Rwanda: a primary health care case study in the context of the COVID-19 pandemic

Theophile Dushime
Elise Hirwa
Aline Ikirezi
Laetitia Nyirazinyoye
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Executive summary

This case study examines PHC in Rwanda in the context of the COVID-19 pandemic in 2020 and 2021. The Government of Rwanda reported the country’s first confirmed case of COVID-19 on 14 March 2020 (1) and implemented swift and proactive measures in 2020 and 2021 in response to the pandemic. Governance structures were established from national to community levels that involved different sectors and partners, while National COVID-19 Preparedness and Response Plans were developed (2, 3), supported by an Intra-Action Review (IAR) (4).

Enhanced surveillance was conducted at community, health facility and point-of-entry levels for early detection of cases, alongside systematic testing of all travellers at the border and active tracing of cases in high-risk groups. Infection prevention and control (IPC) measures were implemented in health facilities and public places to minimize transmission – this included the decontamination of public facilities and homes where confirmed or suspected cases were identified, the construction of hand hygiene facilities, and the enforcement of IPC standards in public places.

Clinical care was delivered through the timely evacuation and referral of COVID-19 patients in need; the provision of adequate quarantine, isolation and treatment facilities; and the provision of home-based care for asymptomatic and mild cases. Infrastructure was scaled up to increase daily testing capacity: more than 14 sites were equipped to perform polymerase chain reaction (PCR) testing while rapid tests were used in all public health facilities and more than 50 accredited private health facilities. Necessary strategies were implemented to reduce the turnaround time for laboratory testing to less than 24 hours. Rwanda was among the first African countries to develop a COVID-19 National Deployment and Vaccination Plan (NVDP) and a target was set to vaccinate 60% of the population by the end of 2022 (5).

Efforts were made to continuously inform, engage and empower the public through timely and consistent provision of key messages on COVID-19. Promotional materials were disseminated in all public places including on public transport, while social media, radio and television were also used to raise awareness, supported by community and religious leaders. Drones were used to reach remote populations.

Logistics management capacity was strengthened to ensure the timely availability of medicines, personal protective equipment (PPE) and testing kits. At the same time, there was effective coordination among health facilities, communities and district administrations to ensure the continuity of essential health services. Effort was made to strengthen the digital health information system to enhance data for decision-making.
As a landlocked country, there were obstacles in cross-border movement of essential goods and services, as well as in stock levels due to global competition and market scarcity. Better global preparedness could enhance future health emergency responses, with long-term and flexible resourcing to address impacts far beyond immediate health effects.
Introduction and national context

Rwanda is a landlocked country in East Africa with a population of 12.95 million people in 2020. Significant gains have been made in the country over recent decades in terms of human development and health: between 1990 and 2020, life expectancy at birth increased from 33 years to 69 years; the under-5 mortality rate improved from 150 to 41 deaths per 1000 live births; and the prevalence of underweight children declined from 24.2% of under-5s to 7.7% (6). Over the same period, however, population density more than doubled, and in 2016 38% of the population lived below the national poverty line (6).

The first confirmed case of COVID-19 was reported on 14 March 2020 (1). By the end of December 2020, the total number of confirmed cases was recorded at 8383, with 92 deaths and 1749 active cases (7). By this time the country was part way through a second, relatively small epidemic wave. A year later, the country had experienced two much larger waves of COVID-19: the third wave peaked in July 2021 at 2773 new daily confirmed cases, and the fourth wave peaked in December 2021 at 1488 new daily confirmed cases. This took the cumulative total to over 112 000 confirmed cases and 1348 deaths at the end of 2021 (8, 9).

Rwanda was among the first African countries to develop a COVID-19 NVDP – the first dose of a COVID-19 vaccine was administered on 5 March 2021 and close to 5.5 million people had received two doses by the end of December 2021 (9). A target was set to vaccinate 60% of the population by the end of 2022 (5).

Drawing on a review of national policies and guidelines, research literature and media reports, this case study examines PHC in Rwanda in the context of the COVID-19 pandemic in 2020 and 2021. It summarizes the response across the three components of the Astana PHC Framework: 1) primary care and essential public health functions; 2) multisectoral policy and action; and 3) community engagement (10).

The structure of the health system

The health system is organized across four levels: a central level, national referral hospitals, an intermediary level and a peripheral level.

At the central level, the Ministry of Health (MoH) has a mandate to provide affordable, promotive, curative and rehabilitative health care services to contribute to reducing poverty and enhancing the well-being of the population. The Rwanda Biomedical Centre was established in 2011 to coordinate the implementation of policies and health-related programmes at the central level.

The five national referral and teaching hospitals provide specialized services and undertake teaching and research in medical and health sciences. Referral and provincial hospitals operate at the intermediary level, while district health units,
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district hospitals, and a network of health centres, health posts and community health workers (CHWs) provide PHC services at the peripheral level of the health system. In 2017 there were 36 district hospitals, 499 health centres and over 45 500 CHWs operating at the peripheral level (11).

Political commitment and leadership

There was firm commitment and strong stewardship from the government from the beginning of the COVID-19 pandemic in early 2020. A Steering Committee was established in the Office of the Prime Minister level to assess the effectiveness of the pandemic response, the impact on the population, and the strategies in place to ensure continuity of basic and essential services for the general public. Meeting on a twice-monthly basis, the Steering Committee took stock and issued guidance to a multisectoral team led by the MoH (12). In turn, the Cabinet reviewed the COVID-19 prevention and response efforts and directed or adjusted measures implemented across the country or localized based on epidemiological data.

Governance and policy frameworks

An overall response structure was established in March 2020 to reinforce leadership and coordination capacities for outbreak preparedness and readiness for COVID-19. Fig. 1 outlines the multisectoral coordination mechanism set up at national level (the Joint Task Force Command Post) and subnational levels (Provincial and District Command Posts) (2, 13).

A National COVID-19 Preparedness and Response Plan was developed quickly in 2020 to guide operations and resource mobilization throughout March–August (2). A subsequent Plan was developed that covered January–December 2021 (3). The underlying strategy of these Preparedness Response Plans was to activate response measures based on case load.
Figure 1. COVID-19 incident management system coordination structure

Introduction and national context

The pre-existing National Emergency Operations Centre (NEOC) and Risk Communication and Community Engagement (RCCE) Task Force were utilized, which operated at central and decentralized levels and were established when the country was preparing for the Ebola virus in 2019. In turn, the established structures supported the existing health sector framework of hospitals, health centres, health posts, community health services and the referral system to ensure that patients who tested positive for COVID-19 were assessed in a timely way, and that they isolated at home or in an appropriate facility to limit community transmission. The Development Partners Coordination Group (DPCG) provided an existing platform to discuss the impact of COVID-19 across sectors (4).

Funding and allocation of resources

New procurement and financial policies were developed and implemented to ensure prompt procurement of equipment and supplies to respond to the pandemic. The costed National Covid-19 Preparedness and Response Plan (March–August 2020) outlined a budget of around US$ 73.5 million and a subsequent plan (January–December 2021) put forward an estimated budget of around 317 billion Rwandan francs (approximately US$ 250 million) (3).

Funds were mobilized under the coordination of the Ministry of Finance and Economic Planning from the national budget and from different external financial entities, including through bilateral cooperation and specific partners. Resources were mobilized in 2020 and 2021 in terms of both funds and in-kind support (i.e., testing kits, PPE, ventilators, fleet and human resources put at the temporary disposal of the MoH and the Rwanda Biomedical Centre).
How primary care and essential public health functions are responding to COVID-19

Scaling up and managing critical emergency services

The COVID-19 response leveraged existing capacity built as part of its preparedness for the Ebola virus outbreak in East Africa in 2018–2019. At this time a national core team was established and trained; trainings were conducted in districts bordering the Democratic Republic of the Congo (DRC) and Uganda mainly; Rapid Response Teams were formed at district level; a minimum stock of supplies was established at the National Store; and other stocks of commodities such as PPE and IPC supplies were also prepositioned (14).

At the beginning of the COVID-19 pandemic in 2020, all hospitals were requested to identify at least two isolation rooms, an ambulance for potential evacuation of suspected or confirmed cases and an operational vehicle to support response operations. In January 2021, the biggest COVID-19 treatment centre opened with the capacity to care for 140 patients in the Intensive Care Unit (15).

From mid-March to August 2020 there were systematic admissions of positive cases in treatment centres to allow for close monitoring and management of severe and critical patients. However, the approach shifted in light of the growing number of confirmed cases in July–August 2020 (8) and following a successful pilot phase in the Western and Eastern Provinces. Treatment centres were phased out progressively so that confirmed cases received home-based care instead and admissions were limited to those patients who were symptomatic, experiencing severe illness or ineligible for home care.

The home-based care approach curbed the substantial burden that the pandemic was placing on the health care system. It meant that available resources could be maximized to manage and care for people with more severe symptoms while also ensuring the continued provision of essential health services. The MoH resolved to support a few treatment centres at provincial level for the management of severe and critical patients, while also reinforcing support to decentralized command post functions at district level and case management and follow up at cell/village level.

Isolation facilities were built in hospitals and resources were mobilized to equip at least half of hospitals with oxygen plants to enable autonomy of production and distribution within key departments (e.g., isolation units and intensive care units) and to supply neighbouring hospitals.
How primary care and essential public health functions are responding to COVID-19

Continuing essential services

High priority was given to the continuation of particular categories of essential health services, including:

- essential prevention and treatment services for communicable diseases – including immunizations, HIV, tuberculosis (TB) and malaria;
- services related to reproductive, maternal, newborn, child and adolescent health, including during pregnancy and childbirth;
- core services for vulnerable populations, such as the elderly;
- the provision of medication, supplies and support from health care workers for the ongoing management of chronic/noncommunicable diseases (NCDs), including mental health conditions, diabetes, cardiovascular disease, chronic kidney disease and cancer;
- critical facility-based therapies, including dialysis and physiotherapy;
- management of emergency health conditions and common acute presentations that require time-sensitive intervention, including accidents and all types of emergencies; and
- auxiliary services, such as basic diagnostic imaging, laboratory and blood bank services.

The government’s swift response to the pandemic in 2020 and 2021 largely mitigated the potentially significant negative impact on essential health and nutrition services during this period. Strategies were implemented to overcome challenges that emanated from COVID-19 restrictions such as curfews, stay-at-home orders, school closures and reduced provision of public services:

- For HIV services, a policy was established to allow patients to receive to receive sufficient medication for two or three months. Follow up of individuals and HIV testing for pregnant women were maintained. People Living with HIV (PLHIV) networks were used to support patients and raise awareness of COVID-19 risks and preventative measures among this group. Drones were also used to supply HIV/AIDS treatment in the community (2).

- For malaria services, long-lasting insecticidal nets (LLINs) were routinely distributed to pregnant women through antenatal care and the extended programme on immunizations (EPI). Small-group spraying was organized in four districts, respecting a social-distancing rule of 1.5 metres. CHWs who were treating malaria cases wore face masks and referred individuals to a health facility for COVID-19 testing if they presented symptoms but tested negative for malaria.

- Integrated sexual and reproductive health (SRH) services are considered essential services and therefore formed part of the COVID-19 response plan for continued care. The SRH package entails family planning/contraception, and comprehensive abortion and postabortion care (CAC/PAC). Throughout
the pandemic in 2020 and 2021, messages continued to be delivered on the accessibility of SRH services, particularly for CAC/PAC (16).

- For cancer services, the MoH, in partnership with Partners in Health (PIH), the Rwanda Cancer Centre/Rwanda Military Hospital (RCC/RMH) and Zipline, enhanced mechanisms to facilitate transportation and medicine distribution by drones to district hospitals and health centres (17).

Using technical documents developed by the World Health Organization (WHO) and other expert organizations, the MoH conducted assessments of the continuity of essential health services with the objective to:

- assess and monitor the impact of COVID-19 on the continuity of essential health services;
- assess the readiness of facilities to continue offering essential health services amidst the COVID-19 pandemic;
- collect information on facility readiness and capacity to manage health needs related to COVID-19;
- determine the knowledge, attitude and perspectives of health care providers and CHWs on readiness for COVID-19 and continuity of essential health services; and
- assess the perceptions of communities on COVID-19 health services, essential health services and attitudes towards a COVID-19 vaccine, as well as barriers to seeking health care.

A number of surveys were conducted, including:

- **Rapid assessment for continuity of minimum essential reproductive maternal, newborn, child and adolescent health and nutrition services in the context of COVID-19 response in Rwanda (June 2020)** (18). Rwanda Health Management Information System (HMIS) community health data from March and April 2019 (before the COVID-19 outbreak) were compared with those from March and April 2020. The results show that the utilization of 15 maternal and child health (MCH) services in all four categories (antenatal care, deliveries, postnatal care and vaccinations) declined, mainly in Northern and Western Province. However, it is important to note that the country had strict COVID-19 measures in place at this time, with curfews, business and school closures, and a stay-at-home order in place.

- **Impact of COVID-19 on malaria programme in Rwanda: rapid assessment of knowledge, attitudes, perspectives on COVID-19, and situation of malaria services provision in districts of Gasabo, Kayonza and Rwamagana (November 2020)** (19). Some findings of this study include:
  • no significant change in both mild and severe cases of malaria
  • a slight increase in rapid tests performed at community level (3.02–3.8%), which is mainly explained by the fact that movement restrictions resulted in some people using CHW services at village level
How primary care and essential public health functions are responding to COVID-19

- the majority of health care providers (74%) had appropriate knowledge on COVID-19, especially preventive measures (hand washing), with TV and radio being their main sources of information;
- supportive families enabled health care workers to continue providing services even while movement restrictions and stay-at-home orders were in force; however, a few health care providers expressed that they were worried about catching COVID-19 through their work;
- COVID-19 movement restrictions and stay-at-home orders had an impact on access to and uptake of malaria services (e.g., due to restrictions around movement, lack of transport); and
- access to transport, family support and provision of PPE allowed CHWs to continue providing services.

Global pulse survey on continuity of essential health services during the COVID-19 pandemic (July 2020 and February 2021) (20). This global survey for all member states was led by WHO in collaboration with ministries of health. These surveys indicated that operative care services were disrupted, particularly elective surgeries. Other service delivery channels were less affected. NCD screening was disrupted, especially for cancers. This was mainly due to restrictions on movement, lack of transport and the prohibition of mass gatherings which prevented some screening campaigns from taking place. All services across the supply chain experienced disruptions. Mobile clinics were suspended and some community-based services faced disruptions. All other services continued as normal.

Some best practices were recorded in the IAR for November–December 2020 (4) that also contributed to the continuity of essential services. These best practices include:

- reorganization of the transport system for patients needing high-level health care services (pregnant women, elective cases, mental health cases), suspected cases of COVID-19 and health care workers; and
- the introduction of an outreach model through collaboration between the MoH and the Rwanda Social Security Board (RSSB). This enabled access to essential and specialized care for NCDs including cancer patients, as well as for MCH services, HIV drugs, dental care and mental illness, and for the distribution of bed nets.
Managing referral systems to ensure appropriate distribution of service load

Continuum of care and triage screening at all facilities

Considering that care seekers with and without COVID-19 accessed the health system in the same way, basic IPC measures (hand hygiene, respiratory etiquette and physical distancing) were promoted and implemented in primary health centres, clinics and hospital emergency units, as well as in community settings (e.g., schools) that were designated as care sites. Health care providers had the capacity to screen, isolate and triage patients for COVID-19, with designated spaces and appropriate security.

From systematic admission to home-based care

In July 2020 the MoH piloted a home-based care model for COVID-19 patients. This took into consideration the fact that most confirmed cases of COVID-19 were either asymptomatic or displayed only mild symptoms, and therefore that individuals could self-isolate at home in compliance with standards and guidelines issued by the WHO and Centers for Disease Control and Prevention (CDC). The strategic approach to implementing home-based care covered:

- decentralization of COVID-19 case management at community level;
- the adoption and integration of digital technology into policy and health care;
- decentralization of the COVID-19 response (see Fig. 2 for the decentralized structure); and
- continuity of COVID-19 surveillance measures.
Figure 2. Decentralized COVID-19 coordination structure

Source: MoH and Rwanda Biomedical Centre (2021) (3).
How multisectoral policy and action are supporting COVID-19 responses

Rwanda implemented a coordinated multisectoral response to COVID-19 throughout 2020 and 2021. When the first positive case was confirmed in March 2020, multisectoral teams were initiated, trained and deployed in different aspects of the response. The government tackled the various challenges posed by the pandemic by quickly imposing movement restrictions to limit the spread of the disease. These measures were complemented by an Economic Recovery Plan (ERP) to support households and firms, ramped-up social protection programmes to support households, and remote learning to ensure continued education provision.

This section summarizes measures established across sectors as part of the COVID-19 response.

Immigration and emigration

Amid restrictions on border movements, the Directorate General for Immigration and Emigration (DGIE), in collaboration with other relevant institutions, facilitated the movement of goods and people in adherence with current public health measures. Additionally, the DGIE played a pivotal role in active surveillance and screening of COVID-19 cases at all points of entry.

Governance

The Ministry of Local Government ensured that all public health measures set by the government or specific sectors were well communicated and implemented within districts and at lower administrative levels. Local leaders played a key role in awareness-raising efforts in the community, in the enforcement of curfews and stay-at-home orders, and in the provision of social protection for the poorest and most vulnerable groups.

Security

The Rwanda National Police coordinated aspects of the response in terms of escorting cargo trucks, contact tracing, monitoring confirmed cases with tracking bracelets, and the enforcement of curfews and other movement restrictions.

Trade

The Ministry of Trade and Industry, in cooperation with other relevant institutions, adjusted its guidelines relating to markets, industries and the distribution of services. For example, quotas were issued on the number of traders in markets.
with a rota to ensure social distancing, screening facilities were set up for customers at all market entrances, handwashing stations were constructed and mask wearing was enforced.

Industry-related guidelines were issued stipulating that all but essential staff must work from home when possible, that measures such as social distancing must be followed in workplaces to prevent the spread of COVID-19 among staff and visitors, and that handwashing stations and sanitizers must be available for staff. The Ministry of Trade and Industry also established prices for particular essential consumer goods and services to prevent sudden hikes.

Guidelines were also issued on the movement of cargo. For example, new goods clearance guidelines were established for imported goods that were disseminated on the Rwanda Trade Information portal to guide entrepreneurs on how to access their goods while respecting preventive measures such as border closures and enhanced IPC practices. In addition, the Automated System for Customs Data (ASYCUDA) platform operated by the United Nations Conference on Trade and Development (UNCTAD) was used to replace all paper-based documentation with electronic data for goods clearance.

Furthermore, the Kiyanzi Dry Port was established near the Rusumo border post, a green space that received hundreds of trucks and containers daily for processing. Drivers were tested for COVID-19, offered face masks and provided with information on preventive measures and national guidelines. They could also access sanitation and accommodation services at the dry port while their trucks were decontaminated by a team from the Rwanda Biomedical Centre. Cargo trucks containing essential and urgent goods were escorted to designated stop centres to prevent contact with the community (21).

Finance and economic planning

The Ministry of Finance and Economic Planning mobilized and allocated resources for the pandemic response efforts and to support the recovery of the economy. This was while also pursuing the National Strategy for Transformation (22) and the overall Vision 2050 (23). Constant efforts were made to mobilize resources both domestically and internationally and to prioritize allocations for maximum impact.

Tourism

Additional guidelines were published by the Rwanda Development Board (RDB) for the continuity of tourism activities. Inbound and outbound passengers were required to provide evidence of a negative PCR test within 120 hours of departure/arrival and some hotels were designated as quarantine sites. For parks, museums and other tourist sites, visitors were required to provide proof of a negative COVID-19 test and complete a tourism application form up to 24 hours prior to their visit. In addition, tourism premises submitted weekly clearance
forms for their staff to the RDB. Only essential gatherings were allowed in hotels, with permission needing to be granted by the RDB (24).

Agriculture

Classified as an essential service, farming practices were allowed to continue during 2020 and 2021 when movement restrictions, stay-at-home orders and business closures were in force. Farmers were encouraged to work to maximum capacity while adhering to COVID-19 guidelines in order to produce enough food for the population while imports had reduced (25). To boost production, the Ministry of Agriculture and Animal Resources donated 500 metric tons of fertilizer to smallholder farmers from the Rwanda Fertilizer Company, a partnership between the Government of Rwanda and a Moroccan fertilizer company (26).

Employment

The unemployment rate rose by 4.3 percentage points in 2020 due to the effects of the pandemic (27). In response, the Ministry of Public Service and Labor began implementing aspects of the National Strategy for Transformation (22), with the aim of creating 1.5 million decent and productive jobs by 2024 (28).

Education

During 2020, the government provided funding of US$ 9.7 million through the Ministry of Education for the construction of 22,505 classrooms. This was to ensure social distancing in classes and the provision of special care to vulnerable students (29).

The Education Sector COVID-19 Plan was designed to elaborate a response in line with the Education Sector Strategic Plan, to boost remote learning during school closures using audio-visual technology, and to strengthen the education system for future emergencies (30).

How communities are responding to COVID-19

There was ongoing commitment and engagement from communities, civil society and private health facilities during the pandemic in 2020 and 2021 in terms of awareness campaigns, logistical support, contact tracing, isolation and case management.

To engage the community while respecting social distancing, Provincial and District COVID-19 Command Posts communicated through virtual meetings. COVID-19 Response Teams were established at village level, which reported upwards to the central level on a daily basis so that community needs were
communicated and addressed promptly (31). These structures also enabled information to be relayed to communities regarding movement restrictions and other IPC measures. Youth members and community leaders volunteered to enforce public health measures such as mask-wearing and social distancing in public places, and to deliver targeted health education to members of the community who did not adhere to preventive measures.

The private sector led initiatives to identify and roll out rapid solutions to supply problems, for example in the production of hand sanitizer. There was active mobilization and participation too from many stakeholders in supporting vulnerable populations, including through structures set up to channel food support to vulnerable groups in the community.

As noted earlier, during the pandemic the pre-existing NEOC was mobilized, which includes an RCCE Task Force at central and decentralized level. Within this, the Health Sector Team was reinforced by experts from other government, nongovernment and partner organizations to strengthen this aspect in the National Preparedness and Response Plans (2, 3). The Plans incorporated an RCCE component, drawing on related Standard Operating Procedures (SOPs) that were already in place in the country. The following pillars were addressed to enhance and sustain community and other stakeholder engagement in the pandemic response:

- Application of a multisectoral, multichannel approach to RCCE with a focus on equity, equality and inclusion;
- Video conferencing to enhance RCCE coordination at central and decentralized levels;
- Strengthened capacity of the existing RCCE Task Force as well as newly established RCCE Task Forces and media practitioners at all levels;
- Maintenance of existing mechanisms and establishment of new platforms for feedback collection and case tracking;
- Regular reviews and updates of RCCE strategies and approaches to address messaging fatigue;
- Dissemination at district and community level of key messages and communication materials developed at the national level;
- Availability of trained RCCE Task Force members at district level;
- Targeted mobilization of people who were failing to comply with COVID-19 prevention measures; and
- Engagement of village, community and opinion leaders.

To build capacity, trainings were organized on RCCE for Public Relations Officers, Health Promotion Officers and District Health Directors from all 30 districts. In addition, journalists were trained on pre- and during-outbreak reporting, and related messages were designed and disseminated to different audiences.
The National Police Task Force and CHWs reinforced stay-at-home campaigns as well, with CHWs also providing protective equipment and follow-up care to patients discharged from treatment centres. Local leaders were also supported by the National Police to implement movement restriction policies. Bus drivers and other public transport workers were encouraged to engage with their passengers and remind them of preventive measures such as respecting social distancing regulations and hygiene practices during travel. At the end of June 2021, during a third wave of COVID-19, strict measures were introduced: an 18:00 curfew was established; churches, schools and bars were closed; restaurants were only allowed to provide takeaway meals; all public and private workers were instructed to work from home; and only 50% attendance of market sellers was permitted, with proof of a recent negative COVID-19 test. Failure to adhere to these restrictions resulted in punitive measures, including fines.

National TV, radio and social media channels were used to deliver daily updates about COVID-19 to the public alongside related health education campaigns. COVID-19 awareness messages were sent to all mobile phones via short message service (SMS) and a toll-free, 24-hour phoneline (#114) was set up for information provision. Various radio and TV programmes were developed in partnership with organizations such as the United Nations Children’s Fund (UNICEF) to engage children at home and educate them about prevention measures as well.

Specific campaigns were launched throughout 2020 and 2021 aimed at reducing the spread of COVID-19. For example, the #gumamurugo campaign – which roughly translates as “stay at home” – called for people to respect movement restrictions and save lives. The campaign was effective thanks to the efforts of the National Police, the health sector and local authorities who facilitated community awareness and rumour management. In addition, these actors encouraged people to respect safety measures such as the wearing of masks in public places, social distancing and handwashing, and they issued penalties to people who failed to adhere to the regulations. Another campaign, #ntabearinje – which translates as “let it not be me” – targeted the individual in terms of personal responsibility for preventing the spread of the virus.

Various communication channels proved to be useful in informing the general population about preventive measures. This included video and audio messages disseminated via public, private and community radio and TV stations, taxi park and market radios, electronic and fixed billboards, social media platforms, street signs, and within churches, schools, public transport, refugee camps and prisons. Regular interviews and press conferences were broadcast with high-level officials to give timely information on major preventive measures.

Additionally, communities engaged with local government and health promotion experts via community radio, the Red Cross, CHWs and youth volunteers. Celebrities were used in advertisements to sensitize audiences about prevention measures, while more aggressive media campaigns were launched to educate the population about safe practices during festivals and about homemade
remedies to treat illness. Media channels were also used to sensitize people about the COVID-19 vaccine and to encourage its acceptance.

To properly manage rumours about COVID-19, call centres and social media platforms were used to monitor local and international media and to provide accurate information to the public. Communication materials were developed and made available from central to community level to prevent the circulation of rumours. These materials were used by trained RCCE teams at district level, who in turn trained others within their districts in a decentralized manner.

In summary, the RCCE strategy was used to continuously inform, engage and empower the public through the timely and consistent provision of key messages, with close collaboration from community and religious leaders. Innovative approaches – such as the use of certain technologies and testimonies from recovered patients – were used to educate the general population and raise awareness around COVID-19.
Conclusions and lessons learned

Rwanda’s experience throughout 2020 and 2021 shows that an effective response to COVID-19 involved strong leadership and coordination at the highest administrative level; multisectoral collaboration in-country to limit transmission; effective partnerships, regional collaboration and community engagement for a cohesive response; and evidence-based decision-making supported by research and data.

As a landlocked country, the response was hampered by the lack of harmonized cross-border movement of essential goods and services and by competition for supplies due to global demand and market scarcity.

COVID-19 has confirmed the need for health systems to be more resilient to emergencies of this magnitude. Three opportunities are highlighted:

1. The need to strengthen disease surveillance mechanisms and health information infrastructures.
2. The importance of having adaptable health systems.
3. The need for strengthened coordination across countries.

As the country strives to build a resilient health system, there is likely to be a need to increase testing capacity in terms of laboratory infrastructure, availability of supplies, upskilling of staff and decentralization of testing capacity (for PCR and rapid tests). In addition, clinical management capacity can be strengthened by establishing intensive care units at provincial and district level (which will require renovation, construction, equipment, supplies and staffing). There is now a mobile prefabricated hospital with a minimum of 120 beds to be used for COVID-19 patients and future epidemics. The use of these hospitals could help to ensure the continuity of essential services at other hospitals during health emergencies. Development of local manufacturing capacity for health commodities such as PPE (masks, coveralls, face shields), hand sanitizer and vaccines can also be considered. Discussions are ongoing to establish a messenger ribonucleic acid (mRNA) vaccine manufacturing plant for Rwanda and elsewhere in Africa.

Additionally, the following lessons have been learned from the COVID-19 pandemic that might have broader applicability outside of the country:

- **Political leadership makes the difference.** Effective leaders act decisively and in the interests of people on the basis of science, evidence and best practice.

- **Preparedness is not only what governments do to protect their people, but also what people do to protect each other.** In the absence of an effective vaccine or treatment, individual behaviours have never been more important.
Conclusions and lessons learned

- **The impact of pandemics goes far beyond immediate health effects.** In addition to the immediate death toll, COVID-19 will be remembered for its rapid global spread and for its devastating social and economic impact, especially for vulnerable and disadvantaged groups.

- **Current measures of preparedness are not predictive.** Our understanding of pandemic preparedness has been inadequate. The ultimate test of preparedness is response across three levels: stop the spread of the virus, save lives, provide social protection.

- **The return on investment for global health security is immense.** Expenditure for prevention and preparedness are measured in billions of dollars; the costs of responding to and recovering from a pandemic are measured in trillions.

- **Development assistance is an inadequate model for financing this investment.** Pandemic preparedness is the responsibility of all countries. It requires long-term, predictable, flexible and sustained financing on a much greater scale, based on global solidarity.

- **Global preparedness needs to be enhanced.** National preparedness alone will not help us to respond to the current pandemic or the next threat.
References


15. @RBC tweet. Rwanda Biomedical Centre; 8 January 2021 (https://twitter.com/rbcrwanda/status/1347613848904359942).


This case study was developed by the Alliance for Health Policy and Systems Research, an international partnership hosted by the World Health Organization. In 2015, the Alliance commissioned the Primary Health Care Systems (PRIMASYS) case studies in twenty low- and middle-income countries (LMICs) across WHO regions. This case study builds on and expands these previous studies in the context of the COVID-19 pandemic, applying the Astana PHC framework considering integrated health services, multisectoral policy and action and people and communities. This case study aims to advance the science and lay a groundwork for improved policy efforts to advance primary health care in LMICs.