

# Asia-Pacific CRVS Research Forum

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## Extended Abstract

**Title: A sustainable CRVS eLearning course to upskill competencies of practitioners in the registration of vital events: Experiences from Rwanda**

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## Introduction:

A well-functioning civil registration system provides universal access to civil registration services to individuals to enable them to register vital events and obtain legal certification of these events. Civil registration records are required by government agencies, businesses, and individuals for various legal and administrative reasons and for the provision of services. Furthermore, civil registration system generates high-quality, accurate, complete, and timely statistics on vital events which are needed to monitor emerging public health threats such as an upsurge in mortality due to infectious diseases. The CRVS system is critically important to measure progress toward the key national and global indicators, such as the SDGs because it provides a timely and continuous source of data, at national and sub-national levels<sup>1</sup>. Despite the significance of birth registration, 166 million children under-five remain unregistered in LMIC<sup>2</sup>.

In 2008, the Government of Rwanda began a process to strengthen the CRVS system with the aim of building a complete, sustainable, and continuous source of vital statistics. The CRVS system is coordinated by the Ministries of Justice, Local Government, Health, and the National Institute of Statistics of Rwanda (NISR), which is responsible for the compilation, analysis, and dissemination of vital statistics. The government thereafter started the amendment of the legal framework that governs the civil registration system in Rwanda.

Before 2020, Rwanda had 446 local registration sites in 416 Sectors and 30 Embassies abroad. The major barriers to registration services were the long distances to registration sites, and an overly complex process that inhibited families from registering for vital events, and a cumbersome, paper-based system. Therefore, the government decided to digitalize and integrate civil registration services into the health sector and decentralize registration services closer to the citizens. This has led to a tremendous increase in civil registration sites to 3,220 civil registration service points in health facilities, in administrative offices at the Cell and Sector level. In addition, the high costs of centralized training, and the lack of qualified trainers are among the challenges facing traditional in-person training modalities. To address the resulting increase in training needs, ongoing need for the training of incoming personnel, and in the light of the COVID-19 pandemic which proved that in-person trainings may not always be feasible, the government decided to develop a civil registration and vital statistics (CRVS) eLearning course to build the skills of CRVS practitioners in civil registration in the whole country.

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This paper discusses how the course has been developed, disseminated, and results so far. It also presents challenges encountered and lessons learnt from Rwanda in setting up a CRVS eLearning course as a practical and efficient approach to address the issue of the capacity building following the establishment of a pro-active CRVS system with strong collaboration with the health sector.

## **Method:**

The local development of a user friendly CRVS eLearning course in Rwanda, closely considered the country context. In November 2020, the National CRVS technical working group composed of technical experts from the Ministry of Local Government, Ministry of Justice, Ministry of Gender and Family Promotion, Ministry of Health, Ministry of ICT and Innovation, National Institute of Statistics of Rwanda, National Identification Agency, Rwanda Biomedical Centre, Rwanda Law Reform Commission, and Directorate of Immigration and Emigration of Rwanda convened a five day workshop at Bugesera District to develop a standardized and contextualized National CRVS training materials that covers four major components of the local CRVS system: background and important of CRVS system, CRVS regulatory framework, standard operating procedures for registration of vital events, and civil registration of vital events in the National Centralized Integrated CRVS (NCI-CRVS) system. A bilingual (English/Kinyarwanda), hands-on, and interactive micro-learning approach was used in the development of the course. The course was further developed using a participatory one-year co-creation approach between an international eLearning expert and the on-the-ground CRVS technical team. This involved the development of the national CRVS training content packaged into PowerPoint story boards, graphic design, narration in the SCORM format, and a review cycle with local practitioners.

## **Content and format of the CRVS eLearning course:**

The comprehensive CRVS eLearning course is sub-divided into four learning journeys. These journeys are composed of legally designated civil registration entities. The CRVS practitioners must pursue modules that are found in their respective learning journeys with two mandatory modules to all practitioners. These journeys and segments consist of 11 modules:

### **1. Health facility:**

- Module 1. Introduction to CRVS Systems
- Module 2. Legal Framework of Birth & Death Registration in Rwanda
- Module 3. Birth Notification and Registration in a Health Facility
- Module 4. Death Notification and Registration in a Health Facility
- Module 5. Scenarios Related to Birth & Death Registration in a Health Facility

### **2. Cell:**

- Module 1. Introduction to CRVS Systems
- Module 2. Legal Framework of Birth & Death Registration in Rwanda
- Module 6. Birth Notification and Registration by Cell Civil Registrar
- Module 7. Death Notification and Registration by Cell Civil Registrar

### **3. Sector and District**

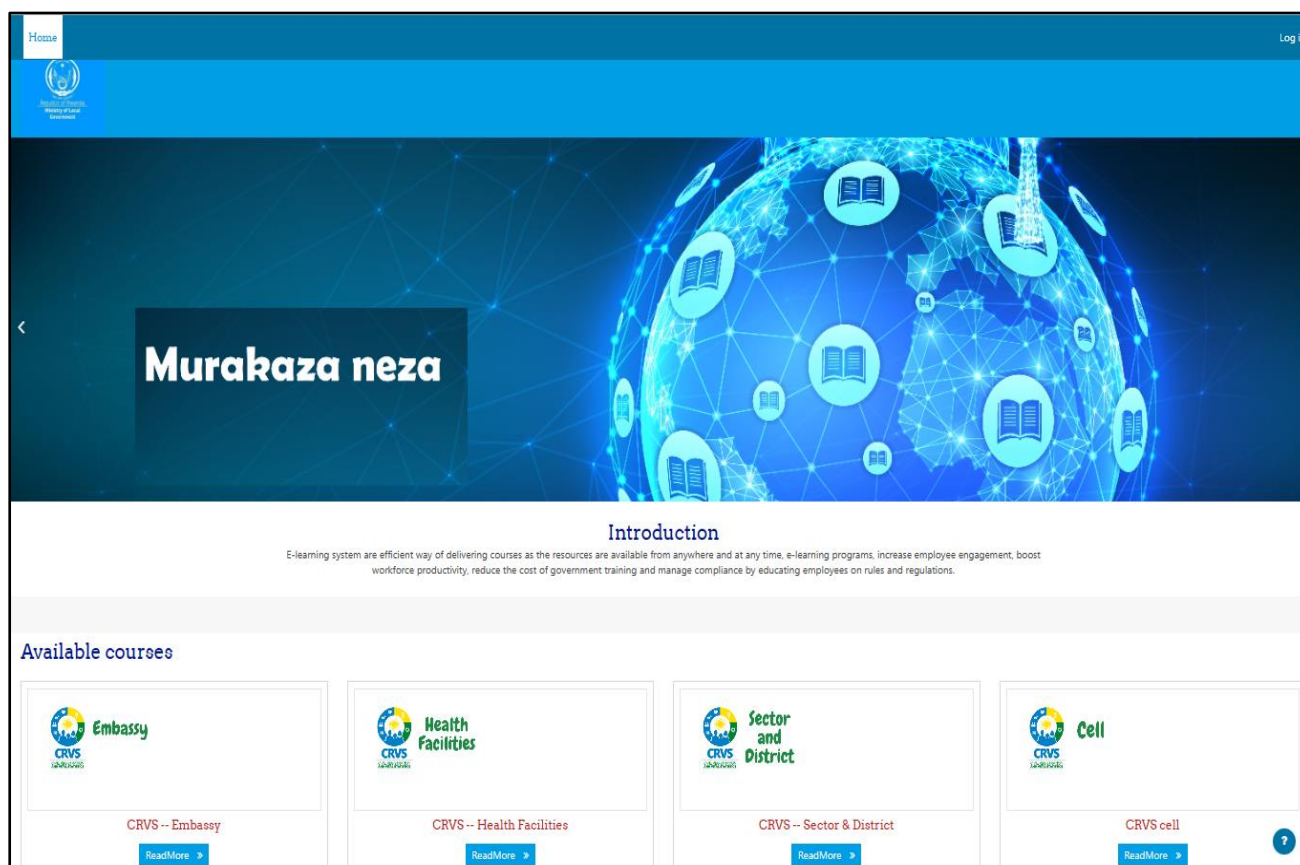
- Module 1. Introduction to CRVS Systems
- Module 2. Legal Framework of Birth & Death Registration in Rwanda
- Module 8. Birth Notification and Registration by Sector Civil Registrar

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- Module 9. Death Notification and Registration by Sector Civil Registrar
- 4. Embassy**
- Module 1. Introduction to CRVS Systems
- Module 2. Legal Framework of Birth & Death Registration in Rwanda
- Module 10. Birth Notification and Registration by Civil Registrar within Embassies
- Module 11. Death Notification Registration by Civil Registrar within Embassies

The final product was uploaded to the Moodle learning management system (LMS) of the Ministry of Local Government website and can be accessed at <http://e-learning.minaloc.gov.rw/elearning/>. The following image shows the entry screen of the CRVS eLearning course with the four learning journeys on the MINALOC website:



The LMS allows practitioner to do self enrollment and creation of user roles and ensuring auto access of learning journeys and its respective modules. The system permits the learners to select language options to access the course in the language of choice. The CRVS technical team at central level conducted virtual orientation sessions with all practitioners on the CRVS eLearning course and clarifications and feedbacks were considered before rollout the course. The learner is required to pass each module with 80% and above to access the next module. When the learner completes his/her designated modules, the certificate of completion is autogenerated and sent to his/her email address provided in the self-registration.

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## Results:

This paper discusses the enablers for the CRVS eLearning course, how the course has been developed, disseminated, and the results so far. It also presents challenges encountered and lessons learnt from Rwanda in setting up a CRVS eLearning course. Prior to 2018, the regulatory environment in Rwanda was hampering CRVS improvement. However, in 2018, the Government of Rwanda started the CRVS legal review process in line the business process mapping of the desired processes, to resolve the identified bottlenecks and inefficiencies in the existing systems and to improve civil registration systems. This has led to the digitalization of registration services for nine vital events as recommended by the UN principles and recommendations for vital statistics system<sup>3</sup> and the decentralization of registration services to the health sector and the lowest level of administration in Rwanda - the Cell level.

A functional governance and coordination mechanisms that involve all relevant CRVS stakeholders from the central and sub-national levels created strong buy-in in the development and the uptake of the course. The coordination committees were involved in the process of the development and the rollout of the CRVS eLearning course – especially with the CRVS technical team. Specifically, the CRVS technical team was involved in the development of the national CRVS training materials in English and Kinyarwanda and in the monitoring of the uptake of the course. The team also participated in the review process of the CRVS training contents and course design for the 11 modules in both English and Kinyarwanda and provided technical oversight of the implementation of the eLearning course. The team also tested the course when uploaded to the website in the SCORM format prior to deployment to the learners. The CRVS steering committee was involved in the review and approval of the course content as well as providing policy guidance on the implementation of the course. The Ministry of Local Government (MINALOC) issued a ministerial circular to the relevant practitioners for the uptake of the course as part of continuous capacity development. The Minister of ICT and Innovation as the one in-charge of digitization, launched the CRVS e-learning course during the celebration of CRVS African day on 10<sup>th</sup> August 2022 in the Eastern Province, Nyagatare District<sup>4</sup>.

The Government of Rwanda also conducted a quick assessment of the country's readiness to adopt the eLearning approach. The assessment focused on four major pillars including supportive infrastructure, stakeholder mapping and engagement, technical and financial resources, and availability of technological and computer literacy of target audiences. As a results of the COVID-19 pandemic, the country had already implemented several e-learning courses in different sectors. The results of the assessment indicated that the country was ready to adopt a CRVS eLearning approach as an alternative to an in-person training approach. This readiness is attributed to the availability of ICT infrastructures such as internet services penetration of 82.5%, the rate of mobile subscriptions at the national level at 82.49% in 2022 <sup>5</sup> and 61% of cumulative electricity connectivity rate as of the end of the year 2022 at national level<sup>6</sup>. Generally, the uptake of internet services in the low- and middle-income countries has increased as results of COVID-19 pandemic. The percentage of individuals using internet services was generally increased in Africa to 40%, in Asia Pacific to 64% and worldwide to 70% in 2022<sup>7</sup>.

Further, recent experience from an e-learning course on medical certification of cause of death (MCCD) showed that over 74% of Health professionals completed the course as part of Continuous Professional

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Development (CPD) credits for licensure in the period of 2020/2021. The uptake of the course has significantly contributed to an increase of the overall quality of causes of death reported from 51% in 2020 to 71% in 2021.

**Table: The Uptake of MCCD eLearning course**

Results	Female	Male	Total
Total Enrolled Health Professionals	477(21%)	1781(79%)	2258
Attended Final Quiz	370(21)	1372(79%)	1742
Passed	351(21%)	1316(79%)	1667
Failed	19	56	75
Not Attended	107	409	516

Source: MoH, 2023

The availability of necessary infrastructures facilitated the CRVS practitioners across the country to access the online CRVS self-paced course at anytime and anywhere which is aligned with the government policy of reducing in-person trainings and where possible using the LMS platform. The Government provided computer laptops and android tablets to 2,148 new Cell civil registrars and free 2 GB of fourth generation internet every day to discharge their responsibilities including registration of vital events. This has led over 900 civil registrars enrolled against the target of 3,220 civil registrars and 320 civil registrars completed the course as part of continuous capacity development. The successful completion is measured by completing the designated modules and passing each module with 80% marks and earn certificate of competition which is automatically generated. The commitment of partners in supporting and strengthening the CRVS system was critically important to support the development of the standard CRVS online courses and provide necessary resources for monitoring and support the uptake of the course. The LMS platform provides necessary dashboards for monitoring the uptake of the course at national level and the CRVS technical team provides technical support regarding troubleshooting of the system and enrolment of the users.

The major challenge was to find the local company that can copyediting and design of the CRVS eLearning course which led to outsource outside the country. The design of a user friendly and high-quality eLearning course involves key steps including graphic design for slide deck in coherent and consistent manner which enables constructive learning experience. The company had to produce narration and voiceover for 11 modules in two languages: Kinyarwanda and English. Another barrier was computer literacy of some practitioners at the Cell level.

## Discussion:

Globally, the civil registration and vital statistics system in many lower and middle-income countries need further strengthening to produce reliable and timely vital statistics to inform policy decisions. Most of the 194 UN member states are signatories to the United Nation's Sustainable Development Goals to improve the notification, and registration of births, deaths, and causes of death by 2030. 15 of the 17 Sustainable Development Goals (SDGs) and 72 of 232 SDGs' indicators rely on the information from the CRVS system<sup>9</sup>. Countries from around the world have made commitments to establish fully functioning CRVS systems to respond to the SDGs indicators by 2030 and assist governments in tracking key demographic and health indicators, allocating resources, and providing measures for the population dynamics. However, the

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Government of Rwanda made decisions to introduce the CRVS eLearning course to support universal registration of vital events and to realize national and global targets such as the SDGs.

Countries in the Asia and Pacific region are also implementing efforts to strengthen the CRVS systems and to enable these systems to respond to the growing need for CRVS data including mortality statistics in line with regional and international commitments including the SDGs<sup>10</sup>. The countries of Asia and the Pacific have begun the process of integrating civil registration services into the health sector and decentralization of registration services closer to the population. This implies an increase of new civil registrars who will need knowledge and skills in the civil registration of vital events. Therefore, the Rwandan case study of developing an eLearning course can be replicated and readjusted to match country context and reduce the face-to-face training approach where possible. This can also lead to cost savings, as face-to-face trainings require multiple costs including transportation, training venue, refreshments, and accommodation fees for the participants. Alternatively, the e-learning course involves costs necessary for the development and deployment of the course on the website. It is imperative to adopt the cost-effective approach of CRVS eLearning for new and re-training of existing civil registrars as part of continuous capacity development, especially in large countries with high populations that expect to decentralize, make pro-active, and digitalize civil registration services to obtain universal civil registration of key vital events by 2030.

The key lessons learnt in the implementation of the CRVS eLearning course in Rwanda are the need for ICT infrastructures, computer literacy of the target audiences, the governance and coordination structures at the central and sub-national levels, and the availability of a dedicated national CRVS technical teams to facilitate the development of the CRVS eLearning course, to ensure government buy-in for the course, to ensure alignment of the course with the national context, and to obtain technical and financial support of different partners. Countries can re-adjust the course development processes considering their local context and the availability of the necessary infrastructure to support the development and rollout plan of the CRVS eLearning course.

## **Conclusions:**

To set up a well-functioning CRVS system, countries are devoted to integrating the civil registration system with the health sector and decentralizing pro-active civil registration services close to the citizens to improve the completeness and coverage of civil registration at the national level. This will require huge financial resources necessary for the capacity building of new civil registrars in the case of bigger countries with larger population sizes when applying a face-to-face training approach across the country. As demonstrated by Rwanda, a CRVS e-learning course is a viable alternative to the traditional face-to-face training method and a cost-effective approach for countries that need to improve their CRVS system.

The decision to introduce a CRVS eLearning course was a key undertaking to sustainably build the capacity of new civil registrars following the decentralization of services to lower administrative units and the health sector in Rwanda. Specifically, the course enables civil registrars to be efficiently and reliably (re-)trained on relevant rules and regulations as well as the standard operating procedures for civil registration. This approach can be replicated especially for countries with large sizes and populations that are undergoing decentralization or delegation of civil registration services to lower administrative units and/or the health sector.

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## REFERENCE

1. World Health Organization. *WHO Civil Registration and Vital Statistics Strategic Implementation Plan 2021-2025.*; 2021.
2. UNICEF. Birth registration. UNICEF ASIA.
3. UN. Statistics Division. *Principles and Recommendations for a Vital Statistics System: Revision 3.*; 2013.
4. Ines Rutayisire Umurerwa. Rwanda seeks universal birth registration coverage this year. *The New times. The Rwanda's Leading Daily.* August 4, 2022.
5. RURA. *statistics report for telecom, media, and broadcasting sector as of the fourth quarter (October-December) of the year 2022.*; 2022.
6. National Institute of Statistics of Rwanda. *Fifth Rwanda Population and Housing Census, 2022.*; 2022.
7. International Telecommunication Union. *Measuring Digital Development, Facts and Figures in 2022.*; 2022.
8. World Health Organization. *Medical Certification of Cause of Death. Instructions for Physicians on Use of International Form of Medical Certification of Cause of Death.*; 1979.
9. *Report on Legal Framework Assessment on Civil Registration, Vital Statistics, and Identification Management in Vietnam.*; 2021.
10. United Nations. Economic and Social Commission for Asia and the Pacific (UNESCAP). <https://sdgs.un.org/un-system-sdg-implementation/economic-and-social-commission-asia-and-pacific-unescap-34586>.