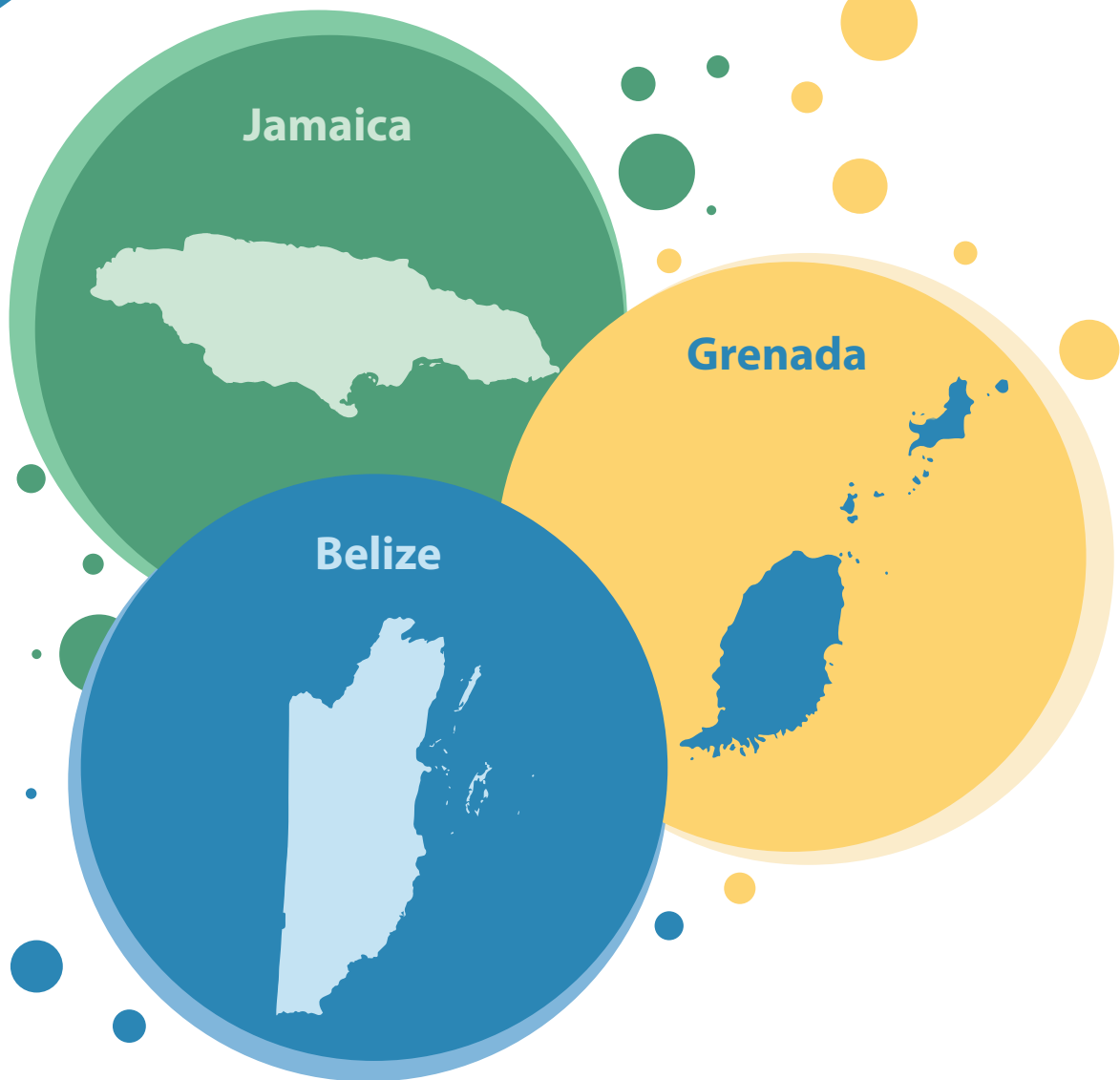


Impact of COVID-19 on Human Resources for Health and Policy Response: the Case of Belize, Grenada, and Jamaica



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Washington, D.C., 2022



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PAHO/CRB/COVID-19/22-0001

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Foreword

The COVID-19 pandemic has proved the need for resilient health systems that can react to a dynamic and sometimes threatening environment with adequate and timely responses. The pandemic has also demonstrated the importance of human resources for health (HRH) to face this and future health emergencies. Countries and health institutions must have the capacity to respond with human resources that are sufficient in quantity and possess the skills and capacities necessary to meet the needs of the population in a timely, relevant, efficient, and effective manner. Adequate investment and management of human resources will allow health systems to respond promptly, improve healthcare outcomes, rationalize the use of resources, and reduce the stress on staff.

In 2021, we celebrated the *International Year of Health and Care Workers*. It is also the time to act and advocate to ensure that health workers are supported, protected, motivated, and equipped to deliver quality health care for all.

The Caribbean subregion is no stranger to these HRH needs. The Caribbean Roadmap for Human Resources for Universal Health 2018–2022 was developed by a joint effort of 15 Member States of the Caribbean Community (CARICOM). Drawn up with the technical support of the Pan American Health Organization (PAHO), the roadmap sets out a comprehensive approach at the subregional level that enables countries to develop common standards and guidelines for HRH planning and policy avoid word break.

Health workers have been crucial in the preparedness for and response to COVID-19, but the pandemic has negatively affected the availability of HRH. During the pandemic, the Caribbean subregion has taken several measures to improve the response to the coronavirus from an HRH perspective, building on the roadmap priority areas. In 2020, PAHO identified, systematized, and analyzed the interventions and policy development around HRH in support of the COVID-19 response in 12 countries of the Caribbean. The results and recommendations prompted CARICOM to consider the establishment of the Human Resources for Health Action Task Force, which was launched in April 2021. Its work also allowed PAHO to identify the need to carry out more in-depth analysis in selected countries of the subregion: Belize, Grenada, and Jamaica. Identifying and understanding the mechanisms used by countries, such as recruitment processes, type of redeployment, and incentives, will provide evidence on best ways to invest and address HRH shortages during such outbreaks.

The present publication will contribute to understanding better the response in the subregion, to the exchange of experiences and lessons learned, and to the development of public policy in support of CARICOM countries and the Caribbean Cooperation in Health Phase IV.



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The main source of information came from officials responsible for management of human resources for health in each national Ministry of Health, who provided support in gathering and transmitting information via the questionnaire sent out to each ministry, and interviews in their areas of expertise: for Belize, Philip Castillo, Health Planner, Andre Chell, Health Planner, Policy and Planning Unit / Project Management Unit, Ministry of Health, and Edwin Bolastig, Health System and Services Advisor at the PAHO Country Office; for Grenada, Nester Edwards, Chief Nursing Officer, Camille Louis, Chief Health Planner Carol Telesford-Charles, Chief Community Health Officer, at the Ministry of Health and Social Security, Anoris Martin-Charles, Acting Director of Nursing Services at the General Hospital, St. Georges, and Fiona Anthony, Country Specialist at the PAHO Office; and for Jamaica, Gail Hudson, Senior Director, Human Resource Management and Administration at the Ministry of Health, and Casimiro Canha Cavaco, Health System and Services Advisor at the PAHO Country Office.

Fiona Harris-Glenville, Diana Hernández Hernández, Irene Melamed, and Wendy Sealy collated and organized the data and the documentation for the case studies.

Abbreviations and Acronyms

CARICOM	Caribbean Community
CHW	community health worker
HRH	human resources for health
IPC	infection prevention and control
MoH	Ministry of Health
MoH Belize	Ministry of Health and Wellness of Belize
MoH Grenada	Ministry of Health, Social Security and International Business of Grenada
MoH Jamaica	Ministry of Health and Wellness of Jamaica
NHWA	National health workforce accounts
PAHO	Pan American Health Organization
PPE	personal protective equipment
WHO	World Health Organization

Executive Summary

The COVID-19 pandemic has strongly impacted health systems around the world. Health workers have been crucial in the preparedness for and response to COVID-19, and as such are highly exposed to contracting COVID-19. While efforts have been made to assess the pandemic's direct impact on the human resources for health (HRH), a more comprehensive view and approach to understanding the multifaceted impact of COVID-19 on HRH and the policies adopted by countries to address the challenges are still lacking. To gain a better insight into the impact of COVID-19 on the HRH and on policy responses, a series of country case studies have been undertaken.

Several measures have been taken to respond to COVID-19 from the HRH perspective, building on the Caribbean Roadmap for Human Resources for Universal Health 2018–2022 priority areas, and the strategic priorities and objectives of the HRH Plan of Action. The Pan American Health Organization (PAHO) considered it fundamental to identify, systematize, and analyze the interventions and policy development around HRH in support of the COVID-19 response. This paper informs and analyzes key findings on the impact of COVID-19 on health workers and policy responses in three Caribbean countries: Belize, Grenada, and Jamaica, in the period from March to December 2020. It looks at the impact of COVID-19 on the occupational, health, and safety issues of the HRH and on the mechanisms used by these countries to increase HRH surge capacity in terms of their availability, training, protection, welfare, and financing. The case studies were developed using a standardized methodology across the countries based on: interim guidance developed by the World Health Organization (WHO) in 2020 (*Health Workforce Policy and Management in the Context of the COVID-19 Pandemic Response*); the standardized impact measurement framework; and the Health Labour Market Framework.

The purpose of this document is to contribute to better understand the response in three countries of the subregion, to the exchange of experiences and lessons learned in the HRH Task Force in the Caribbean, and to the development of public policy in support of the Caribbean Community countries and the Caribbean Cooperation in Health IV. This will be useful to identify strategies and draw lessons to contribute to the development of HWF policies and investments for strengthening health systems.

Impact of COVID-19 on Human Resources for Health

Countries reported similar challenges with HRH that existed before the pandemic, including: staff shortages; uneven distribution of existing staff; and gaps in skills and competencies of staff. The context of the COVID-19 pandemic exacerbated these problems as the existing health personnel needed to be mobilized to deliver added services in response to the management of the COVID-19 pandemic.

The pandemic has also highlighted the lack of or limited information on HRH in the Caribbean and the need to know more in-depth the impact of COVID-19 on the HWF as well as the national policies adopted to address the challenges around HWF issues. Of the three countries of the study, Belize and Jamaica reported confirmed COVID-19 cases among HRH. Between March and 31 May 2021, 1.81% (854) of all reported confirmed cases in Jamaica were among health workers. By occupational group, nurses accounted for 19% of the confirmed cases and medical doctors 16.30%. In Belize, 0.76% (96) of cases were among HRH. Nurses represented 1 out of 4 of the confirmed cases while 1 out of 5 were medical doctors. There were no reported cases

of COVID-19 among health workers in Grenada during the reporting period.

Regarding stigma and discrimination – an important factor that impacts HRH – there were reports of experiences in all three countries, which occurred very early in the pandemic.

Policy Response

Each of the three countries created a plan of action to guide the response to the COVID-19 pandemic. A state of emergency was declared once the first COVID-19 case was reported in early-to-middle March 2020. During the first wave of the pandemic, all the countries moved quickly to provide facilities for quarantine and isolation of confirmed cases of COVID-19. Previous experience in health emergencies, such as the influenza pandemic in Grenada, or dengue fever in Jamaica were useful to face the COVID-19 pandemic.

The three countries under review used diverse measures to increase the availability of HRH, such as recruitment; reorganization of services to reduce the patient load in other areas; redeployment of HRH in critical areas; volunteers; international cooperation, particularly from Cuba; task delegation; students; and private-sector support.

The three countries sought to ensure that supplies of personal protective equipment (PPE) were available for distribution to health workers as needed through investments in procurement and distribution, especially to those individuals providing direct care to COVID-19 patients. Other equipment, including ventilators, laboratory testing machines, and associated consumables, was also made available.

The three countries have testing policies for health workers. In Jamaica, according to the results of the Health Care Worker Exposure Risk Assessment and the associated testing protocol, health personnel working in direct and indirect care and surveillance activities are tested as

needed. In the cases of Belize and Grenada, the protocols utilized for general high-risk exposure are utilized for health personnel working directly with COVID-19 patients or those conducting contact tracing and surveillance activities.

Countries introduced training sessions for health workers on infection, prevention, and control measures very early in the pandemic. Training plans differed between the countries based on the evolution of the pandemic within the country and the training needs identified.

The three countries have all developed plans for the introduction of the COVID-19 vaccine with the prioritization of health workers in the first phase of deployment. Vaccination plans differ based on the characteristics of the population and are tailored toward the needs of each country. To protect HRH during the vaccination plan deployment the three countries have allocated resources for the provision of adequate PPE and the identification of teams who guide the process of vaccination.

Countries adopted eight HWF policy measures to increase, support, and protect HRH to respond to the COVID-19 pandemic. This required inter-ministerial collaboration as well as support and assistance from the private sector and local and international organizations allowed. In Belize, there was a collaboration between the Ministries of Health, Public Service, and Finance for hiring additional health personnel, although there had been a 40% budget cut across all ministries before the COVID-19 pandemic. A similar arrangement was done to allow for a new category of personnel referred to as environmental health wardens in Grenada.

There were policy decisions taken in all countries to shift and/or allocate funds to support the COVID-19 response in the country. Belize, Grenada, and Jamaica also received donations from other countries, PAHO, and other international agencies. Local and international

organizations also made donations of PPE. In particular, the three countries indicated that they had entered bilateral agreements with the Government of Cuba for the supply of specialist medical doctors and nurses, even before the start of the COVID-19 pandemic. In general, PAHO supported the selected countries in most, if not all, of the above-mentioned areas, providing technical cooperation, training, and logistical and financial support. The three Governments had varying methods of engaging the private sector in the COVID-19 response. In Belize, there was an agreement set up health teams from the private sector to provide support to the public health sector as needed. While there was no formal arrangement identified in Grenada and Jamaica, there was support from the private sector, especially as it related to donations of medical supplies and other needed equipment. In the case of Jamaica, private-sector agencies also provided incentives such as gas cards to assist healthcare workers in transportation.

Challenges and Lessons Learned

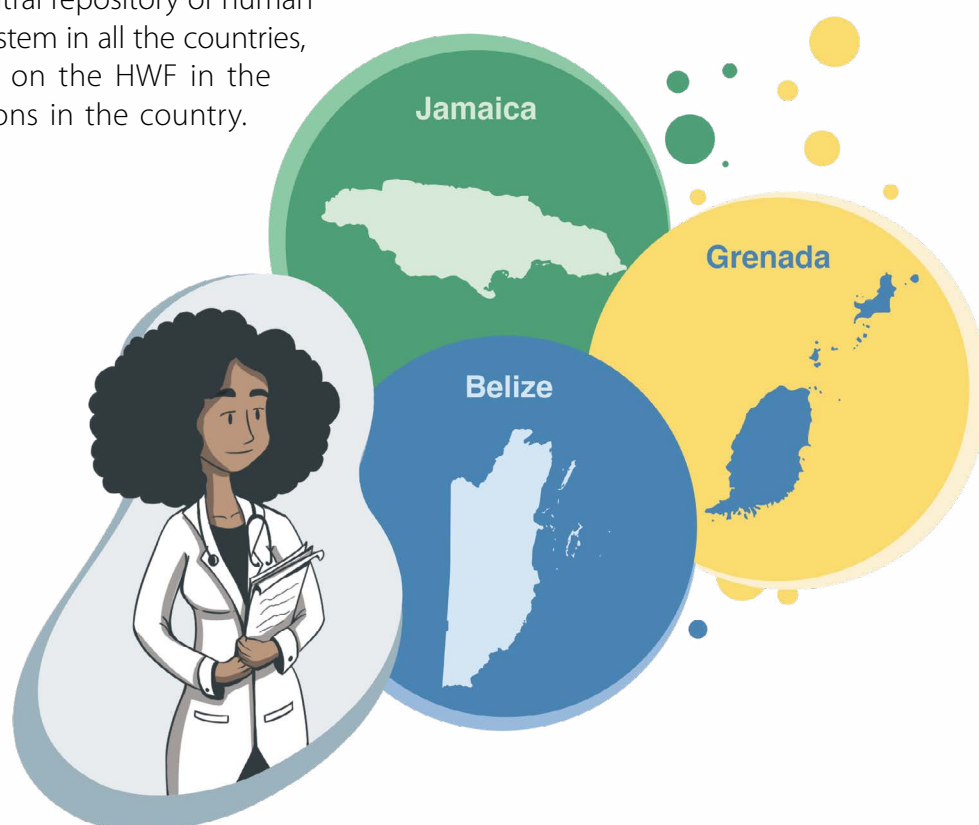
There is a need for a central repository of human resources information system in all the countries, to capture critical data on the HWF in the specific health professions in the country.

Such a repository will serve to service the needs of countries in providing updates on information for the projection of numbers to support the epidemiological needs of the countries in question.

There must be allocation within national budgets to address existing staffing needs and fill gaps in skills and competencies. In addition, countries must conduct analyses of existing staffing placements and ensure equitable distribution of existing human resources.

Migration of staff has been one of the drivers of staffing shortages in the Caribbean subregion. The loss of skilled health workers has created a deficit that is difficult to fill with the current number of graduates entering the HRH.

Training and staff development must be continuous to ensure that the health system is always prepared to respond to emergencies such as the COVID-19 pandemic. There must be attention to having the right cadre of staff by ensuring routine analysis of the HWF and implementing measures to fill identified gaps.



Introduction

The COVID-19 pandemic has strongly impacted population health around the world. In this way, it has highlighted the crucial role of health workers in the preparedness for and response to COVID-19. The pandemic has evidenced the shortage of human resources for health (HRH), lack of personal protective equipment (PPE), and timely protocols to address occupational, health, and safety issues.

Global estimates of COVID-19 infections and deaths among health workers tend to suggest that official reporting mechanisms do not capture the full scale of infections and deaths (1)¹. The pandemic has also highlighted the lack of available or reliable data and information in the studied Caribbean countries, and the need to know more in-depth the impact on the HWF as well as the national policies adopted to address the challenges around health workers' issues. It has also shown the importance of data and science to build back more resilient health systems and equitably accelerate toward shared global goals.

Health workers are at a high risk of contracting COVID-19 in the health services because of lack or inadequate use of PPE, noncompliance with infection prevention and control (IPC) standards, and insufficient training, among others. As health workers have been infected by the virus with consequences in terms of morbidity and mortality, consequently, the workload of those who are available is expected to increase. This, in turn, might also affect some aspects of HRH mental health – among other concerns – which adds strain to the healthcare system.

While the COVID-19 pandemic has stressed HWF in countries, it also has led to identifying ways to rapidly hire and train health workers. Identifying and understanding the mechanisms used by countries (such as recruitment processes, type of redeployment, etc.) will provide evidence on ways to address HRH shortages during such outbreaks.

This publication analyzes the impact of COVID-19 on HRH, and the policy responses in Belize, Grenada, and Jamaica between March and December 2020. As these three countries are members of the Caribbean Community (CARICOM), these case studies have been an input for policy development on HRH strengthening in the CARICOM HRH Action Task Force and for promoting dialogue across the Region. As a result, two HRH policy briefs were approved at the highest level of decision making during the 41st Council for Human and Social Development (COHSOD) held in October 2021 (1, 2).

The document is organized as follows: 1) methods and data used to develop this paper; 2) a short description of the health system and HRH key highlights before the COVID-19 pandemic; and 3) the impact of COVID-19 on HRH, followed by the responses of each country, which are structured across three areas:

- Measures to maintain or increase HRH.
- Occupational health and safety measures to protect and support HRH, IPC, training, and vaccination.
- Financing.

Conclusions are then suggested, with a summary of the findings, similarities, differences, and challenges in the three countries.

¹ This publication estimates the global probable ranges of health care worker deaths due to COVID-19 using mixed analytical methods; it also presents data on country case studies reported by each of the countries in the study.

1 Methods and Data

The case-country development, data sources, and analysis were based on: 1) an Interim Guidance, developed by the World Health Organization (WHO) in 2020, titled *Health Workforce Policy and Management in the Context of the COVID-19 Pandemic Response* (3); 2) the standardized impact measurement framework (2); 3) Health Labour Market Framework (4); and 4) PAHO analysis on HRH and COVID-19 response in 12 countries of the Caribbean (5). These were used as an analysis framework to better understand the various policies and regulations that governments have introduced to manage their HRH in the context of their responses.

The eligibility criteria of countries were:

- Country being a Member State of the subregion of the Caribbean and CARICOM. This categorization is important as the Member States develop, to various extents, common policies, notably related to the HWF.
- Countries, of this subregion, expressing interest in documenting and willingness to review and discuss their COVID-19 response concerning the HWF.
- Each country case study followed a mixed approach of information gathering and data collection that included:
- Literature and desk review of existing documents.
- Completion of a country questionnaire and key informant interviews. A series of interviews were conducted by PAHO consultants between August and October 2020. Interviewees included PAHO health systems and

services advisors, country specialists, focal points for HRH, MoH officials such as health and nursing administrators, and other key informants. Verbal consent was obtained, and all sessions were recorded. The average response time for the interviews ranged from approximately 45 minutes to one hour.

- Desk review of policies adopted during the pandemic, including reports and gray literature, obtained from MoHs and service delivery agencies.

Data were compiled from multiple sources, including:

- National Health Workforce Accounts (NHWA) data portal (6).
- National health information systems and surveillance databases for data on health workers' infections and deaths.
- Desk review of policies adopted during the pandemic, including reports and gray literature, obtained from MoHs and service delivery agencies.

Each country case study was structured according to the following framework:

- Health systems: key highlights.
- Impact of COVID-19 on health workers.
- Policy measures to respond to COVID-19 related to health workers.
- Measures to protect and support HRH.
- Financial implications of health workers COVID-19 measures.

2 Health System Key Characteristics

One of the general features of the health systems in the three countries (Belize, Grenada, and Jamaica) is that the existing healthcare services are provided mainly through a network of public health facilities (7–9). In the case of Belize and Jamaica, there are also private entities; however, most medical doctors who work in the public sector, also work in the private sector (5). Another characteristic across the three countries is the lack of coordination and communication for information flow to the Ministry of Health and vice versa, linked to the fact that decentralized health authorities oversee health administration at the subnational level.

Looking at each country, Belize's health system is heavily dependent on public financing (10). The rural population is served by a network of health clinics, health posts, and mobile health clinics. Through the introduction of the National Health Insurance Scheme in 2001, services are delivered through a network of primary care providers that have focused on the health of a defined region and population.²

Regarding the health system in Grenada, the Ministry of Health, Social Security and International Business of Grenada (MoH Grenada) is responsible for overseeing the health services and for policymaking and regulation. Health care in Grenada is universal, and government financing is supplemented by minimal fees for services in public institutions (10). Health services are provided at the primary and secondary levels through public and private health services. Primary health care has been expanded to increase access to care, while it is important to point out

that the healthcare program serves the vulnerable segments of the population.

In Jamaica, health is delivered through a combination of public and private entities. The system is decentralized with the Ministry of Health and Wellness of Jamaica (MoH Jamaica) having general oversight and responsibility for policy development as well as setting and regulating standards. There are four regional health authorities responsible for the delivery of services. Within the public health sector, health is provided through a network of primary, secondary, and tertiary care facilities. Health care in Jamaica is free to all citizens and legal residents, at public hospitals and clinics. The public health sector is financed by the Government of Jamaica budget and supplemented by inputs from NGOs and international development partners.

2.1 Overview of Human Resources for Health

Countries had HRH challenges before COVID-19 that included: staff shortages; uneven distribution of existing staff; and gaps in skills and competencies of staff.

HRH shortages in Belize included both clinical and non-clinical staff. There is a need for additional nurses and medical officers as well as drivers and security staff to enable the provision of services, particularly in rural areas (11). The lack of HRH is a critical problem in the health system of Belize, and this scarcity is aggravated by the unequal geographical distribution of HRH, as most are based in urban areas, particularly in

² The scope of the scheme was limited to the poorest regions in Belize city, progressively extended to the southern region and some districts in the north of Belize. After 17 years in place the scheme is still considered a pilot and is pending to be extended to a cross-national level (PAHO, s.f.)

Belize City (7). Medical officers must be trained abroad and fewer than 20 nurses graduate from the University of Belize yearly. The country has, until 2017, no medical school to train physicians, although some categories of nurses, laboratory technicians, pharmacists, and social workers are trained at the University of Belize.

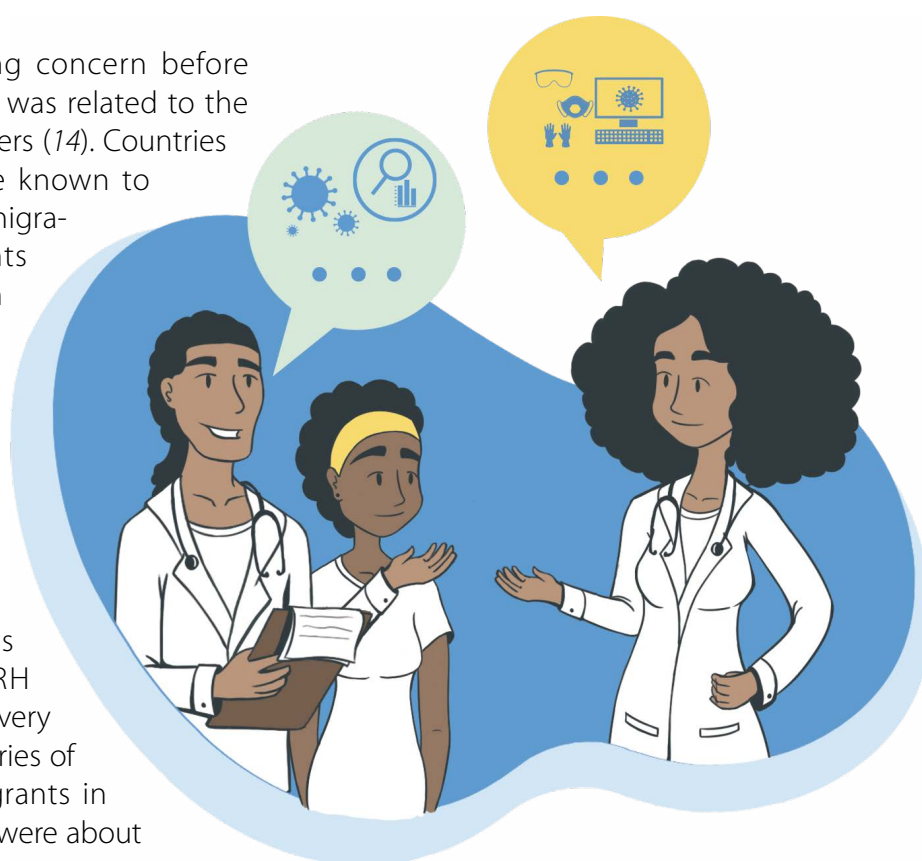
In Grenada, there was a challenge with the limited number of specialist personnel, particularly critical care nurses. There was a severe shortage of various categories of staff including intensive care specialists for meeting the health needs of the population (12). In Jamaica, there was a shortage of medical doctors and nurses at various levels of staff for providing services in key areas related to the pandemic, such as critical care nurses, largely resulted from the migration of nurses to the United Kingdom of Great Britain and Northern Ireland, United States of America, and Canada, which continued to be a problem. In addition, inequitable distribution of staff throughout the regions (13). Annex 1 provides additional information about the availability of HRH by occupational group.

In the Caribbean, a growing concern before the emergence of COVID-19 was related to the migration of healthcare workers (14). Countries in the Caribbean region are known to have high rates of overall emigration. Many of the emigrants from the Caribbean region are health workers, especially nurses. In addition to intra-regional mobility, Europe and North America are important destinations for emigrant health professionals from Caribbean countries (14). The long and persistent migration trend stands alongside substantial HRH shortfalls and impacts the delivery of quality care in some countries of the region. Jamaican immigrants in the United States of America were about

25,000 in 1960 but 745,000 in 2017 – a 30-fold increase in nearly six decades. Immigrants from Belize have also increased, from 3,000 in 1960 to 49,000 in 2017 (15).

Addressing these challenges has been an issue in the three countries, leading to formulating strategies for planning the closing of the HRH gap. The Belize Human Resources for Universal Health Strategic Plan 2019–2024 (16) was created prior to the COVID-19 pandemic, presenting a situational analysis of HRH in Belize, with the view of addressing the HRH needs to support the achievement of health outcomes in Belize. The strategic direction of this plan is guided by the WHO HRH Action Framework, which provides a comprehensive approach to national HRH development. Major challenges were identified as follows:

- Uneven distribution of health personnel across the country. Within the context of the geographical location, it must be noted that there may be a concentration of health personnel in the central region, while there are



limited numbers of health personnel available in the rural areas. Rural retention mechanisms are insufficient for motivating and retaining health workers deployed in rural areas.

- Gaps in skills and competencies of health personnel at all levels and across occupational groups.
- Brain drain linked to high mobility and migration.
- Poor motivation of staff.
- Limited numbers of HRH to manage the health needs of the population. This includes health workers production not sufficiently coordinated to optimize resource allocation within the limited capacity of the Ministry of Health and Wellness of Belize (MoH Belize).
- Further investment in HRH is needed to address shortages and improve the distribution of health workers. Prior to the commencement of the COVID-19 pandemic, a 40% budget cut was applied to all ministries.

Belize has an active community health worker (CHW) program, with 230 CHWs living in and serving defined communities. CHWs have been fundamental in reducing the gap in rural areas.

Prior to the COVID-19 pandemic, the MoH Grenada had commenced development of the Strategic Plan for Health 2016–2025 (8), which included strategies for addressing challenges with HRH in Grenada. The human resources audit performed during the situation analysis provided valuable insight into the challenges with HRH in Grenada and identified gaps in the public HRH in terms of composition and availability of personnel (8). With the support of the Pan American Health Organization (PAHO), the country developed the Grenada Influenza Pandemic Preparedness Plan with activities for addressing HRH needs during the influenza pandemic. Moreover, Grenada had already

developed a national plan for HRH prior to the COVID-19 pandemic. Although this plan has not yet been fully implemented and there is currently no budget identified to support its implementation strategy and the achievement of the indicators, it has facilitated some of the decisions on HRH during the pandemic.

As set out in the Ten-Year Strategic Plan 2019–2030 by the MoH Jamaica, one of the policy priorities is to ensure sufficient HRH in number and competencies aligned to the model of care and committed to the mission of providing quality health services and to promote healthy lifestyles and environmental practices (17).

Despite these efforts, there persists a shortage of HRH, in particular in Belize and Jamaica where as indicated in Table 1, the density of medical doctors and nursing personnel per 10,000 population is below the critical threshold of density estimated in 44.5 per 10,000 population, as an approximate of minimum requirements for availability of HRH linked to the Sustainable Development Goals.

Table 1 Density of Medical Doctors and Nursing Personnel per 10,000 Population

Country	Medical doctors ^a	Nursing personnel ^b
Belize	10.78 ^c	23.42 ^e
Grenada	14.36 ^c	62.81 ^e
Jamaica	4.55 ^d	8.07 ^e

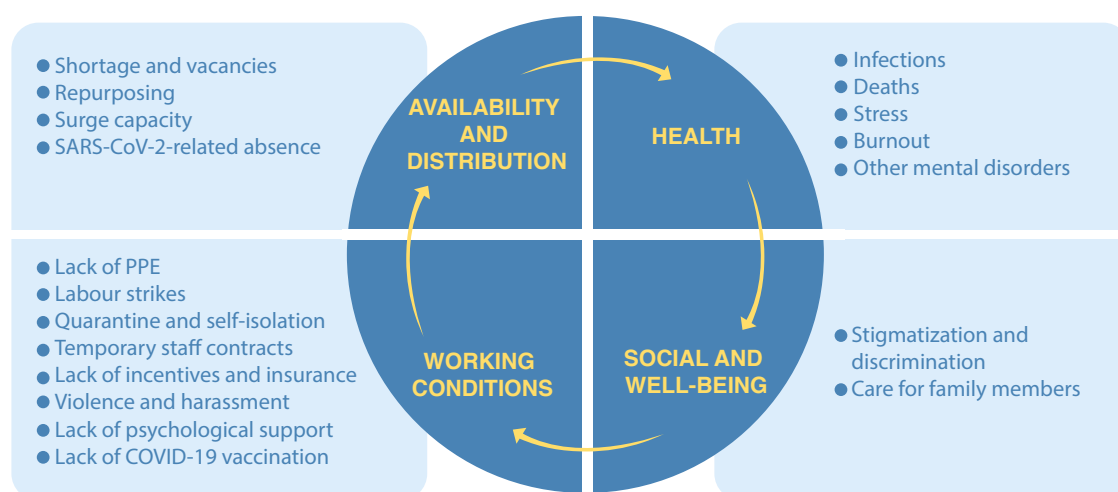
^a Includes general practitioners and specialists at all levels of care.
^b Nursing personnel includes professional nurses and associate professional nurses where available.
^c 2018 data. WHO National Health Workforce Accounts data portal, accessed 10 August 2021.
^d 2016 data. WHO National Health Workforce Accounts data portal, accessed 10 August 2021.
^e 2018 data. WHO National Health Workforce Accounts data portal, accessed 10 August 2021.

3 Impact of COVID-19 on Human Resources for Health

HRH have been central to the COVID-19 response since the beginning of the pandemic. Many of their functions and roles put them at risk of exposure to hazards that can impact their working conditions

as well as their physical and social well-being. It is therefore critical to monitor the multidimensional factors affecting HRH as the pandemic continues (2), which are shown in Figure 1.

Figure 1 Multidimensional Factors Related to COVID-19 that Impact HRH



Source: WHO (2021) COVID-19 Weekly Epidemiological Update. <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---31-march-2021>.

There were several challenges highlighted within the context of HRH including the unwillingness of staff to work in areas with high risk for exposure to COVID-19, staff concern for self and families, and unavailability of various cadres of staff.

Table 2 summarizes the available data on the impact of COVID-19 on HRH in the three countries. Among the multidimensional factors related to COVID-19 that impacted HRH, the ones regarding health showed that Belize and Jamaica reported positive COVID-19 cases among healthcare workers. From the beginning of the pandemic up until 30 November 2020, 0.68% (319) of all reported cases in Jamaica were among health workers. Nurses, which 98% are women, accounted for 1 out of 5

of the cases, with an occupational group infection rate of 2.60%, and medical doctors 16.30%, with an occupational group infection rate of 1.40% (12); there is no available information of other occupational groups. Up until 31 May 2021, cases among HRH rose to 854, representing 1.81% of the confirmed cases (18).

By 7 November 2020, the epidemiology unit of the MoH Belize reported that 96 healthcare workers had tested positive for COVID-19. This represented a 1.92% infection rate among health workers. Nurses, which also represent a very high percentage of women with 95%, were the largest affected group identified and accounted for 1 out of 4 of all HRH confirmed cases. This was

followed by hospital workers (19%) and medical practitioners (18%). Other unidentified occupational groups accounted for 31% of infected cases. Infection rates within occupational groups were calculated for nurses and medical officers as these were the only groups for which data on the number of individuals in the category were available. The infection rate was higher among medical officers (4%) than nurses (3%), and this was possibly due to the greater deficit among medical doctors than nurses in Belize.

Regarding stigma and discrimination – an important factor that impacts HRH – there were reports of experiences in all three countries (5), which occurred very early in the pandemic. Also, only a limited number of health workers offered their services and volunteered to work with patients with COVID-19. There were concerns over the possible effects of the disease on individuals and their families. In Grenada, health workers reported that stigma occurred mainly

from members of the general public when some healthcare workers sought to use public transportation as they were seen as possible carriers of the COVID-19 virus. The 18 health workers who volunteered at the beginning of the pandemic to work with COVID-19 patients also experienced stigma and discrimination from their colleagues, as well as from some members of the public. In response to these reports, the MoH Grenada implemented transportation services for health workers who required these services, as well as public education campaigns, and training of HRH in various aspects related to the pandemic.

Unlike other countries, none of the three countries under review reported strikes among health workers. One possible explanation could have been related to the special focus on health-care workers' protection and support, compared to pre-pandemic, which may have contributed to HRH's motivation to continue working.

Table 2 Impact of COVID-19 on Human Resources for Health

			
Date data	30 November 2020 ^b	31 May 2021 ^c	31 May 2021 ^c
COVID-19 confirmed cases in HRH	96 ^b	0 ^c	854 ^c
Total HRH	5,000 ^d	1,206 ^e	24,595 ^f
Infection rate in HRH ^g	1.92%	0%	3.47%
Deaths among HRH	0 ^c	0 ^c	4 ^c
Case fatality rate in HRH ^h	0%	0%	0.47%
Total confirmed cases in the population	12,709 ^c	161 ^c	47,150 ^c
Percentage of cases in HRH compared with total cases in the population	0.76%	0%	1.81%

^a Date of the information.

^b Response to the PAHO/WHO questionnaire (11).

^c COVMART Database (18).

^d Belize COVID-19 Vaccine Introduction Plan (19).

^e National Deployment and Vaccination Plan for COVID-19 Vaccines, Public sector (20).

^f Interim Vaccination Logistics (21).

^g Infection rate in HRH = confirmed cases in HRH / total HRH.

^h COVID-19 case fatality rate in HRH = deaths among HRH / confirmed cases among HRH.

ⁱ Percentage of cases in HRH over total cases = confirmed cases in HRH / confirmed cases in total population.

4 Policy Response

4.1 General Strategy

Each of the three countries created a plan of action to guide the response to the COVID-19 pandemic. Once the first case of COVID-19 disease presented itself in the three countries in early-to-middle March 2020, a state of emergency was declared. During the first wave of the pandemic, all the countries moved quickly to provide facilities for quarantine and isolation of positive cases of COVID-19. Countries went through periods of lockdown and phased reopening to preserve lives and minimize the impact on current human resources (5).

All countries sought to attend to the protocols proposed by WHO³ and implement measures to achieve a comprehensive healthcare system. These measures included developing several actions to promote better responses to the COVID-19 pandemic, also using their previous experiences in health emergencies, such as the influenza pandemic in Grenada and dengue fever in Jamaica. The first case of COVID-19 triggered the implementation of the Grenada National Influenza Pandemic Preparedness Plan (22), declaring a state of emergency and the Public Health Act 6263 was put into action, to allow for mandatory quarantining of persons suspected of having contracted the COVID-19 disease.

The MoH Jamaica recognized the importance of the community health workers (CHWs) in assisting with previous public health challenges such as

the dengue outbreak, where they utilized the search and destroy strategy to identify and destroy mosquito breeding sites within the community setting. Thus, this level of personnel was also utilized to assist with the COVID-19 pandemic (5).

The response to the COVID-19 outbreak in Belize was guided by the Belize National Interim COVID-19 Response Plan of 12 March 2020. The plan outlined the agreements between the MoH Belize and district and local government for the management of COVID-19 in Belize and provided a broad indication of the responsibilities of the key health stakeholders. It also served as guidance for the four health regions, as it was used for the development of specific regional plans. The country utilized several pieces of legislation⁴ to support its activities related to the COVID-19 response. The Occupational Health and Safety Act 2014 was used to guide the process for management of the occupational situations of various types of workers within the context of the COVID-19 pandemic. This legislation mandates the notification of occupational safety and health accidents and diseases and enforces the protection of workers by all employers. However, the act is currently (at the moment of documentation of the case studies) under review, and the main bottleneck is the cost that will be incurred by the Government to implement the legislation. In early March 2020, the country also applied the PAHO Health Services Capacity tool, which proved very useful for estimating HRH and bed needs as the pandemic began.

³ Reduction in the size of social gatherings; guidelines for physical distancing, also called 'social distancing'; prevention and public health measures including hand washing and sanitization; and other measures including curfews and closure of businesses, schools, and churches, with only essential services operating (23).

⁴ The Public Health Act, Prevention of the Spread of Infectious Disease COVID-19 Regulations, 2020; The Medical Services and Institutions Act; Occupational Health and Safety Act; and various statutory instruments or decreed legislations.

The first case of COVID-19 in Grenada was identified on 22 March 2020, which triggered the implementation of the National Influenza Pandemic Preparedness Plan (22). The country declared a state of emergency on 25 March 2020, and the Public Health Act 6263 was put into action to allow for mandatory quarantining of persons suspected of having contracted the COVID-19 disease.

In the case of Jamaica, the COVID-19 pandemic was managed under the Disaster Risk Management Act and through the implementation of the COVID-19 Plan of Action to maintain the continuance of essential services. In the first instance, there was a thrust to increase the number of critical care beds from 10 to 39. This was largely achieved by the fact that these beds were originally designated for maternal and child health but were redirected to the COVID-19 units.

4.2 Measures to Maintain and Increase Availability of Human Resources for Health

The context of the COVID-19 pandemic exacerbated HRH shortages, as the existing health personnel needed to be mobilized to deliver added services in response to the management of the COVID-19 pandemic.

Clear guidance on roles and tasks is critical in relation to essential activities that need to be maintained, nonessential tasks that can be postponed, and additional pandemic activities that need to be performed. All of this implies the need for training to be carefully planned and anticipated for possible scenarios and consequent mitigation plans. The three countries introduced a wide-ranging type of measures (Table 3) toward maintaining or increasing the HRH to manage the response to COVID-19, such as:

- **Recruitment in Belize, Grenada, and Jamaica.** Inter-ministerial collaboration for the hiring of new and/or additional staff was developed in Belize and Grenada. Through the Ministries of Public Service and Finance, the MoH Belize made the provision for the contract of new health personnel through a prioritization process as needed, despite a freeze in hiring within the public service in Belize. This led to the hiring of 230 additional community workers (5). In Grenada, 117 environmental health wardens (24), a new category of personnel, were hired on a temporary basis through the program introduced by the MoH Grenada to provide additional support in matters related to the control and response of the COVID-19.⁵ PAHO also assisted the country in the area of surveillance, by facilitating the hiring of a surveillance officer. In the case of Jamaica, 1,000 additional CHWs were hired to assist with the distribution of information to the population. This initiative sought to strengthen the first level of care and public health capacity.
- **Reassignment of staff in Belize, Grenada, and Jamaica.** In the three countries, some services were temporarily suspended or scaled down, and an appointment system was instituted to continue to provide some essential health services, avoiding overcrowding. This reorganization of services allowed the reassignment of staff within institutions, where staff members were diverted from their regular work areas or specific departments to others within the same institution to perform work on the more affected areas or others such as mental health, flu clinics, or isolation centers. In Grenada, there was also redeployment of HRH across community health districts when there were shortages in these areas. In Belize, although not needing to divert health workers from other regions, lab technicians from other health regions were mobilized to support the Central Medical

5 The Public Health Act 6263 (2020) granted the Chief Medical Officer the authority to hire health workers as needed.

Laboratory (CML) which conducts COVID-19 testing. These persons were provided with housing during their assignment. In Jamaica, coexistence of centralized and decentralized decision-making was required.

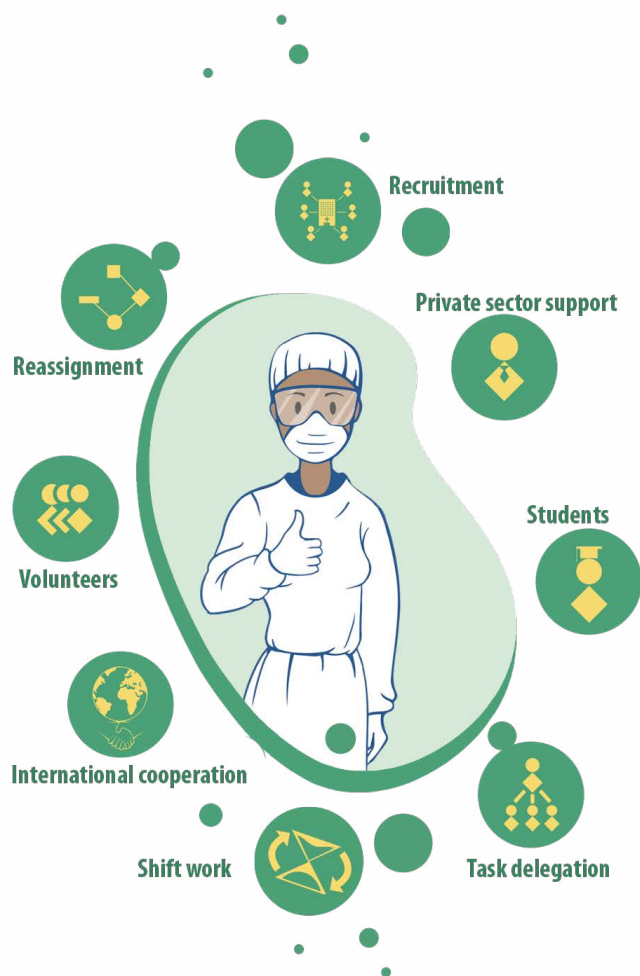
- **Volunteers⁶ in Belize, Grenada, and Jamaica.** The MoH Belize co-opted approximately 500 volunteers to manage community quarantine centers to coordinate logistics, food, and supplies, and to ensure that basic preventive measures were instituted and maintained. The volunteers included persons who had no healthcare training to provide logistical support in general areas in response to the pandemic, as well as retired nurses who were utilized to manage hotlines and information centers on a voluntary basis. The MoH Grenada co-opted 59 volunteers to assist with contact-tracing and other services to support the activities of HRH during the pandemic (12). (Approximately 1,000 volunteers in Jamaica were recruited through invitation as well as advertisements and were assigned to clinical and nonclinical areas. All volunteers participated in a mandatory training/orientation exercise through an online training platform.
- **International cooperation in Belize, Grenada, and Jamaica.** The three countries indicated that they had entered bilateral agreements with the Government of Cuba for the supply of specialist medical doctors and nurses, even before the start of the COVID-19 pandemic. These agreements served to provide the opportunity for the utilization of the specialist skills of the health professionals already in the countries as well as enlisting additional human resources, especially in the areas of critical care management and

training of national human resources. Grenada enlisted a team of health personnel from Cuba which consisted of six nurses with skills in intensive care units and infectious disease management, and two medical doctors to provide much-needed support to the local health professionals as the initial COVID-19 cases emerged in the country. Through a memorandum of understanding and cooperative agreement between Grenada and Cuba, members of the Cuban healthcare team were originally contracted to deliver tertiary level care, including intensive care units (5). In Jamaica, 140 health personnel were enlisted, where there were 90 specialist nurses including critical care, emergency, medical, surgical, and primary care expertise, who were complemented by 46 medical doctors (internists, hematologists) and 4 therapists. In the case of Belize, these personnel included 121 individuals, who consisted of 70 persons of the current Cuban Brigade, but also 50 individuals from the Henry Reeve Brigade, which became known as the pandemic group prepared to leave the country by the end of December 2020 (5).

- **Task delegation⁷ in Belize and Jamaica.** In Belize, CHWs were drafted to assist the nurses with their duties, especially in rural communities. In addition, they were trained in areas of self-care management of chronic illnesses, maternal and child health, sexual and productive health, and other essential services (5). In Jamaica, CHWs supported contact-tracing, communication, and community engagement. Also developed were basic nursing duties such as blood pressure and blood sugar monitoring of patients with chronic diseases.

⁶ Volunteers who are not trained health professionals were co-opted to provide general services and support for the COVID-19 response and, apart from contact-tracing and medical ethics, were trained in the following areas: logistics, providing meals, quarantine site management, making telephone calls to persons in quarantine, and counseling for persons in quarantine.

⁷ Task delegation: This refers to an expansion of the levels of health providers who can appropriately deliver health services. The term is used to emphasize the common performance of the entire clinical task, or key components of it, among teams of different cadres of health workers. Tasks are not taken away from one cadre and given to another, but rather additional cadres are given the capacity to take on identified tasks (26).



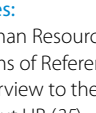
- **Private-sector support in Belize and Jamaica.** Agreements were also set up with Belize Healthcare Partners, a privately owned health facility, to provide support in the delivery of health services and referrals. The private sector also supported the efforts of the public health sector through referral mechanisms. In Jamaica, private-sector entities volunteered workers to expand their services to support the MoH Jamaica COVID-19 Support Centre capability. In addition, COVID-19 call centers were established and were operated by 100 final-year medical students and some retirees from the health sector (5).

Within the context of HRH policy measures taken to respond to the COVID-19 pandemic in Belize, there was collaboration between the Ministries of Health, Public Service, and Finance, especially as it related to the hiring of new or additional health personnel. Although there was a freeze on the hiring of new personnel and a 40% budget cut, there was a prioritization process identified for the contracting of new personnel to respond to the COVID-19 pandemic, so additional funds were allocated to the MoH Belize, which was supported by the Ministry of Finance, Belize. In Grenada, a similar arrangement was made to allow for a new category of personnel referred to as environmental health wardens. In Jamaica, provision was made for the hiring of 1,000 CHWs, who can definitively contribute to a better COVID-19 response (5).

The three Governments had varying methods of engaging the private sector in the COVID-19 response. In Belize, there was an agreement set up for health teams from the private sector to provide support to the public health sector as needed. While there was no formal arrangement identified in Grenada and Jamaica, there was support from the private sector, especially as it related to donations of medical supplies and other needed equipment. In the case of Jamaica, private-sector agencies also provided incentives such as gas cards to assist healthcare workers with transportation.

- **Expand or modify work shift in Belize and Grenada.** Health workers were assigned 12-hour shifts instead of 8-hour shifts within the hospital setting to help meet deficiencies in staffing. In Belize, this was instituted before the COVID-19 pandemic due to the HRH shortage and has continued throughout the COVID-19 pandemic.
- **Students in Belize and Grenada.** Collaboration with the University of Belize to allow the participation of final-year nursing students in the pandemic response opened the door for further collaboration in other areas such as training (25). In addition, nursing students from St. George's University were also identified to be co-opted as volunteers to assist with contact-tracing and polymerase chain reaction testing, as needed.

Table 3 Measures to Maintain or Increase the Availability of Human Resources for Health

	Belize	Grenada	Jamaica
 Recruitment	230 community health workers ^a	117 health workers as environmental health wardens and COVID-19 contact-tracers for a 6-month period ^b 1 surveillance officer hired by the Pan American Health Organization ^a	1000 additional community health workers ^a
 Reassignment	Within the institution (within departments and units and from other wards)	Within the institution Across community health districts	Within the institution
 Volunteers	500 volunteers ^a	59 volunteers ^c	1000 volunteers ^a
 International cooperation	121 health professionals from Cuba ^a	8 health professionals from Cuba ^a	140 health professionals from Cuba ^a
 Shift work	12-hour shifts instead of 8-hour shifts	12-hour shifts instead of 8-hour shifts	Not implemented
 Task delegation	Health workers shifted to perform work in areas such as mental health, flu clinics, isolation centers. Community health workers were drafted to assist the nurses with their duties ^a	Not implemented	Community health workers supported contact-tracing, communication, and community engagement. Also developed basic nursing duties ^a
 Students	Final-year nursing students ^d	Final-year nursing students ^a	Not implemented
 Private sector support	Provide support in the delivery of health services and referrals ^a	Not evidenced	Expand health services ^a

Sources:

- ^a Human Resources for Health and the COVID-19 Response in the Caribbean (5).
- ^b Terms of Reference, Environmental Health Warden Programme (24).
- ^c Interview to the Ministry of Health and Social Security officials (12).
- ^d About UB (25).

4.3 Measures to Protect and Support Human Resources for Health

To improve the availability of HRH, it is necessary to identify their needs, mainly related to their involvement in the control of outbreaks and the treatment of patients. Healthcare workers have had to work longer hours under intense

pressure, face a shortage of PPE, and cope with information overload and psychological burdens, among others. This section summarizes the relevant measures adopted to protect and support HRH to reduce the risk of infection in health workers, ensuring the functioning of the health system.

4.3.1 Health and Safety at Work and Infection Prevention and Control

COVID-19 has highlighted the need to address occupational health and safety within health facilities. In view of the current COVID-19 situation, the need for better occupational health and safety measures for HRH is increasingly being recognized as a major priority.

The existence of protocols and guidance in managing occupational health and safety needs are essential to mitigate different hazards and protect the health, safety, and well-being of health workers.

Belize, Grenada, and Jamaica have implemented protocols and guidance in managing occupational health and safety. In Belize, the Occupational Health and Safety Act 2014 is under revision and has not yet been ratified. It covers all type of workers including health workers, and it needs to be ratified as a matter of urgency to allow for its enforcement to ensure the protection of the health and safety of all workers, under normal circumstances, but especially now within the context of the COVID-19 pandemic.

In Grenada, safety protocols have been reinforced and there is a pairing system among HRH in donning and doffing PPE, when caring for patients. The health workers who volunteered to work with patients with COVID-19 were offered counseling sessions, which included their immediate family, in preparation for the pandemic. Health personnel received training in infection, prevention, and control procedures in the management and care of COVID-19 patients, with the aim of clarifying misconceptions about the COVID-19 disease.

In the case of Jamaica, a “work from home” policy was instituted for individuals whose working environment did not permit physical distancing and whose work outputs could be managed remotely. The MoH Jamaica initiated a staff welfare program in September 2020, which

included: human resource management; staff engagement and communication; rest and relaxation; COVID-19 support and wellness; mandatory rest days for staff who would have worked excessive hours; mandatory 48-hour results for staff members who have done COVID-19 tests; preferential rates in hotels and other facilities to support all staff within the system; and family support and counseling for those most impacted by the disease.

Regarding the measures implemented to prevent and control infections, all three countries sought to ensure that supplies of PPE were available for distribution to health workers as needed, especially those individuals providing direct care to COVID-19 patients. The Governments made investments in the procurement and distribution of PPE and other supplies to ensure adequate protection of staff. Other local and international organizations such as PAHO also made donations of PPE to the different countries (27). PPE was distributed at the national level to HRH. There was an increase in the provision of PPE pieces to HRH to ensure protection. By the end of October 2020, Belize had benefited from the United Nations COVID-19 Response and Recovery Multi-Partner Trust Fund, through which the country received 30,000 sets of PPE, 150 test kits and various other health commodities, which were handed over to the MoH Belize for distribution to HRH across the country. Other equipment, including ventilators, laboratory testing machines, and associated consumables, was also made available. The Governments of the countries invested in these efforts but also received donations from PAHO and other international agencies.

The identification of specific protocols for testing of HRH who were at risk of exposure to patients with COVID-19 and those involved in surveillance and contact-tracing activities were also essential. Although all the countries have testing policies for forefront workers including the healthcare workers, only Jamaica has documented guidelines for the testing of health workers, especially those working directly with COVID-19 patients.

All of those deemed at risk are given the opportunity to be tested for the COVID-19 disease. Jamaica has performed risk assessment on its healthcare workers utilizing the Health Care Worker Exposure Risk Assessment and the associated testing protocol, in which health personnel working in direct and indirect care and surveillance activities are tested as needed, according to the results of their risk assessment. Belize and Grenada have made allocations for testing of HRH according to national protocols for testing.

Although there was no specific testing policy for HRH in Belize, a process for categorization of risk groups with commensurate level of response was identified. The process outlined for testing for the general population was also applied to HRH. All health workers who tested positive for COVID-19 were required to self-isolate and were withdrawn from active duty. There were reports of delays in receiving COVID-19 test results, causing longer periods off duty after possible exposure to COVID-19.

In Grenada, protocols for general high-risk exposure were utilized for forefront workers, which include HRH working directly with COVID-19 patients or those conducting contact-tracing and surveillance activities.

As HRH play an integral role in the pandemic response, it is crucial that they are adequately supported to ensure their physical and mental well-being. In Grenada, psychological counseling was provided for all HRH involved in the management of COVID-19 cases and their immediate family. In response to reports in Grenada of stigma and discrimination experienced by health workers who sought to use public transportation, the MoH Grenada implemented transportation services for all HRH who required these services. Moreover, stigma and discrimination against HRH were addressed through public education campaigns and training of HRH in various aspects related to the pandemic.

The three Governments had varying methods of engaging the private sector in the COVID-19 response. In Belize, an agreement was set up for health teams from the private sector to provide support to the public health sector as needed. While there was no formal arrangement identified in Grenada and Jamaica, there was support from the private sector, especially as it related to donations of medical supplies and other needed equipment. In the case of Jamaica, private-sector agencies also provided incentives such as gas cards to assist with health care. In Grenada, the private sector provided support set up call centers or hotlines.

Box 1 Increasing Capacities of Nurses During COVID-19

Registered nurses play an important role in the delivery of quality care to patients, especially in the critical care environment. However, within the Caribbean region, there exists a shortage of critical care nurses, a cadre of staff vital to the management of the COVID-19 pandemic.



Recognizing the urgent need, the University of West Indies School of Nursing at St. Augustine Campus and the Pan American Health Organization developed a course to equip nurses with the right skills and competencies to provide critical nursing care in intensive care units. The first cohort included 82 nurses from 7 Caribbean countries: Antigua and Barbuda, Belize, Barbados, Dominica, Guyana, Suriname, and Trinidad and Tobago.

Source: Pan American Health Organization. Stories from the field: Special series on the COVID-19 response - Caribbean. Washington, D.C.; PAHO; 2021. Available from: <https://www.uhcpartnership.net/story-caribbean/>. Cited 18 November 2021.

4.3.2 Training

The occurrence of the pandemic required the acquisition of new knowledge and skills to address the problem of COVID-19, as well as a strategy and policy measures for a better response. All the countries under review introduced training sessions for a cross-section of health workers on IPC measures very early on in the pandemic. Training plans differed between the countries based on the evolution of the pandemic within the country and the training needs identified. In addition, volunteers in the three countries were also trained in areas of support for quarantine management and logistics, as well as for provision of meals and information dissemination.

Belize had a comprehensive training plan, which covered other areas such as surveillance and management of the COVID-19 patients with comorbidities, where 973 healthcare workers were trained, including medical doctors, nurses, medical technologists, and regional health managers. This training program had the participation of international experts and the support from PAHO. Belize also participated in an introductory course led by the University of the West Indies UWI/PAHO led to train registered nurses in critical care for increasing the cadre of staff available for management of patients during the pandemic (Box 1).

Grenada focused on training approximately 200 health personnel in the areas of donning and doffing PPE, hand hygiene, staff safety, and coping skills. Although initially there was no formal national training program for management of the COVID-19 disease, there were intensive training sessions for the healthcare workers who had volunteered to work with the COVID-19 patients. These persons included 13 medical doctors and nurses from the public health sector who volunteered to work in the COVID-19 teams and received focused areas of training in the donning and doffing of PPE, hand hygiene, and how to function in the COVID-19 unit. Subsequent to the initial training, 200 health

personnel received training. This country also provided training for over 2,000 persons in the tourism sector including taxi-drivers, vendors, tour guides, and guesthouse owners with topics such as transmission of COVID-19, prevention measures, handwashing, and sanitization.

Jamaica also trained 10,412 health personnel including nurses, port health workers, physiotherapists, pharmacists, health inspectors, auxiliary staff, and drivers in the areas of IPC, mental and psychosocial support for healthcare workers, and management of COVID-19 patients in and out of hospital settings. Volunteers were given orientation sessions, which consisted of simulations and demonstrations related to the COVID-19 response.

4.3.3 Vaccination

The three countries have all developed plans for introduction of the COVID-19 vaccine with prioritization of HRH in the first phase of deployment. Vaccination plans differ based on the characteristics of the population and are tailored toward the needs of each country. The countries have also made allocation for staff protection during vaccine deployment, through provision of adequate PPE, and identified teams to guide the process of vaccine delivery, where mainly nurses are involved in the administration of vaccines. Each country noted that the shortage of HRH will pose a challenge to achieving vaccination targets. Countries identified innovative ways for increasing surge during the roll-out of the vaccine plans, including rehiring of retired staff, reorganization of current staffing, and the use of volunteers. PAHO identified 23% of vaccine hesitancy among HRH in 14 countries of the Caribbean, including Belize, Grenada, and Jamaica (27). It also identified that nurses, public health professionals, and allied health professionals were much more hesitant than physicians, and that vaccine hesitancy was most prevalent among younger health workers. However, there are challenges in monitoring and assessing the vaccination progress in HRH, highlighting the need to reinforce and strengthen the monitoring systems in the countries.



The introduction and deployment of COVID-19 vaccines in Belize was guided by the Belize COVID-19 Vaccine Introduction Plan presented on 14 February 2021. The plan is implemented in five phases. Health workers are classified as a priority group in the first phase of vaccination, in an effort to maintain the integrity of the health system and improve the capacity to provide essential services. A target of 5,000 health workers from the public and private system was established with no differentiation of the categories of staff.

Vaccine deployment is under the direction of the maternal and child health team, which is headed by a public health nurse. Teams for vaccination will consist of:

- Navigator – responsible for guiding individuals through the process.
- Vaccinator – registered nurse or higher responsible for administering the vaccine.
- Nurse's aide – responsible for assisting with preparation of vaccines for administration.
- Clerical staff – responsible for registration and data entry.
- Driver – responsible for meeting transportation needs.

The need for additional human resources has been identified, and the MoH Belize plans to dialogue with the University of Belize to increase the number of nursing students earning community hours as part of the vaccination campaign. Volunteers will also be used, particularly as navigators. In addition, some nursing and medical staff will be temporarily hired based on staffing needs during the campaign.

In **Grenada**, allocation has been made for provision of meals and transportation for staff during the vaccination campaign. Teams of nurses from the community nursing division will be involved in the administration of vaccines. However, the composition of these teams has not been defined in the plan. In addition, retired nurses will be used to assist in the process, and allocation has been made in the budget for their remuneration. Teams will be trained through virtual sessions, and training materials will be delivered electronically. The country has identified a budget of over US\$ 100,000 for successful implementation of the plan. This includes equipment and materials for vaccination as well as allocation for travel, meals, and protective equipment for staff. Funding will be done through the COVAX facility and the MoH Grenada, as well as a local benefactor who donated EC\$ 2 million (US\$ 740,000). The Government has an agreement with St Georges University for provision of ultracold storage facilities if it becomes necessary.

In Jamaica, a memorandum of understanding has been signed with private-sector organizations to assist with funding and deployment of vaccines. The National COVID-19 Vaccine Deployment and Implementation Interim Plan describes four phases for implementation, starting with vaccination of specific high-risk groups and leading to incorporation of COVID-19 vaccination as part of the national immunization program.

The first phase of implementation includes health workers as priority groups. At least 16,000 health workers are targeted for vaccination, in addition to other priority groups such as parliamentarians, senior government staff, staff

and residents of nursing homes, and other older persons. This represents about 16% of the Jamaican population.

4.4 Financial Measures to Support Human Resources for Health

Policy decisions were taken in all three countries to shift and/or allocate funds to support the COVID-19 response in the country, through allocation of the national budget for HRH during the COVID-19 pandemic and investment in HRH.

In Grenada, the Government reallocated EC\$ 12 million dollars (US\$ 4.4 million) from the national budget toward COVID-19. This investment enabled the MoH Grenada to fund the hiring of a new category of staff as well as make transpor-

tation arrangements for staff involved in working with patients with COVID-19.

In Belize, there was collaboration with the Ministry of Public Service to enable the filling of vacant posts within the MoH Belize despite a freeze of hiring in the public service. Prioritization of fiscal measures included special consideration for the offer of contracts to healthcare workers, especially to those persons working in essential services, and the hiring of retired healthcare workers was supported as part of this exercise.

In general, PAHO supported the selected countries in most, if not all, of the above-mentioned areas, providing technical cooperation, training, and logistical and financial support.



5 Strengths and Challenges

While much of the information reported allowed identification of some of the problems and challenges facing HRH, the scarcity of data in some areas might have hindered decision-making and the development of actions during the COVID-19 response. Although this study can be considered as a temporary snapshot and, therefore, a limitation in the interpretation of the results, it can also represent a call that contributes to transforming weaknesses into strengths. Although the three Caribbean countries selected – Belize, Grenada, and Jamaica – have assessed and identified the main risk factors related to the impact of COVID-19, policies must be adapted and implemented. Moreover, the development of potential alliances for coordinating the response across sectors, incorporating health and safety measures, is essential. At the same time, strategic HRH planning, support, and capacity-building are required in order to ensure safe staffing levels, fair allocation of workloads, and management of working time and work organization according to recommendations of the WHO interim guidance (3). In this sense, planning and forecasting require further collaboration with educational institutions and investment in training and development of staff, particularly for the rural areas and forefront health personnel.

Initially, only a limited number of health personnel were trained for managing COVID-19 cases; however, a growing number of health workers were subsequently trained in IPC for COVID-19 patients and the utilization of PPE. This served to ensure that individuals would be well prepared for delivering special care if needed. It will also reduce the fear and anxiety among healthcare workers, while supporting solidarity among HRH, which

will allow for the continuous functioning of an essential unit for the COVID-19 response.

Although risk assessment has been conducted with slightly differences in each country, primary prevention of COVID-19 among health workers should be based on appropriate and additional measures as well as surge planning tools.

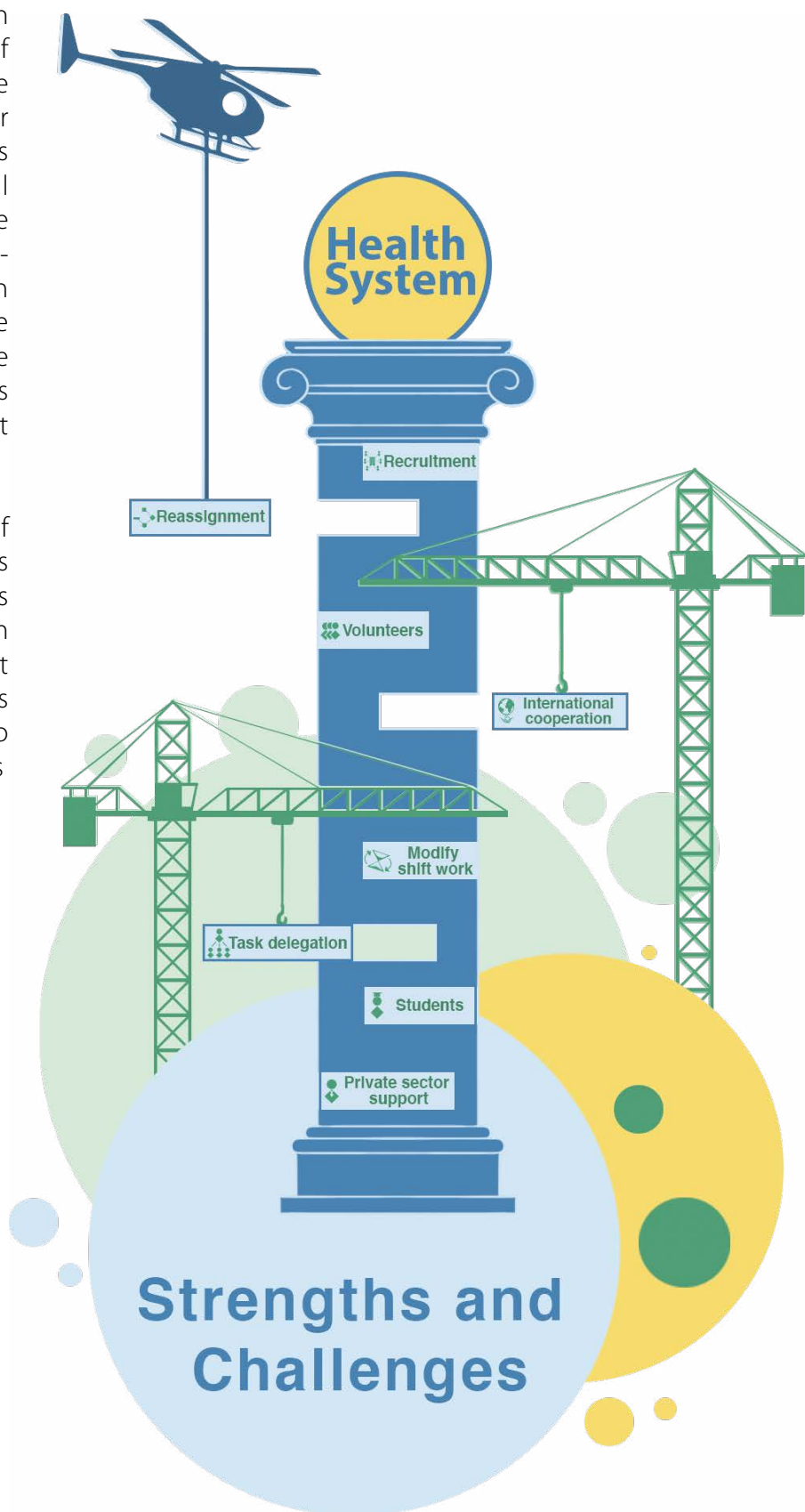
All these efforts require data availability and the modeling of scenarios and options on which all actors can focus their efforts to reduce and prevent risk. Communication of risks and drivers must not only provide relevant information but should also lead to risk-informed decision-making. With suitable information, it will be possible to determine with some degree of certainty the real impact of COVID-19 and to understand ongoing risk patterns. As a greater volume of more reliable data becomes available, it will also be possible to inform effective plans for response in a health emergency and policymaking.

A central repository of human resources information system in all the countries, to capture critical data on HRH, will serve the needs of countries in providing updates on information to support the epidemiological needs of the countries in question.

The pandemic has also emphasized the need for countries to be more proactive in their approach to HRH. **The Human Resources for Health Action Task Force** for the Caribbean could support efforts to advise and monitor the development of public policy in the countries and territories of the Caribbean, for a better response to COVID-19.

As an additional purpose, the analysis of the three case studies seeks to contribute to reducing the impact of COVID-19 on the HRH of the three Caribbean countries, as well as the achievement of better responses. At the same time, the adoption of a similar analysis model for other Caribbean countries that includes the different variables could be useful and interesting. Therefore, these case studies have been input for policy development on HRH strengthening in the CARICOM HRH Action Task Force and for promoting dialogue across the region. As a result, two HRH policy briefs have been approved at the highest level of decision making (28, 29).

There needs to be consideration of diversity and a widening of talent pools among health workers, and continuous planning for the projection of health personnel, especially within the context of a pandemic where the situation is generally very fluid. There is a need to revisit national health strategic plans and HRH national plans to consider the revision of the strategies for improving HRH within the countries in light of the current pandemic. Consideration must also be given to the costing of these plans to support implementation of the programs and activities and this aspect should be included in the national budget for allocations to the MoH.



6 Conclusions

Availability and distribution of HRH as well as the number of confirmed cases and deaths is important information to plan the response in a health emergency. There is a need for a central repository of human resources information system in the three countries to capture critical data on the HRH, which will serve to provide updates on information for the projection of the HRH required to support the epidemiological needs.

According to the findings, Belize and Jamaica reported confirmed COVID-19 cases among nurses and physicians. Information of other occupational groups was not available. In some cases, the national vaccination plan provided updated information on HRH, which helped in estimating the case infection rate in HRH.

While much of the information reported allowed some of the problems and challenges faced by HRH to be identified, the scarcity of data in some areas might hinder decision-making and the development of actions. In this way, the COVID-19 pandemic has highlighted existing difficulties around HRH information, in terms of both collecting and using information for decision-making.

The issue of a shortage of health workers is common in the Caribbean subregion, representing an important source of concern. Staffing shortages exist as a direct result of health worker migration, in addition to limited production of health workers within the country. Therefore, it must be addressed strategically, along with migration of HRH, which has been identified as one of the drivers of staffing shortages in the region. This study identified eight types of measures used by the countries to increase HRH availability to respond to the pandemic: recruit-

ment; reorganization of services to reduce the patient load in other areas; reassignment of HRH in critical areas; volunteers; international cooperation, particularly from Cuba; task delegation; students; and private-sector support. The identified shortages of health workers, in particular in specialized areas, such as critical care in nursing and medicine, was met in part with the support of Cuban brigades and volunteers, as well as the filling of vacant positions whenever possible.

As the pandemic further impacts the availability and capacity of health workers to deliver essential services and meet surge needs, the response to the pandemic reveals the importance of governments being able to ensure that public health measures are integrated with primary healthcare strategies.

Documented guidelines are important for the response to COVID-19. However, not all the countries reported them. For instance, regarding testing of HRH for COVID-19, although the three countries had testing policies for health workers, only Jamaica had documented guidelines for those working directly with positive COVID-19 patients.

All three countries developed vaccination plans with prioritization of HRH in the first phase. The vaccination plans differ based on the characteristics of the population and are tailored toward the needs of each country. Defining and continuing vaccination plans in addition to being prepared for the possibility of new waves of COVID-19 is a challenge that needs to be considered.

Preparedness for health emergencies is a key message from this pandemic. Lessons learned

from previous experience in health emergencies, such as the influenza pandemic in Grenada, or dengue fever in Jamaica, helped in the response to COVID-19 by using the Influenza Pandemic Preparedness Plan and recognizing the importance of the CHWs in assisting public health emergencies, respectively. Training and staff development must be continuous to ensure that the health system is always prepared to respond to emergencies such as the COVID-19 pandemic. There must be attention to having the right cadre of staff by ensuring routine analysis of the HRH and implementing measures to fill identified gaps.

According to the financial implications of the HRH COVID-19 measures, policy decisions were taken to hire additional personnel. The COVID-19 pandemic also highlighted the need for an increase in and maintenance of stocks of essential medical equipment and supplies to prevent stock outs.

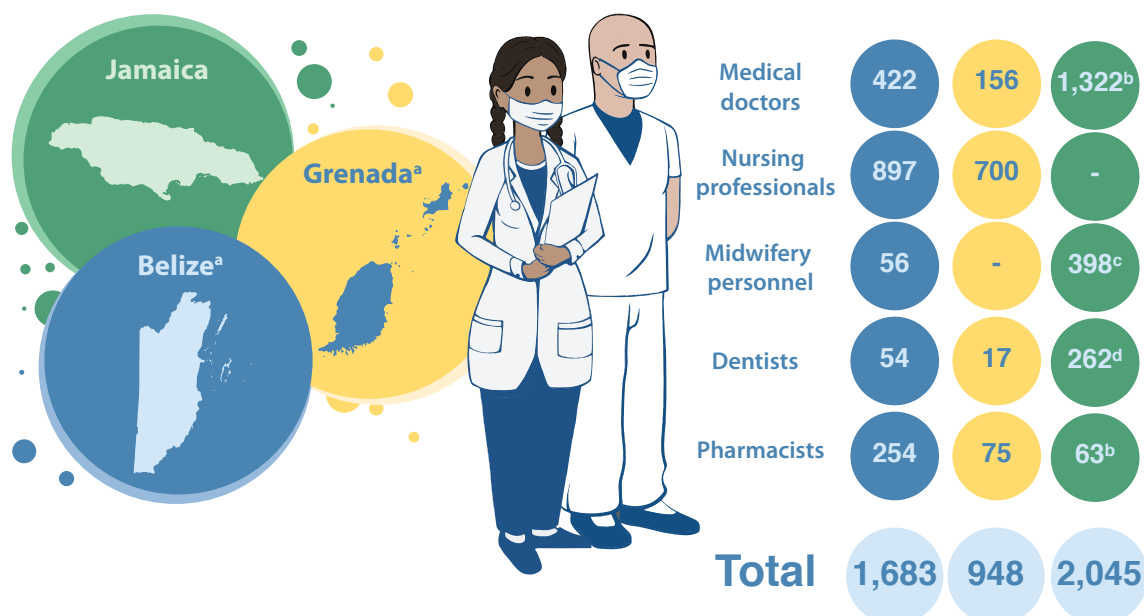


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Annex 1. Additional Information on Human Resources for Health

Table A.1 Availability of Human Resources for Health in Some Occupational Groups



a 2020 data. WHO National Health Workforce Accounts data portal.
b 2016 data. WHO National Health Workforce Accounts data portal.
c 2018 data. WHO National Health Workforce Accounts data portal.
d 2017 data. WHO National Health Workforce Accounts data portal.

Table A.2 Health Workers in the Private and Public Sector in Jamaica

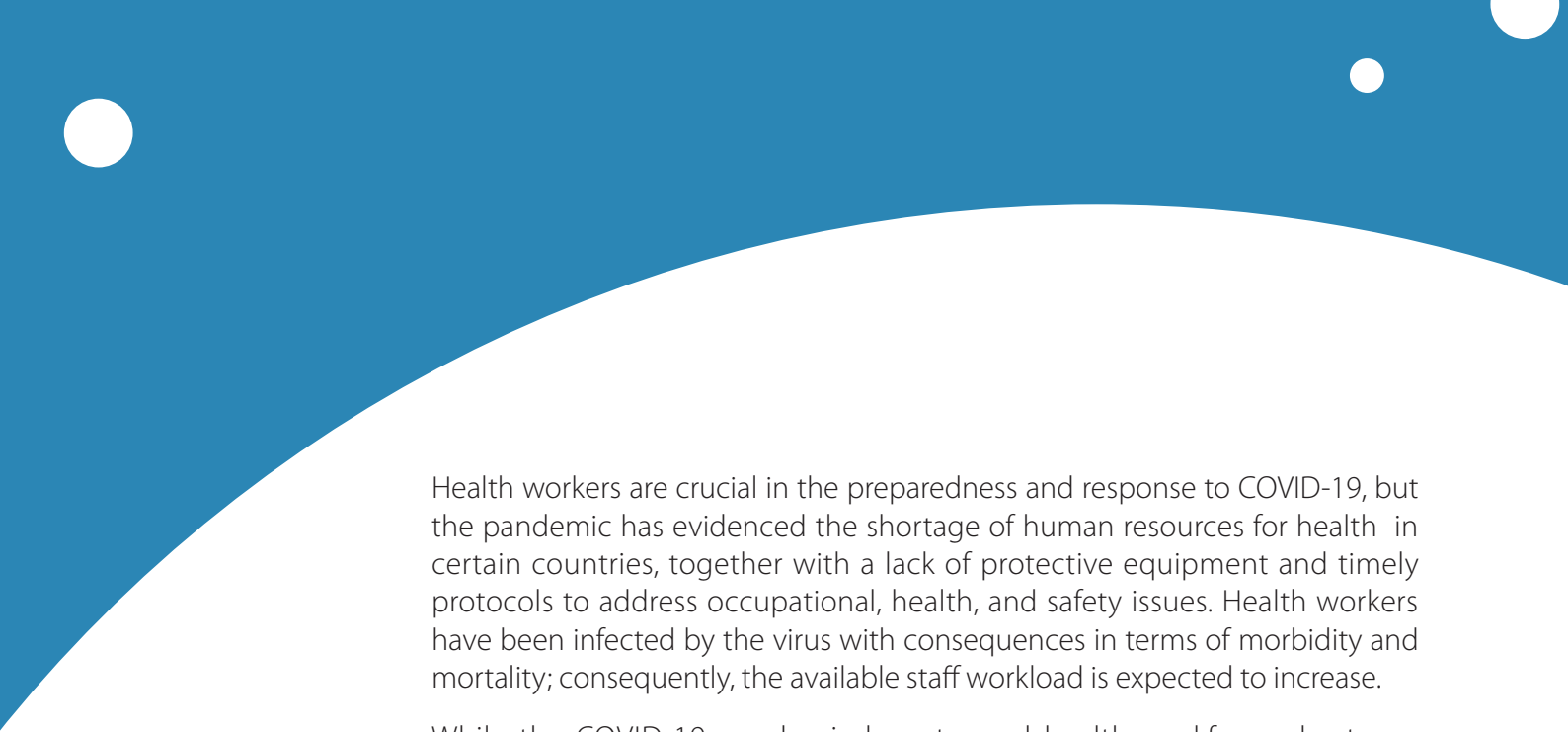
Occupational group	Public	Private
Medical doctors	1,823	1,052
Nurses	5,114	888
Technical staff	9,516	1,012
Admin	4,157	823
MoH Jamaica staff	210	-
Total	20,820	3,775

Source: Interim Vaccination Logistics (21).

Table A.3 Human Resources for Health in the Public Sector in Grenada

Occupational group	Human resources for health
Medical doctors	105
Nurses	500
Nursing assistants	163
Ordelies	49
Caretakers	38
Maids	55
Ambulance drivers	16
Grounds persons	7
Laboratory technicians	25
Social workers	7
Environmental health officers	13
Health wardens	69
Vector control officers	51
Pharmacists	108
Total	1,206

Source: National Deployment and Vaccination Plan for COVID-19 Vaccines (20).



Health workers are crucial in the preparedness and response to COVID-19, but the pandemic has evidenced the shortage of human resources for health in certain countries, together with a lack of protective equipment and timely protocols to address occupational, health, and safety issues. Health workers have been infected by the virus with consequences in terms of morbidity and mortality; consequently, the available staff workload is expected to increase.

While the COVID-19 pandemic has stressed health workforce shortages in countries, it has also led to identifying ways to rapidly hire and train the health workforce. The recognition and understanding of the mechanisms used by countries (such as recruitment processes, type of redeployment, and incentives), will provide evidence on ways to address health worker shortages during such outbreaks and therefore implementation gaps will be reduced.

This publication informs and analyzes the impact of COVID-19 on health workers' occupational health and safety issues and working conditions, as well as policy responses to address these issues and to increase human resources for health surge capacity in Belize, Grenada, and Jamaica. This publication also describes elements related to human resources for health and COVID-19 vaccination in the selected countries and aims to present and share experiences from Belize, Grenada, and Jamaica, which represent different areas of the Caribbean. It will also inform the HRH Action Task Force that will be able to contribute to the technical cooperation and human resources for health management support. The target audience includes policymakers, academics, and researchers on addressing health worker issues during health emergencies.