ministry of Justice to the Ministry of Local Government (NISR, November 2016).

The law No 32/2016 of 28/08/2016 governing persons and family determines Presidential and Ministerial orders allowing its implementation. The first is the Presidential Order No 056/01 of 16/02/2017 determining fees paid for a civil status record. This presidential order was not established until the law was amended and removed the related article. The second Ministerial Order No 001/07.01 of 23/10/2016 determines the number, types, formats and use of civil status registers. The third Ministerial Order No 001/07.01 of 17/01/2017 determines modalities and procedures for change of name. The fourth Ministerial Order No 001/MIGEPROF/2017 of 16/01/2017 determines conditions to be considered in intercountry adoption and the procedure thereof. The fifth Ministerial Order No 002/MIGEPROF/2017 of 17/01/2017 determines procedures for guardianship of minors by the state.

The mandate of civil registration was also transferred to the former National Identification Project which later became the National Identification Agency established by Law N°43/2011 and charged with population registration, civil registration, and issuance of the national identity card.

National Institute of Statistics of Rwanda has been established by law No 09/2005 of 14/07/2005 with the mandate of coordinating activities of the national statistical systems

among others (Republic of Rwanda, 2013). Concerning the process of strengthening vital statistics data production system, NIDA and NISR have been working hand-in-hand to improve and strengthen the CRVS systems in Rwanda. Despite the progress achieved concerning civil registration, it is yet to be universal and able to produce reliable and continuous vital statistics. For instance, according to the fifth Rwanda Demographic and Health Survey, almost half of births are not registered and about 70 percent of deaths go unrecorded each year. Registration of other civil status is unacceptably low (NISR, November 2016).

From independence until 2006 the lowest office for civil registration was District. With the second phase of the decentralization process in 2006, the responsibilities of civil registration were extended down to the sector level, where the sector Executive Secretary was added to the list of civil registrars in the country to bring most needed services closer to the population (NISR, November 2016).

On 1st January 2015, NISR launched and deployed in all public and private Rwandan health facilities and in all sectors and districts the CRVS web-based application, a system used to collect vital statistics data and to facilitate the transfer of information from health facilities to sector offices under the form of vital event notification with the ultimate purpose of facilitating the regular production of vital statistics reports.

Figure 3: CRVS improvement timeline and key actions

	During colonial period and early days of independence	From early days of independence up to 2016	After 2016	Projects ahead
Year	**Before 1988**	**1988-2016**	**2016 - 2020**	**2020 -2024**
Key Action Taken	1931 up to the end of 1961: under the decree of May 4, 1895, on the Civil Code of persons-book one, all Rwandans aged 18 years and above were issued identity cards known as identity booklet or "Ibuku". In the early days of independence, the registration of the civil status of the population in Rwanda was governed by the order issued by the Belgian Governor on the 25th of July 1961. 1962- 1988 civil registration responsibilities assigned to the Ministry of Internal Security.	1988- 2016: Law n° 42/1988 which instituted the Preliminary Title and Book One of the Civil Code. In 2005: law No 09/2005 of 14/07/2005 establishing NISR. In 2006: The responsibilities of civil registration were extended down to the sector level, where the sector Executive Secretary was added to the list of civil registrars. 2007: Launch of electronic national population registry. 2012: The process of modernizing and strengthening CRVS system undertaken. 2015: Operationalization of CRVS Web-based system to HF and sector level.	2016: Law No 32/2016 governing persons and family enacted; MINALOC appointed to be the parent ministry of CR. The mandate of CR transferred to NIDA; Comprehensive assessment of CRVS system in Rwanda conducted. 2017: Elaboration of CRVS strategic plan 2017/18-2021/22. Undertake the use of ICD-10 to collect data on cause of deaths within CRVS system. February 2020: Law No 32/2016 governing persons and family amended to allow registration of births and deaths to HFs and cells. Production of the first national vital statistics report.	Operationalizing official registration of births and deaths at health facilities and cells; Modernization of civil registration system: Moving to a fully digitalized CRVS system; Annual production of vital statistics report;
	Continuous process of modernizing and strengthening CRVS system in Rwanda			

2.2. Legal and Administrative Issues

Rwanda has a decentralized system of governance with 4 provinces and the City of Kigali, 30 districts; 416 sectors; 2,148 cells and 14,837 villages. From independence until 2006 the lowest office for registration was District. With the second phase of the decentralization process in 2006, the responsibilities of civil registration were extended down to the sector level, where the sector Executive Secretary was added to the list of civil registrars in the country to bring most needed services closer to the population.

As described in the earlier sections, the United Nations recommends that countries should register and collect information on the following vital events for civil registration and vital statistics purposes: birth; death; foetal death; marriage; divorce; annulment; judicial separation; adoption; legitimation (acknowledgment); and recognition (judicial declarations of paternity) (UN, 2014). Though the amended law catered for some of the legal issues, one the of the persisting legal issues in 2019 is that the law No 32/2016 of 28/08/2016 governing persons and family did not provide for the registration of foetal deaths as recommended by UN as only seven events (birth, deaths, marriages, divorces, adoption, recognition, and guardianship) are currently declared to the civil registrar (art. 62). Second, though the registration of vital events is free of charge, the certificate is paid for and is provided on demand. Third, the law provides for 30 days for timely birth and death registration but it is silent on late and delayed registration. The law doesn't provide for penalties for non-compliance to legal registration time but provides for presenting a court judgment before registering a death declared after 30 days of occurrence.

2.3. Organizational structure, registration processes and information flows

2.3.1. Organization structure

The success of the CRVS system in a large measure would hinge on systematic and active coordination among all Ministries and organizations that directly or indirectly support or benefit from the system. Coordination of activities must be built into the CRVS systems from the start. While coordination at the national level is crucial for smooth management and operations of the CRVS system in a country, coordination at various other levels of administration is also important for efficient maintenance of the system.

In Rwanda, the National Identification Agency (NIDA) under the Ministry of Local Government (MINALOC) is mandated to supervise and coordinate the civil registration system at the national level while the National Institute of Statistics of Rwanda (NISR) is concerned with coordinating the collection of vital statistics data and is one of the major beneficiaries of the CRVS system.

Table 1 below shows the coordination mechanisms of the CRVS system at different administrative levels that provides details of the composition of the committees and their main functions.

Table 1: CRVS organization and coordination mechanism in Rwanda, 2019

Coordination committee	Composition of committee	Main functions
High-level Coordination Committee on Civil Registration and Vital Statistics To meet once a year	Chaired by Minister of Local Government Members: Minister of Health, Minister of Finance and Planning, Minister of Justice, Ministry of gender and family promotion	Provide oversight and policy guidance to the work of civil registration and vital statistics
National CRVS Steering Committee To meet once every Quarter	Chaired by Permanent Secretary of Local Government Members: PS Ministry of health, PS Ministry of justice, PS Ministry of gender and family promotion, DG/NIDA, DG/NISR, DG/RBC, ES/NCC and special invitees depending on the nature of the meeting	Resource mobilization, Organize and conduct annual development partners meeting and approve reports from CRVS Core Technical Team.
CRVS Core Technical Team	Technicians in charge of civil registration and vital statistics from MINALOC, MINIJUST, MOH, MIGEPROF, NIDA, NISR, RBC and NCC	Coordinate the implementation of all policies related to CRVS and advise the CRVS steering committee on all matters related to CRVS.
National mortality technical committee	Chaired by Director General of Clinical and Public Health services in the MoH and Co-Chaired by Chairman of Rwanda Medical and Dental Council. Members: MoH, RBC Heads of programs, RBC Epidemiologists, NISR, NIDA, MINALOC, Senior clinicians from Referral hospitals, WHO, CDC, Epidemiologists from Universities, Rwanda National Police, National Forensic Laboratory of Rwanda.	Coordinate all mortality activities and review mortality reports and ensure high quality of causes of death statistics are reported in compliance with global standards.

Source: NISR, National strategic plan, 2017/18-2021/22

2.3.2. The state of CRVS system in Rwanda as is in 2019

The current CRVS system is characterized by a variety of systems set for different purposes but with almost similar data captured.

2.3.2.1. CRVS paper-based system

Altogether there are seven registers of civil status (Article 74 of the law Nº 32/2016 of 28/08/2016): 1) Register of birth records; 2) Register of death records; 3) Register of marriage records; 4) Register of guardianship records; 5) Register of acknowledgment of children born out of wedlock; 6) Register of adoption records; 7_ Register of other records. At the same offices are always maintained other administrative documents that are the individual records of the resident population of the area, and the extract of registers (administrative) of births, deaths and marriages, distinct from the civil register mentioned above.

2.3.2.2. CRVS web-based application

In Rwanda, reliable data and statistics are currently mainly available from population and housing census conducted every ten years and other more frequent surveys such as RDHS and Enquête Intégrale sur les Conditions de Vie des ménages / Integrated Households Living Conditions Survey (EICV), labor force survey (LFS) etc. More frequent and detailed information can be easily obtained by strengthening the civil registration system. To improve the quality and frequency of the collection and dissemination of vital statistics, the National Institute of Statistics of Rwanda (NISR), in collaboration with Ministry of Local Government (MINALOC), Ministry of Health (MoH) and the National Identification Agency (NIDA), has been developing a web-based application system since 2013 and it was implemented in 2015. The web-based application system facilitates the collection, storage and production of civil status events data (Birth, Death, Marriage, Adoption etc) from civil registration, including causes of deaths, through registration sites at 416 Sector Offices and online notifications in about 600 health facilities. NISR has developed capacities, both in terms of human and required information technology (IT) infrastructure for the Sector offices and health facilities. The software behind the web-based application was developed at a reasonable and affordable cost. The development of the web-based application was in line with the second National Strategy for the Development of Statistics (NSDS II), where strengthening the civil registration system, as a source of vital statistics, is one of its strategic objectives. In collaboration with CRVS stakeholders and development partners, NISR also led the development of a five-year strategic plan (2017/18-2021/22). The web-based application has several benefits which include: connecting health facilities to the sectors through web interfaces, such that all births and death from these entities are recorded and automatically transferred to the respective Sectors for confirmation; instant transfer of the data from the Sector Office to the national database; monitoring of civil registration from both district and central level; secure storage of the civil records; nationwide system that will help detect unauthorized practices regarding individual civil status. It has the potential to give limited access to others, on need basis through user interfaces created at the central level.

2.3.2.3. Health Management Information System (HMIS)

The Ministry of Health (MoH) in collaboration with other stakeholders has developed a web-based Health Management Information System (HMIS) that provides information on all health aspects across the country. Through HMIS, the MOH collects technical data for epidemiological and other health related use. While it somewhat overlaps with the CRVS web-based application, the HMIS is designed specifically for statistical and technical health purposes. It collects aggregated data whereas the CRVS application system collects individual identity-related data. MOH has been successful in collecting a wide range of information from all health facilities around the country. To better align the reporting of health-related data to the needs of the health sector, MOH integrated different reporting system into a web-based system (R-HMIS) to improve accuracy and timeliness of dissemination of reports, to end users by using a single platform. Integrated reporting systems into RHMIS platform include: HMIS reporting forms (Referral, Provincial and District Hospital, Health Centres and Private health facilities); Rwanda Integrated Disease Surveillance; TB Quarterly report and e-TB CHW monthly Report (SISCOM); HIV Module; Neonatal and child death report; and Weekly child mortality report.

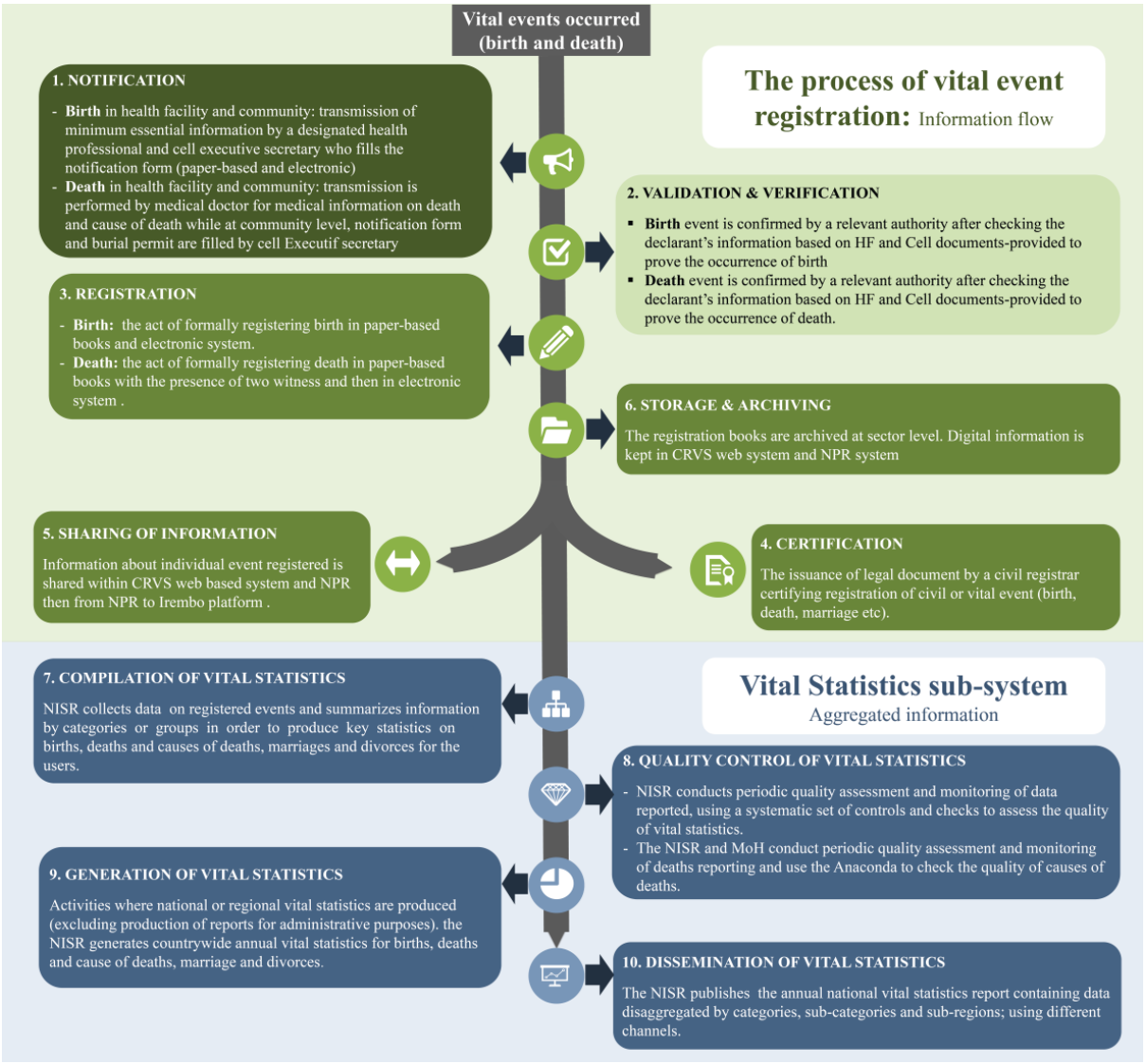
2.3.2.4. National Population Registry

In 2007, the former National Identification Project registered all Rwandan citizens (population registration). This exercise was meant to develop an electronic system, formerly known as the Tiger Population Registry system, where all paper-based records were captured. Later on, this was merged with the production system (MIDIS) to become the National Population Registry System (NPR). The purpose of the National Population Registry was to facilitate the issuance of the national identity card with 2D technology to those aged 16 years and above as well as hosting electronic population registration forms: first registration, change of marital status, change of address and death registration. Also, NPR is a centralized system that provides to all registered citizens a unique identification number. The role of the National Population Registry is to enable the registration of the population and the issuance of National Identity Card. Since 2015, the National Population Registry has been decentralized up to the Sector level where all 416 Civil Registration Officers (CROs) access and use it to serve people who need different population registration-related services and capture vital events mentioned above. Furthermore, in the context of systems integration and online identity authentication of citizens, this system has been linked with other institutions‟ systems both public and private. The Directorate General of Immigration and Emigration, Rwanda Social Security Board, Ministry of Labor and Public Service (MIFOTRA) are examples of public institutions. All financial institutions are connected through the Central Bank (BNR) and Telecom companies through Rwanda Utilities Regulatory Authority (RURA) as their regulator. In total, NPR has so far been integrated with around 23 systems as of March 2017.

2.3.3. Registration processes and information flows

Figure 4 below summarizes registration process and information flow, taking into consideration the 10 milestones (refer to :https://gh.bmj.com/content/bmjgh/3/2/e000673.full.pdf).

Figure 4: Ten CRVS Milestones' framework with a working definition of each milestone



2.3.4. Timeliness of Registration

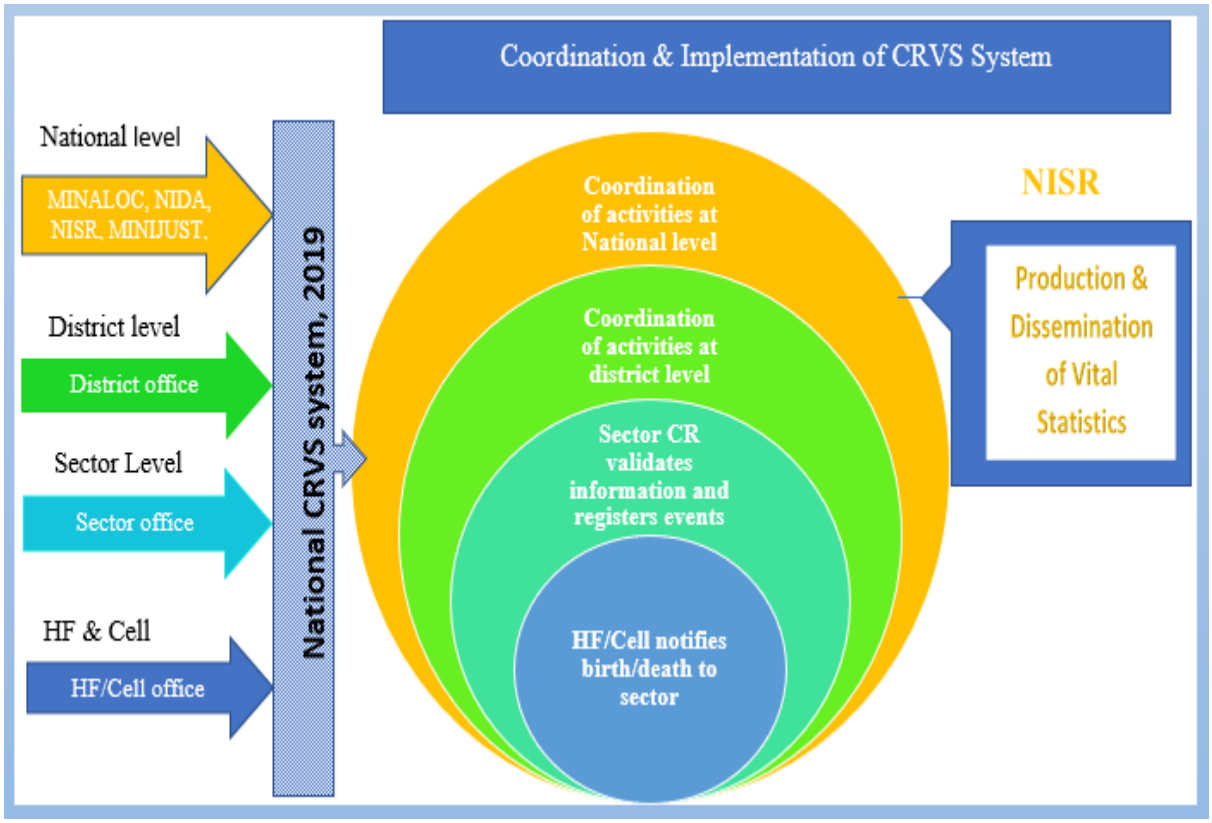
According to the law governing persons and family in Rwanda, registration of birth and death must be done within 30 days of occurrence (art, 100 and 106). However, this law is silent about late or delayed registration. For reporting purposes, late registration was considered to be an event (birth or death) registered after 30 days of occurrence but without exceeding one year while delayed registration was considered to be an event (birth or death) registered after one year from its occurrence.

By current practice, marriage is celebrated at sector office after 20 days of notice made to the public and is immediately registered. The consensual cohabitation (unions) and forms of marriages other than those solemnized by a civil registrar (monogamous) are not accepted by law and thus not registered. Nevertheless, such marriages are still taking place.

2.4. Organization of vital statistics production and dissemination

In Rwanda vital statistics are collected regularly via the recording of registered vital events (births, deaths, marriage etc) in a web-based application. This web-based application is used to facilitate the collection of CRVS data at all levels following the Principles and Recommendations for a Vital Statistics System and the current legislation on vital event registration. Each year (starting by 2019), countrywide vital statistics report is produced and disseminated through the NISR website, press release and workshop with stakeholders, CRVS data users and partners. More information on vital statistics data collection organization and involved stakeholders is displayed in Figure 5 below.

Figure 5: Organization of CRVS system and production of vital statistics, 2019



CHAPTER 3: DATA QUALITY, TIMELINESS AND COMPLETENESS OF REGISTRATION

3.1. Data and methods

3.1.1. Data source

Vital events used in this report are outputs of different sources, but mainly CRVS web-based system. However, as a way to assess the reliability and to enable the computation of some indicators, CRVS-Web-based system-generated data were triangulated with data from other sources including: Health Management Information System (HMIS, Second Mortality Assessment Survey (MAS2), and Fourth Population and Housing Census (4th PHC). Due to the under-reporting of deaths, especially community deaths, the low number of deaths was obtained at the national level when compared to expected deaths. In this regard, adjustment techniques were used to estimate country representative mortality statistics.

Regarding the timeframe, only events that occurred in 2019 were considered for analysis at all events. Marriages used in this report are the ones that were legally celebrated at the sector level and recorded in CRVS web-based system in 2019.

3.1.2. Data quality assessment

According to United Nations *Principles and Recommendations*, "The quality of vital statistics is measured according to completeness, correctness or accuracy, availability and timeliness" (UN, 2014). Therefore, quality control measures must be put in place in terms of four quality dimensions mentioned above. In this report, data quality issues observed were mainly duplicates, typing errors on date of occurrence of an event when compared to the registration date, erroneous or missing information, especially on causes of death.

Concerning duplicates, each record has a unique record ID. On all sets of data, the 'event key' was used to check for duplicated entries. Some duplicates were obvious and easy to detect while some others were difficult to detect. All erroneous entries were dealt with in accordance with the nature of errors. For example, missing values were replaced with a word missing or not stated in order to run pivot tables in Excel; Invalid age were coded with 999 to perform further analysis requiring age, etc. However, for the most sophisticated cases to handle, respective records were removed from the datasets.

3.1.3. Desk review

The process of compiling this report was preceded by assembling the materials available about the setup and operations of the system as well as vital statistics reports from other countries. Some of the reports consulted in this regard include but not limited to: Alaska Vital Statistics Annual report 2017, Namibia Vital Statistics Report for data collected from 2011-2015, Philippines Vital Statistics report 2013-2014, Georgia Vital Statistics report 2015, Missouri Vital Statistics Report 2018, U.S National Vital Statistics Reports, Vol. 68, No. 13, November 27, 2019; Maryland Vital Statistics Annual Report 2018; etc.

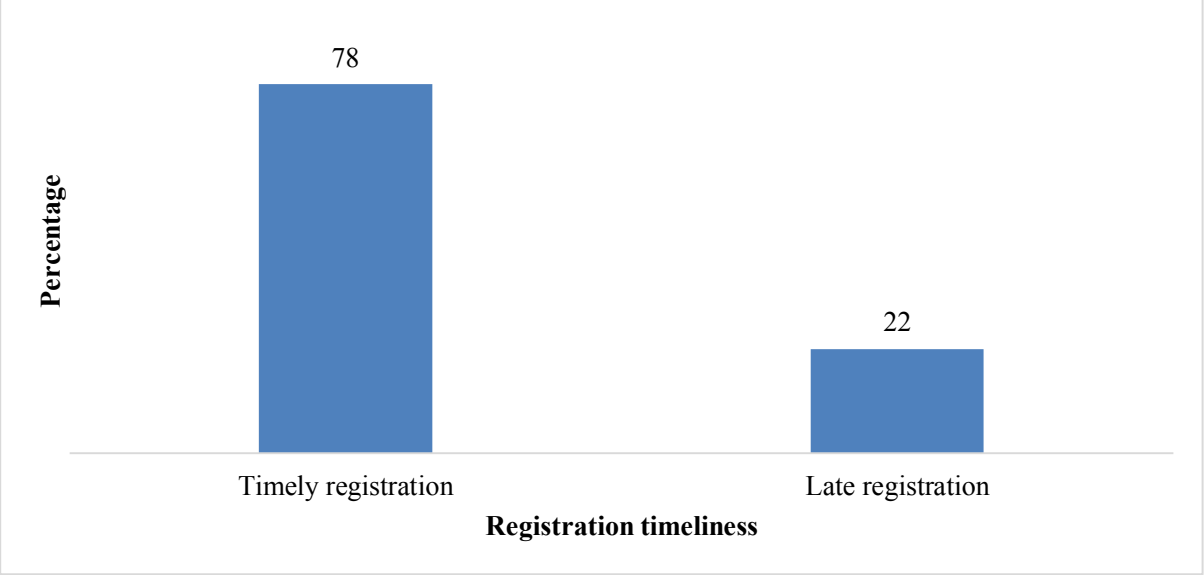
3.1.4. Dialogue with registration officers

CRVS actors at both sectors and health facilities levels were contacted through phone calls to clarify on suspected erroneous records from books and provide clear information on them. The general observation was that most of errors were related to the mistyping of information during data entry.

3.2. Timeliness of registration

Figure 6 shows the birth registration timeliness. As per the law governing persons and family, timely registration of birth or death is the one done within 30 days of occurrence. However, the law is silent on late and delayed registration. For the purpose of reporting, a late registration was considered to be a vital event (birth or death) registered event after 30 days but without exceeding one year, while delayed registration was considered to be a birth or death registered after one year. CRVS web-based system generated data shows 313,398 live births registered in 2019 of which 244,443 births were registered with 30 days of occurrence. As the data used within this report occurred in 2019, delayed registrations were not found.

Figure 6: Birth registration timeliness, 2019



Source: Data from CRVS web-based system, 2019

3.3. Completeness of birth and death registration

Calculating the completeness of registration can be used to monitor the performance of the CRVS system in capturing all vital events and allows for adjustment of incomplete data. Completeness is defined as the proportion of actual vital events in a population that are registered, divided by the estimated number of vital events that occurred in the same year.

$$Completeness = \frac{Number\ of\ vital\ events\ registered}{Estimated\ number\ of\ vital\ events} \times 100$$

To compute birth and death registration completeness, the denominators were obtained from the 4th population and housing census projections report (medium scenario).

According to that report, the projected CDR in 2019 is 6.1 deaths per 1,000 while CBR is 29 births per 1,000. The numerators were generated by CRVS web-based system. Table 2 shows the results.

Table 2: Completeness of birth and death registration, 2019

Event type	Registered number	Expected number	Registration completeness
Live births	313,398	360,389	87.0
Deaths	23,791	75,712	31.4

Source: Data from CRVS Web-based system and 4th PHC projections, 2019 (NISR)

3.4. Adjustment for incomplete registration

Achieving complete vital registration remains a challenge. There exist several methods used in determining total population estimates in the presence of under-reporting.

The first methods are those that deal with models that make use of auxiliary information/data to what we are adjusting. Some examples include the Preston-Coale technique that estimates the completeness of death registration above a certain age x during an intercensal period, based on population distributions from two consecutive censuses. The technique also provides a set of adjusted death rates by age, as well as estimated life expectancies for people aged 5 and above during the intercensal period. Other models include the Lee and Carter which is a two-stage dynamic procedure to describe the secular change in the logarithm of age-specific central rates that is used to construct projected life tables. Another set of procedures are re-sampling methods like bootstrapping and jackknife. The basic idea of the bootstrap is to artificially generate resamples of the data which can be used as a basis for approximating the sampling distribution of model parameter estimates.

Adjustment factors are also used to estimate under-reported mortality numbers and this is a general approach to create a simple factor that can be applied directly to the registration data. Calculation of correction factors based on the life table for consecutive ages has been used. Lastly, other empirical methods are non-parametric and work well even for small samples and where auxiliary information is not provided. This report uses this class of methods as used in Maina et al 2017.

As the completeness in death registration is low (31.4%), mortality indicators computed using observed data cannot be enough reliable. Therefore, it is worth to adjust for incomplete death records to be able to estimate reliable and country representative mortality indicators. The adjustment can be expressed as follows (Maina et al 2017):

$$n(adjusted) = n + n\left(\frac{1}{c} - 1\right) * k \qquad (1)$$

where
n = is the output number
c = reporting completeness
k = the adjustment factor

k is between 0 and 1. If we assume that deaths occurred at the same rate in the reporting and non-reporting incidences then, k = 1. On the other hand, if the non-reporting means that no deaths occurred, then k=0 in that case and so no adjustment is required. The selection of the most likely value of k is done through a comparison of CRVS data with the survey results (MAS), and by selecting a value of k that brings the adjusted CRVS statistic close to the survey statistic. A k of 0.9 was considered and used. Reporting completeness was computed as:

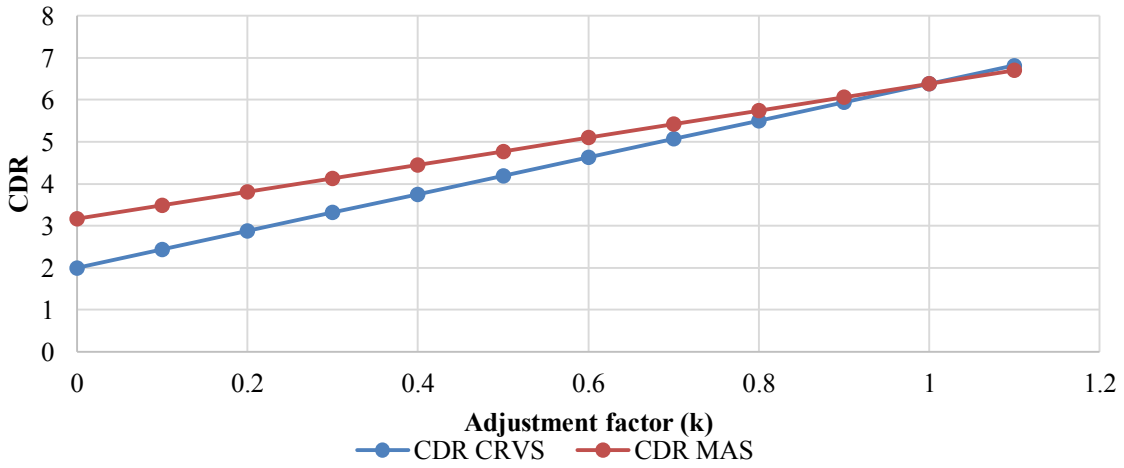
$$Unreported\ deaths\ (\%) = \frac{Census\ estimate - CRVS\ statistic}{Census\ estimate} \times 100\% \qquad (2)$$

And therefore:

$$reporting\ completeness\ (c) = 100\% - unreported\ deaths(\%) \qquad (3)$$

The choice of adjustment factor (k) was made by applying aforementioned formula (1) to the CDR results from 2 sources; namely MAS2 and CRVS 2019 and then, the results were plotted on a graph, as shown in Figure 7.The k value was thereby determined by intersection between the resulting two lines of the scatter plot whereby the appropriate k value was found to be 0.9 as here below displayed.

Figure 7: Trends of CDR from CRVS and MAS under different values of k



By applying aforementioned technique (empirical method) to the CRVS results (k=0.9), the computed and adjusted CDR are shown in Table 3.

Table 3: Adjusted and observed values of CDR across provinces

Provinces	Estimated population	Observed CRVS data, 2019 (n)	n (adj.)	CDR-CRVS (Obs.)	CDR-CRVS (adj.)
Rwanda	**11,867,607**	**23,771**	**70518**	**2**	**5.9**
East	3,054,223	5,608	16636	1.8	5.4
Kigali city	1,409,086	2,522	7482	1.8	5.3
North	1,914,442	3,986	11825	2.1	6.2
South	2,757,406	6,358	18861	2.3	6.8
West	2,732,451	5,297	15714	1.9	5.8

Source: Data from MAS, 2018 and CRVS web-based system, 2019

3.5. Comparison with data from other sources

As a way of assessing the reliability of CRVS data, the results were compared with indicators from other sources. Table 4 shows the comparisons for selected mortality indicators.

Table 4: Comparing CRVS death indicators with the results from other sources

Indicator	CRVS 2019 (Obs.)	CRVS 2019 (Adj.)	MAS 2018	RDHS 2014/15	4th PHC (Proj. 2019)
Crude death rate	2	5.9	3.2	-	6.1
Neonatal (0-27 completed days)	8.4	23.5	14.1	20	-
Post neonatal (28-364 completed days)	2.8	8.1	9.2	13	-
Infant mortality rate (0-<1 year)	11.2	31.5	23.3	32	38.4
Child mortality rate (1-4 years)	2.7	7.3	9.9	19	-
Under five mortality rate	13.9	38.5	32.3	50	53.8

Source: Data from CRVS web-based system 2019 and MAS, 2018 & RDHS 2014/15

CHAPTER 4: BIRTHS STATISTICS

Following the law governing person and family in Rwanda, all live-born infants should be registered and counted as such, irrespective of gestational age or whether alive or dead at the time of registration. This chapter gives an in-depth analysis of data on births recorded via the CRVS web-based system whose occurrence date is from January to December 2019. Table 5 gives a summary of statistics on births obtained.

Table 5: Summary statistics on births

Description	Females	Males	Both sexes
Notified births	166,902	170,102	337,004
Registered births	154,572	158,826	313,398
Expected live births (Projected)	177,532	182,857	360,389
Sex Ratio at birth	-	-	102
Birth registration completeness	87.1	86.9	87.0
Crude birth rate (CRVS-Based)	-	-	27.2
Total Fertility Rate (CRVS-Based)	-	-	3.8

Source: Data from CRVS web-based system and 4th PHC Projections, 2019

4.1. Birth registration

4.1.1. Completeness of birth registration

Completeness is defined as the proportion of actual vital events in a population that are registered, divided by the estimated number of vital events that occurred in the same year. For this report, births registered by sectors (numerator) were compared with the projected number of live births from the 4th population and housing (denominator). As shown in table 6, birth registration completeness rate was found to be 87% at the national level with an insignificant difference between males and females (86.9% and 87.1%, respectively). Further disaggregation regarding completeness was not made as the sub-national data (province, district, urban/rural etc) on the population projections are not available.

Table 6: Birth registration completeness 2019

Live births	Registered number	Expected number	Registration completeness
Total	313,398	360,389	87.0
Male	158,826	182,857	86.9
Female	154,572	177,532	87.1

Source: Data from CRVS Web-based system and 4th PHC Projections, 2019

4.1.2. Timeliness of registration

By the law currently in force, birth registration must be done within 30 days of occurrence and this was considered to be timely registration in this report. The same law is silent on late and delayed registration. For reporting purposes, late registration was considered to be a birth registered after 30 but before exceeding one year. In this regard, the results revealed that out of the total number of births registered; 78% were registered within 30 days as stipulated by the law (timely registered) while the remaining share (22%) was registered after 30 days of birth occurrence. As only births that occurred in 2019 were considered, no delayed registrations were obtained.

4.2. Birth notification

Following Rwanda's CRVS business process in 2019, birth notification is done after birth occurrence, by health facilities to the mother's residence sector, the place where official registration takes place within 30 days of birth occurrence. This induces a discrepancy between the numbers of births notified and the numbers of births registered officially, as a result of various influencing factors in between. CRVS web-based system-generated data shows a total of 337,004 live births occurred in 2019 and notified by health facilities (i.e. 93.5% of expected live births were recorded by health facilities via CRVS web-based system in 2019). The females' share was 49.5% of the total while males' share was 50.5%. The same data show that 98.1% of all notified births occurred at health facilities level while only 1.9% occurred in community. The disaggregation by urban and rural shows that rural residents' births occupy 82% of the total notified births against 18% in urban. Taking into consideration the good quality of data on live births notified and a big number of variables regarding live births captured at health facilities level compared to sector offices, the following part of this chapter focuses on analysing birth notifications data.

4.2.1. Live births notified by place of parents' residence

As presented in Table 7, there has been diversity in numbers of births recorded taking into consideration their residence districts whereby a high number of births is observed in Gasabo and Nyagatare districts while low numbers are in Nyabihu and Ngororero Districts. The sex ratio at birth is high in Kirehe and Nyanza districts and low in Nyamasheke and Ruhango districts.

Table 7: Live births notified by residence districts

Residence District	Both sexes	Females	Males	Sex ratio at birth
Grand Total	337,004	166,902	170,102	102
Bugesera	15,923	7,869	8,054	102
Burera	9,624	4,744	4,880	103
Gakenke	9,022	4,441	4,581	103
Gasabo	24,521	11,958	12,563	105
Gatsibo	14,367	7,116	7,251	102
Gicumbi	11,832	5,839	5,993	103

Residence District	Both sexes	Females	Males	Sex ratio at birth
Gisagara	11,239	5,643	5,596	99
Huye	9,140	4,598	4,542	99
Kamonyi	9,995	4,946	5,049	102
Karongi	9,024	4,449	4,575	103
Kayonza	10,482	5,222	5,260	101
Kicukiro	12,168	5,971	6,197	104
Kirehe	13,623	6,612	7,011	106
Muhanga	8,899	4,469	4,430	99
Musanze	10,969	5,367	5,602	104
Ngoma	10,436	5,190	5,246	101
Ngororero	8,312	4,183	4,129	99
Nyabihu	7,696	3,840	3,856	100
Nyagatare	16,762	8,382	8,380	100
Nyamagabe	8,988	4,453	4,535	102
Nyamasheke	11,340	5,759	5,581	97
Nyanza	8,645	4,203	4,442	106
Nyarugenge	9,204	4,535	4,669	103
Nyaruguru	8,622	4,263	4,359	102
Rubavu	14,315	7,123	7,192	101
Ruhango	8,566	4,328	4,238	98
Rulindo	9,391	4,590	4,801	105
Rusizi	13,495	6,619	6,876	104
Rutsiro	9,592	4,800	4,792	100
Rwamagana	10,770	5,368	5,402	101
Foreigners	42	22	20	91

Source: CRVS web-based system, 2019

4.2.2. Births notified by place of occurrence and by the usual residence of mothers

Table 8 shows the level of variations between the place of birth occurrence and the usual residence of mothers across districts and the results show that for a big share of deaths (87.6%), the place of birth occurrence and the place of mothers' usual residence are the same. At a national level, only 12.3% of the mothers gave birth in a place other than their usual residence district in 2019. Across districts, high shares of mothers who gave birth in places other than their usual residence districts are observed in Nyarugenge and Kicukiro districts (46.2% and 40.5% respectively) while the low share is observed in Rusizi, Nyaruguru, Nyagatare and Kamonyi districts (0.4%; 0.6%; 0.8% and 0.9% respectively). The following table displays more.

Table 8: Live births notified by place of occurrence and by usual residence of mothers, 2019

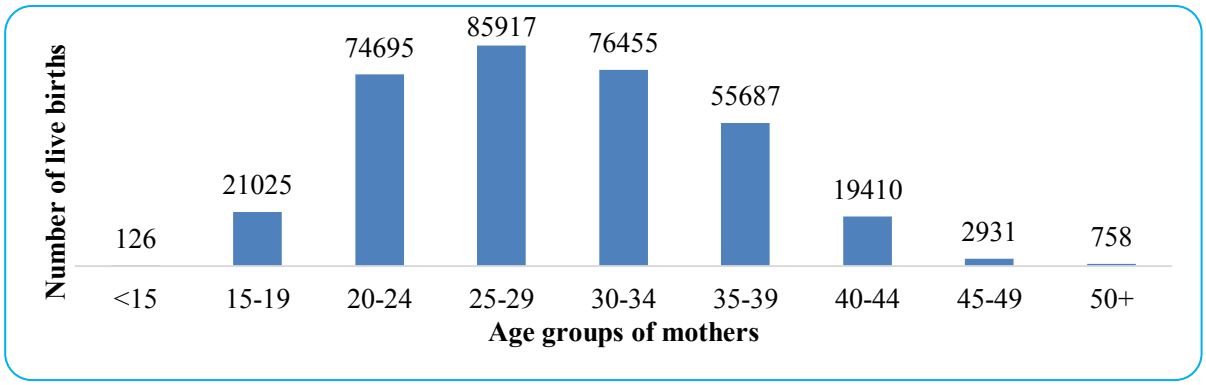
Place of occurrence	Place of usual residence				Percentages			
	Total live births	Same place	Other places	Foreign	Total live births	Same place	Other places	Foreign
Rwanda	**337004**	**295369**	**41593**	**42**	**100**	**87.6**	**12.3**	**0.01**
Bugesera	15512	15096	415	1	100	97.3	2.7	0.01
Burera	8437	8094	343	0	100	95.9	4.1	0.00
Gakenke	9267	7979	1288	0	100	86.1	13.9	0.00
Gasabo	26807	18956	7839	12	100	70.7	29.2	0.04
Gatsibo	14812	13638	1172	2	100	92.1	7.9	0.01
Gicumbi	11970	11194	775	1	100	93.5	6.5	0.01
Gisagara	10632	10202	430	0	100	96.0	4.0	0.00
Huye	10795	8283	2509	3	100	76.7	23.2	0.03
Kamonyi	7169	7101	67	1	100	99.1	0.9	0.01
Karongi	10282	8817	1465	0	100	85.8	14.2	0.00
Kayonza	10612	9860	750	2	100	92.9	7.1	0.02
Kicukiro	11788	7017	4770	1	100	59.5	40.5	0.01
Kirehe	13518	13195	322	1	100	97.6	2.4	0.01
Muhanga	9575	7551	2024	0	100	78.9	21.1	0.00
Musanze	11632	10101	1530	1	100	86.8	13.2	0.01
Ngoma	10379	9916	463	0	100	95.5	4.5	0.00
Ngororero	8558	7568	990	0	100	88.4	11.6	0.00
Nyabihu	8736	6379	2357	0	100	73.0	27.0	0.00
Nyagatare	15457	15324	128	5	100	99.1	0.8	0.03
Nyamagabe	8804	8449	355	0	100	96.0	4.0	0.00
Nyamasheke	11171	10781	390	0	100	96.5	3.5	0.00
Nyanza	8042	7201	841	0	100	89.5	10.5	0.00
Nyarugenge	13466	7237	6226	3	100	53.7	46.2	0.02
Nyaruguru	7696	7650	46	0	100	99.4	0.6	0.00
Rubavu	13670	12819	843	8	100	93.8	6.2	0.06
Ruhango	8639	7319	1320	0	100	84.7	15.3	0.00
Rulindo	9125	7871	1254	0	100	86.3	13.7	0.00
Rusizi	13136	13078	57	1	100	99.6	0.4	0.01
Rutsiro	8704	8356	348	0	100	96.0	4.0	0.00
Rwamagana	8612	8337	275	0	100	96.8	3.2	0.00

Source: Data CRVS web-based system, 2019

4.2.3. Births notified by age of mothers

Analysis of CRVS web-based system released data shows variations in the number of births recorded by health facilities per age groups of mothers. The number of birth records has been high among females aged 25-29 compared to the remaining ages and low among females aged 50 and above or less than 15. More details are displayed in Figure 8.

Figure 8: Live births notified by age group of mothers



Source: CRVS web-based system, 2019

4.2.4. Live births by type of pregnancy

To some extent, twining may affect mortality behaviors among live births. CRVS web-based system-generated data were analyzed to find out the rate of multiple births and the results revealed that in 2019, out of 337,004 live births notified, only 2.5% were twin births while the remaining share was single birth.

4.2.5. Live births by weight at birth

Weight at birth is a meaningful indicator on the next status of life of a live birth. CRVS web-based system started to capture weight at birth since 2017. Table 9 shows variations in the weights of the new born by weight range. In 2019, the weight range with a high number of births was the 3000- 3500 grams while the average weight at birth was 3,100 grams. The percentage of low birth weight (<2500 grams) and very low birth weight (<1500 grams) were relatively small (7.4% and 0.7%, respectively).

Table 9: Live births by weight at birth

Weight in grams	Number	Percentage
All ages	**337,004**	**100**
<1500	2,396	0.7
1500-1999	4,510	1.3
2000-2499	18,051	5.4
2500-2999	85,914	25.5
3000-3499	145,979	43.3
3500-3999	65,379	19.4
4000-4499	12,275	3.6
4500-4999	2,073	0.6
>5000	363	0.1
Not stated	64	0

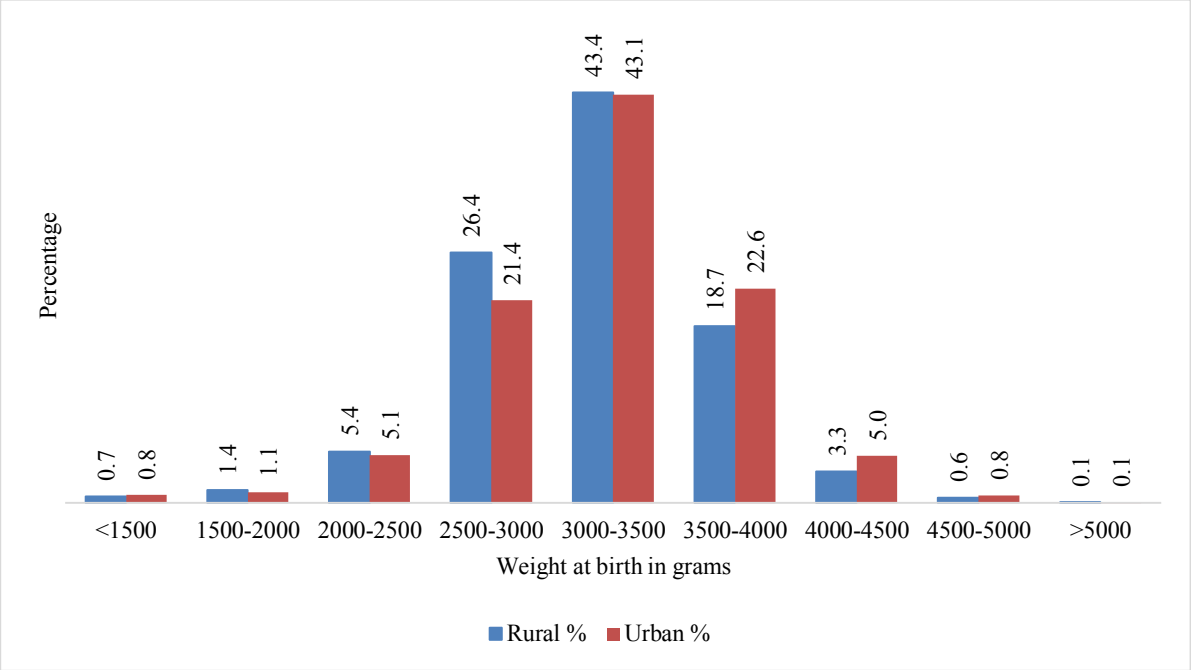
Source: CRVS web based-system, 2019

4.2.6. Weight at birth as a share of total Urban/Rural live births

Weight at birth depends on several factors including the life status of a pregnant woman. CRVS generated data show a remarkable difference in birth weight as a percentage of live

births from urban areas when compared to birth weight as a percentage of live births from rural areas. As mentioned through the above table 9, average weight at birth is estimated to be 3,100 grams. Figure 9 shows that generally, rural resident mothers encounter a big percentage of live births whose weight is less than the average weight (3100 grams) when compared to births occurring from mothers residents of urban areas.

Figure 9: Percentage of birth weight from urban resident mothers compared to rural resident mothers

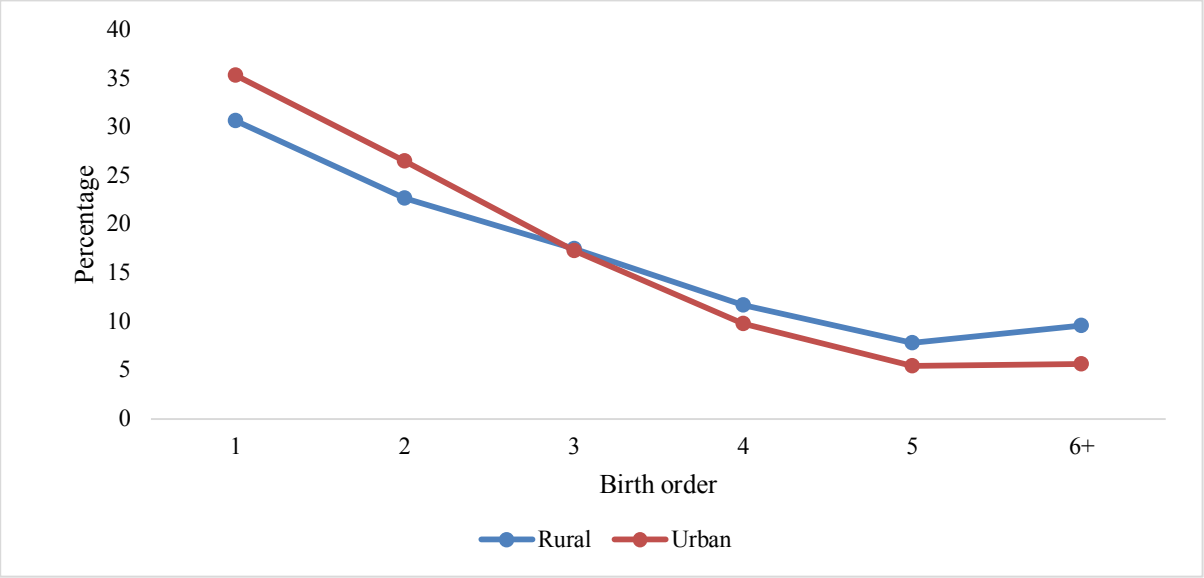


Source: CRVS web-based system & 4th PHC Projection, 2019

4.2.7. Live births by birth order

Birth order refers to the order a child is born in the family; first-born and second-born are examples. Birth order is often believed to have a profound and lasting effect on psychological development. To some extent, it may play an impactful role in orientation and initiation of family planning related policies and laws. CRVS web-based system generated data show dissimilarities in birth order among rural residents compared to urban residents. The general picture reflected is that the shares of live births are high in urban compared to rural from first to second birth, and low in urban compared to rural from the fourth to the highest birth order. The data show an optimum of 3 births to both urban and rural resident mothers as shown on figure 10.

Figure 10: Frequency of birth order (%) within Urban compared to Rural resident mothers



Source: Data from CRVS web-based system, 2019

4.3. Key fertility indicators

Vital statistics are a source of useful fertility indicators. This section intends basically to display fertility indicators computed using CRVS web-based system-generated notifications data in 2019 including: crude birth rate, sex ratio at birth, General fertility rate and total fertility rate. The data shown under this section were not adjusted as the completeness of birth notification was found good. Indeed, as one way of assessing the reliability of indicators computed from CRVS data, a comparison with data from other sources is performed. Table 10 provides a summarized situation.

Table 10: Summary comparison of fertility indicators from CRVS with other sources

Indicator	CRVS 2019	MAS 2018	RDHS 2014/15
TFR	3.8	3.7	4.2
GFR	103.3	108.7	142
CBR	27.2	27.6	32.6
Sex ratio at Birth	102	102	101.9
low birth weight	7.4	-	6

Source: data from CRVS web-based system (NISR), 2019

4.3.1. Sex ratio at birth

The sex ratio at birth is the number of male live births for a specific area during a specified period divided by the number of resident female live births for that area and period multiplied by 100. In the human species the ratio between males and females at birth is slightly biased towards the male sex. The natural "sex ratio at birth" is often considered to be around 105. This means that at birth on average, there are 105 males for every 100 females. A sex ratio that is less than 100 means that male births are less than female births something that doesn't often happen. CRVS web-based system-generated data show the sex ratio at birth

equivalent to 102 in 2019 something implying 102 new males born for every 100 new females born.

4.3.2. Crude birth rate (CBR)

The crude birth rate is the number of live births occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of the given geographical area during the same year. The crude birth rate is called "crude" because it does not take into account age or sex differences among the population. However, the indicator is widely used to indicate the overall effect of fertility and that it could be estimated easily with minimum data requirements. When combined with the crude death rate and net migration, crude birth rates can tell us how much our population is increasing or decreasing. They can also help with planning and resource allocation by providing important information such as how many infants will require vaccinations and child health care, how many will be entering school in the coming years, or how many adults will be entering the workforce. The calculation of crude birth rate requires having both the number of live births within a specific period and the total population located in the area under consideration for a period of time under consideration. Usually, the mid-year population is used as an estimate of the total population. CRVS web-based system-generated data show that CBR was 27.2‰ in 2019 something implying 27.2 live births per 1,000 population annually, regardless of age and sex differentials.

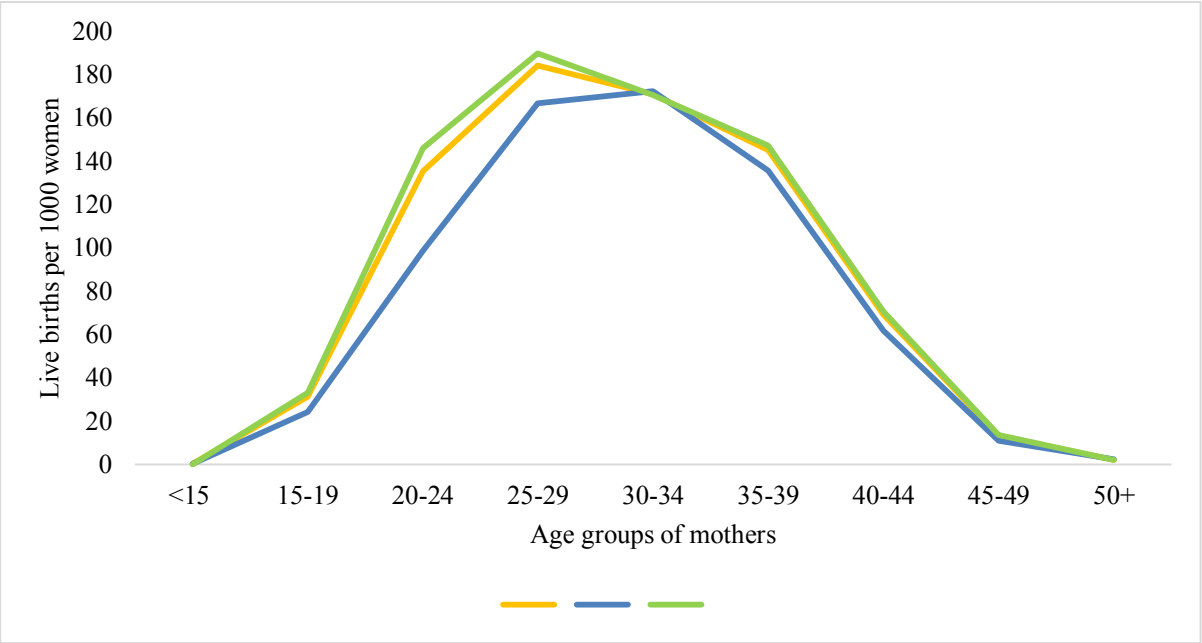
4.3.3. General fertility rate

The general fertility rate is the number of live births for a specific area during a specified period divided by the female population aged between 15 and 49 years (usually estimated at mid-year) for the same area and period multiplied by 1,000. CRVS web-based system-generated data show that the value of GFR was 103.3 in 2019, something implying 103 live births for every 1,000 women in childbearing age (15-49) annually.

4.3.4. Age-specific birth rate (ASFR)

The age-specific birth rate is the number of live births to women in a specific age group for a specific area during a specified period divided by the total population of women in the same age group for that area and period multiplied by 1,000 to obtain the rate. As shown in figure 11, ASFRs are high to mothers aged 25-39 at the national level as well as in rural areas, while in urban areas, ASFR is high to mothers aged 30-34. The shares of births occurring from females aged under 15 and females aged 50 and above are relatively small, but a little bit high in urban compared to rural residents.

Figure 11: ASFR (per 1,000 women) per usual residence of mothers



Note: population data were sourced from 4th PHC projections, 2019

4.3.5. Total fertility rate (TFR)

TFR represents the number of children who would be born per woman (or per 1,000 women) if she/they were to pass through the childbearing years bearing children according to a current schedule of age-specific fertility rates. The computation of TFR is the sum of the age-specific birth rates (usually for 5-year age groups between 15 and 49) for female residents of a specific area during a specified period multiplied by 5 (where the age-specific birth rates are 5-year birth rates). It can also be calculated as the sum of a 1-year age-specific birth rate for females aged between 15 and 49. TFR is also interpreted as the average number of children a hypothetical cohort of women would have at the end of their reproductive period during their lifetime if they were subject to experiencing the ASFRs of a given period. To allow for disaggregation to provincial and district levels, the computation of TFR borrowed estimates of female population from MAS2[1]. In this regard, CRVS web-based system-generated data showed that at the national level, the value of TFR was at around 3.8 in 2019, indicating an average of 3.8 children per woman in childbearing age, keeping necessary assumptions maintained.

4.3.5.1. TFR by Province and comparison with results from other sources

As the population projection from PHC4 data are not available at district and provincial levels, the disaggregated computation of TFR was based on results of the second Mortality Assessment Survey that showed a total population equivalent to 11,867,607 on 30th November 2018 of which 51.8% were females. The disaggregation of CRVS-generated data

[1] Second Mortality Assessment Survey (MAS2) provides an estimate of resident population on the 30th November 2018 by age and sex.

by province shows high fertility levels in Eastern Province and low fertility levels Kigali city as shown in Table 11.

Table 11: TFR by Province in 2019 and comparison of CRVS results with survey-based sources

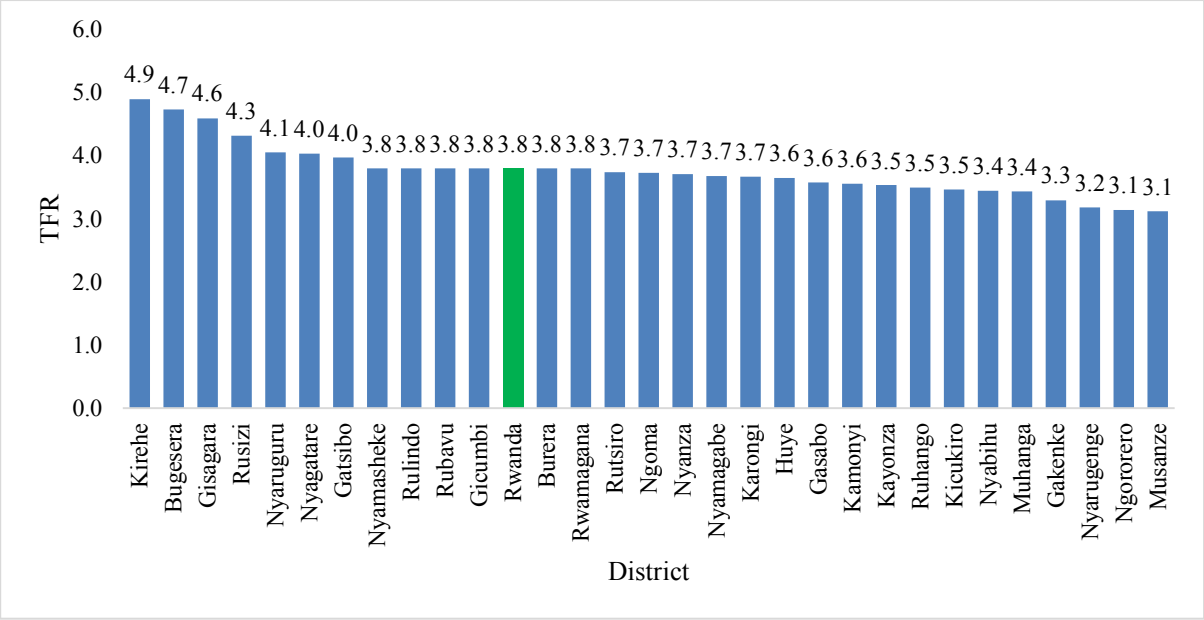
Province	CRVS, 2019	MAS, 2018	RDHS 2014/15
Rwanda	**3.8**	**3.7**	**4.2**
Kigali city	3.5	3	3.6
East	4.1	3.6	4.6
South	3.8	4.1	4.0
West	3.7	3.7	4.6
North	3.5	3.9	3.7

Source: CRVS web-based system; MAS 2018 & RDHS 2014/15

4.3.5.2. Total Fertility Rate by mothers' residence

The computation of TFR by district using CRVS web-based system-generated data showed high fertility levels in Kirehe, District with TFR equivalent to 4.9, and low fertility levels in Musanze and Ngororero districts with TFR equivalent to 3.1 each. More details are shown in Figure 12.

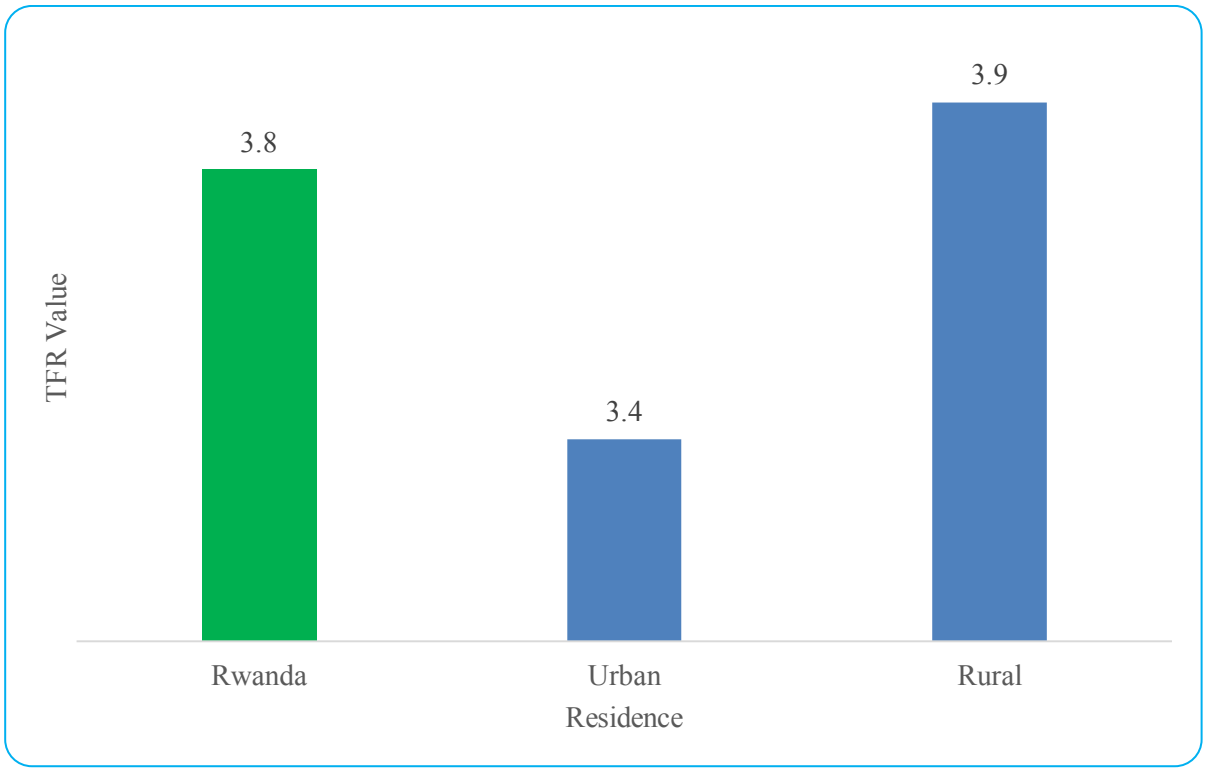
Figure 12: TFR by districts in 2019



Source: Data from CRVS web-based system (NISR), 2019

The values of TFR also vary by urban and rural. Using data generated by CRVS web system, the results show high value of TFR in rural compared to urban as shown in Figure 13.

Figure 13: TFR by mothers' residence (Urban and rural)



Source: Data from CRVS web-based system (NISR), 2019

CHAPTER 5: DEATHS STATISTICS

5.1. Background

Rwanda adopted the United Nations Sustainable Development Goals (SDGs) that are also founded on leaving no one behind in health. Goal three of the SDGs aims to improve maternal and child health outcomes, end infectious diseases, reduce premature mortality from non-communicable diseases and injuries and ensure universal health coverage by 2030. The Africa Agenda 2063 envisages a continent characterized by universal access to healthcare, zero communicable deaths, zero maternal deaths, zero child deaths and countries capable of mobilizing domestic funding for preventing, detecting and responding to public health threats such as non-communicable diseases, health needs of the youth population and malnutrition by 2063.

Information on the number of deaths and their causes is invaluable in evaluating and tracking progress towards the national, regional and international goals. The information on the mortality levels, trends and differentials is important for the identification of emerging diseases and conditions, formulation of evidence-based health policies and tracking of the population health status.

Mortality data are generated from the civil registration system that permit the production of mortality statistics continuously and contribute to the understanding of the burden of diseases at national and sub national levels. Given the huge importance of a well-functioning civil registration system in the production of complete, accurate, and timely statistics, the system needs to be anchored in an up-to-date legal and regulatory framework to ensure both continuity and consistency of data generation.

This vital statistics report is covering the registration of both community and health facility deaths reported at sector office for civil registration and the cause of death that are reported by the hospitals within the health information system under the platform of DHIS-2. Due to under notification of deaths at sector level, the total number of deaths registered in 2019 was 23,791 deaths that were considered for analysis to produce mortality statistics and must therefore, be used with caution. It is important to mention that Health facility deaths are electronically notified to Sector offices for official registration in presence of declarant with two witnesses but notified deaths are not all registered due to processes, long distance and disincentives to register deaths.

5.2. Death registration

5.2.1. Death registration completeness

As noted in section 3.3 of this report, knowing about the completeness of death registration is essential for several reasons. From a civil registration perspective, knowing completeness of death registration is important for improvement. From a statistical perspective, estimating registration completeness enables adjustments to be made when calculating mortality rates and computing demographic indicators such as population projections, age-and-sex-specific mortality rates and population dynamics.

As shown in Table 12, death registration completeness is 31.4% at national level. The computation is based on the number of deaths registered (23,791 deaths) over the expected deaths from the projection of the recent Rwanda population and housing census that gives a total of 75,712 deaths in 2019. Given this relatively low level of completeness, therefore it was not possible to use registration data directly to calculate key mortality indicators, and therefore, adjustments must be made to estimate the indicators more accurately. Adjustment for incompleteness is a common practice and guidance is available on methods from the UN Principles and Recommendations for a Vital Statistics System (2014) as described in section 3.3. Table 12 shows registered deaths and adjusted values for key mortality indicators. For further information on adjusted mortality indicators see chapter 3; section 3.5.

Table 12: Summary statistics on mortality

Indicator	2019
Registered deaths (number)	23,791
Males	13,188
Females	10,603
Sex ratio at death	124.4
Expected number of deaths (number)[2]	75,712
Death registration completeness (%)	31.4%
Adjusted Crude death rate[3] (per 1,000)	5.9

Source: Data from CRVS web-based system (NISR), 2019

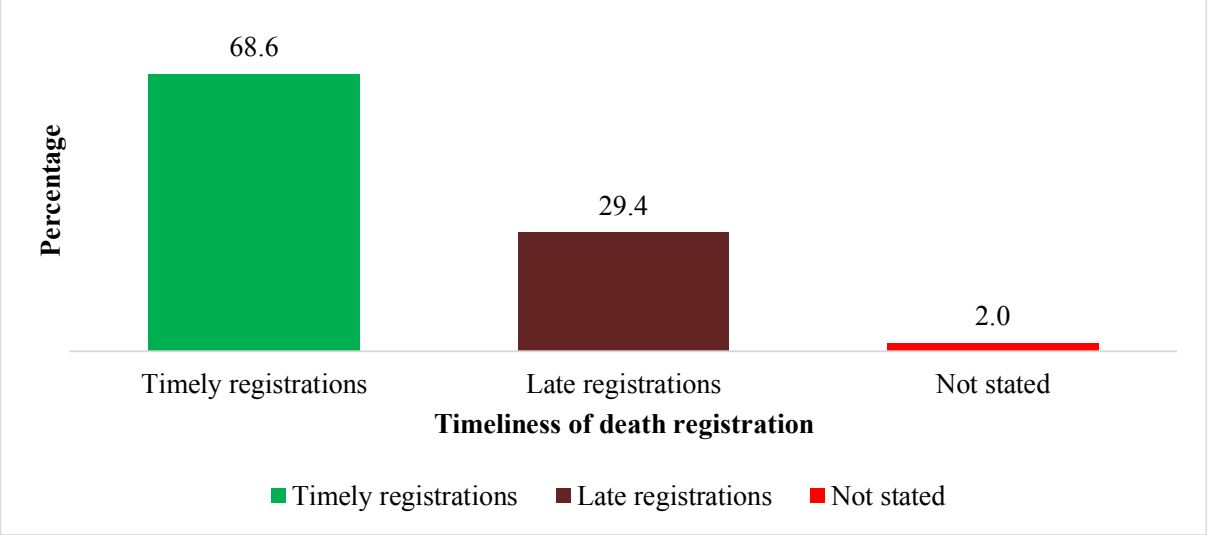
5.2.2. Timeliness of death registration

By the law currently in force, death registration must be done within 30 days of occurrence and this was considered to be timely registration in this report. However, the same law is silent on late and delayed registration. For reporting purposes, late registration was considered to be a death registered after 30 days but before exceeding one year. In this regard, the results revealed that out of the total number of deaths registered; 68.6% were registered within 30 days as stipulated by the law (timely registration) while 29.4% of the remaining deaths were registered after 30 days of death occurrence.

[2] Expected number of deaths is sourced from 4th PHC projection 2019.

[3] This report uses a class of non-parametric methods as used in (Maina et al, 2017). Refer to section 3.4 for more information.

Figure 14: Death registration timeliness, 2019



Source: Data from CRVS web-based system (NISR), 2019

5.2.3. Registered Deaths by province

Table13 shows the numbers of deaths registered in civil registration system (e-CRVS) by province in comparison with estimated[4] total number of populations residing in that province. The results generally showed high numbers of death across provinces with respect to the numbers of their resident populations where high number of resident populations corresponds to high number of registered deaths and vice versa. The largest number of deaths were registered in the Southern and Eastern Provinces whereas the lowest were found in Kigali city. Given the low completeness of death registration, information regarding the numbers of registered deaths is to be used with caution as great effort keeps being invested to raise up the completeness.

Table 13: Registered deaths by provinces with estimated population

Province	Counts		Percentages	
	Estimated number of populations	Number of registered deaths	Share of estimated total population	Share of total registered deaths
East	3,054,223	5,608	25.7	23.6
Kigali city	1,409,086	2,522	11.9	10.6
North	1,914,442	3,986	16.1	16.8
South	2,757,406	6,358	23.2	26.7
West	2,732,451	5,297	23.0	22.3
Rwanda	11,867,607	23,771	100.0	100.0

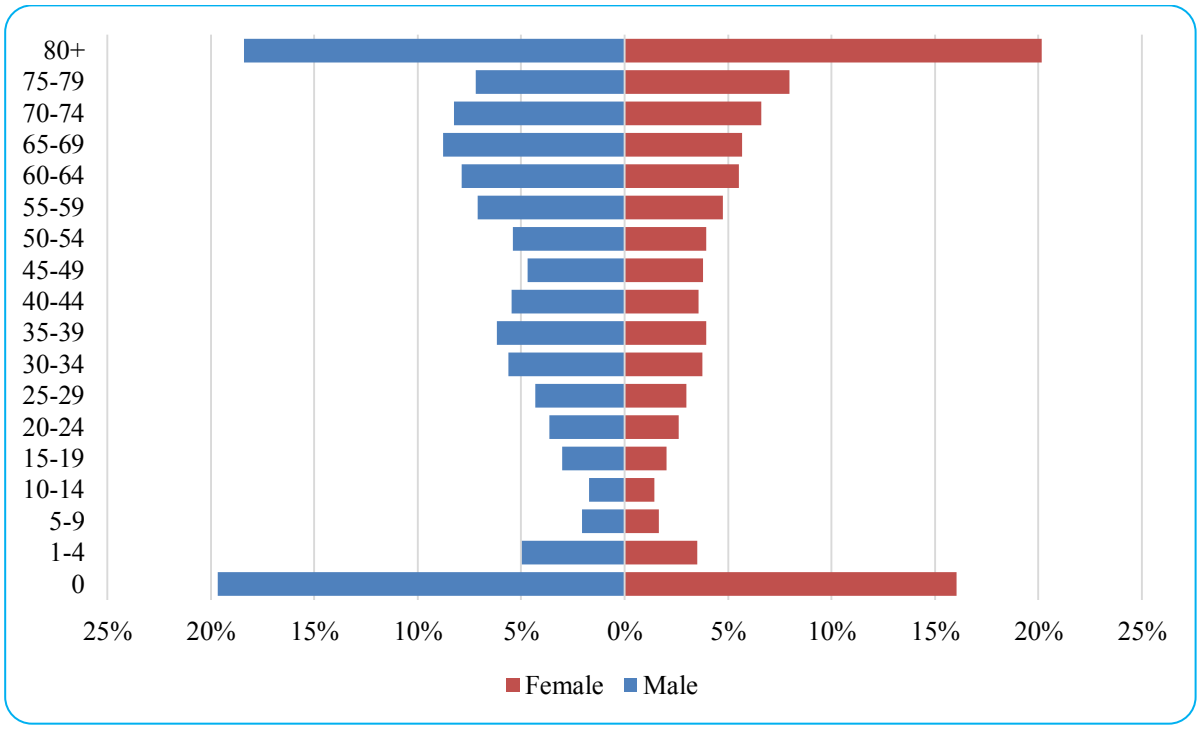
Source: Data from CRVS web-based system, 2019 and MAS, 2018.

[4] The 4th PHC projections 2019 do not provide the numbers of resident population by province. Estimated number of populations used in this report were sourced from the second Mortality Assessment Survey (MAS2) conducted in 2018.

5.2.4. Deaths registered by age and sex

Figure 15 shows the distribution of registered deaths by sex and age groups. Given the large proportion of young children in Rwanda's population and high risk of death, it is not surprising that most deaths occur in the under 5-year-old age group. Despite high females' proportion among the total population compared to males (52% against 48% respectively), the number of registered deaths is high among males compared to females across age groups except at too old age (80+). It is important also to mention here that a little bit much high proportion of infant male deaths compared to female deaths was observed. Despite low completeness of reporting, the figures indicated here portrays the mortality structure with respect to age and sex.

Figure 15: Age-Sex structure of deaths registered, 2019

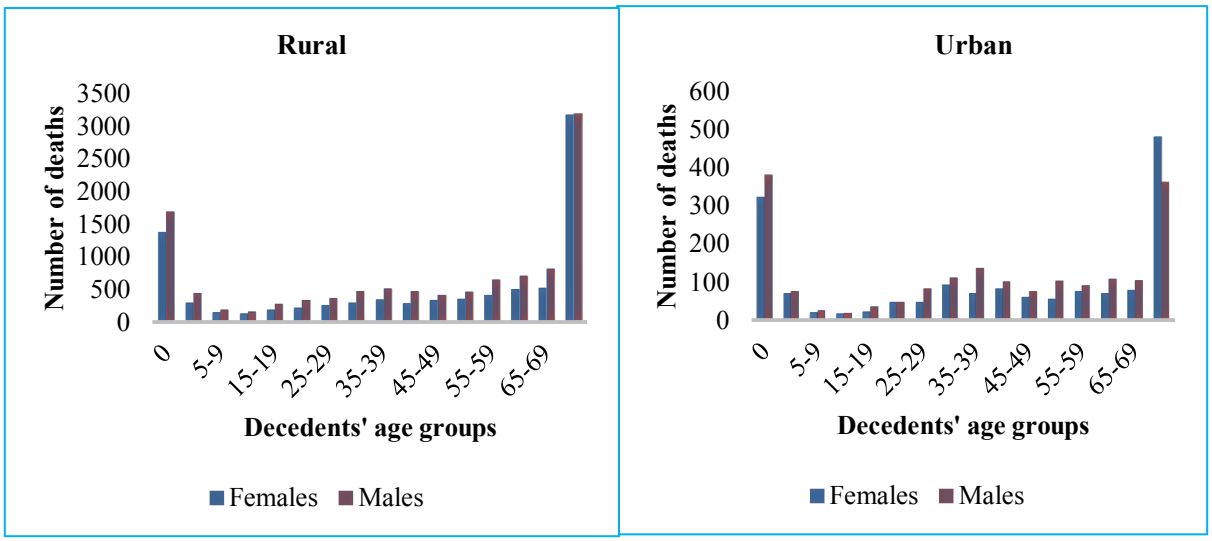


Source: Data from CRVS web-based system, 2019

5.2.5. Age-sex distribution of registered deaths by place of residence

The patterns of age-sex distribution across age groups differ slightly in urban villages compared to rural areas as displayed on figure 16. The small difference is observed at old ages where the number of males' deaths is higher than females' deaths in urban areas while in rural areas, the number of males' deaths is less than females' deaths at the same age range.

Figure 16: Number of registered deaths by age and sex in rural and urban residence

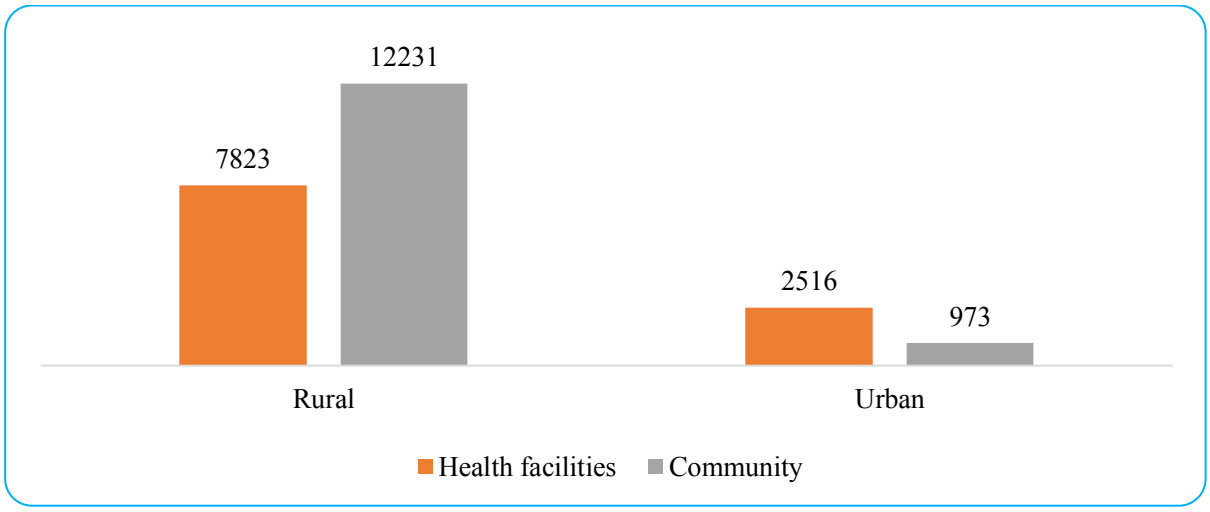


Source: Data from CRVS web-based system, 2019

5.2.6. Deaths by place of death and place of residence

The CRVS web-based system data show a high percentage of deaths occurring at home compared to deaths occurring at the health facilities. The share of community deaths occupies 56.5% of the total number of registered deaths in 2019 while health facilities' deaths represent 43.5%. This shows the need for strengthening the vital registration systems at the community level to improve the completeness of death and causes of death reporting. The disaggregation of registered deaths based on place of occurrence and place of residence of decedent shows a high number of community deaths compared to deaths occurring in health facilities in rural villages compared to urban villages; while in urban areas, the number of deaths occurring in health facilities is higher than community deaths. More effort in improving community deaths reporting is to be put in rural areas. Details are shown in figure 17.

Figure 17: Death registered by place of residence (urban and rural) and place of occurrence



Source: Data from CRVS web-based system, 2019

5.3. Key mortality indicators

Vital statistics on deaths provide for the reliable source of mortality indicators such as crude death rates, infant and under-five mortality rates, and age- and sex-specific mortality rates. These data permit the calculation of life expectancy at birth and at other ages. Due to low completeness in death registration, adjustment techniques were used in this report to enable the computation of more accurate indicators as described in section 3.3. Table 14 compares key mortality indicators derived from unadjusted registration records and following adjustment; and then shows results obtained with a comparison with the data from other sources.

Table 14: Comparison of key mortality indicators CRVS with indicators from other sources

Indicator	CRVS (Observed)	CRVS (Adjusted)	RDHS 2014/15	4th PHC (Proj.)
Crude death rate (‰)	2	5.9	-	6.1
Sex ratio at death	124.4	-	-	-
Infant mortality rate (‰)	11.2	31.3	32	38.4
Under five mortality rate (‰)	13.9	38.5	50	53.8

Source: Data from CRVS web-based system (NISR), 4th PHC projection, 2019 and DHS 2014/15

5.3.1. Crude death rate

The crude death rate (CDR) is the simplest measure of mortality that can provide insights into the health status of a population over time. In addition, the CDR provides a useful indicator of possible problems with the completeness of mortality data. The CDR is a measure of the number of deaths relative to the size of the population at a given point in time, usually at the mid-year. It is expressed in numbers of deaths per 1,000 population per year.

The CDR is called a 'crude' rate because it does not take into consideration the age and sex structure of the population. In practice, the risk of death in a given population group varies according to age and sex as well as patterns of socioeconomic status, and environmental and other factors. For example, populations with a large proportion of young children – as is the case in Rwanda – or a high proportion of elderly people – as in Japan – will, other things being equal, have relatively higher CDRs. This is because mortality risks are highest at youngest and the oldest ages. In general, mortality rates are higher among males than females as illustrated in figure 15 above.

The CDR can also be indicative of registration data quality, as in a system where not all deaths are registered, the CDR will underestimate the true level of mortality. The calculated CDR using the observed data from CRVS was as small as 2 deaths per 1000 population in 2019 (see Table 14); as a result of low death registration completeness. However, the literature shows that CDR very rarely falls below 4 per 1000 populations even in populations with very high life expectancy. Against this background, adjustment techniques described under chapter 3 of this report were adopted to produce a more accurate estimate of CDR where the adjusted value of CDR at national became 5.9 per 1,000 population.

5.3.2 Infant mortality rate

Infant mortality rate represents the number of infant deaths (deaths before one year of age) per 1,000 live births in a given population and at a specific period of time, usually a year. The IMR calculated using the CRVS web-based system-generated data showed a value of 11.2 per 1000; a small value due to low completeness. By adjusting observed data, the IMR became 31.3 infant deaths per 1,000 live births, a value that is close to the IMR value obtained under RDHS 2014/15 (32 per 1000). Refer to chapter 3, section 3.4. for details on adjustment techniques used.

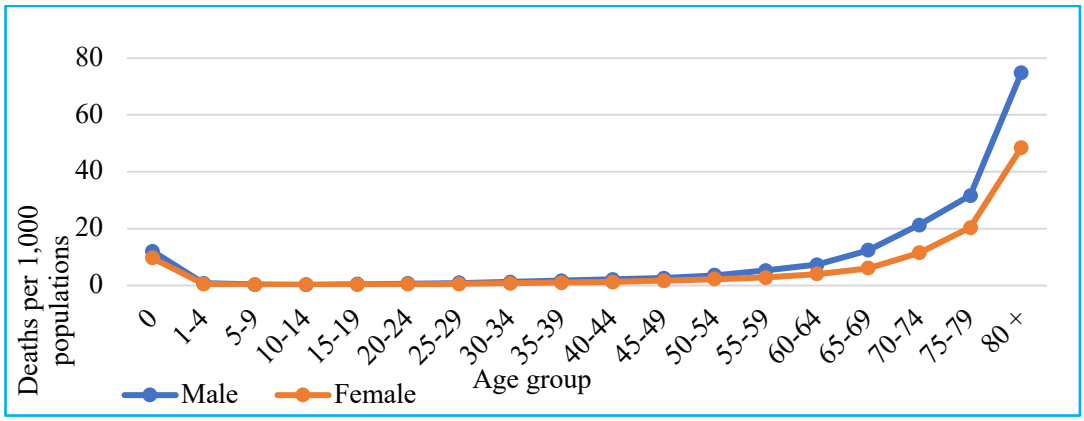
5.3.3 Under-five mortality rate

Under-five mortality rate represents the number of deaths occurring among children before reaching the age of 5, per 1,000 live births in a given population during a specific period of time (usually a year). The U5MR computed using CRVS web-based system-generated data returned a value of 13.9 deaths per 1,000 live births in 2019. The adjusted CRVS data showed U5MR equivalent to 38.5 deaths per 1000 live births, a low value when compared to RDHS 2014/15 results of 50 deaths per 100 live births. Refer to chapter 3, section 3.4. for details on adjustment techniques used.

5.3.4 Age-specific death rate

The age-specific death rate (ASDR) is the number of deaths for a specific age or age group in a specific area during a specified period divided by the population of the same age or age group in the same area. The ASDR is a specific indicator of deaths among a given population that reflects mortality behavior across different age ranges. Figure 18 shows the death rate in Rwanda according to the data recorded by the CRVS web system which shows a sharp increase among the elderly people aged 60 and above and high mortality rates are at below less than one year. The ASDR values were similar for females and males until age 35 after which ASDR is higher for males compared to females.

Figure 18. Distribution of age specific death rates by sex



Source: Data from CRVS web-based system, 2019

5.4. Causes of death

5.4.1. Background

Recording cause of death is the subset of mortality module in the civil registration system in Rwanda. According to the law No 32/2016 governing person and family "The declaration of death is done at sector level upon presentation of death certificate issued by a medical professional from the health facility where death occurred which stated the causes of death."

Prior to October 2017, medical doctors in Rwanda had not been trained on certifying causes of death according to standards guidelines. The 2016 World Health Organisation's (WHO) International Death Certificate was not used in health facilities and the quality of cause of death data was poor. Therefore to resolve that, The Ministry of Health issued a ministerial order to all Health facilities requesting them to correctly certify and report deaths using Medical Certification of Causes of Deaths and International Classification of Diseases (ICD), 10th Revision from 1st January 2018, for defining and reporting diseases and health conditions and enables the comparison and sharing of health and mortality information. The WHO has recommended the countries to use the standardized tools in District Health Information System DHIS 2 mortality module that has been linked to the CRVS system for better reporting and comparability with other mortality statistics,

Currently, over 98% of Health facilities are certifying and reporting deaths and causes of death. 12,512 deaths were reported using standardized WHO recommendable tools in DHIS2 mortality module in 2019.

The use of the ICD facilitates storage, retrieval and analysis of data and enables the systematic and standardised recording, analysis, interpretation comparison and sharing of morbidity and mortality data within a population and across countries.

ICD-10 causes of death are organised into 21 chapters covering three broad groups of causes:

- Group 1: Infectious and parasitic diseases (i.e. tuberculosis, pneumonia, diarrhoea, malaria, measles); maternal/perinatal causes (i.e. maternal haemorrhage, birth trauma); and malnutrition.
- Group 2: Non communicable diseases (i.e. cancer, diabetes, heart disease, stroke); and mental health conditions (i.e. schizophrenia).
- Group 3: Injuries (i.e. road accidents, homicide, and suicide).

In principle, every death should have a defined cause. However, when the quality of medical certification is imperfect, some deaths will be assigned to ill-defined causes of limited value for public health purposes (sometimes designated as "unusable" or "garbage" codes).

5.4.2. Medical certification of cause of death

The 2016 WHO International Death Certificate was not used in health facilities and the quality of cause of death data was poor, with many deaths attributed to ill-defined causes which are of little utility for public health decision making. Cause of death statistics in this report are compiled from the health information system using the ICD-10 full list to record

the underlying cause of death (UCOD) that were reported by trained physicians on medical certification of causes of death (MCCOD) for deaths occurred in Health facilities. The main objective of the ICD-10 is to provide for the conversion of word descriptions of diseases or conditions to single alphanumeric codes, which permit easy storage, retrieval and analysis of data. It also allows for the systematic and standardised recording, analysis, interpretation comparison and sharing of morbidity and mortality data within a population and across countries.

To improve the quality of causes of death statistics in Rwanda, the government initiated two major interventions namely: the introduction of verbal autopsy to gain a better understanding of the patterns of causes of death when people die out side health facility where there is no physician to certify death; and the integration of Medical Certification of Causes of Death (MCCOD) and International Classification of Disease (ICD 10) 2016 Edition into Health care settings to determine underlying causes of death that occur in Health facilities.

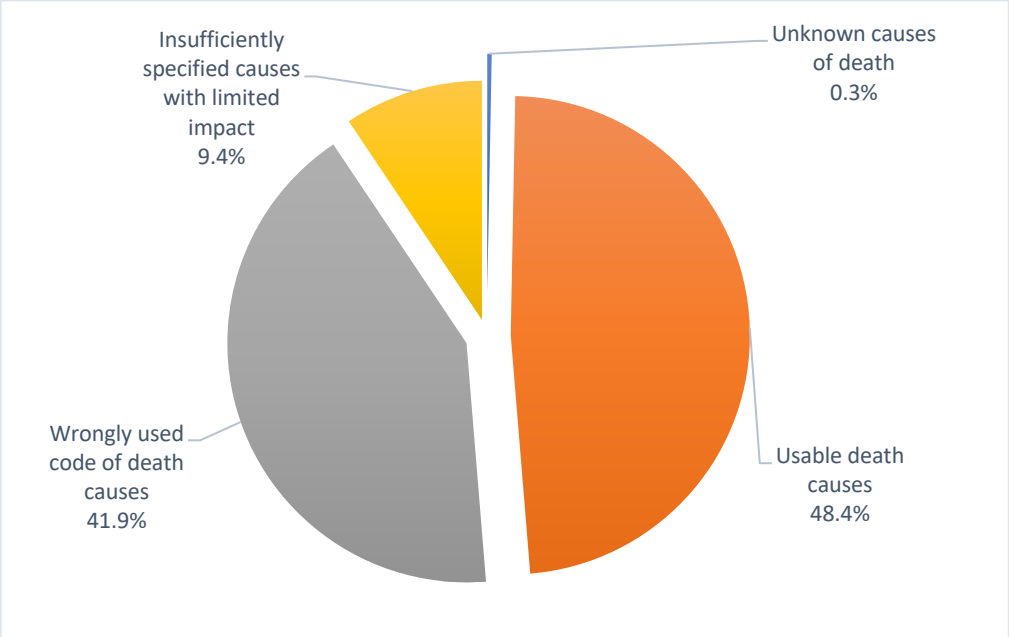
Mortality data from the civil registration and vital statistics system are the only source of health information data available at national and local administrative levels on a continuous basis. An accurate, complete and timely civil registration system provides the foundation for the production of reliable and routine vital statistics. However, the data can suffer a wide range of quality limitations such as late, timeliness, completeness and accuracy of reporting such as ill-defined causes of death and misreporting or misclassification of causes of death. Therefore, it is important to check the data quality and to be transparent about data limitations and identify areas for improvement. For this report, ANACONDA version 4.01 (Analysis of National Causes of Death for Action) was used to check the quality of causes of death and assess the plausibility of national mortality and cause of death statistics.

5.4.3. Data quality and usability

The first year of experience in medical certification of cause of death according to international standards shows that quality improvements continue to be required. It is important to continue the capacity building of certifiers using WHO standardized tools and quarterly MCCOD quality assessment on individual death certificate using Death certificate quality assessment tool (Appendix 3) to improve the quality of causes of death reported

The ANACONDA tool has been used to provide a detailed information about the quality of cause-of-death information from the Health information system. This indicates that currently only 48.4% of the cause of death data are usable from a public health perspective, as shown in Figure 19.

Figure 19: Distribution of causes of death by usability from HMIS, 2019

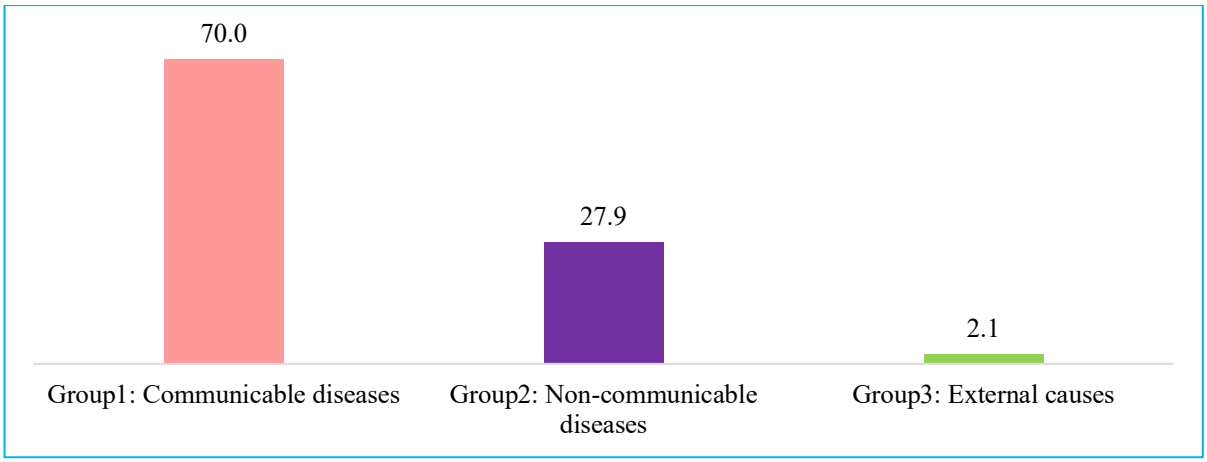


Source: Data from DHIS2, 2019

5.4.4 Distribution of usable death causes by three broad groups

Considering the distribution of usable cause of death codes in three broad groups in figure 20, the causes of death are dominated by communicable diseases with 34.1% followed by Non-communicable diseases with 13.6% and group of injuries and external causes. It is not surprising because the standardization and roll out of deaths and causes of death certification in Health facilities began early 2018, and efforts have been focused on quality improvement of mortality reporting.

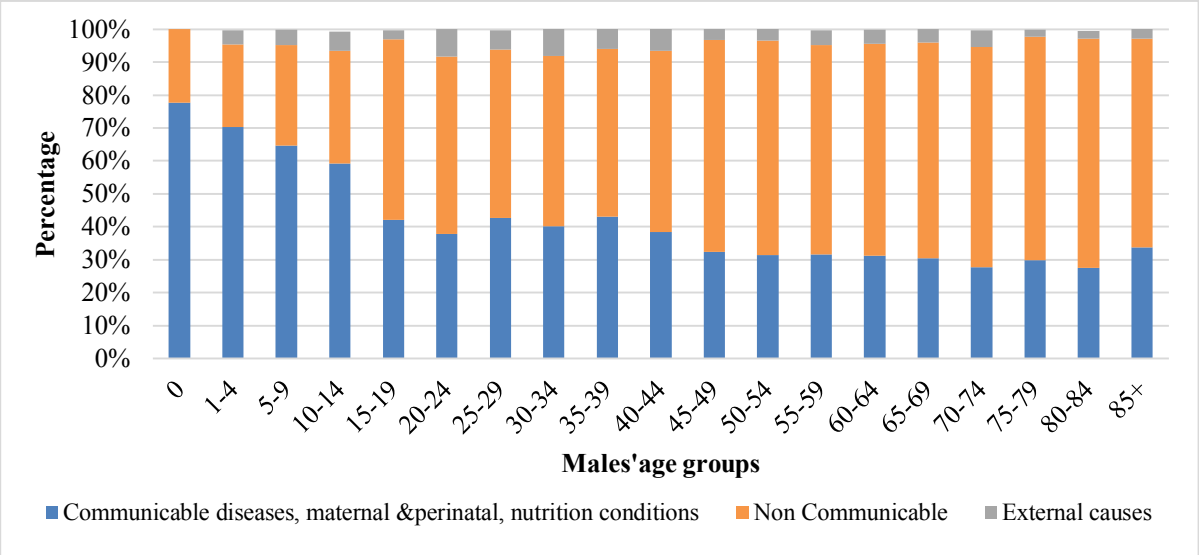
Figure 20: Distribution of usable deaths causes by three broad groups



5.4.5. Distribution of deaths with defined causes in three broad groups by age and sex

The three main groups of cause of deaths were considered namely for the reported data with causes of deaths and are revealed that the Communicable diseases, maternal & perinatal, nutrition conditions; the group for Non-communicable conditions/diseases and group for all other external causes and injuries. Mortality due to these groups was tracked across the age groups for both males and females. At the early stages of life, most of death causes are due to the group of communicable disease while the group of non-communicable takes over after the age of 10. More focus should be given to the non-communicable conditions to bring down mortality rates. The external causes and injuries were also predominant in males than females but lower than expected, possibly due to the wrongly used codes. More details are found in the figures below and annexes.

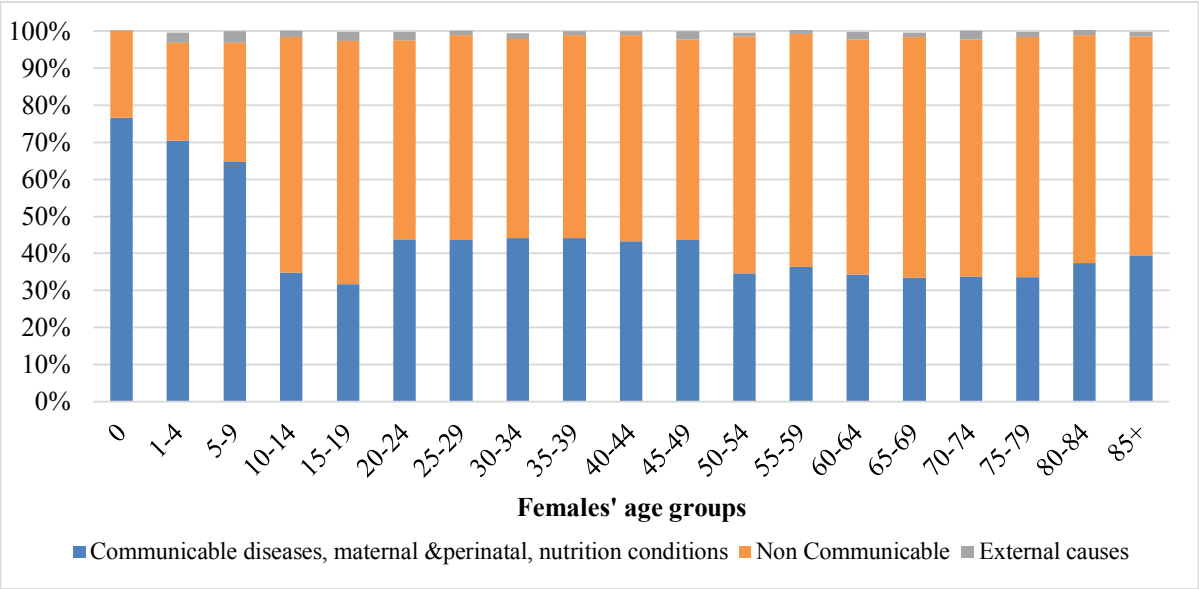
Figure 21: Death causes in broad groups by age of males



Source: Data from DHIS2, 2019

In Figure 21; communicable diseases, perinatal and nutrition conditions is high in the early age and low in the old age while the high in the old age for male. The external causes were also high among the young children at school age and in the group of active persons but very low in general for male compared to the regional representation of causes of death.

Figure 22: Death cause in broad groups by age of females



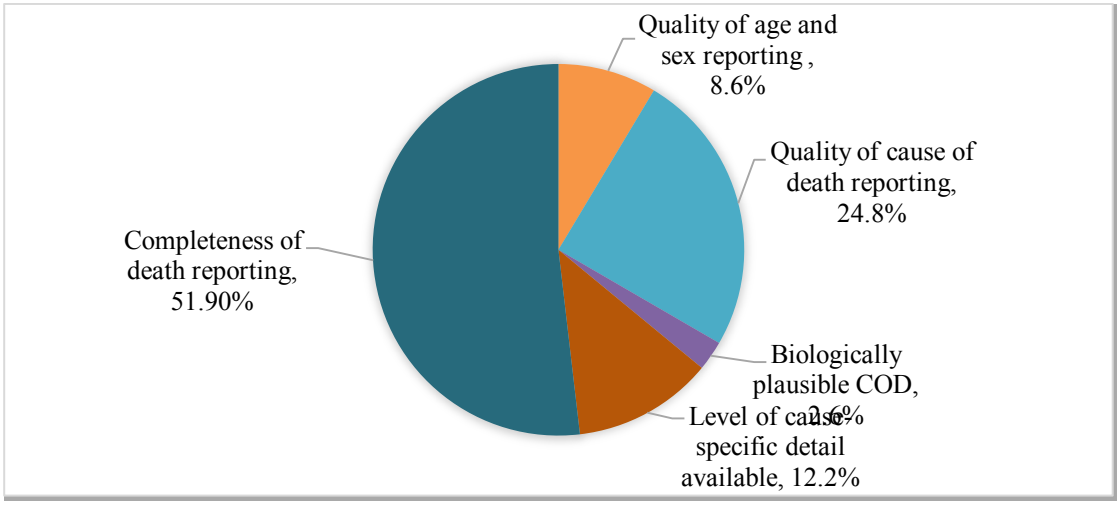
Source: Data from DHIS2, 2019

In Figure 22, the group of communicable diseases, maternal, perinatal and nutrition conditions represents high share in the early age and in more fertile age (20 and 45 years) while the non-communicable diseases is very high starting to the age of 50. This shows a need to focus on the change of life style and living condition as that age is for the active persons.

5.4.6. Priorities for action improvements

According to the results, a great percentage of causes of death coding were related to the garbage codes and unspecified codes which are not well used. This shows the need to continue the capacity building of certifiers using recommended WHO standards. Figure 23 illustrates priority policy actions for improving the quality of causes of death according to the ANACONDA tool. Efforts are required on improving completeness of cause of death reporting for community deaths where causes of death are not reported, and there is high ranking of garbage codes dominated by ill-defined conditions and low level of cause specific details available for external causes which shows the need of improving the quality of causes of deaths reported in HMIS. Efforts are currently underway to implement verbal autopsy to address the gap in terms of cause of death information for community deaths.

Figure 23: Priority action areas for improving data quality from HMIS, 2019



Source: Data from DHIS2, 2019

In response, the Government of Rwanda is focusing on key priority actions to improve the quality of mortality and cause of death reporting in the national vital statistics system, as shown in Figure 23. A major effort will be directed to improving registration completeness in order to permit calculation of key mortality indicators. In addition, ongoing capacity development will be supported in order to improve the quality of causes of death determination.

5.4.7. Verbal autopsy for community death notification in CRVS

It has been realized that a large number of deaths occur outside health facilities whereby they are not timely notified and recorded in CRVS system. This generally induces under-reporting of deaths and causes of death. As a solution to this, a new platform known as Home-Based Care Practitioners (HBCP) program has been piloted in community at cell administration to boost the reporting of community deaths and probable causes of death using verbal autopsy techniques that are internationally recognised.

The HBCP program was initiated to follow up palliative care patients suffering from chronic diseases, including end-of-life care and bereavement support to families which could in turn reduce the charges for the hospitals and avail the sickbeds for other patients, follow up NCDs stable patients at home, Screening of NCDs and conduct verbal autopsy using standardized Smart VA questionnaire. The home-based care staff were differentiated with voluntary community health workers by their educational background, work package.

These staff were trained to notify community deaths in CRVS web-based system and conduct verbal autopsies to determine a probable cause of death for deaths occurring in the community. CRVS web-based application is linked with the Inter-VA questionnaire installed in their android tablets. The program was piloted within 107 cells selected across all provinces of Rwanda, and has been successful. A separate analysis of data collected through HBCP was not considered in this report due to low coverage of the program that results into non-country representative VA data.

CHAPTER 6: MARRIAGES STATISTICS

This section provides details on marriages registered by sectors from January to December 2019. The main data sources in this regard are by CRVS web-based. As in our country context, only legal marriages are registered, other forms of consensual unions are not covered within the content of this section.

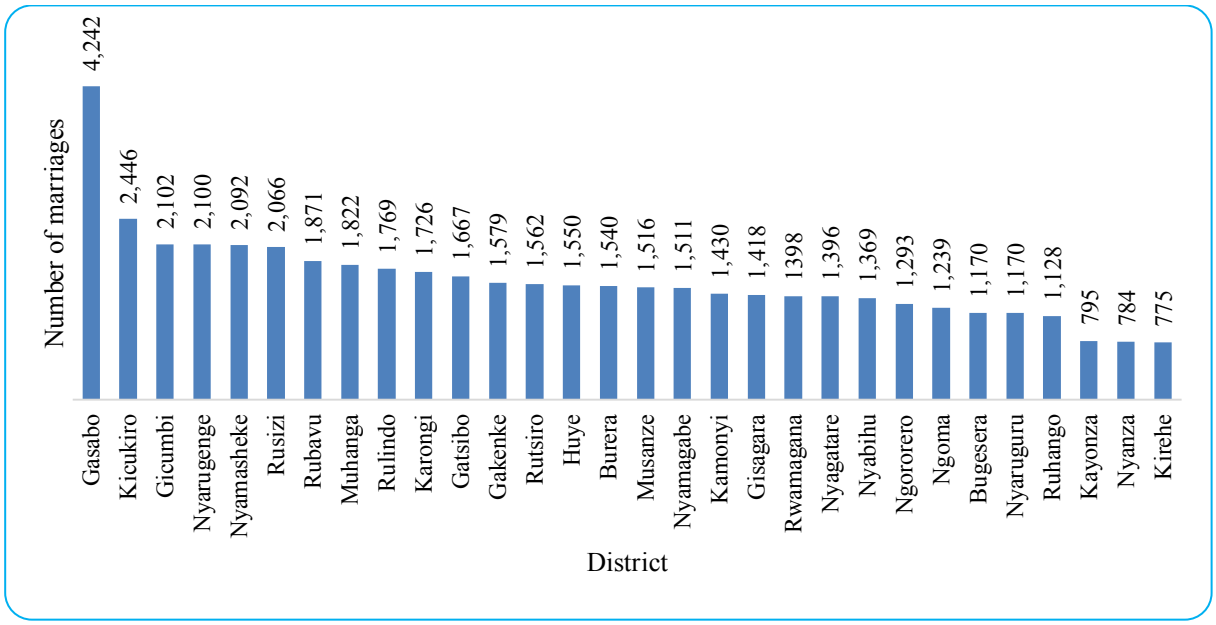
6.1. Registered marriages

Marriage is the act, ceremony and process by which the legal relationship of spouses is constituted. The legality of the union may be established by civil, religious or other means as recognized by the laws of each country. By law, marriage is celebrated at sector office in Rwanda. The CRVS web-based system shows that in 2019, a total number of 48,526 marriages were registered.

6.1.1. Marriages registered by districts

CRVS web-based system-generated data show a total of **48,526** marriages registered in 2019. The same data show high numbers of marriages celebrated in Gasabo (4,242) and Kicukiro (2,446) districts. Low numbers were observed in Kayonza (795) and Nyanza (784) districts.

Figure 24: Marriages registered by districts

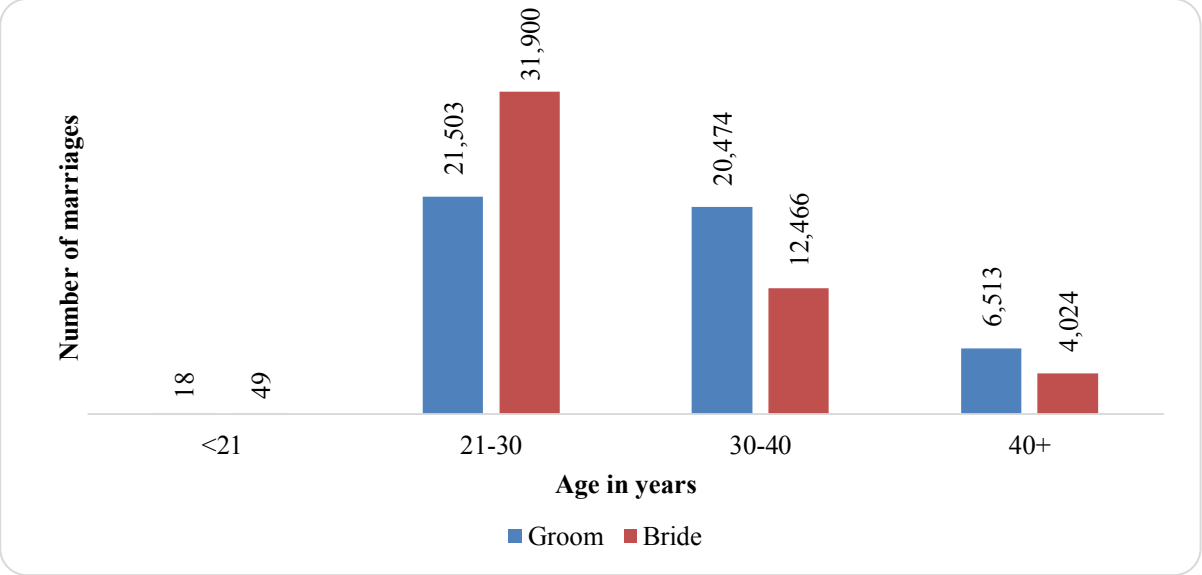


Source: data from CRVS web-based system (NISR), 2019.

6.1.2. Marriages registered by age of bride and groom

CRVS web-based system-generated data show variations in marriage celebrations across ages of brides and grooms at marriage date. In the age interval of 21–30 years, the number of brides is higher than the number of grooms; while there is a reversed situation above age of 30. The following Figure 25 gives a picture.

Figure 25: Marriages registered in 2019 by age of bride and groom



Source: CRVS web-based system (NISR), 2019

CRVS Web based system generated data were also used to correlated age of brides to age of grooms to depict the picture of age differences among married partners. The resulting matrix shows that marriage is most likely to happen when both partners are aged 25-29. The numbers of marriages are also high between males aged 25-29 and females age 21-24 and between males aged 30-34 and females aged 25-29. Generally, the numbers of marriages are high among males aged 25-34 on one side, as well as among females aged 21-29 on the other side.

Table 15: Groom and Bride age relationship at marriage date

		Age of Bride							
	Age groups	< 21	21-24	25-29	30-34	35-39	40+	Not stated	Grand Total
Age of Groom	<21	0	13	4	1	0	0	0	18
	21-24	13	3,759	1,540	339	60	46	5	5,762
	25-29	15	6,633	6,932	1,680	331	116	34	15,741
	30-34	13	2,952	6,555	3,788	753	174	29	14,264
	35-39	6	738	1,880	2,074	1,235	265	12	6,210
	40+	1	217	667	1,008	1,193	3,423	4	6,513
	Not stated	1	4	6	3	1	0	3	18
	Grand Total	49	14,316	17,584	8,893	3,573	4,024	87	48,526

Source: CRVS web-based system (NISR), 2019

6.1.3. Marriages registered by matrimonial regime

Three type of matrimonial regimes exist under Rwanda Law. The ***universal community of property***: a contract by which the spouses opt for marriage settlement based on joint ownership of all their property-movable as well as immovable and their present and their future charges; it is also a primary-default-regime. The ***limited community of acquests***: a

contract by which spouses agree to pool their respective properties owned on the day of marriage celebration, to constitute the basis of the acquests as well as the property acquired during marriage by a common or separate activity, donation, legacy or succession. The ***separation of property*** which is a contract by which spouses agree to contribute to the expenses of the household in proportion to their respective abilities while retaining the right of enjoyment, administration and free disposal of their personal property.

The CRVS web-based system-generated data show that most of couples in Rwanda choose "Universal community of property" as their matrimonial regime as it occupied 98.2 % of marriages registered in 2019. Refer to the following Table 17 for more details.

Table 16: Marriages celebrated by matrimonial regime

Marriage regime	Count	Percentage
All	48,526	100.0
Universal community of property	47,655	98.2
Limited community of acquests	680	1.4
Separation of property	191	0.4

Source: CRVS web-based system (NISR), 2019

6.1.4. Marriages by previous marital status of the bride and of the groom

The law currently in force doesn't allow for simultaneous marriage contracts per individual. CRVS web-based system-generated data show disparities in the numbers of married persons in accordance with their previous marital status. As here described in table 18; the results show that 98.3% of the brides were previously single while this percentage was 99.5% for grooms. The shares of previously divorced and widowed ladies and gents are relatively quite small.

Table 17: Marriages registered by previous marital status

Previous marital status	Number of Brides	Number of Grooms	Percentage of brides	Percentage of grooms
All	48526	48526	100.0	100.0
Single	48265	47706	99.5	98.3
Widow(er)	123	548	0.3	1.1
Divorced	138	272	0.3	0.6

Source: CRVS web-based system (NISR), 2019

Looking at the previous marital status by age of groom, the results show that among grooms who were previously single, marriages are most frequent to those aged 25-34; while among widows, marriages are most frequent to those aged 70 and above. High number of marriages among previously divorced grooms occurred to those aged 35-44. Generally, the more people's age goes up, the little the number of marriages among grooms who were previously single is observed. In contrast, the more the people get aged, the number of grooms who were previously widowed is observed. More details are displayed in Table 19.

Table 18: Marriages by age of groom and previous marital status

Age groups (years)	Previous marital status			Grand Total
	Single	Widowed	Divorced	
<21	18	-	-	18
21-24	5,758	3	1	5,762
25-29	15,727	8	6	15,741
30-34	14,219	19	26	14,264
35-39	6,105	39	66	6,210
40-44	2,128	37	55	2,220
45-49	1,117	39	36	1,192
50-54	816	56	30	902
55-59	649	52	19	720
60-64	470	78	16	564
65-69	321	80	9	410
70+	360	137	8	505
Not stated	18	-	-	18
Grand Total	47,706	548	272	48,526

Source: Data from CRVS web-based system (NISR), 2019

The status of previous marital status against their respective age at marriage looks a little bit different among brides when compared to their counterpart grooms as among brides who were previously single, marriages are most frequent to those aged 21-29 while among those who were previously widowed, marriages are most frequent to those aged 30-39. While 137 grooms who were previously widowed were observed at age 70 and above; only 5 brides who were previously widowed were observed at that age. Previously divorced brides are most frequent among those aged 25-34. More details are shown in Table 20.

Table 19: Marriages by age of bride and previous marital status

Age groups (years)	Previous marital status			Grand Total
	Single	Widowed	Divorced	
<21	49	-	-	49
21-24	14,273	27	16	14,316
25-29	17,452	65	67	17,584
30-34	8,745	79	69	8,893
35-39	3,431	91	51	3,573
40-44	1,437	84	34	1,555
45-49	857	67	23	947
50-54	540	58	5	603
55-59	362	32	2	396
60-64	230	19	4	253
65-69	137	19	-	156
70+	108	5	1	114
Not stated	85	2	-	87
Grand Total	47,706	548	272	48,526

Source: Data from CRVS web-based system (NISR), 2019

6.1.5. Crude marriage rate

The crude marriage rate is the number of marriages occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of the given geographical area during the same year. Crude marriage rate was 3.9‰ in 2019, something implying almost 4 married individuals for each 1,000 populations. The crude marriage rate is highly influenced by the level marriage reporting and the number of total populations.

Summary and Conclusion

Births statistics:

The findings show high percentage of births notified by health facilities in comparison with births registered by sectors (93.5% Vs 87.0% respectively) and timely registrations equivalent to 78.0%. This supports the recommendation of CRVS strategic plan to decentralize registration services to health facilities and cell level to achieve full registration coverage. This indeed shows the need to speed up the currently ongoing initiative to digitalize registration services and extend the services down to health facilities and cells, as mentioned in the strategic plan.

Death and cause of deaths statistics:

The findings show very low completeness of death registration in comparison with expected deaths (31.4%) and a high percentage of deaths taking place in community compared to deaths taking place at health facilities (56.5% Vs 43.5%), something indicating the need for a sustained effort to boost death registration coverage, with more focus on community deaths.

Regarding cause of deaths statistics, the findings show a diminishing share of deaths due to communicable diseases as the respective age of populations increases. Generally, communicable diseases are main killer disease group among young persons aged below 10 while above 10 years old, non-communicable diseases become the leading killer diseases group. Yet, the shape of age specific death rate (ASDR) curve shows high pace of death rates among adult compared to young persons. This shows the need to focus more on non-communicable diseases to bring down significantly the frequency of deaths among Rwandan population, especially adult persons aged 10 and above.

Additionally, the quality of causes of deaths records shows only 48.8% usable causes while 41.9% are garbage codes. This shows the effort required to improve the quality of causes of deaths by mainly enhancing a training of death certifiers (physician) and coders (data entry staff) framework.

Marriages statistics:

The findings show high frequency of marriages among person aged 21 to 40, something inspiring the need to plan taking into consideration the implications of potential new families founded in this regard.

References

1. **NISR.** Rwanda CRVS Systems, CRVS comprehensive assessment final report. Kigali : NISR, November 2016.

2. **Republic of Rwanda (2013).** Official Gazette no Special of 16/06/2013. Retrieved from http://statistics.gov.rw/sites/default/files/Official_Gazette_no_Special_of_16.06.2013.pdf.

3. **Murray, CJL and Lopez, AD (eds).** The Global Burden of Disease. A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020. Boston : Harvard School of Public Health on behalf of the World Health Organization and The World Bank, 1996.

4. **Mikkelsen, Lene and Lopez, Alan D.** Guidance for assessing and interpreting the quality of mortality data using ANACONDA. Melbourne : University of Melbourne, 2017.

5. **United Nations** (2014). Principles and Recommendations for a Vital Statistics System - Revision 3. Statistics Division, Statistical Papers, Series M No. 19/Rev.3. http://unstats.un.org/unsd/demographic/standmeth/principles/M19Rev3en.pdf

6. **Government of Rwanda.** (2008). Rwanda Five-Year Decentralization Implementation Programme, (March 2004), 2004–2008.

7. **Government of Rwanda.** (2016). Rwanda Demographic Health Survey. Retrieved from http://www.statistics.gov.rw/publication/demographic-and-health-survey-20142015-finalreport.

8. **NISR** (2012). National Strategy for the Development of Statistics 2014/15-2018/19. Kigali.

9. **NISR** (2012). Fourth Population and Housing Census, Rwanda, 2012. Rwanda, 226 (4676), p.782.

10. **UN Department of Economic and Social Affairs - Statistics Division** (2014). Principles and Recommendations for a Vital Statistics System - Revision 3, Available at: http://unstats.un.org/unsd/Demographic/standmeth/principles/M19Rev3en.pdf.

11. **UNECA et al.** (2014). Civil Registration and Vital Statistics Systems in Africa Report, (October).

12. **UNECA et al,** (2012). Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics. Second Conference of African Ministries Responsible for Civil Registration.

13. **UNECA& AfDB.** (2012). Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics. Second Conference of African Ministries Responsible for Civil Registration, (September).

14. **UN Department of Economic and Social Affairs - Statistics Division** (2014). Principles and Recommendations for a Vital Statistics System - Revision 3, Available at: http://unstats.un.org/unsd/Demographic/standmeth/principles/M19Rev3en.pdf.

15. **World Health Organization** (2014). Improving Mortality Statistics as part of Strengthening Civil Registration and Vital Statistics Systems Background Discussion Paper for a Technical Meeting. November 4-5, 2014. Geneva.

16. **World Health Organization and University of Queensland (WHO/UQ).** 2010. Improving the quality and use of birth, death and cause-of-death information: guidance for a standards-based review of country practices. Queensland, Australia.

17. **National Statistics Office of Georgia – GEOSTAT.** (2012). Vital Statistics Report (2015), Tbilisi 2017.

18. **Maryland Department of Health Vital Statistics Administration.** (2018). Maryland Vital Statistics Annual Report 2018. 4201 Patterson Avenue, 5th Floor. Baltimore, Maryland 21215.

19. **Missouri department of health & senior services.** (2018). Missouri Vital Statistics 2018. Jefferson City, 65102-0570. BEVS PUBLICATION NO. 4.66.

20. **Republic of Rwanda** (2016). Nº32/2016 of 28/08/2016, Law governing persons and family. Official Gazette nº37 of 12/09/201. Kigali.

21. **National Institute of Statistics of Rwanda (NISR)** (2018). Mortality Assessment Survey report 2015, July 2018. Kigali.

22. **State of Alaska, Department of Health and Social Services.** (2018). Alaska Vital Statistics 2017 Annual Report. Juneau, Alaska 99811-0675.

23. **Philippine statistics authority.** (2016). Vital statistics report, 2013-2014. Quezon City.

24. **Namibia statistics Agency.** (2017). Namibia Vital Statistics Report - Registered Births, Deaths and Marriages for the period 2011 – 2015. Windhoek, Namibia.

25. **National Institute of Statistics of Rwanda (NISR)** (2018). The Fifth Integrated Household Living Conditions Survey, EICV5, 2016/17. EICV5, Thematic Report Education. Kigali.

26. **Maina et al.** (2017). Using health-facility data to assess subnational coverage of maternal and child health indicators, Kenya.

27. **Cobos Muñoz, D., C. Abouzahr and D. de Savigny** (2018). "The 'Ten CRVS Milestones' framework for understanding Civil Registration and Vital Statistics systems." BMJ Global Health 3 (2).

ANNEXES

Annex 1: Top 20 leading causes of death all ages

Top 20 Leading COD all ages, Male		
Rank	**Cause**	**%**
1	Septicaemia, unspecified	11.4%
2	Other ill-defined and unspecified causes	4.1%
3	Pneumonia, unspecified	3.9%
4	Respiratory distress of newborn, unspecified	3.1%
5	Cardiac arrest, unspecified	3.1%
6	Stroke, not specified as haemorrhage or infarction	2.6%
7	Unspecified human immunodeficiency virus [HIV]	2.4%
8	Unspecified renal failure	2.4%
9	Essential (primary) hypertension	2.1%
10	Birth asphyxia, unspecified	2.0%
11	Encephalopathy, unspecified	1.9%
12	Respiratory failure, unspecified	1.9%
13	Heart failure, unspecified	1.8%
14	Hepatic failure, unspecified	1.6%
15	Malignant neoplasm, unspecified	1.5%
16	Tuberculosis of lung..	1.4%
17	Other and unspecified cirrhosis of liver	1.4%
18	Injured in motor-vehicle, road traffic accident	1.2%
19	Intracerebral haemorrhage, unspecified	1.2%
20	Unspecified injury of head	1.2%

Top 20 Leading COD all ages, Female		
Rank	**Cause**	**%**
1	Septicaemia, unspecified	11.79%
2	Pneumonia, unspecified	3.80%
3	Unspecified human immunodeficiency virus [HIV]	3.63%
4	Stroke, not specified as haemorrhage or infarction	3.54%
5	Other ill-defined and unspecified causes	3.28%
6	Cardiac arrest, unspecified	3.28%
7	Heart failure, unspecified	3.28%
8	Essential (primary) hypertension	3.26%
9	Respiratory failure, unspecified	1.94%
10	Encephalopathy, unspecified	1.71%
11	Respiratory distress of newborn, unspecified	1.66%
12	Hepatic failure, unspecified	1.66%
13	Congestive heart failure	1.66%
14	Unspecified renal failure	1.60%
15	Birth asphyxia, unspecified	1.57%
16	Cardiomyopathy, unspecified	1.51%
17	Stomach, unspecified	1.37%
18	Malignant neoplasm, unspecified	1.14%
19	Chronic viral hepatitis B	1.11%
20	Plasmodium falciparum malaria	1.11%

Annex 2: Top 20 leading causes of death for under five years

Top 20 Leading COD, Male,0 -4 Years		
Rank	**Cause**	**%**
1	Birth asphyxia, unspecified	18.3
2	Other preterm infants	18.3
3	Septicaemia, unspecified	10.1
4	Respiratory distress of newborn, unspecified	6.0
5	Extreme immaturity	5.2
6	Pneumonia, unspecified	4.1
7	Bacterial sepsis of newborn, unspecified	3.4
8	Cardiac arrest, unspecified	2.9
9	Congenital malformation, unspecified	2.8
10	Respiratory failure, unspecified	1.6
11	Congenital malformation of heart, unspecified	1.5
12	Other ill-defined and unspecified causes	1.4
13	Encephalopathy, unspecified	1.4
14	Congestive heart failure	1.1
15	Severe birth asphyxia	0.9
16	Plasmodium falciparum malaria	0.9
17	Unspecified severe protein-energy malnutrition	0.8
18	Hepatic failure, unspecified	0.7
19	Gastroenteritis and colitis of unspecified origin	0.6
20	Meningitis, unspecified	0.6

Top 20 Leading COD, Female,0 -4 Years		
Rank	**Cause**	**%**
1	Other preterm infants	17.1
2	Birth asphyxia, unspecified	14.9
3	Septicaemia, unspecified	10.9
4	Extreme immaturity	7.5
5	Respiratory distress of newborn, unspecified	5.1
6	Pneumonia, unspecified	4.7
7	Congenital malformation, unspecified	3.8
8	Bacterial sepsis of newborn, unspecified	3.5
9	Cardiac arrest, unspecified	2.2
10	Other ill-defined and unspecified causes	1.9
11	Unspecified severe protein-energy malnutrition	1.5
12	Respiratory failure, unspecified	1.2
13	Congenital malformation of heart, unspecified	1.2
14	Encephalopathy, unspecified	1.0
15	Adult respiratory distress syndrome	1.0
16	Unspecified viral hemorrhagic fever	1.0
17	Severe birth asphyxia	0.9
18	Congestive heart failure	0.7
19	Heart failure, unspecified	0.7
20	Other low birth weight	0.7

Annex 3: Top 20 leading causes of death for young children aged 5-14

Top 20 Leading COD, Male,5 -14 Years				Top 20 Leading COD, Female,5 -14 Years		
Rank	**Cause**	**Number**	**%**	**Rank**	**Cause**	**%**
1	Septicaemia, unspecified	19.1		1	Septicaemia, unspecified	14.6
2	Unspecified severe protein-energy malnutrition	4.2		2	Heart failure, unspecified	4.5
3	Pneumonia, unspecified	4.2		3	Pneumonia, unspecified	4.5
4	Unspecified malaria	3.7		4	Plasmodium falciparum malaria	3.9
5	Plasmodium falciparum malaria	3.3		5	Cardiac arrest, unspecified	3.9
6	Meningitis, unspecified	3.3		6	Respiratory failure, unspecified	3.4
7	Acute myocardial infarction, unspecified	3.3		7	Unspecified malaria	2.8
8	Cardiac arrest, unspecified	2.8		8	Hepatic failure, unspecified	2.8
9	Respiratory distress of newborn, unspecified	2.8		9	Unspecified renal failure	2.8
10	Intracranial injury, unspecified	2.8		10	Respiratory distress of newborn, unspecified	2.8
11	Malignant neoplasm, unspecified	1.9		11	Other ill-defined and unspecified causes	2.8
12	Heart failure, unspecified	1.9		12	Leukaemia, unspecified	2.2
13	Respiratory failure, unspecified	1.9		13	Congestive heart failure	2.2
14	Nephrotic syndrome, unspecified	1.9		14	Acute nephritic syndrome, unspecified	2.2
15	Other preterm infants	1.9		15	Intracranial injury, unspecified	2.2
16	Birth asphyxia, unspecified	1.9		16	Accidental poisoning unspecified	2.2
17	Other ill-defined and unspecified causes	1.9		17	Cardiomyopathy, unspecified	1.7
18	Injured in motor-vehicle, road traffic accident	1.9		18	Burn of unspecified body region, unspecified degree	1.7
19	Bacterial meningitis, unspecified	1.4		19	Gastroenteritis and colitis of unspecified origin	1.1
20	Cardiomyopathy, unspecified	1.4		20	Other tetanus	1.1

Annex 4: Top 20 leading causes of death for young and adults

Top 20 Leading COD, Male,15 -59 Years		
Rank	**Cause**	**%**
1	Septicaemia, unspecified	10.6
2	Unspecified human immunodeficiency virus [HIV]	3.7
3	Other ill-defined and unspecified causes	3.6
4	Cardiac arrest, unspecified	3.0
5	Pneumonia, unspecified	3.0
6	Respiratory distress of newborn, unspecified	2.4
7	Unspecified renal failure	2.2
8	Tuberculosis of lung	2.0
9	Encephalopathy, unspecified	1.9
10	Stroke, not specified as haemorrhage or infarction	1.8
11	Respiratory failure, unspecified	1.8
12	Birth asphyxia, unspecified	1.8
13	Essential (primary) hypertension	1.7
14	Unspecified injury of head	1.7
15	Injured in motor-vehicle, road traffic accident	1.7
16	Heart failure, unspecified	1.6
17	Hepatic failure, unspecified	1.6
18	Malignant neoplasm, unspecified	1.4
19	Chronic viral hepatitis B	1.4
20	Intracerebral haemorrhage, unspecified	1.4

Top 20 Leading COD, Female,15 -59 Years		
Rank	**Cause**	**%**
1	Septicaemia, unspecified	11.7
2	Unspecified human immunodeficiency virus [HIV]	5.9
3	Other ill-defined and unspecified causes	4.1
4	Pneumonia, unspecified	3.4
5	Cardiac arrest, unspecified	3.3
6	Heart failure, unspecified	2.6
7	Essential (primary) hypertension	2.1
8	Hepatic failure, unspecified	1.8
9	Encephalopathy, unspecified	1.8
10	Birth asphyxia, unspecified	1.7
11	Respiratory distress of newborn, unspecified	1.7
12	Unspecified diabetes mellitus	1.7
13	Respiratory failure, unspecified	1.7
14	Chronic viral hepatitis B	1.6
15	Breast cancer, unspecified	1.5
16	Malignant neoplasm, unspecified	1.5
17	Meningitis, unspecified	1.5
18	Cardiomyopathy, unspecified	1.4
19	Unspecified renal failure	1.4
20	Congestive heart failure	1.3

Annex 5: Top 20 leading causes of death for old aged people

Top 20 Leading COD, Male,60 Years and above		
Rank	**Cause**	**%**
1	Septicaemia, unspecified	12.2
2	Pneumonia, unspecified	4.9
3	Other ill-defined and unspecified causes	4.9
4	Respiratory distress of newborn, unspecified	4.0
5	Stroke, not specified as haemorrhage or infarction	4.0
6	Cardiac arrest, unspecified	3.3
7	Unspecified renal failure	3.0
8	Essential (primary) hypertension	2.7
9	Birth asphyxia, unspecified	2.2
10	Heart failure, unspecified	2.1
11	Other and unspecified cirrhosis of liver	2.1
12	Encephalopathy, unspecified	2.0
13	Respiratory failure, unspecified	2.0
14	Hepatic failure, unspecified	1.7
15	Malignant neoplasm of prostate	1.6
16	Malignant neoplasm, unspecified	1.6
17	Stomach, unspecified	1.5
18	Volume depletion	1.4
19	Hepatic failure, not elsewhere classified	1.3
20	Liver, unspecified	1.2

Top 20 Leading COD, Female,60 Years and above		
Rank	**Cause**	**%**
1	Septicaemia, unspecified	11.6
2	Stroke, not specified as haemorrhage or infarction	6.9
3	Essential (primary) hypertension	4.9
4	Pneumonia, unspecified	4.5
5	Heart failure, unspecified	3.9
6	Cardiac arrest, unspecified	3.1
7	Other ill-defined and unspecified causes	2.3
8	Respiratory failure, unspecified	2.1
9	Congestive heart failure	2.0
10	Chronic viral hepatitis C	1.9
11	Stomach, unspecified	1.9
12	Other and unspecified cirrhosis of liver	1.9
13	Encephalopathy, unspecified	1.8
14	Respiratory distress of newborn, unspecified	1.7
15	Cardiomyopathy, unspecified	1.6
16	Inflammatory liver disease, unspecified	1.6
17	Unspecified renal failure	1.6
18	Asthma, unspecified	1.6
19	Birth asphyxia, unspecified	1.6
20	Unspecified human immunodeficiency virus [HIV]	1.3

Annex 6: Projections of the total population by 2019 according to the medium projections scenario

5-year age group	Both sexes	Male	Female
0-4	1,672,663	844,359	828,304
5-9	1,527,168	764,098	763,070
10-14	1,521,756	757,029	764,727
15-19	1,354,611	669,226	685,385
20-24	1,139,615	559,045	580,570
25-29	1,036,560	502,947	533,613
30-34	951,301	464,011	487,289
35-39	820,018	399,641	420,377
40-44	584,417	272,423	311,994
45-49	426,542	193,490	233,052
50-54	346,872	158,153	188,719
55-59	321,557	143,753	177,803
60-64	259,101	113,795	145,306
65-69	174,630	75,204	99,427
70-74	101,965	41,032	60,933
75-79	65,519	24,110	41,408
80 +	70,102	26,067	44,035
Total	12,374,397	6,008,384	6,366,013

Annex 7: Projection of urban and Rural populations in 2019 according to medium projections scenario

5-year age group	Urban, 2019			Rural, 2019		
	Both sexes	Male	Female	Both sexes	Male	Female
0-4	318,688	151,077	167,611	1,353,975	693,282	660,693
5-9	262,668	123,421	139,247	1,264,500	640,677	623,823
10-14	276,524	127,475	149,049	1,245,232	629,554	615,678
15-19	298,766	130,980	167,785	1,055,845	538,245	517,599
20-24	315,833	153,489	162,344	823,783	405,556	418,226
25-29	294,839	149,787	145,051	741,722	353,160	388,562
30-34	251,770	132,182	119,588	699,531	331,830	367,701
35-39	203,602	108,598	95,004	616,416	291,043	325,372
40-44	128,645	67,207	61,438	455,773	205,216	250,557
45-49	80,984	41,404	39,580	345,558	152,087	193,471
50-54	55,177	28,062	27,115	291,696	130,091	161,604
55-59	46,719	22,860	23,859	274,838	120,893	153,945
60-64	35,996	16,914	19,082	223,106	96,881	126,224
65-69	24,417	10,641	13,776	150,214	64,563	85,651
70-74	13,417	5,260	8,157	88,547	35,772	52,776
75-79	8,927	3,037	5,890	56,591	21,073	35,518
80 +	9,495	2,885	6,610	60,607	23,182	37,425
Total	2,626,466	1,275,280	1,351,186	9,747,931	4,733,105	5,014,827

Annex 8: ASFR per 1000 in urban and rural areas

Mothers' age groups	Live births			ASFR PER 1000		
	Rwanda	Urban	Rural	Rwanda	Urban	Rural
<15	126	33	93	0.2	0.3	0.1
15-19	21025	2917	18108	31.4	24.1	33
20-24	74695	12160	62535	135.5	98.8	146.1
25-29	85917	18920	66997	184.1	166.6	189.7
30-34	76455	15756	60699	170.9	172.3	170.6
35-39	55687	9174	46513	145.2	135.7	147.2
40-44	19410	2766	16644	69.2	61.8	70.5
45-49	2931	334	2597	13.4	11	13.7
50+	758	87	671	2.1	2.3	2.1

Annex 9: Persons who contributed to the production of the Rwanda Vital statistics (V.S) Annual report, 2019

National overall coordinators

- Yusuf MURANGWA, Director General of NISR
- Ivan MURENZI, Deputy Director General of NISR

National technical coordinators

- Michel NDAKIZE, Director of demographic and social statistics - NISR
- Faustin NILINGIYIMANA, CRVS Team Leader - NISR

V.S Report, 2019 data analysis and report writing

- Faustin NILINGIYIMANA, CRVS Team Leader – NISR
- Patrick NSHIMIYIMANA, CRVS statistician – NISR
- Jean Claude MAZIMPAKA, Statistician – NISR
- Ephrem RUKUNDO, Statistician – NISR
- Venuste BIZIMANA, Statistician – NISR
- Beatrice UWAYEZU, Population census Team Leader - NISR

V.S Report, 2019 expert reviewers

- Prof. Don de Savigny Professor Emeritus, Health Systems and Policy Research
- Ms. Carla AbouZahr, Affiliate to Bloomberg Data for Health- Vital Strategies
- Mr. James Mwanza, Affiliate to Bloomberg Data for Health- Vital Strategies
- Ms. Farnaz Malik, Affiliate to Bloomberg Data for Health- Vital Strategies
- Mr. Kassahun Admassu from ECA

Integration of comments from international experts/reviewers and adaptation of comments to the country context

- Faustin NILINGIYIMANA, CRVS Team Leader – NISR
- Patrick NSHIMIYIMANA, CRVS statistician – NISR
- Jean Claude MAZIMPAKA, Statistician – NISR
- Beatrice UWAYEZU, Population census Team Leader
- Emmanuel NTAWUYIRUSHA, HMIS - MoH
- Alexis INGANGARE, Civil registration officer - MINALOC
- Marguerite HARELIMANA, Director of civil registration and data collection - NIDA
- Godfrey NGOBOKA, CRVS coordinator – RBC
- Christian ISHIMWE, M&E officer - RBC
- Joseph MUVARA, IT system administrator - NISR
- Aimable TWAHIRWA, IT officer - NISR

V.S Report, 2019 proofreading, design and layout

- Faustin NILINGIYIMANA, CRVS Team Leader – NISR
- Beatrice UWAYEZU, Population census Team Leader – NISR
- Patrick NSHIMIYIMANA, CRVS statistician – NISR
- Xavier NGOMITUJE, Statistician - NISR
- Godfrey NGOBOKA, CRVS coordinator – RBC
- Jean Claude NYIRIMANZI – Ag Director of SMRP – NISR
- Jean Luc KABERA – Data Portals Management Officer – NISR

APPENDIX

1. MCCOD FORM USED IN HEALTH FACILITIES

REPUBLIC OF RWANDA

MINISTRY OF HEALTH

MEDICAL CERTIFICATE OF CAUSE OF DEATH

Name of the deceased:.....File N°:.....Health Facility::.....
National Identification Number/Passport Number :.....Nationality:.....Residence:
District.....Sector.....Cell.....Village.....
Marital status: ..... Sex ..... Place of Death:..... Date of Birth:.....
Date of Birth unknown (Estimated age).....Date of Death: ..... Time of Death .....p.m/a.m

Frame A: **Medical data: Part 1 and 2**			
I Report disease or condition directly leading to death on line a Report chain of events 'due to' (b to d) in order (if applicable) State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	a		
	b	Due to:	
	c	Due to:	
	d	Due to:	
II Other significant conditions contributing to death (time intervals can be included in brackets after the condition)			

Frame B: **Other medical data**				
Was surgery performed within the last 4 weeks?		☐ Yes	☐ No	☐ Unknown
If yes please specify date of surgery			D D M M Y Y Y Y	
If yes please specify reason for surgery (disease or condition)				
Was an autopsy requested?		☐ Yes	☐ No	☐ Unknown
If yes were the findings used in the certification?		☐ Yes	☐ No	☐ Unknown
Manner of death:				
☐ Disease	☐ Assault		☐ Could not be determined	
☐ Accident	☐ Legal intervention		☐ Pending investigation	
☐ Intentional self-harm	☐ War		☐ Unknown	
If external cause or poisoning:		Date of injury	D D M M Y Y Y Y	
Please describe how external cause occurred (If poisoning please specify poisoning agent)				
Place of occurrence of the external cause:				
☐ At home	☐ Residential institution	☐ School, other institution, public administrative area	☐ Sports and athletics area	
☐ Street and highway	☐ Trade and service area	☐ Industrial and construction area	☐ Farm	
☐ Other place (please specify):			☐ Unknown	
Fetal or Infant Death				
Multiple pregnancy		☐ Yes	☐ No	☐ Unknown
Stillborn?		☐ Yes	☐ No	☐ Unknown
If death within 24h specify number of hours survived		Birth weight (in grams)		
Number of completed weeks of pregnancy		Age of mother (years)		
If death was perinatal, please state conditions of mother that affected the fetus and newborn				
For women, was the deceased pregnant?		☐ Yes	☐ No	☐ Unknown
☐ At time of death		☐ Within 42 days before the death		
☐ Between 43 days up to 1 year before death		☐ Unknown		
Did the pregnancy contribute to the death?		☐ Yes	☐ No	☐ Unknown
Referred from (level of care)		Parity		Mode of delivery ☐ SVD ☐ Assisted ☐ Caesarean
Place of Delivery ☐ Health Facility	☐ Home	☐ In transit	☐ Don't Know	Delivered by skilled attendant ☐ Yes ☐ No ☐ Don't Know

Declaration
I hereby certify that (*tick as appropriate*)
a) I attended the deceased before death
b) I examined the body after death
c) I conducted the post mortem of the body
d) Other (specify) .....

Medical Doctor's Name: .....

Signature ..... Date.....

2. DEATH CERTIFICATE FORM USED BY HEALTH FACILITIES FOR NEXT OF KIN/DECLARANT OF DECEASED

REPUBLIC OF RWANDA

MINISTRY OF HEALTH

N°.....

INYANDIKO MPINE Y'UWAPFUYE/ DEATH CERTIFICATE/ ATTESTATION DE DECES
N°.....

Itariki y'urupfu/ Date of death / Date de décès : ...../...../.....
Jyewe/ I / Moi : ..... Umuganga wemewe na leta ufite nimero/Certified Medical Doctor with Registration number of / Médecin enregistré sous le numéro N° .....(Mu Rugaga rw'Abaganga n'Abaganga b'Amenyo mu Rwanda/Ordre de Médecins et Dentistes du Rwanda/ Rwanda Medical and Dental Council), ukorera mu bitaro bya /Working at hospital/Travaillant à l'hôpital de .....

Ndemeza urupfu rwa / Certify the death of/ Atteste le décès de:.....

Igitsina/ Sex /Sexe : .....
Itariki yavukiyeho/ Date of birth/ Date de naissance :...../...../.....
Irangamimerere ye/ Marital status/ Status matrimonial: .....
Nomero y'ibyamurangaga/ Identity Card, Passport number/ Numéro de la Carte d'identité, du Passeport:
.....
Ubwenegihugu / Nationality/ Nationalité:.....
Icyateye urupfu/ Cause of death /Cause de décès:.....

.....
.....
Aho yari atuye/ Place of domicile / Domicile : Akarere, Umurenge, Akagari, Umudugudu/ District, Sector, Cell, Village /District, Secteur, Cellule, Village: ...../.....
...../.....

Umenyekanishije/ Declarant/ Déclarant: .....
Nomero y'ibimuranga/ Identity Card, Passport number/ Numéro de la Carte d'identité, du Passeport:
.....
Isano bafitanye/ Relationship/ Lien de parenté:
.....

.....

Umukono na kashe by'Umuganga/
Signature and Stamp of the Medical doctor/ Signature et cachet du Médecin

3. DEATH CERTIFICATE QUALITY ASSESSMENT TOOL

REPUBLIC OF RWANDA

MINISTRY OF HEALTH
P.O. BOX 84 KIGALI
www.moh.gov.rw

DEATH CERTIFICATE QUALITY ASSESSMENT TOOL V1.2

A correctly filled-in death certificate has none of the following errors. Please indicate whether the death certificate has:

No.	Error Type	Yes*	No
1	Date of birth missing		
2	Date of death missing		
3	Time of death (a.m./p.m.) missing		
4	Sex of the deceased not specified		
5	Multiple causes of death per line		
6	Missing time interval from onset to death		
7	Abbreviations used in certifying cause of death		
8	Blank lines within chain of events leading to death		
9	Incorrect or clinically improbably chain of events leading to death		
10	Incorrect injuries or illnesses listed as contributory causes of death		
11	**Ill-defined condition(s) entered as the underlying cause of death**		
If yes, was the ill-defined condition:			
11.1	*Assigned impossible underlying cause of death i.e. signs and symptoms*		
11.2	*Mode of dying entered as underlying cause of death e.g. respiratory/ heart arrest*		
11.3	*Intermediate cause entered as underlying cause of death eg Septicaemia*		
11.4	*Unspecified causes within a larger death category entered as underlying cause of death*		
12	If surgery was performed, it is not indicated in Frame B		
13	For deaths as a result of neoplasms, additional details were missing		
14	For deaths due to external causes, additional details were missing		
15	For fetal or infant deaths, additional details were missing		
16	For deaths of women, additional details were missing		
17	Illegible hand writing		
18	The form is not signed by the medical doctor		

*** Whenever there is "*Yes*" response, clarify with certifying Medical doctor.**

4. BIRTH ACT FORM USED FOR REGISTRED BIRTH

INYANDIKO Y'IVUKA/BIRTH ACT/ACTE DE NAISSANCE N°.....

REPUBLIKA Y'U RWANDA **IBIRO BY'IRANGAMIMERERE BYA/** **CIVIL REGISTRAR'S OFFICE OF /** **BUREAU DE L'ETAT CIVIL DE** **.....** **.....** **IGITABO CYA/** **VOLUME** **.....**	Itariki y'imenyekanisha/Date of declaration/Date de déclaration : .... Jyewe/ I/Moi: ..... Umwanditsi w'Irangamimerere wa/Civil Registrar of /Officier de l'état civil de: ..... Nakiriye imenyekanisha ry'ivuka/Receive the declaration of birth/Reçois la déclaration de naissance:
	UMWANA/CHILD/ENFANT:
	Izina ry'umwana/Name of the child/ Nom de l'enfant: ..... Itariki yavukiyeho/Date of birth/Date de naissance: .... Aho yavukiye/Place of birth/Lieu de naissance: .... Igitsina/Sex /Sexe: .....
	ABABYEYI /PARENTS/PARENTS:
	Izina rya se/Father's name/Nom du père: ..... Imyaka ye/Age/Age: .... Aho atuye, aba/ Domicile,Residence/ Domicile, Résidence: .... Ubwenegihugu/Nationality/Nationalité: ..... Nomero y'ibimuranga/ Identity card, Passport number/ Numéro de la Carte d'Identité, Passeport: ....
	Izina rya nyina/Mother's name/Nom de la mère: .... Imyaka ye/Age/Age: .... Aho atuye, aba/ Domicile,Residence/ Domicile, Résidence: .... Ubwenegihugu/Nationality/Nationalité: ..... Nomero y'ibimuranga/ Identity card, Passport number/ Numéro de la Carte d'Identité, Passeport : ....
	Umenyekanishije/ Declaring person/ Déclarant: ..... **Isano bafitanye/ Relationship/ Lien de parenté:** .....
	Icyemezo cya muganga cyo ku wa/ Medical birth certificate of/ Attestation médicale du: ....(1)
	Ikigo cy'Ubuzima/ Health establishment/Etablissement de santé : .... (2)
	Icyemezo cy'ubuyobozi cyo ku wa/ Authority certificate of/Attestation de l'autorité du: .... Ubuyobozi bwagitanze/Issuing authority/Autorité ayant délivré l'attestation ....
	Iyi nyandiko isomewe uwamenyekanishije ivuka n'abatangabuhamya/This Act is read to the person declaring the birth and witnesses/ Lecture du présent Acte est faite au déclarant de la naissance et aux témoins: **.....** **.....** **Umukono w'umenyekanishije** **Umukono na kashe by'Umwanditsi w'Irangamimerere** **Signature of the declaring person** **Signature and stamp of the Civil Registrar** **Signature du déclarant** **Signature de l'Officier de l'état civil**

5. DEATH ACT FORM FOR REGISTERED DEATH

INYANDIKO Y'UWAPFUYE /DEATH ACT /ACTE DE DECES N°…….

REPUBULIKA Y'U RWANDA

IBIRO BY'IRANGAMIMERERE BYA/

CIVIL REGISTRAR'S OFFICE OF / BUREAU DE L'ETAT CIVIL DE
……

……

IGITABO CYA/

VOLUME
……

Itariki y'imenyekanisha/Date of declaration/Date de déclaration : ……
……
……
……
Jyewe/ I / Moi: ……
Umwanditsi w'irangamimerere wa/ Civil Registrar of /Officier de l'état civil de ……
Nakiriye imenyekanisha ry'urupfu/Receive the death declaration/ Reçois la déclaration de décès:

UWAPFUYE/ DECEASED/ DECEDE :

Izina ry'uwapfuye/ Names of the deceased/Nom du défunt: ……
……
Itariki yapfiriyeho / Date of death /Date de décès: ……
……
……
……
Aho yapfiriye/ Place of death/ Lieu de décès:……
Aho yari atuye; yabaga/ Domicile, residence/ Domicile, résidence: ……
……
Igitsina/ Sex /Sexe :……
Icyateye urupfu/ Cause of death /Cause de décès:……
……

ABABYEYI/ PARENTS/ PARENTS:

Izina rya se/ Father's name/ Nom de père : ……
Imyaka ye/Age/Age: ……
……
Aho atuye; aba/domicile; residence /domicile; résidence : ……
……
Ubwenegihugu/ Nationality/ Nationalité:……
Nomero y'ibimuranga/ Identity Card; passport number/ Numéro de la carte d'identité; passeport: ……

Izina rya nyina/ Mother's name / Nom de la mère: ……
Imyaka ye/Age/Age: ……
……
Aho atuye; aba/domicile; residence /domicile; résidence : ……
……
Ubwenegihugu/ Nationality/ Nationalité:……
Nomero y'ibimuranga/ Identity Card, passport number/ Numéro de la carte d'identité, Passeport ……

Umenyekanishije/ Declaring person/ Déclarant: ……
Isano bafitanye/ Relationship/ Lien de parenté: ……

Icyemezo cya muganga cyo ku wa/ Medical certificate issued at/ Attestation médicale du: ……(1)
……
……
……
Ikigo cy'Ubuzima/ Health establishment/ Etablissement de santé: ……

Icyemezo cy'ubuyobozi cyo ku wa/Authority certificate of/Attestation de l'autorité du: ……(2)
……
……
……
Ubuyobozi bwagitanze/Authority name / Autorité ayant délivré l'attestation :
……

Iyi nyandiko isomewe umenyekanishije urupfu n'abatangabuhamya/This Act is read to the person declaring the death and witnesses / Lecture du présent Acte est faite au déclarant du décès et aux témoins:

…… ……

Umukono w'uwamenyekanishije
Signature of declaring person/
Signature du déclarant

Umukono na kashe by'Umwanditsi w'Irangamimerere
Signature and stamp of the Civil Registrar
Signature et cachet de l'Officier de l'état civil

Imikono y'abatangabuhamya/Signatures of witnesses/ Signatures des témoins:

1. ……

2……

6. MARRIAGE ACT FORM FOR LEGALIZED MARRIAGE

INYANDIKO Y'ISHYINGIRANYWA/MARRIAGE ACT/ACTE DE MARIAGE N°……..……

REPUBULIKA Y'U RWANDA

IBIRO BY'IRANGAMIMERERE BYA/

CIVIL REGISTRAR'S OFFICE OF/ BUREAU DE L'ETAT CIVIL DE :
……
…

……

IGITABO CYA/

VOLUME
……

Itariki y'imenyekanisha/Date of declaration/Date de déclaration : ……
……
……
……
Jyewe/ I / Moi: ……
Umwanditsi w'irangamimerere wa/Civil Registrar of /Officier de l'état civil de ……
Nakiriye imenyekanisha ry'ishyingiranywa/ Receive the declaration of the marriage/ Reçois la déclaration de mariage

ABASHYINGIRANYWE/SPOUSES/EPOUX

Izina ry'uwashyingiwe/ Name of the spouse/ Nom de l'époux: ……
Itariki yavukiyeho/ Date of birth/ Date de naissance: ……
……
……
……
Aho atuye; aba/domicile; residence /domicile; résidence : ……
Igitsina/ Sex/ Sexe: ……
Ubwenegihugu/ Nationality/ Nationalité: ……
Nomero y'ibimuranga/ Identity Card; passport number/ Numéro de la carte d'identité/Passeport ……
Izina rya se/ Father's name / Nom du père: ……
Izina rya nyina/ Mother's name/ Nom de la mère: ……

Na/and/et

Izina ry'uwashyingiwe wundi/ Name of the other spouse/ Nom de l'autre époux: ……
Itariki yavukiyeho/ Date of birth/ Date de naissance: ……
……
……
……
Aho atuye, aba/domicile, residence /domicile, résidence : ……
……
Igitsina/ Sex/ Sexe: ……
Ubwenegihugu/ Nationality/ Nationalité: ……
Nomero y'ibimuranga/ Identity Card, passport number/ Numéro de la carte d'identité, Passeport ……
……
Izina rya se/ Father's name / Nom du père: ……
Izina rya nyina/ Mother's name/ Nom de la mère: ……

Uburyo bw'icungamutungo bahisemo / Matrimonial regime/ Régime matrimonial: ……
……

Ibyemezo byatanzwe nk'uko amategeko abiteganya/Certificates submitted as provided for by the law/Attestations déposées tel que prévu par la loi :

1. ……
2. ……
3. ……

Iyi nyandiko isomewe abamenyekanishije ishyingirwa, abahagarariye imiryango n'abatangabuhamya/This Act is read to the spouses declaring the marriage, family representatives and witnesses/Lecture du présent Acte est faite aux époux déclarant le mariage, aux représentants des familles et aux témoins.
Imikono y'abashyingiranywe/ Signatures of spouses/Signatures des époux :

1. ……
2. ……

……

Imikono y'abahagarariye imiryango
Signatures of family representatives
Signature des représentants des familles

Umukono na kashe by'Umwanditsi w'Irangamimerere
Signature and stamp of the Civil Registrar

1. ……
2. ……

Signature et cachet de l'Officier de l'état civil

Imikono y'abatangabuhamya

Signatures of witnesses
Signatures des témoins