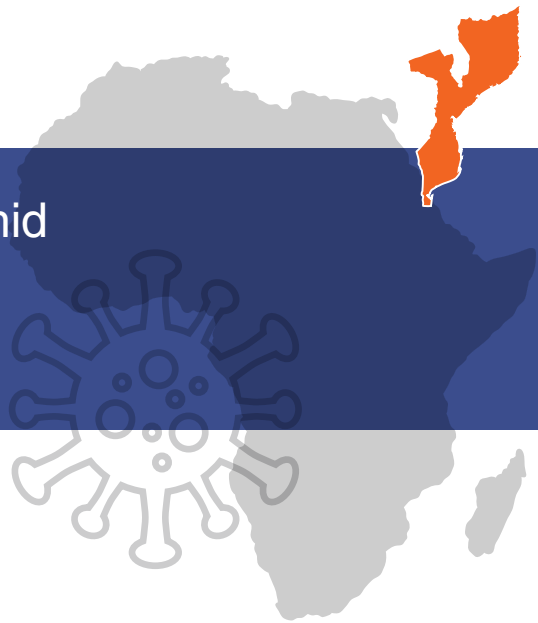
TECHNICAL BRIEF

Maintaining civil registration resilience amid the COVID-19 crisis: **Mozambique's vital events notification system**



INTRODUCTION

In response to the spread of COVID-19, Mozambique's civil registration authority, the National Directorate of Registries and Notary (Direcção Nacional de Registos e Notariado, or DNRN) of the Ministry of Justice reduced operations at its registration offices to limit people-to-people contacts. Although the government treats civil registration as an essential service, the number of registration services staff at registration offices was initially reduced by 50 percent and employees were placed on a 15-day rotation. Employees in the registration offices provided minimum services. Registration offices at health facilities were closed to prevent infection. Essential services were focused on birth and death registration. Birth registrations could be done at the district registration offices during standard working hours. District registration offices were also open on weekends, but only for registration of deaths.

Since the outbreak of COVID-19, the state of emergency declared by the government has been extended three times. However, the government gradually decided that civil registration services should resume operating in almost full capacity, with a few registration points still remaining closed. After the declaration of the state of emergency, only a small number of marriages occurred and were registered, as most of the scheduled marriages were cancelled after the government initially banned gatherings of more than 10 people. Following the easing of some of the lockdown measures, civil registration services were gradually restored, which resulted in a significantly higher number of registered marriages and divorces.

Limiting registration services carries a risk that a proportion of vital events will not be captured. However, the decentralized nature of registration responsibilities, and capturing of vital events as they occur in the communities, allows the DNRN to continue recording information on vital events. The outbreak of COVID-19 resulted in 31 percent drop in the total number of legal registrations of births between March and July 2020 compared with registrations done in the same period in 2019. The number of registrations completed in the same period in 2020 was nevertheless three times higher than the total number of registrations completed in 2018 when the digitized registration system became operational. Although initially, operational capacities

were reduced, the main reason for the decline in the number of registered vital events was lower demand for the services in April, May, and June, mainly due to uncertainties caused by COVID-19 and related fear among the general population of contracting the disease. DNRN was also forced to cancel mobile teams that are otherwise routinely deployed to facilitate vital events registration in remote areas. Some civil registry offices had to be closed because they were located in high-risk areas such as health facilities. Vital events catered to at these posts have been moved to other registry offices.

This brief underlines the resilience and value of the vital events notification system in Mozambique. The system architecture ensures that the registration of vital events continues to be captured and ultimately registered in times of crisis until conditions allow for the full restoration of operational capacities for registration.

MOZAMBIQUE'S VITAL EVENTS NOTIFICATION SYSTEM

The vital events notification system emerged following reforms initiated in 2015, which resulted in a decentralized model of civil registration services. Before these reforms, Mozambique had made progress in birth registration coverage, with the percentage of registered children under the age of 5 increasing from 31 percent in 2008 to 47.9 percent in 2011 and 55 percent in 2015.[1] However, registration of other vital events was not as high. Only 12.1 percent of deaths were registered in 2013. The reformed registration system became operational in 2017 and it expanded the number of civil registration agents appointed at the village and local community levels.

Mozambique has created an elaborate network of 543 registration points where birth and death data is captured on registration forms not long after the events have occurred. Without requiring any further intervention from informants, these forms are processed by the designated district registration offices and registration records are completed. At the end of this process, the informant is notified via text message that the registration certificate is ready for collection at the nearest district office. Key information from the completed registration forms in local communities can also be transmitted to the central registration authority (DNRN) over a mobile operator network, where it is stored in a central electronic database, providing advance notification of the event. District registration offices can remotely connect to the central e-CRVS electronic platform. The core component of the e-CRVS is hosted on a server at the DNRN headquarters.

The application is a web application designed to run within a web browser on any computer connected to the Internet. The core application executed on the server at DNRN headquarters is designed to do the following:

- Manage the civil register database;
- Process incoming registration data from the district registration offices and incoming mobile messaging registration data from registration points at administrative posts; and
- Manage access to different data sets from remote workstations at registration offices.

1 dhsprogram.com/pubs/pdf/ais12/ais12.pdf

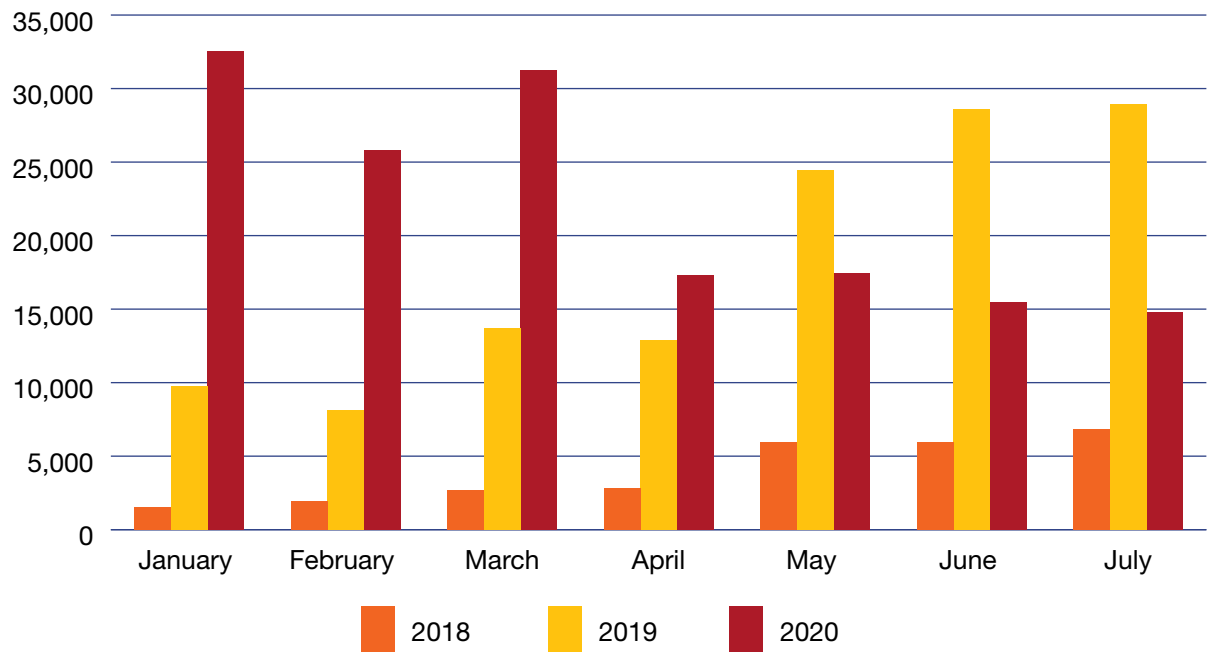
A more detailed description of the birth and death business registration model is in the Mozambique CRVS profile at crvssystems.ca/country-profile/mozambique.

SYSTEM RESILIENCE IN A TIME OF CRISIS

Birth registration

The COVID-19 situation reduced the DNRN's capacity to process registration forms in a timely manner, although the network of registration agents in local communities remained operational. In the period from March to July 2020, local registration agents completed 96,263 registration forms — 10 percent less than the total number of forms completed in the same period in 2019 (108,619). When compared with the same period in 2018 (24,360), the number of forms completed in 2020 was almost four times higher. Figure 1 shows the total number of registration forms completed from January to July for the past three years.

Figure 1: Total number of registration forms completed in the period January – July.[2]



Generally, the number of registration forms completed in a given month is equivalent to the number of completed registrations. However, due to the delay from the time the form was completed and the moment the information was entered into the e-CRVS system, statistically the total number of registration forms completed in a given month over the last three years was generally higher than the total number of completed registrations. The registration process in Mozambique follows specific administrative procedures that require validation of registration

2 civil.registos.gov.mz/crvs/Report/Birth

forms data by the designated registrar. The fact that there can be a time delay from the moment the registration form is completed and the moment the event is officially registered allows authorities to focus on capturing vital events information on registration forms and to complete registration at the point when registration capacities restore to normal.

Table 1 lists the data elements that are captured on the birth medical certificate, the birth registration form, and the central e-CRVS database.

Table 1: Birth data captured on the birth medical certificate, registration form, and central e-CRVS database.

Characteristics of the **event**	Characteristics of the **mother**	Characteristics of the **father**
• Date of occurrence • Date of registration • Place of occurrence • Locality of occurrence • Urban/rural occurrence • Place of registration • Type of birth (i.e., single, twin, triplet, quadruplet, or higher-multiple delivery) • Attendant at birth • Type of place of occurrence (hospital, home, etc.) • Sex • Weight and height at birth	• Date of birth and age • Marital status • Child born in wedlock (legitimacy status of the child)** • Educational attainment • Literacy status • Ethnic and/or national group* • Citizenship • Economic activity status* • Usual occupation • Place of usual residence • Locality of residence • Urban/rural residence • Duration of residence in usual place • Place of previous residence • Place/country of birth • Gestational age • Number of prenatal visits • Month of pregnancy when prenatal care began • Birth order or parity • Children born to mother during her entire lifetime and still living • Foetal deaths to mother during her entire lifetime	• Date of birth • Age • Marital status • Educational attainment • Literacy status • Ethnic and/or national group • Citizenship • Economic activity status • Usual occupation • Place of usual residence • Locality of residence • Urban/rural residence • Duration of residence in usual (present) place • Place/country of birth • Migrant status*

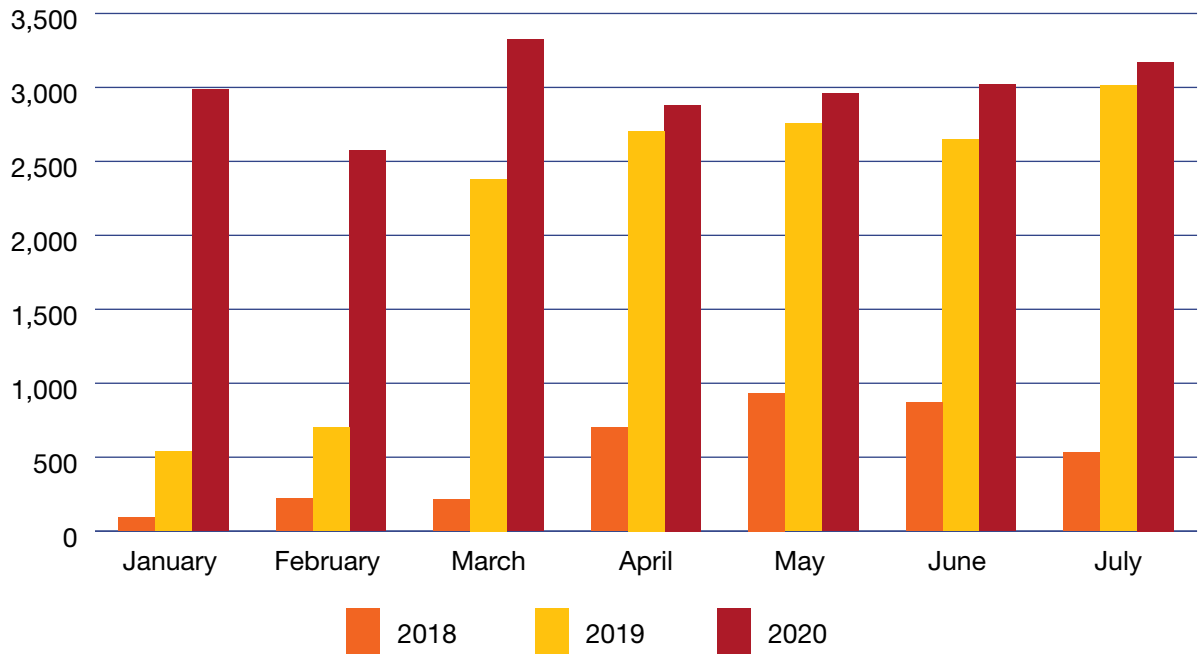
** only on the registration form and e-CRVS database*
*** only within the e-CRVS database*

All data elements on the birth registration form come from the medical certificates produced by health practitioners. While for the time being these certificates are produced as paper documents, the DNRN is working closely with the Ministry of Health to develop a link between the e-CRVS system and the digital health information system. In the future, this will automate the sharing of data on medical certificates (birth and death) in electronic format.

Death registration

Although operational capacities have been reduced, death registration has been given priority, including by expanding working hours over the weekend specifically for the registration of deaths. In the normal operating environment, death registration forms can be completed at the administrative posts and district registration centres. Registration is completed upon validation of electronic data entry from the registration forms by the district registrar at the district registration office. With increased alertness to the registration of death events, the death registration process has not been dramatically affected by the COVID-19 situation. Figure 2 shows that the number of registered deaths increased in the period from January to July 2020 compared with the same period in 2019 and in 2018.

Figure 2: Number of registered deaths in the period January – July.[3]



3 civil.registos.gov.mz/crvs/Report/Death

The data shows that following the completion of reforms, the number of registered deaths has been increasing steadily. The strategic approach in reforming death registration services also shows that the registration processes can be sustained even in times of health crises, such as COVID-19.

Table 2 lists the data elements that are captured on the death medical form, death registration form, and central e-CRVS database.

Table 2: Death data captured on the death medical form, registration form, and central e-CRVS database.

Characteristics of the **event**	Characteristics of the **decedent**
• Date of occurrence • Date of registration • Place of occurrence • Locality of occurrence • Urban/rural occurrence • Place of registration • Cause of death • Manner of death • Whether autopsy findings were used to establish cause of death • Death occurring during pregnancy, childbirth, and puerperium (for females 15–49 years of age) • Certifier • Type of certification • Attendance at birth (for deaths under 1 year of age) • Type of place of occurrence (hospital, home, etc.)	• Date of birth • Age • Sex • Marital status • Educational attainment • Literacy status • Ethnic and/or national group • Citizenship • Economic activity status • Usual occupation • Socioeconomic status • Legitimacy status (for deaths under 1 year of age) • Place of usual residence

Amid the COVID-19 crisis, the DNRN was working closely with the health system. The data sharing is enabled to inform the health system when there is an increase in the number of deaths, compared with deaths registered in previous years over the same time period, and that could be potentially attributed to the COVID-19 disease. Health practitioners did not begin coding the cause of death for COVID-19 right away and began attributing deaths to COVID-19 only after receiving instructions from the World Health Organization. Regardless of the steady increase in death registration, overall, the death registration rate is very low, and the completeness of death registration has not yet been established. That leaves very little room for using registered data for statistical processing of mortality, including excess mortality, since the outbreak of COVID-19.

MOBILE NOTIFICATIONS

Reforms to the registration process had the goal of increasing the number of registration points and redesigning the birth registration business process. This was to ensure that the birth information captured at registration points in administrative posts is communicated to the central registration office as quickly as possible. This is to ensure that the information is captured on the form and in digital format as a newly initiated personal record in the central civil register database.

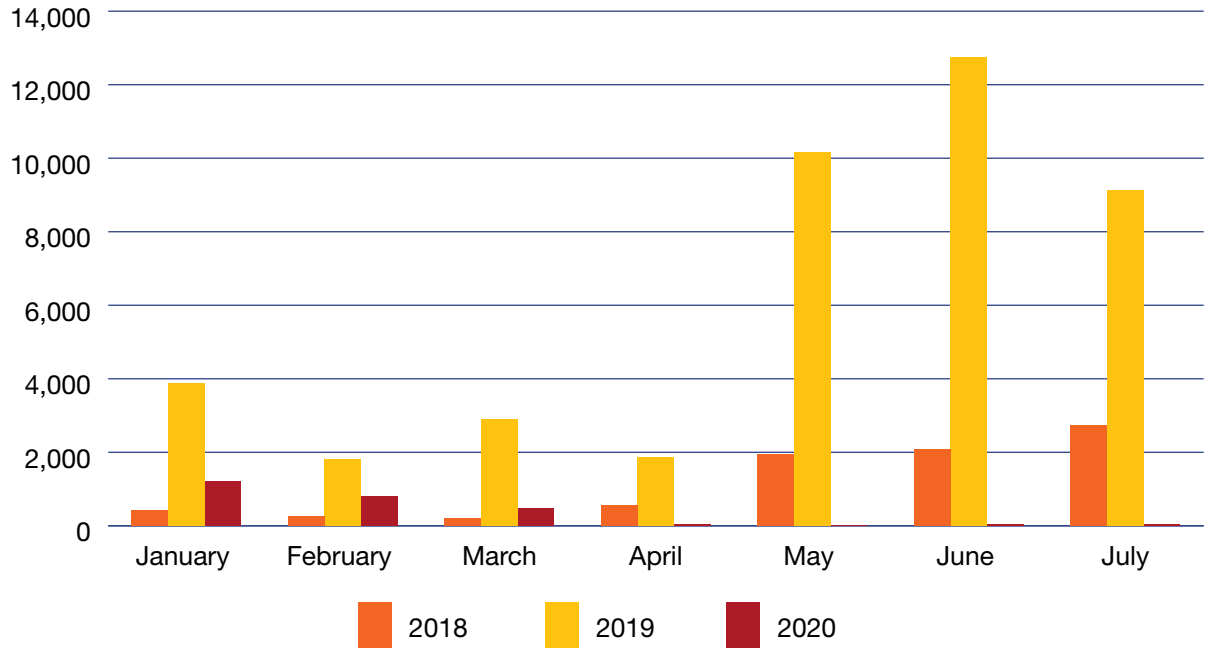
Since most district registration offices are already equipped with Internet-connected computers, all registrations done at the district level are digitized right away. Mobile birth notification is introduced as a means of digitally capturing registration information at the registration points.

Mobile notification is compiled on the mobile phone operated by the registration agent. This is transmitted from a mobile phone number preauthorized by the DNRN over a mobile network to the DNRN head office, where it is entered into the notifications database.

The introduction of birth notification with USSD technology increased the number of geographic locations where the birth registration process is initiated, including notification of the birth of a child without a name, or with incomplete information. This allows the parents to complete the information at a later stage (after the 120-day free period) without paying an extra fee.

Figure 3 presents the percentage of forms directly registered in the e-CRVS system and filled in at the registration points that followed up with mobile notification. The figure shows that in the period from January to July 2018 and 2019, this percentage ranged between 10 and 40 percent, whereas in 2020, there was a sharp decline in the same period, with less than 10 percent of forms completed at registration points being forwarded by mobile notifications.

Figure 3: Percentage of completed registration forms that were followed up by a mobile notification.[4]

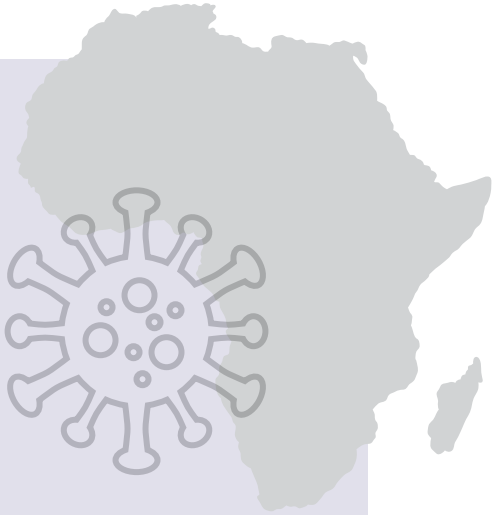


Mobile notification fulfills several important purposes:

- It enables registration authorities to monitor in real time all requests for registration made outside of district offices;
- It initiates an entry in the system, ensuring that the new identity is created, and providing the parents and registration point agents with the unique identification number of the registered child; and
- It alerts registration authorities that the respective registration form is due for data entry at the district registration office and provides additional assurance of data entry accuracy as part of the registration data verification process.

4 civil.registos.gov.mz/crvs/Report/Birth

ABOUT THIS SERIES



This country brief for Mozambique is part of the technical paper series: *Documenting the role of notification systems in capturing vital data about births and deaths for health surveillance amid a health crisis.*

The United Nations Economic Commission for Africa, the APAI-CRVS Secretariat, and the Centre of Excellence for CRVS Systems have partnered to support the development of this technical brief series on innovative, good practices facilitating the continuous and universal registration of vital events in Africa. This includes the generation of data for health surveillance during a health crisis, which has consequently mitigated the impact of COVID-19 on the performance of the civil registration systems. The overarching purpose of this technical paper series is to provide inspiration and policy guidance for CRVS programming in the African region in the midst of a global health crisis, such as the COVID-19 pandemic.

This article was developed by Zoran Đoković and it is based on information reports published on the official website of the National Directorate of Registries and Notary and the UNICEF document, Review of Civil Registration and Vital Statistics Innovations in Eastern and Southern Africa Region: Digitization, processes, and strategies (2019).

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