TECHNICAL BRIEF

Building resilient civil registration and vital statistics systems amid COVID-19: **Namibia as a good practice**

INTRODUCTION

Namibia has an advanced civil registration system and has recorded some of the highest birth and death registration rates in sub-Saharan Africa. According to the latest intercensal demographic survey (2016), 89.3 percent of the population's births are registered, 83.7 percent of the population is in possession of ID cards, and 93.5 percent of deaths are registered. The high registration rates can be attributed to, among other factors, the relatively advanced social protection systems in Namibia and demand-driving factors, such as free primary education and banking options.[1] Another attributing factor is the decentralized civil registration system, which has a strong link to health facilities where births and deaths occur and are notified. Police mortuaries also notify deaths and determine causes of death for unnatural deaths and for deaths occurring outside health facilities.

In 2017, the Namibian government introduced a new high-profile online e-notification system for health authorities and mortuaries to notify live births and deaths occurring inside and outside health facilities directly to the civil registration system. The overarching aim is to ensure that all births and deaths are recorded in a timely manner and accurately, and that data is collected for vital statistics purposes, in accordance with the United Nations guidelines to produce vital statistics. Because the civil registration and identity management systems are integrated into one system, the notifications ensure that a child's birth is linked to the parents' identity profiles and that a death is also immediately linked to the profile of the deceased.

1 Anette Bayer Forsingdal and Tulimeke Munyika. 2020. **The Synergy Between Civil Registration and Social Protection: A Case Study of Namibia**, in *The Nexus Between Civil Registration and Social Protection Systems*. Centre of Excellence for CRVS Systems. International Development Research Centre. Ottawa, ON.

Today, both the birth and death notification systems are fully implemented, and timely data is incoming instantaneously from health facilities and police mortuaries. A total of 22,823 deaths have been notified in the e-death notification system since the introduction of the system in 2018, while a total of 178,929 births have been notified on the e-birth notification system since 2017. This brief will show that Namibia is on its way to a complete data set of death notifications in 2020, which will support health surveillance during health pandemics.

This brief seeks to explore the resilience of Namibia's National Population Registration System (NPRS). It will look at the resilience of the system during a time when in-person contacts are restricted or limited, overcrowding is prohibited, offices are temporarily closed, mobile registration activities are cancelled, and the risk of exposure to COVID-19 during the exchange of documents is heightened. It also explores how civil registration data could be used to monitor key health indicators, such as number of deaths, causes of deaths, and excess deaths, as well as to conduct health surveillance.

THE USE OF THE CIVIL REGISTRATION SYSTEM DURING THE NATIONAL COVID-19 RESPONSE

Like many nations worldwide, Namibia felt and continues to feel the effects of the COVID-19 pandemic. On 17 March 2020, four days before Namibia's 30-year independence anniversary, the president declared a state of emergency due to COVID-19. Civil registration was among the services considered essential and therefore civil registration offices remained open, albeit with streamlined work plans, such as working in shifts and closing some offices and services. A total of 22 birth and death registration offices at health facilities were temporarily closed. Only the regional and sub-regional offices remained open, providing essential services such as the registration of children under age 1 and death registration. Late registration of births and deaths, as well as the issuance of duplicate certificates, were suspended.[2] By September 2020, when the state of emergency came to an end, most services had gradually been restored to normal.

Apart from the NPRS being used to validate identity data to administer the emergency income grant that the government gave to people unemployed because of COVID-19,[3] the system also served as a tool through which the Ministry of Health and Social Services could verify the "alive status" of persons who tested positive for COVID-19, in cases where they could not be reached for follow-up. The e-death notification system serves as a useful tool in recording causes of death, and thereby collecting vital details of deaths for later use by the Namibia Statistics Agency in preparing cause-of-death reports.

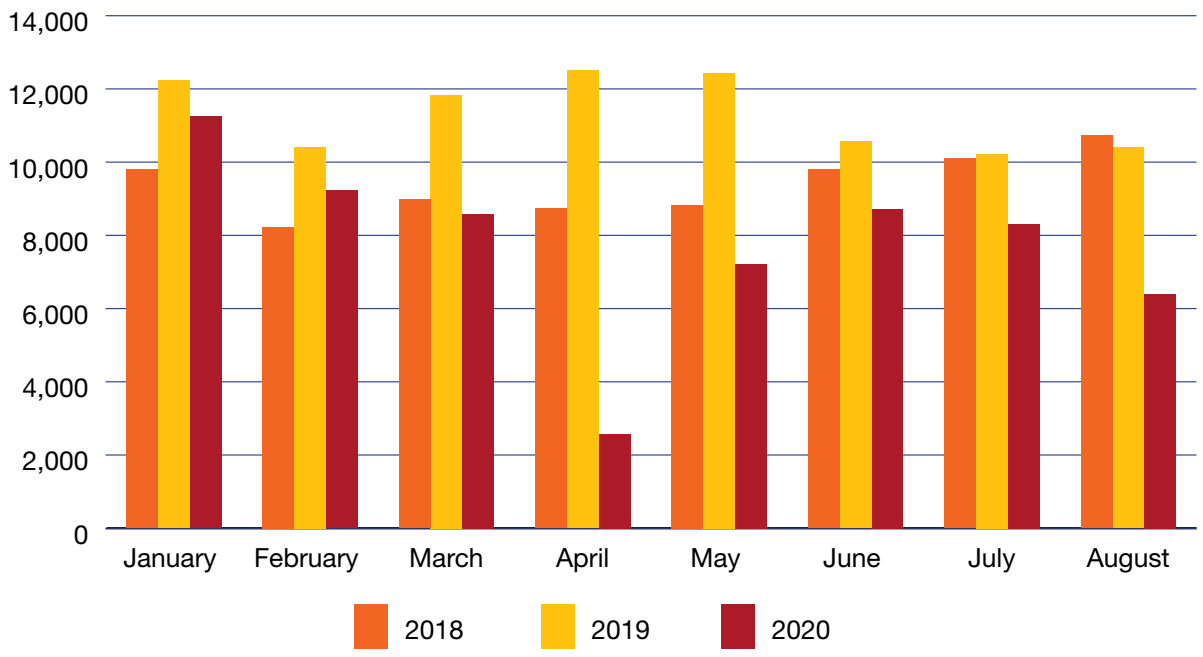
2 twitter.com/MHAINamibia/status/1265286473345052684/photo/1

3 Civil registration systems as enablers of emergency response to the COVID-19 crisis: Namibian emergency income grant. apai-crvs.org/sites/default/files/public/Technical%20brief%20no.2.pdf

COMPARISON OF BIRTH NOTIFICATIONS AND REGISTRATIONS BETWEEN 2018 AND 2020

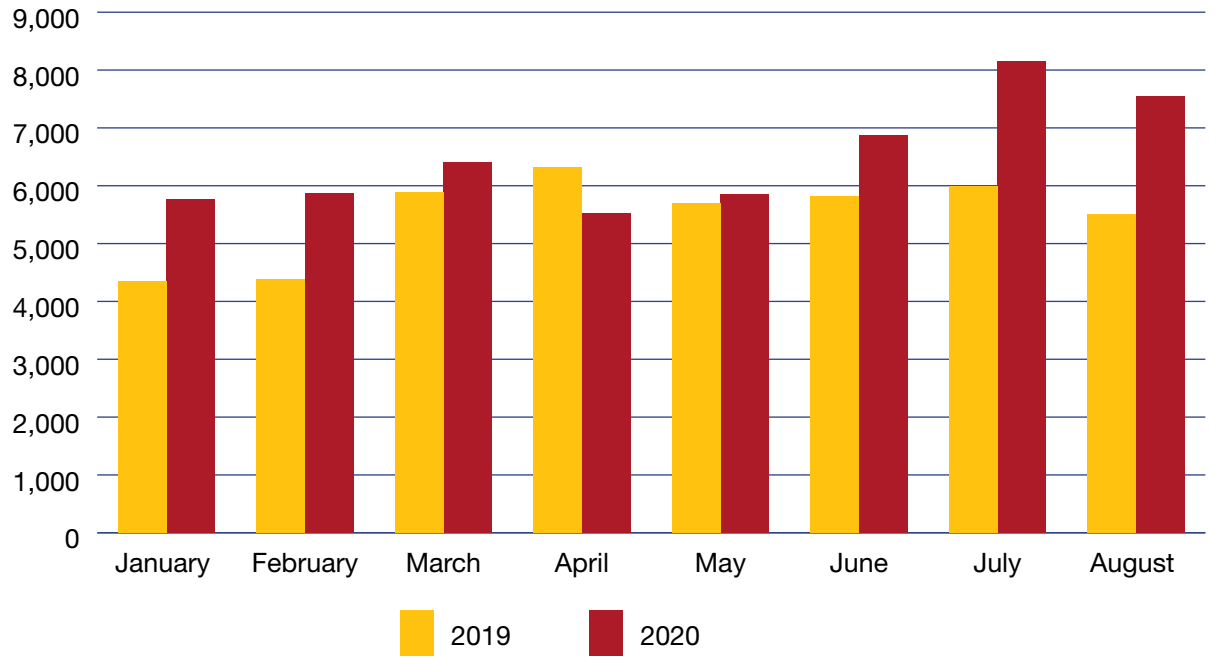
Data from the civil registration system reveals that the period of March to August 2020 saw a significant decline in registration and amendment of birth records in the electronic NPRS. A comparison from 2018 to 2020 reveals the following (Figure 1). Between January and August 2018, a total of 77,224 new birth records were recorded in the electronic birth register, compared with 92,616 records recorded in the same period in 2019, while only 64,283 records were recorded in the same period in 2020. These numbers include birth registration of persons of all ages, amendments to birth records, and the issuance of some duplicate records. The large reduction in new birth records can directly be attributed to the fact that all services for late registration of births, applications for amendment of birth records, and the issuance of duplicate records were cancelled for a period of time, while birth registration for children under age 1 continued.

Figure 1: Number of birth records entered in the electronic NPRS (all ages), January to August, 2018 to 2020.



Nevertheless, the notification of births by the health facilities continued, securing every child born in Namibia an electronic birth notification record. Figure 2 shows that more births were notified in the period of January to August 2020 than in the same period the previous year. This could mean there were simply more births occurring and that COVID-19 did not affect birth notification. It underscores the essential nature of birth notification by highlighting that the system was still working robustly even during lockdown.

Figure 2: Number of birth notifications, January to August, 2019 to 2020.

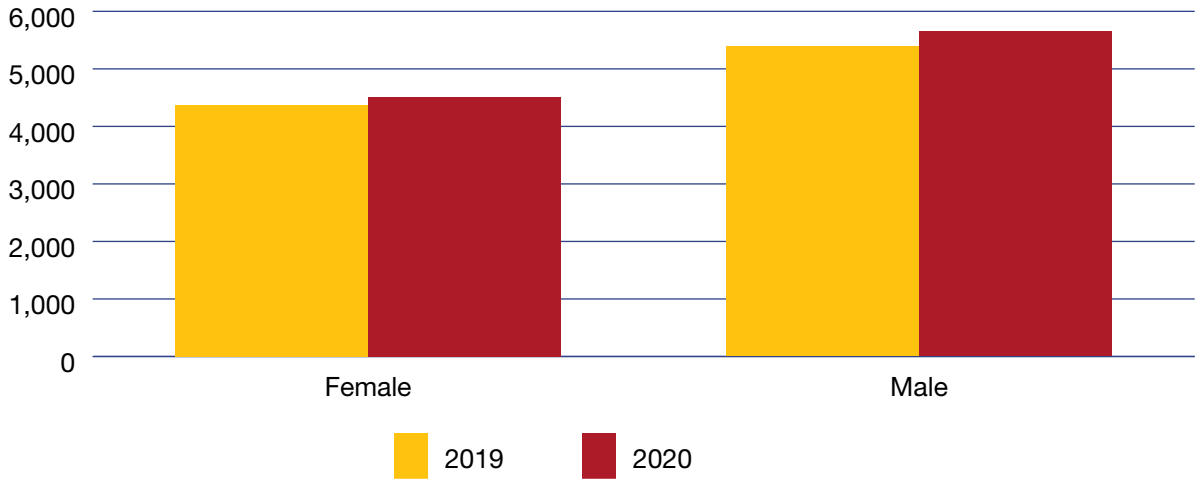


COMPARISON OF DEATH NOTIFICATIONS AND REGISTRATIONS IN 2019 AND 2020

In the same period, the number of death registrations also saw a slight decline (Figure 4). According to operational statistics from the NPRS, 14,766 deaths were registered in the period from January to August 2018, 14,683 in the same period in 2019, and 14,033 in 2020. Looking at Erongo and Khomas, the two regions hardest affected by the pandemic, both saw an increase in deaths during the months of July and August 2020 when the pandemic was peaking, first in Erongo and later in Khomas (Figure 5). A note of caution: the increase does not denote that the deaths were due to or related to COVID-19. Namibia recorded its first death due to COVID-19 on 9 July 2020.[4] The reduced number of death registrations are most likely the result of a decrease in overall mortality during the studied period rather than under-registration. Unfortunately, not all death notifications are recorded in a timely manner by health facilities, so it has therefore not been possible to compare notifications and registrations. In the studied period in 2020, 14,033 deaths were registered, while only 11,039 deaths were notified (figure 3).

4 en.wikipedia.org/wiki/COVID-19_pandemic_in_Namibia#Notable_deaths

Figure 3: Number of death notifications in 2019 and 2020, by sex.*



*The data set from 2019 is from January to December 2019, while the data set from 2020 is from January to September 2020. Please note that the system was piloted in 2018, so the data is not included.

Figure 4: Total number of deaths registered between January and August, 2018 to 2020.

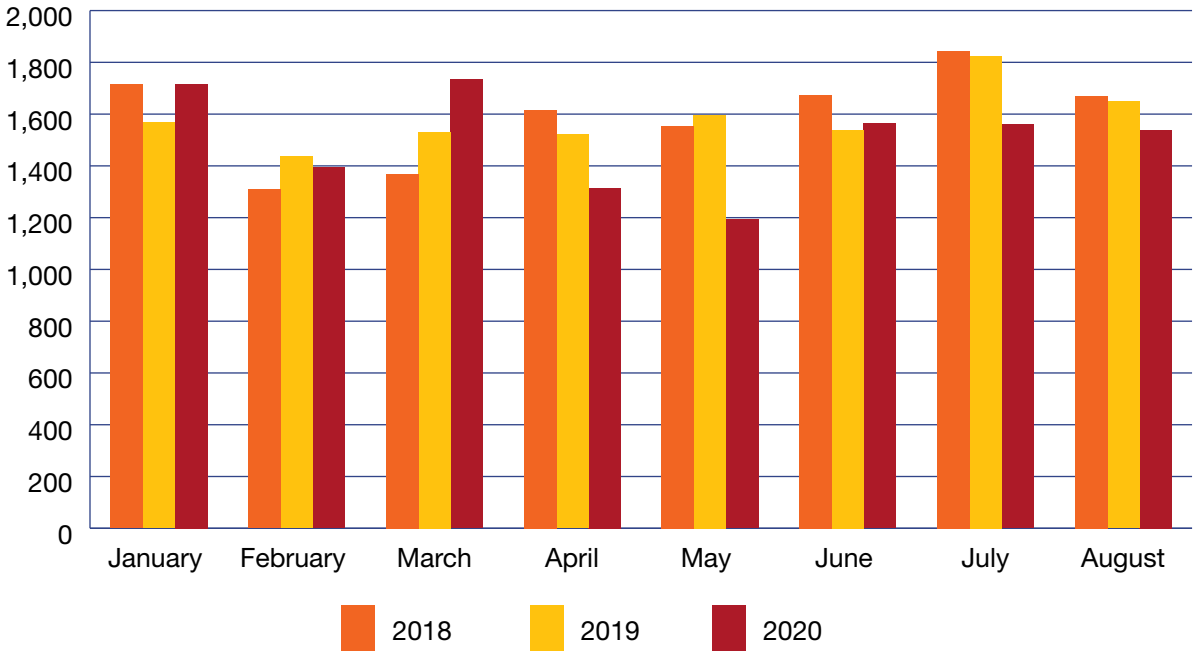
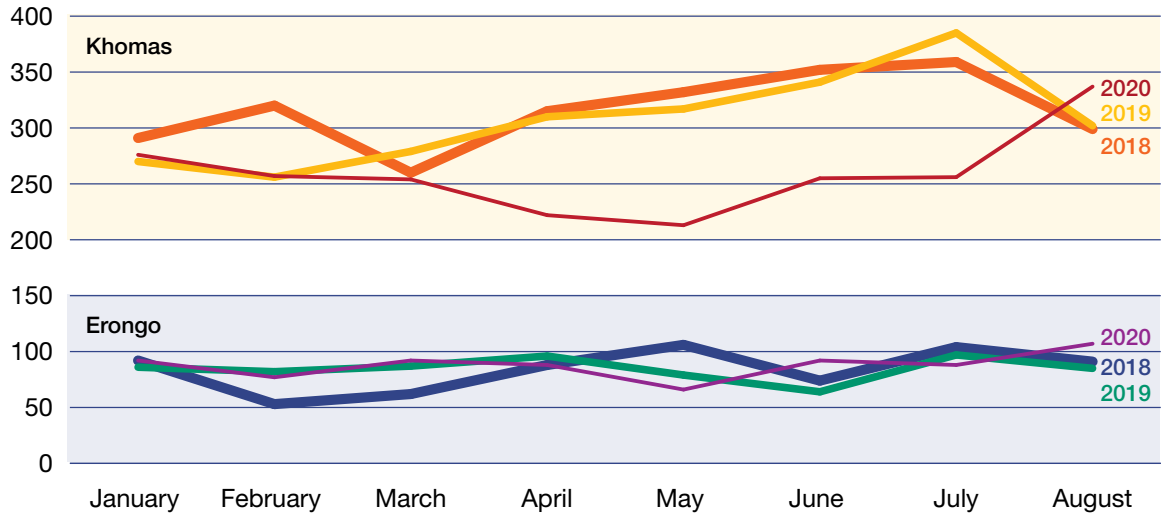


Figure 5: Number of death registrations in Khomas and Erongo regions between January and August, 2018 to 2020.



DIGITIZATION FOR ENHANCED EVIDENCE

A major digitization project jointly led by the Office of the Prime Minister and the Ministry of Home Affairs, Immigration, Safety and Security was launched in 2010 to digitize historical manual records, organize all civil events under one biographical profile, and link the profile to the existing ID production system (NPRS). This included allocating a unique system-generated control number that links all civil events and family relationships. Four years later, the online and integrated electronic NPRS was fully functional and installed in 95 percent of the civil registration offices across the country. The integration of the civil registration system and identity system is covered in a case study in the *Compendium of Good Practices in Linking Civil Registration and Vital Statistics (CRVS) and Identity Management Systems*.[5]

After the completion of the project in 2014, a series of challenges remained; two of them are worth highlighting in the context of this brief.

- The system did not address delays in registration and under-registrations.
- There was a continuous inability to produce accurate vital statistics, because the numbers of live births and deaths were issued manually, and other vital events were not included.

An electronic interface between maternal registers in the wards and the electronic NPRS was essential to capture all birth and death details from the actual occurrence of the event.[6] The e-birth and e-death registration systems were developed and operated to address this challenge and have now proven to enhance resilience during a health pandemic.

5 Centre of Excellence for CRVS Systems. 2019. *Compendium of Good Practices in Linking Civil Registration and Vital Statistics (CRVS) and Identity Management Systems*. Namibia case study. International Development Research Centre. Ottawa, ON.

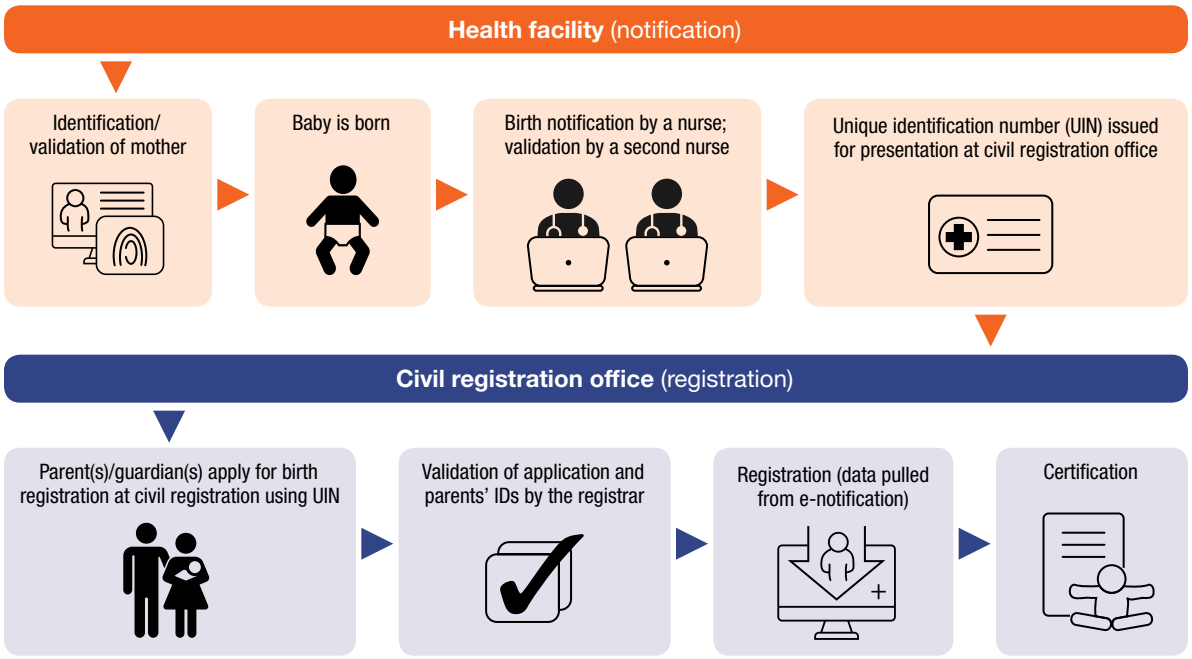
6 Bayer Forsingdal and Munyika. 2020.

E-BIRTH NOTIFICATION AND REGISTRATION

The e-birth notification system notifies the NPRS electronically when a birth has occurred at a heath facility (Figure 6). This secures the birth details of the child, verifies the identity of the mother, proves the connection between mother and child, and helps ensure the collection of accurate data about all children born in Namibia. This is the first step in establishing a child's legal identity.

The system also supports ongoing efforts to reduce late registration of birth: the collected data can be used to pinpoint population groups or areas where late registration is common. This is particularly relevant during an emergency, such as the COVID-19 pandemic where parents cannot reach offices for registrations. Just as important, the data collected will enable the government to meet the United Nations' standards for compiling vital statistics.

Figure 6: E-birth notification and registration process.



It is the responsibility of the nurse who attends the birth to record the birth details for each child. Only minimal data about the child's health is captured; this is to minimize the administrative burden for nurses. When the birth is registered, all the data captured in the e-birth notification system is extracted using the reference number generated by the system or the mother's ID.

The following data elements are captured in the e-birth notification system:

- ID number of mother*
- Full name of mother*
- Date of birth of mother*
- Contact details of mother
- Health facility and region where the birth occurred
- Unique ID for child
- Date of birth
- Place of birth
- Birth weight
- Birth height
- APGAR 1+2
- Born with visible handicap (yes/no)
- Abandoned (yes/no)
- Date and time of notification
- Details of notifier/place of notification

*This information is validated and pulled from the electronic NPRS. If the mother does not have a Namibian ID, the nurse captures the information.

Parents later submit more information to the civil registration office. This office is responsible for establishing the child's first name(s), surname, and citizenship, and confirming paternity. As soon as the registrar has captured all the data, an electronic printed birth certificate is issued. The process takes less than five minutes.

The e-birth notification system has been implemented in 51 maternity wards at health centres and 19 clinics across the country. Clinics will only attend deliveries of births in cases where the women will not be able to reach a hospital. All births occurring within the territory of Namibia must be notified. The citizenship determination of the child will only be done at the time of birth registration, depending on the status of the parents as provided for by Article 4(1) of the Namibian Constitution.

During birth registration, the registrar will issue a birth certificate indicating the child's citizenship status. A child is Namibian by birth if born by parents who are Namibian citizens or who are ordinarily resident in Namibia. In either case, parents must submit identity documents or passports, if they have them. When a parent has no documents, the birth will still be notified and registered using the unverified information that is available, and investigations can be conducted later.

E-DEATH NOTIFICATION AND REGISTRATION

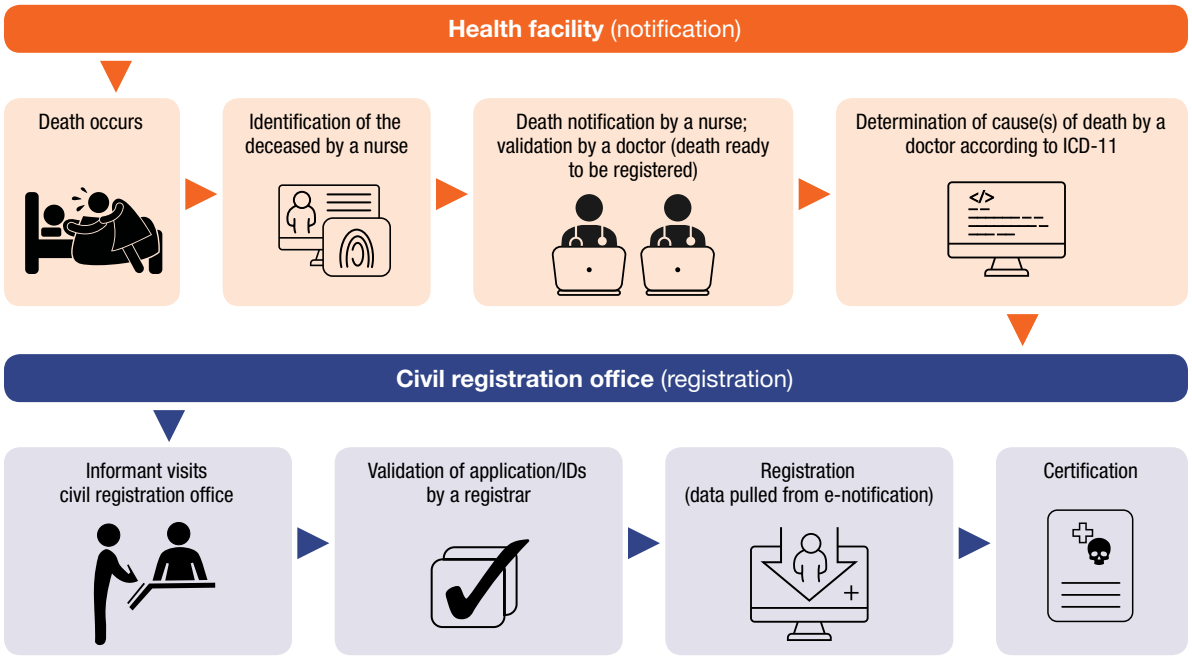
The e-death notification system collects all data necessary to conduct rapid mortality surveillance and calculation of excess deaths during the COVID-19 pandemic (Figure 7). The necessary data includes age, sex, place of death, place of residence, date of death, ID number (if available), and manner and cause of death. The e-death notification system works in a similar fashion to the e-birth notification system, allowing the health authorities and the police to notify that a death has occurred, and to code causes of death according to ICD-11 (International Classification of Diseases). The systems exchange data with the electronic NPRS, permitting users to pull and validate identity data. A memorandum of understanding exists between the Ministry of Home Affairs, Immigration, Safety and Security and the Namibia Statistics Agency to regulate the use and exchange of data electronically.

The following data elements are captured in the e-death notification system:

- ID number of deceased
- Full name of deceased*
- Date of birth of deceased*
- Place of birth of deceased*
- Sex of deceased*
- Nationality of deceased*
- Country of birth of deceased*
- Date of death
- Place of death
- Hospital of death (if applicable)
- Country of death
- Details Fetal or infant deaths (if applicable)
- Causes of death classified according to ICD-11
- Manner of death
- Details related to the tracking of the body (hospital/mortuary)

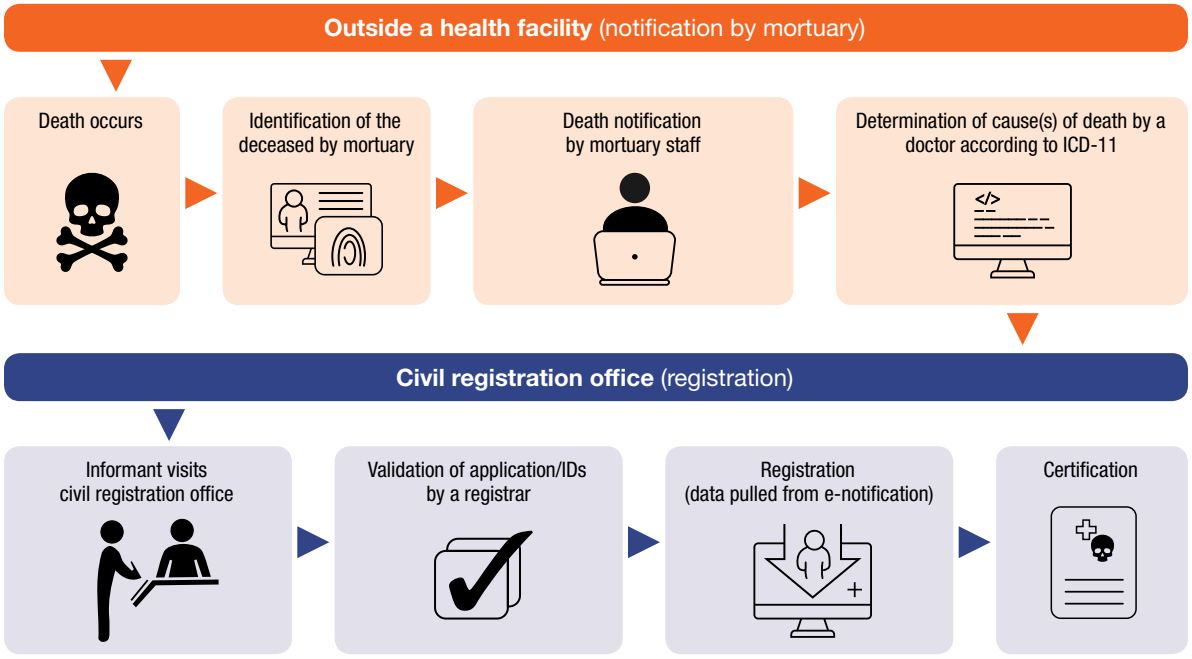
*This information is validated and pulled from the electronic NPRS. If the deceased does not have a Namibian ID, the nurse/mortuary staff captures the information.

Figure 7: E-death notification and registration process for deaths occurring in hospitals.*



*This shows a simplified process flow, not including the movement of the body.

Figure 8: E-death notification and registration process for deaths occurring outside hospitals.*



*This shows a simplified process flow, not including the movement of the body.

DISSEMINATION AND USE OF BIRTH AND DEATH NOTIFICATION DATA

The data captured in these systems is yet to be used for rapid or long-term mortality surveillance. The data captured in the system could help to understand the mortality patterns in the long term. The Ministry of Health and Social Services releases data regularly; the data is collected in the DHIS-2.[7] Since 2016, the Namibia Statistics Agency has released an annual vital statistics report, based on the data generated by the NPRS, and later the notification systems. The reports have not been published for external use, but they have been used to improve the quality of data collection. The Namibia Statistics Agency has indicated that the first-ever cause-of-death report will be published in 2021.

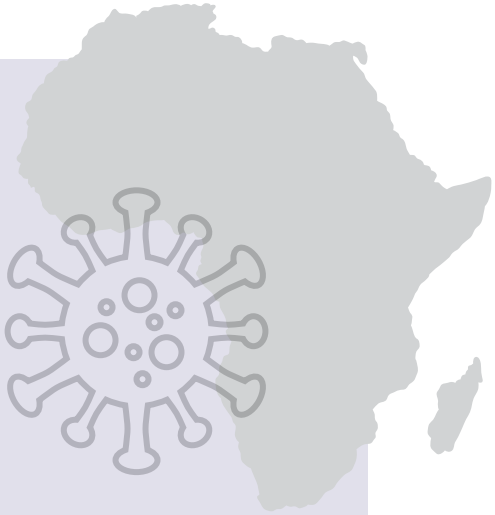
CONCLUSION

This research has shown that the digitalization of the notifications of births and deaths has made the system resilient to a health crisis, such as the current COVID-19 pandemic. During the crisis, the health and mortuary services have continued to notify events, and these are electronically accessible by the civil registration offices. This has ensured that all children born in Namibia, including foreigners and refugees, have an electronic birth notification record from birth with key data for legal registration, at any point in time. All urgent registrations could also be accommodated by keeping fewer offices open for the registration of children under 1, and for death registration. Death registration does not seem to have been affected. Equally important, all essential death data has been collected systematically, which will be used for data analysis and reporting by the Namibia Statistics Agency (NSA).[8] This will provide a comprehensive picture of the mortality trends during the pandemic. In future, the data can also be used for the daily mortality surveillance by health authorities.

7 The District Health Information Software (DHIS) is used in more than 60 countries around the world. DHIS is an open source software platform for reporting, analysis, and dissemination of data for all health programs, developed by the Health Information Systems Programme.

8 nsa.org.na/

ABOUT THIS SERIES



This country brief for Namibia 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.

The paper was prepared by Anette Bayer Forsingdal and Tulimeke Munyika.

This work was carried out with financial and technical assistance from the Centre of Excellence for CRVS Systems. Housed at the International Development Research Centre (IDRC), it is jointly funded by Global Affairs Canada (GAC) and IDRC.

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