

Master of Public Health

Master de Santé Publique

The Role of Community Health Workers during the COVID-19 Pandemic: an exploratory study of the response in the Caribbean

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Acronyms

CARICOM Caribbean Community

CHW Community Health Worker

COVID-19 Coronavirus Disease
CMO Chief Medical Officer

HRH Human Resources for Health
HSS Health System Strengthening
MCH Maternal and Child Health

MoH Ministry of Health

NCD Non-Communicable DiseasesSRH Sexual and Reproductive HealthPAHO Pan American Health Organization

PAHO SPC Pan American Health Organization Subregional Program Coordination,

Caribbean

PHC Primary Healthcare

UHC Universal Health Coverage
WHO World Health Organization

Abstract

Background. Pandemics begin and end in communities and to manage them, community engagement must be a priority. The use of community health workers (CHWs) during the COVID-19 response is key to engaging communities and strengthening their capacity to limit the spread of disease. Integration of CHWs into health systems is a key enabler and integral to their success and requires inclusion of CHWs into health policies. This thesis aims at exploring the role of CHW in the COVID-19 response in the Caribbean countries to identify practices which can potentially form basis for subregional policy and contribute to capacity building within human resources for health and health system strengthening in the subregion.

Methods. A qualitative study consisting of a grey literature review followed by key informant interviews. We adopted an exploratory perspective to gain insights into the state of CHW roles and CHW policies in the Caribbean. We analysed our dataset against a number of dimensions drawn from similar works.

Results. During the COVID-19 response in the Caribbean CHWs mostly fulfilled clinical, supportive, and educational roles in the communities. While many Caribbean countries deployed CHWs, we found that few formal policies on the work of CHWs were available across the subregion.

Conclusions. While CHWs seem to have been widely used during the COVID-19 response in the Caribbean, the apparent lack of formal policies may be a barrier to their success. Developing CHW policy will not only strengthen community health interventions against COVID-19, but also support Caribbean countries in strengthening their post-COVID-19 health workforces and improve health emergency preparedness. The findings of this exploratory study contribute to the development of health policy guidelines on CHWs in the Caribbean, by laying the ground for an exhaustive investigation to follow.

Key words: Community Health, Human Resources for Health, Community Health Workers, Health Policy, Caribbean

Introduction

Despite the broad recognition of the critical importance of community health workers (CHWs) for the protection and promotion of population health, few health systems really commit the level of resources that would be expected for such a critical and strategic approach REF. Meanwhile, the global need for CHWs has increased due to the exacerbated shortage of human resources for health (HRH) brough on by the Coronavirus disease (COVID-19) pandemic. In this thesis we aim to explore the role of CHWs during the COVID-19 response in the Caribbean. We will first describe the state-of-research on community health and CHWs and how CHWs aligns with the values of the Pan American Health Organization (PAHO) and the strategies for Human Resources for Health (HRH) in the Caribbean, before analysing the roles of CHWs during the pandemic response in the Caribbean against a set of dimensions proposed by the World Health Organization (WHO).

Communities and COVID-19

Pandemics begin and end in communities and to manage them, community engagement must be a first priority, not a last resort. Since the onset of the COVID-19 pandemic in early 2020, global inequalities have accentuated. As said by United Nation's Secretary-General, António Gutteres in July 2020:

"COVID-19 has been likened to an x-ray, revealing fractures in the fragile skeleton of the societies we have built. It is exposing fallacies and falsehoods everywhere: The lie that free markets can deliver healthcare for all; The fiction that unpaid care work is not work; The delusion that we live in a post-racist world; The myth that we are all in the same boat.

While we are all floating on the same sea, it's clear that some are in super yachts, while others are clinging to the drifting debris(1)."

The impacts of the pandemic have been disproportionate, and COVID-19 has shown to thrive on inequalities(2). In recognition of the global importance of a community centred response to COVID-19, the World Health Organization (WHO) hosted a webinar on March 31st 2021 on community-centred approaches to health emergencies, in which expert panellists highlighted that community involvement is pivotal to understanding and responding to the challenges faced by vulnerable populations and how community engagement allows for a feedback loop of information from the communities to health

systems and vice versa. Panellists argued that information harnessed through such a bottom-up approach allows health systems to learn from communities how COVID-19 impacts them and how feasible imposed restrictions are in the realities faced by communities. COVID-19 has thus cemented the importance of community engagement and created a momentum for community capacity building, which must be seized by health policy makers to strengthen health systems.

Community Health

There have been various attempts at defining community health, and no one clear definition has been officially adapted. However, based on a review of the scientific literature, Goodman et al. in 2014 proposed the following comprehensive definition:

"Community health is a multi-sector and multi-disciplinary collaborative enterprise that uses public health science, evidence-based strategies, and other approaches to engage and work with communities, in a culturally appropriate manner, to optimize the health and quality of life of all persons who live, work, or are otherwise active in a defined community or communities(3)."

Community Health Workers

CWHs, through their capacity of community boundary spanners (persons spanning the boundary between the health system and the local communities), are able to reach vulnerable and marginalised populations(4,5) such as women, children and ethnic minorities and their role in the health workforce is crucial for achieving health equity(6,7). Disadvantaged groups have poorer survival chances and a poorer uptake of facility-bases health services(8), but through being the first point of contact between communities and the health system(9), CHWs are able to forge a link between the system and medically underserved populations(5).

CHWs are used in various contexts throughout high, middle, and low countries. Depending on the context within which they operate, their focus can vary from comprehensive family health programs to targeting specific population groups or diseases(8). CHWs play an essential role in health promotion and disease prevention by acting as patient navigators and community representatives, or by providing basic healthcare services (e.g., vaccinations)(10). Furthermore, through their position in communities, CHWs can be advocates for social change, and champion the health and human rights of the communities they serve(5).

In 1989, the World Health Organization (WHO) proposed the following definition of CHWs:

"Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers" (11).

The three central themes contained in this definition: community embeddedness, relation to health systems, and training, have since been explored in numerous studies. Community embeddedness remains essential to the success of CHWs(12), and they should be selected based on community membership and their knowledge of the community culture and language(10). For communities to feel ownership and be empowered by CHW programs, they must feel kinship with the CHWs, and close physical proximity of CHW programmes to the communities reduces inequities related to place of residence(8). Recent literature agrees with the WHO definition that CHWs should be supported by health systems but challenges the view that CHWs should "not necessarily" be a part of health systems' organization. In fact, recent evidence points to the integration of CHWs into health systems as a key enabler and integral to their success(12,13). Formally integrating CHWs into health systems enhances collaboration and communication between the CHWs and health professionals (defined as HCW with a formal education e.g., nurses, doctors, pharmacists etc.), and augments the acceptability and credibility of CHW programs(13). A lack of support from the upper levels of the health system, is a barrier to CHWs' motivation and performance(9). Such an integration of CHWs into health systems, requires inclusion of CHWs into public policies on HRH planning, governance, health financing and legal frameworks(13). Reversely, health systems can also benefit from the unique social position of CHWs, as they have practical knowledge and can observe and relay on the realities in the communities(5,13).

CHWs does not require the same type of formal education as does health professionals, but training on technical competencies and socially oriented capacities such as communication and problem-solving skills as well as awareness of confidentiality and social determinants of health increases the skills, motivation and performance of CHWs, and enables them to be agents of social change(9,13).

The World Health Organization (WHO) developed a framework that classifies the work of CHWs according to six different roles(14) (Annex 1):

- 1. Deliver diagnostic, treatment and other clinical services.
- 2. Assist with appropriate utilisation of health services, make referrals.

- 3. Provide health education and behaviour change motivation to community members.
- 4. Collect and record data.
- 5. Improve relationships between health services and communities.
- 6. Provide psychosocial support.

Mission and values of the Pan American Health Organization

The mission statement of the Pan American Health Organization (PAHO) is "to lead strategic collaborative efforts among Member States and other partners to promote equity in health, combat disease, and to improve the quality of, and lengthen, the lives of people in the Americas"(15). In order to fulfil this mission, the organization is guided by the Strategic Plan 2020-2025, outlining gender, ethnicity, equity and human rights as the overarching values guiding the work of the organization(16). These values are echoed in the PAHO Subregional Cooperation Strategy 2016-2019 for the Caribbean (Box 1), which promotes universal access to health; development and implementation of tailored strategies to improve health for specific groups such as women and children; and for gender, equity, human rights and social determinants of health to be addressed through health policies in the subregion(17). These values are well aligned with a commitment to community health and use of CHWs.

Box 1. When referring to the Caribbean in a PAHO context, it implies the member states and overseas territories served by the Sub regional Program for the Caribbean at PAHO/WHO.

The countries/territories are:

- Anguilla
- Antigua and Barbuda
- Aruba
- The Bahamas
- Barbados
- Belize
- Bonaire
- British Virgin Islands
- Cayman Islands
- Curaçao
- Dominica
- French Guiana
- Grenada
- Guadeloupe
- Guyana
- Haiti
- Jamaica
- Martinique
- Montserrat
- Saba
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Sint Eustatius
- Sint Maarten
- Suriname
- Trinidad and Tobago
- Turks and Caicos

In the following, the term 'Caribbean' will be referring exclusively to these countries.

Human Resources for Health in the Caribbean

The COVID-19 pandemic has exacerbated a pre-existing shortage of healthcare workers in the Caribbean(18). PAHO's Plan of Action on Human Resources for Universal Access to Health and Universal Health Coverage 2018-2023(19) contains a set of objectives for the Pan American countries to meet. Two of the objectives concerning the *Strategic line of*

action 2: Develop conditions and capacities in human resources for health to expand access to health and health coverage, with equity and quality (Box 2) and which alludes specifically to the equitable distribution of health workers in a way that is consistent with the needs of communities, especially in underserved areas, and developing first level of care teams that incorporates an intercultural and social determinants approach to health, could be met through the use of CHWs. PAHO's Caribbean Roadmap on Human Resources for Universal Health, 2018-

Box 2. Strategic Line of Action 2.

Objective 2.1: Promote equitable distribution and retention of health workers through the development of a professional and economic incentives policy that considers the gender perspective and is consistent with the specific needs of each community, especially in underserved areas.

Objective 2.2: Develop interprofessional teams at the first level of care with combined competencies in comprehensive care and an intercultural and social determinants approach to health.

2022(20) calls for the development of sub regional policy guidelines as a way for the Caribbean countries to cost-effectively adapt lessons learned from each other while avoiding unnecessary duplication of efforts across countries and strengthening the capacities of the Caribbean countries' health workforces to provide access to quality health services for all of their citizens. Furthermore, in April 2021 the Caribbean Community (CARICOM) with the technical support of PAHO launched an HRH Action Task Force which calls for sub regional policies on HRH development(21). In accordance with the Caribbean Roadmap priority area 3.1: Governance and Leadership, the first priority is to conduct national HRH situational analyses throughout the subregion and to develop appropriate HRH policies and actions plans to address the issues and priorities identified across the sub region(20). In light of the call for subregional policy development in the Caribbean, and as the use of CHWs is well aligned with PAHO's guiding values and strategic plan, and CHW programs would present an evidence-based part of the solution to achieve objectives 2.1 and 2.2 in the Plan of Action on Human Resources for Universal Health and Universal Health Coverage, as well as the HRH shortage and the urgent need to strengthen PHC which has

been exacerbated by the COVID-19 pandemic, there is a need to assess the role of CHWs in the Caribbean countries, and the policies guiding their work in order to develop subregional policy guidelines on CHWs in the Caribbean.

Purpose

This study aims at exploring the role of Community Health Workers (CHWs) in the COVID-19 response the Caribbean to identify practices which can potentially form basis for sub regional policy and contribute to capacity building within Human Resources for Health (HRH) and health system strengthening (HSS) in the subregion, and to lay the foundation for a future exhaustive investigation.

Objectives

- To identify the roles of CHWs during the COVID-19 response in the Caribbean.
- To identify existing national policies outlining community health programs during the COVID-19 pandemic and guiding the work of CHWs as part of the COVID-19 response health workforce.
- To Identify any potential gap between what CHWs are currently doing in the Caribbean, and if there is a need for any other roles/positions they could fill in the communities.
- To prepare the groundwork and develop a framework approach that can facilitate an exhaustive investigation into CHW policies in the Caribbean.

Methods

Data collection

In this qualitative thesis we conducted a review of the grey literature followed by key informant interviews. We adopted an exploratory perspective to gain further insights into the state of CHW roles and CHW policies in the Caribbean.

Caribbean countries for inclusion were selected based on the following criteria: Inclusion criteria:

- Independent nation.
- English or French as official language.

Exclusion criteria:

 Overseas territories of, or otherwise governance-wise affiliated with, other independent nations. Official language other than English or French

The following countries were included: Antigua and Barbuda; The Bahamas; Barbados; Belize; Dominica; Grenada; Guyana; Haiti; Jamaica; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; and Trinidad and Tobago.

Grey literature review

For this exploratory study, we used a snowballing technique to compile data in CHWs during the COVID-19 response in the Caribbean. We searched the official websites of the respective Ministries of Health (MoHs) of the included Caribbean countries for policies or other types of written information containing the words "coronavirus" AND/OR "COVID-19", "community" AND/OR "community health" AND/OR "community health worker" in the document title, or any description of interventions or programs containing the words "coronavirus" AND/OR "COVID-19" AND/OR "community" AND/OR "community health" AND/OR "community health worker" in its name. Evidence previously assembled and published by PAHO in August 2020 on the health workforce during the COVID-19 response in 12 Caribbean countries (Bahamas; Barbados; Belize; Dominica; Grenada; Guyana; Haiti; Jamaica; St. Lucia; St. Vincent and the Grenadines; and Trinidad and Tobago)(18) was consulted for mentions of actions on "community" "community health" or "community health workers". Additional expert consultations and recommendations of written information published by reliable sources (defined as bilateral and multilateral organisations working in partnership with the Caribbean MoHs) on community health interventions during the COVID-19 response in the Caribbean brought to our attention throughout the study period were also included into the data set.

Key Informant Interviews

The role and use of CHWs were further explored through qualitative key informant interviews with health authority officials from three Caribbean countries. Namely Barbados, Dominica and Jamaica. With their variation in population size and income levels, these three countries mirror to some extent the diversity of the Caribbean countries in terms of population size and state of economic development, based on World Bank classification. Barbados is a high-income country with a population of 275,000 in 2015(22,23). Dominica is an upper-middle income country with a population of 67,300 in 2017(22,23). Jamaica is an upper-middle income country with a population of 2,733,000 in 2018(22,23). The strategy for identifying and approaching key informants varied in between the three selected countries; Barbados, Dominica and Jamaica, based on country context. In Barbados approaching professionals

for interviews had to be approved by the Chief Medical Officer (CMO). The Family and Community Health Advisor for PAHO's Office for Barbados and the Eastern Caribbean Countries assisted in obtaining permission from the CMO, and in distributing a written call for key informants (Annex 2) through the country's senior nurse. In Dominica and Jamaica, key informants were recruited through informal networking. For this exploratory study we aimed at including two key informants from each of the three countries. They key informant interviews followed a semi-structured interview guide (Annex 3)

Data analysis

The grey literature and key informant interviews were analysed against a set of dimensions meant to answer the following questions:

- The role of CHWs in the Caribbean during COVID-19:
 - Are CHWs primarily used for providing basic healthcare services (e.g., vaccination drives, examinations) or are they agents for change and social justice in the community (e.g., community empowerment, health prevention and promotion)?
- The integration of community health and CHWs into the health systems in the Caribbean:
 - Who are fulfilling traditional CHW tasks at a community level in the Caribbean (officially appointed CHWs or others)?
 - o How are CHWs funded?
 - How are CHWs selected and trained?
- Possibilities for increasing the use of CHWs to strengthen the health systems and health workforce in the Caribbean:
 - Are there underserved communities, where increasing the use of CHWs would be beneficial?
 - What is needed to strengthen the ability of CHWs to be agents for change and social justice?
 - What is needed to strengthen the integration of CHWs into the health systems in the Caribbean?

We analysed the CHW actions against the six WHO-defined CHW roles(14). For simplicity the roles will from here forward be referred to as follows:

1. Clinical role

Referring to CHW role: Deliver diagnostic, treatment and other clinical services.

2. Navigational role

Referring to CHW role: Assist with appropriate utilisation of health services, make referrals.

3. Educational role

Referring to CHW role: Provide health education and behaviour change motivation to community members.

4. Research role

Referring to CHW role: Collect and record data.

5. Advocacy role

Referring to CHW role: Improve relationships between health services and communities.

6. Support role

Referring to CHW role: Provide psychosocial support.

Results

Two MoH websites contained publicly available policies or projects mentioning the use of CHWs in the COVID-19 response. Namely Guyana(24) and Haiti(25). In the PAHO case studies, roles and actions of CHWs or in regard to community health were described for an additional four countries: Belize, Grenada, Jamaica, and St. Lucia. Furthermore, a publication from the Universal Health Coverage Partnership outlined the role of CHWs in Dominica during the COVID-19 response(26), and a case study from PAHO describing the COVID-19 response in Barbados(27) were mentioned in relation to the key informant interviews, and were included in the base on evidence. Throughout all the documents, it was a common trend that while some CHW tasks were well-defined and concrete, others were described in vague and unspecific terms. To assemble as wide a body of evidence as possible on the role of CHWs during the COVID-19 response in the Caribbean, both well-defined and vague descriptions were included in the results.

During the study period, we conducted one key informant interview from Dominica. CHW actions from each country analysed against the WHO-defined CHW roles are presented in table 1.

Table 1. The role of CHWs in the Caribbean during the COVID-19 response							
	Clinical	Navigational	Educational	Research	Advocacy	Support	
	role	role	role	role	role	role	
Antigua and							
Barbuda							
The							
Bahamas							
Barbados	х		х				
Belize	х		х				
Dominica	х	Х	Х	Х	Х	х	
Grenada*							
Guyana	х		Х		Х	х	
Haiti	х		х	Х	х		
Jamaica	х	Х				х	
St. Kitts							
and Nevis							
St. Lucia							
St. Vincent							
and the							
Grenadines							
Trinidad							
and Tobago							

*Grenada had interventions at the community level, but these were carried out by other professionals (Environmental Health Wardens) who we could not verify to be CHWs due to lack of information about their level of community embeddedness and training.

We were not able to uncover the same level of information from all countries but based on the evidence we uncovered, we found that the most common tasks performed by CHWs during the COVID-19 response in the Caribbean fell within the clinical role, followed by the support and the educational roles. The research role, navigational role and advocacy role were used the least. CHW tasks within clinical services role mostly related to infections preventions and control, especially contact tracing, which was a common task in several countries. Some countries also engaged CHWs in upholding the delivery of essential health services e.g., Belize where CHWs were involved in the delivery of care for non-communicable diseases (NCD), maternal and child health (MCH), including sexual and reproductive health (SRH), and immunizations. The navigational role was only used in two

countries. In Dominica to refer people to appropriate public systems, health and other. In Jamaica, CHWs kept communities informed on the disruption of normal services due to the pandemic. Across countries, the educational role consisted of community outreach to educate the population on preventive measures to limit the spread of coronavirus. The research role focused on delivering information from the communities to the health systems e.g., in Haiti, where CHWs documented lessons learned in the communities and communicated these to the health authorities. The advocacy role was applied in three countries e.g., in Guyana and Haiti by utilising community resources and promoting community engagement. Across the countries, the support role was widely used to provide psychosocial support to vulnerable populations and to prevent mental health problems across population groups. A descriptive table of CHW actions can be found in Annex 4. Mentions of CHW training was found in four countries, namely Belize, Dominica, Haiti, and Jamaica. However, apart from the case of Dominica as described below, we did not find any detailed information describing the training.

The case of Dominica

Dominica has 80 CHWs, locally known as Community Health Aides, but for the sake of coherence they will be referred to as CHWs in the following.

Dominican CHWs are government appointed, and upon selection undergoes a six-month training program. Training is continuous and the latest cohort of CHWs graduated in the spring of 2021. The CHWs carry out tasks in areas pertaining to the delivery of basic healthcare services, health prevention and promotion, and social advocacy.

"They [CHWs] are very much what we call the backbone of the primary healthcare system ... We call them as well the foot soldiers within the Ministry of Health, because they are the ones who are really on the ground and support the primary healthcare services."

The CHWs' work is based on community embeddedness. They work in primary health care clinics and do outreach to homes, schools, workplaces, and public spaces in the country for instance to the streets of the capital city of Roseau. Here, the CHWs perform health prevention and promotion through health education. On the topic of NCD's, CHWs provide health education on for instance smoking and nutrition, where for instance they do home visits and demonstrate how to prepare meals according to nutritional aspects. On the topic of natural disasters, CHWs provide education on how to prepare for e.g., hurricane season.

Furthermore, they provide health education on first aid, including cardio-pulmonary resuscitation.

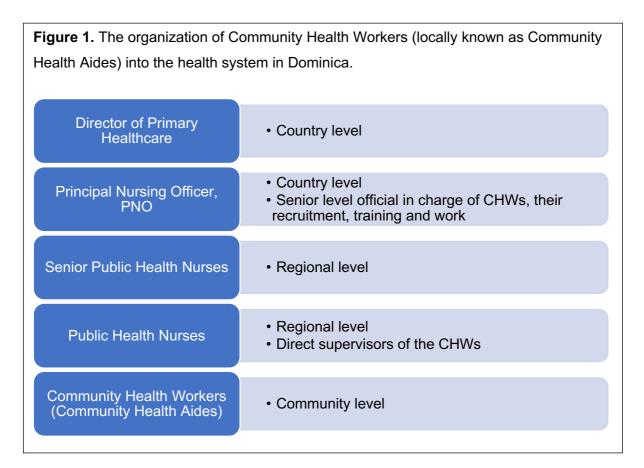
CHWs receive training on basic anatomy and physiology, proper interviewing techniques and obtaining a medical history, as well as on how to recognize signs and symptoms of disease. For the most basic conditions, the CHWs are trained to provide the treatment themselves, and for everything else, they refer the citizens to the next level of care. They can also respond to medical emergencies when needed, by performing cardio-pulmonary resuscitation. Furthermore, they assist with administration of medication and monitor for potential side-effects to treatments.

During the home visits, the CHWs assess and care for the entire family unit, rather than just focusing on individual family members. When assessing families, and community members in general, the CHWs focus on social, environmental, and financial issues in addition to health issues. If there is a need, they assist community members in solving these by e.g., referring them to the social welfare department or to their parliament representative.

"They [CHWs] are really the pillars to primary health care and the workforce will enhance and the community accept them."

As part of their training, the CHWs must prepare community profiles on their respective communities and present them to the rest of their cohort and their supervisors. The community profiles contain information on e.g., the social demographics, economics, disease prevalence, main crop grown, and the costs of moving from rural to urban areas within the community.

The CHWs are integrated into the health system through the primary health care department, where they are organized on a regional level under the direct supervision of the public health nurses (Figure 1). Their training, however, is organised and offered on the country level. The training program is funded by PAHO, while the salaries are paid by the government. The CHWs are employed on a contractual basis, with the latest cohort being employed on a one-year contract.



During the COVID-19 response, new tasks have befallen the CHWs. Most are occupied with manning and supporting the quarantine centres and doing health prevention as outlined in the publication from the Universal Health Coverage Partnership. Others are supporting the COVID-19 vaccination efforts by doing education on vaccine uptake. The CHW engagement in the COVID-19 response has to some extent come at the expense of their usual outreach activities, especially home visits, and much of their focus has been shifted towards disease prevention rather than disease management.

After the COVID-19 crisis, the vision is for CHWs in Dominica to resume their preventative and outreach activities. It is also envisioned to possibly expand their responsibilities to deliver healthcare to vulnerable populations e.g., within the hearing-impaired community and among 'troubled' youth.

"They [CHWs] are doing a tremendous job! Their use ... is really directly beneficial to the primary healthcare service in Dominica, and we are talking about universal health coverage; they have really helped in terms of moving Dominica towards that activity, that we would like to have universal health coverage. They do cover the entire island ... from the length and breadth of Dominica."

The main perceived barrier to achieving the full potential of CHWs in Dominica is precarious working conditions. Due to the contractual nature of their employment, working as a CHW is associated with some degree of instability. When the contract is up for renewal, CHWs must go to the Ministry of Health (MoH) to sign their renewed contracts. Sometimes this must be done as often as every three months and there are examples where the contract has not been prepared in time, or the MoH did not receive confirmation on the contract renewal, in which cases the CHWs must go for a month without work and salary. Ensuring job stability is a priority to strengthen the position of CHWs. Secondary and more long-term priority is a salary raise. Overall, it is important for the health system to show CHWs appreciation and recognition for their work.

Discussion

The task carried out by CHWs during the COVID-19 response in the Caribbean can be categorised as either COVID-19 specific or general tasks. The COVID-19 specific tasks included: 1) health education on COVID-19 preventative measures and vaccination, 2) COVID-19 containment through contact tracing, and manning COVID-19 quarantine facilities as well as monitoring and supporting community members quarantining in their own homes; 3) responding to COVID-19 related mental health issues; and 4) informing the upper levels of the healthcare systems on the development of the pandemic in the communities. The general tasks carried out by CHWs during the COVID-19 response were pertaining to maintaining the delivery of essential primary healthcare services in a situation where many resources, human and financial, were transferred from the primary to the secondary level of care. CHWs were deployed in the delivery of maternal- and childcare, including sexual and reproductive health; immunization; and NCD care, for example monitoring blood glucose levels and blood pressure. Despite the plethora of community health interventions by CHWs in the Caribbean, there was an apparent lack of official policies guiding their work, and with

few exceptions, such as Dominica, it was not possible to obtain information detailing the integration of CHWs into the health workforce or health systems.

Among the consequences of the COVID-19 pandemic on the Caribbean health systems were the negative impact on the health workforce and the delivery of primary healthcare (PHC). Many Caribbean countries were forced to redeploy health professionals from the primary sector to work in COVID-19 care(18). This disruption of PHC services has been observed globally, and presents an important indirect consequence of COVID-19 to public health (18,28). While the pandemic could have proven an opportunity to increase the use of CHWs in the delivery of PHC, evidence points to only a few Caribbean countries having chosen to do so. CHWs as part of the PHC-team can enhance PHC through delivering clinical services and addressing social determinants of health(29). As the subregion is already faced with HRH shortages(18), strengthening the delivery of PHC through the increase and strengthening of CHWs presents a cost-effective (30) opportunity for HSS capacity building and increase resilience of the health workforce. Projections suggest that health emergencies, such as the COVID-19 pandemic, will be recurring more frequently in the future(31) and strengthening the capacity and robustness of health systems and health workforces are essential in health emergency preparedness(32,33). By recruiting and training a cadre of CHWs, the Caribbean health systems can strengthen HRH by using CHWs to support the delivery of PHC. Evidence supports CHWs interventions in health promotion and the prevention of NCDs; screening for and monitoring of NCDs such as diabetes and hypertension(34) and finds that they lead to improved NCD disease control and medication adherence(35). CHW-supported interventions are also effective for addressing mental health problems e.g., depression, stress or alcohol abuse(36) and perinatal depression(37) through social and emotional support; medication and case management; and assistance with problem-solving, goal setting and developing coping mechanisms(36,38). Furthermore, there is ample evidence to support CHW interventions to manage communicable diseases(39).

The ability to improve health equity through empowering disadvantaged populations is a core competency of CHWs(8), and can be manifested through all the CHW roles, not least the advocacy, navigational and support roles. We uncovered examples from the Caribbean countries of CHW actions supporting specific populations groups vulnerable to the COVID-19 pandemic such as the elderly, who are vulnerable to contracting severe COVID-19(40), and the young, who are vulnerable to COVID-19-related mental health problems(41), and a comprehensive approach to targeting vulnerable populations and the challenges specific to them during the COVID-19 pandemic was found in Guyana's interventions in indigenous communities(24), however such actions seem to be secondary to performing clinical and educational tasks. Ever since the Declaration of Alma-Ata in 1978, there has been an

understanding that community level interventions and a bio-psycho-social approach are integral in addressing inequalities in health(42). Alleviating health inequalities is fundamental to achieve universal health coverage (UHC), as committed to by CARICOM(43). CHWs are widely recognised as a key resource in the pursuit of UHC, however this is dependent on their horizontal integration into health systems rather than vertical CHW interventions existing in parallel to the national health systems(44).

While we have found examples in the Caribbean of CHWs reporting on the state of their community and lessons learned to the upper levels of the health systems, this does not appear to be a widespread CHW action across the subregion. Due to their community embeddedness and unique positions in the communities, CHWs are natural researchers(5), and by ensuring information feedback loops between CHWs and health authorities into the Caribbean CHW programs, health authorities can harness valuable information to support their work.

On the basis of our data, we cannot conclude whether the lack of CHW policies is owing to a lack of CHW interventions or a lack of information about CHWs. However, across the world there is a tendency to neglect CHWs in the central health workforce planning (44), and the development of HRH strategies and policies is a recognised challenge in the Caribbean subregion due to shortages in human and financial resources within the MoHs(20). Presumably, there are CHW interventions integrated into COVID-19 response across the Caribbean that have not been incorporated into policies and thus not into the body of evidence of this thesis. Policies are a means for MoHs to articulate and disseminate the objectives, goals and values of the health system into the health service delivery, while at the same time providing a systems support that enhances the performance of CHWs(45). Policies can be used to promote components such as training, supervision and the development of protocols and guidelines on CHW programs, which has been shown to increase motivation and facilitate the work of CHWs, while at the same time making CHWs feel part of the health service delivery team and increase their recognition and credibility(46). We suggest that developing subregional guidelines for the Caribbean will be a cost-effective way for the countries to share CHW practices, from training to tasks and integration into health systems that have been proven effective, efficient, and acceptable to the population in a Caribbean context.

Launching an exhaustive investigation is necessary to understand the full scope of the roles of CHWs during the COVID-19 response in the Caribbean. Evidence gathered from such an investigation will provide a valuable contribution to the Caribbean HRH Action Task Force's development of subregional policy guidelines. WHO recommends that CHW policies cover three categories of policy interventions: Selection, education and certification; Management and supervision; and Integration into and support by health systems and communities(39)

(Annex 5). Based on the CHW interventions documented in this exploratory study, we tentatively recommend that certain topics such as recruitment; training; health service delivery; health promotion and prevention; community empowerment; linking communities and health authorities; and integration of CHWs into health systems and health workforces be incorporated into and addressed through subregional policy guidelines (table 2).

Table 2. Recommendations	for Caribbean community health worker policy
guidelines	
Policy intervention	Examples from the Caribbean
Selection, education and	Selection criteria for CHWs that the communities and
classification	ensures gender representativity.
	Transparent and simple recruitment process.
	Formalised training programs that equip CHWs with
	practical and theoretical skills.
Management and	Offer remuneration and job security through tenure.
supervision	Establish communication and feedback opportunities
	between CHWs and managers.
Integration into and	Develop a formal channel of communication where the
support by health	CHWs report to the upper levels of the health system on
systems and communities	the state of their community through which lessons learned
	in the communities can be documented.
	Develop CHW service delivery models encompassing
	health service delivery as part of an integrated PCH team;
	health promotion and prevention; and community
	empowerment.

This exploratory study has scouted the field of CHW roles and policies in the Caribbean to lay the ground for a larger study to follow. We propose that the framework developed for this thesis will be a useful approach by which to launch an exhaustive investigation into the role of CHWs in the Caribbean during the COVID-19 response. Based on lessons learned from this exploratory study, we recommend certain adjustments to the framework going forward. A follow-up study needs a systematic approach of selecting and recruiting key informants. For the sake of comparability, it would be beneficial to include key informants who hold comparable positions within the different countries. To collect information on the recruitment, training, role and integration into health systems of CHWs, we recommend interviewing key informants from within the respective MoHs who has comprehensive knowledge about the

PHC system as well as the training and work of CHWs. To learn more about the day-to-day work and challenges faced by CHWs we recommend interviewing CHWs directly, or someone who is their direct supervisor.

Limitations

The topic of CHWs in the Caribbean is vast and conducting an in-depth investigation requires more time than was available for this exploratory study. We were able to identify only two MoH policy documents from the surveyed MoH websites. We did not contact the MoHs directly to enquire into the existence of such policies. Doing so is likely to have yielded more information about ongoing CHW interventions. Thus, based on the present study we cannot conclude that no other policies than those identified by us are in existence. The majority of the reviewed documents were published before the second wave of COVID-19 hit the Caribbean around New Year 2020/2021. It is possible that new actions have been taken during the second wave response which were not mentioned in the documents published during or after the first wave. Due to unexpected restrictions in accessing key informants we managed to conduct only one out of the six projected key informant interviews during the study period. On the basis of this we cannot draw any conclusions nor identify any trends as to a potential discrepancy between actual CHW policies and CHW interventions in the Caribbean subregion.

Conclusion

In the Caribbean, CHWs play an important role within the health systems. A tentative observation is that CHW interventions in the Caribbean appear to tap mainly into their clinical role, followed by the support and educational roles, but to a lesser degree on the navigational, research and advocacy roles. It also appears that there is a discrepancy between the level of CHW interventions and CHW policies across the Caribbean countries. To the best of our knowledge, no other studies have been conducted looking at CHWs across the entire subregion. Further investigations into the actions of CHWs in the Caribbean are warranted, especially enquiring into their involvement in the delivery and strengthening of primary healthcare services, and their potentials to serve as empowering community advocates. Incorporating CHWs into health policies is essential for the effectiveness of their work and ultimately for the service they can deliver to the public in the pursuit of health equity and universal health coverage, not just in the Caribbean but on a global level.

References

- UN. Tackling the Inequality Pandemic: A New Social Contract for a New Era. UN Secretary-General's Lecture for Nelson Mandela's International Day. [Internet]. United Nations Secretary-General. 2020 [cited 2021 Jun 8]. Available from: https://www.un.org/sg/en/content/sg/statement/2020-07-18/secretary-generals-nelson-mandela-lecture-%E2%80%9Ctackling-the-inequality-pandemic-new-social-contract-for-new-era%E2%80%9D-delivered
- 2. Oxfam International. The Inequality Virus: Bringing together a world torn apart by coronavirus through a fair, just and sustainable economy. 2021;83.
- 3. Goodman RA, Bunnell R, Posner SF. What is "community health"? Examining the meaning of an evolving field in public health. Prev Med [Internet]. 2014 Oct [cited 2021 Jun 8];67(Suppl 1):S58–61. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5771402/
- 4. Wallace C, Farmer J, McCosker A. Community boundary spanners as an addition to the health workforce to reach marginalised people: a scoping review of the literature. Hum Resour Health [Internet]. 2018 Dec [cited 2021 Mar 17];16(1):46. Available from: https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-018-0310-z
- Pérez LM, Martinez J. Community Health Workers: Social Justice and Policy Advocates for Community Health and Well-Being. Am J Public Health [Internet]. 2008 Jan 1 [cited 2021 Mar 26];98(1):11–4. Available from: https://ajph.aphapublications.org/doi/10.2105/AJPH.2006.100842
- 6. Torres S, Labonté R, Spitzer DL, Andrew C, Amaratunga C. Improving health equity: the promising role of community health workers in Canada. Healthc Policy [Internet]. 2014;10(1):73–85. Available from: https://pubmed.ncbi.nlm.nih.gov/25410697
- 7. Perry HB, Zulliger R, Rogers MM. Community Health Workers in Low-, Middle-, and High-Income Countries: An Overview of Their History, Recent Evolution, and Current Effectiveness. Annu Rev Public Health [Internet]. 2014 Mar 18 [cited 2021 Mar 17];35(1):399–421. Available from: https://www.annualreviews.org/doi/10.1146/annurev-publhealth-032013-182354
- 8. McCollum R, Gomez W, Theobald S, Taegtmeyer M. How equitable are community health worker programmes and which programme features influence equity of community health worker services? A systematic review. BMC Public Health [Internet]. 2016 Dec [cited 2021 Mar 26];16(1):419. Available from: http://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-016-3043-8
- 9. Kok MC, Broerse JEW, Theobald S, Ormel H, Dieleman M, Taegtmeyer M. Performance of community health workers: situating their intermediary position within complex adaptive health systems. Hum Resour Health [Internet]. 2017 Dec [cited 2021 Mar 26];15(1):59. Available from: https://human-resourceshealth.biomedcentral.com/articles/10.1186/s12960-017-0234-z
- Olaniran A, Smith H, Unkels R, Bar-Zeev S, van den Broek N. Who is a community health worker? – a systematic review of definitions. Global Health Action [Internet]. 2017 Jan [cited 2021 Mar 26];10(1):1272223. Available from: https://www.tandfonline.com/doi/full/10.1080/16549716.2017.1272223

- 11. WHO. Strengthening the performance of community health workers [Internet]. 1989 [cited 2021 May 23]. Available from: https://apps.who.int/iris/bitstream/handle/10665/39568/WHO_TRS_780.pdf?sequence=1 &isAllowed=y
- 12. Agarwal S, Kirk K, Sripad P, Bellows B, Abuya T, Warren C. Setting the global research agenda for community health systems: literature and consultative review. Hum Resour Health [Internet]. 2019 Dec [cited 2021 Mar 26];17(1):22. Available from: https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-019-0362-8
- 13. Scott K, Beckham SW, Gross M, Pariyo G, Rao KD, Cometto G, et al. What do we know about community-based health worker programs? A systematic review of existing reviews on community health workers. Hum Resour Health [Internet]. 2018 Dec [cited 2021 Mar 26];16(1):39. Available from: https://human-resourceshealth.biomedcentral.com/articles/10.1186/s12960-018-0304-x
- 14. WHO. What do we know about community health workers? A systematic review of existing reviews. 2020.
- 15. PAHO. Who We Are PAHO/WHO | Pan American Health Organization [Internet]. [cited 2021 May 23]. Available from: https://www.paho.org/en/who-we-are
- 16. PAHO. Strategic Plan of the Pan American Health Organization 2020-2025: Equity at the Heart of Health [Internet]. Organización Panamericana de la Salud; 2020 [cited 2021 Mar 17]. Available from: https://iris.paho.org/handle/10665.2/52473
- 17. PAHO. Working for health in the Caribbean: PAHO/WHO Subregional Cooperation Strategy 2016-2019. 2016.
- 18. PAHO. Human Resources for Health and the COVID-19 Response in the Caribbean. 2020.
- 19. PAHO. Plan of Action on Human Resources for the Universal Access to Health and Universal Health Coverage 2018-2023 [Internet]. 2018 [cited 2021 Mar 17]. Available from: https://www.paho.org/hq/index.php?option=com_docman&view=download&category_slu
 - g=56-directing-council-english-9964&alias=45770-cd56-10-e-poa-hr-770&Itemid=270&lang=en
- 20. PAHO. Caribbean Roadmap on Human Resources for Universal Health, 2018-2022. 2018.
- 21. PAHO. Human Resources for Health Action Task Force launched in the Caribbean PAHO/WHO | Pan American Health Organization [Internet]. 2021 [cited 2021 Jun 17]. Available from: https://www.paho.org/en/news/25-5-2021-human-resources-health-action-task-force-launched-caribbean
- 22. World Bank. World Bank Country and Lending Groups World Bank Data Help Desk [Internet]. [cited 2021 May 22]. Available from: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups
- 23. United Nations, Department of Economic and Social Affairs. Demographic Yearbook 70th Issue = Annuaire Démographique 70e Édition 2019. 2020.

- 24. The Co-operative Republic of Guyana Ministry of Health. Guyana COVID-19 Emergency Response Project (P175268), Draft Version STAKEHOLDER ENGAGEMENT PLAN. 2020.
- 25. République d'Haïti, Ministère de la Santé Publique et de la Population (MSPP). Plan de Préparation et de Réponse du MSPP au CoronaVirus [Internet]. 2020 [cited 2021 May 22]. Available from: https://mspp.gouv.ht/site/downloads/Plan%20de%20Pr%C3%A9paration%20et%20de% 20R%C3%A9ponse%20du%20MSPP%20au%20CoronaVirus.pdf
- 26. Universal Health Coverage Partnership. Stories from the field: Special series on the COVID-19 response Dominica. 2020.
- 27. PAHO. Barbados An example of government leadership and regional cooperation in containing the COVID-19 virus. 2020.
- 28. Verhoeven V, Tsakitzidis G, Philips H, Van Royen P. Impact of the COVID-19 pandemic on the core functions of primary care: will the cure be worse than the disease? A qualitative interview study in Flemish GPs. BMJ Open [Internet]. 2020 Jun 17 [cited 2021 Jun 17];10(6). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7306272/
- 29. Hartzler AL, Tuzzio L, Hsu C, Wagner EH. Roles and Functions of Community Health Workers in Primary Care. Ann Fam Med [Internet]. 2018 May [cited 2021 Mar 26];16(3):240–5. Available from: http://www.annfammed.org/lookup/doi/10.1370/afm.2208
- 30. Vaughan K, Kok MC, Witter S, Dieleman M. Costs and cost-effectiveness of community health workers: evidence from a literature review. Hum Resour Health [Internet]. 2015 Sep 1 [cited 2021 Jun 17];13. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4557864/
- 31. World Economic Forum. Outbreak Readiness and Business Impact Protecting Lives and Livelihood across the Global Economy [Internet]. [cited 2021 Jun 17]. Available from: http://www3.weforum.org/docs/WEF%20HGHI_Outbreak_Readiness_Business_Impact.pdf
- 32. WHO. Strengthening Preparedness for Health Emergencies; Implementation of International Health Regulations (IHR, 2005). 2020;7.
- 33. WHO. A world in disorder: Global Preparedness Monitoring Board annual report 2020 [Internet]. 2020 [cited 2021 Jun 17]. Available from: https://apps.who.int/gpmb/assets/annual_report/2020/GPMB_2020_AR_EN_WEB.pdf
- 34. Mishra SR, Neupane D, Preen D, Kallestrup P, Perry HB. Mitigation of non-communicable diseases in developing countries with community health workers. Global Health [Internet]. 2015 Nov 10 [cited 2021 May 19];11. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4641398/
- 35. Newman PM, Franke MF, Arrieta J, Carrasco H, Elliott P, Flores H, et al. Community health workers improve disease control and medication adherence among patients with diabetes and/or hypertension in Chiapas, Mexico: an observational stepped-wedge study. BMJ Glob Health [Internet]. 2018 Feb 15 [cited 2021 May 19];3(1). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5841495/

- 36. Weaver A, Lapidos A. Mental Health Interventions with Community Health Workers in the United States: A Systematic Review. J Health Care Poor Underserved. 2018;29(1):159–80.
- 37. Atif N, Lovell K, Rahman A. Maternal mental health: The missing "m" in the global maternal and child health agenda. Seminars in Perinatology [Internet]. 2015 Aug 1 [cited 2021 May 26];39(5):345–52. Available from: https://www.sciencedirect.com/science/article/pii/S0146000515000543
- 38. Hoeft TJ, Fortney JC, Patel V, Unützer J. Task-Sharing Approaches to Improve Mental Health Care in Rural and Other Low-Resource Settings: A Systematic Review. J Rural Health. 2018 Dec;34(1):48–62.
- 39. WHO. WHO Guideline on Health Policy and Systems Support to Optimize Community Health Worker Programs Selected highlights. 2018;12.
- 40. Petrilli CM, Jones SA, Yang J, Rajagopalan H, O'Donnell L, Chernyak Y, et al. Factors associated with hospital admission and critical illness among 5279 people with coronavirus disease 2019 in New York City: prospective cohort study. BMJ [Internet]. 2020 May 22 [cited 2021 Jun 17];369:m1966. Available from: https://www.bmj.com/content/369/bmj.m1966
- 41. Ma Z, Zhao J, Li Y, Chen D, Wang T, Zhang Z, et al. Mental health problems and correlates among 746 217 college students during the coronavirus disease 2019 outbreak in China. Epidemiol Psychiatr Sci [Internet]. 2020 Nov 13 [cited 2021 Jun 21];29:e181. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7681173/
- 42. Declaration of Alma-Ata International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978. Development [Internet]. 2004 Jun [cited 2020 Nov 9];47(2):159–61. Available from: http://link.springer.com/10.1057/palgrave.development.1100047
- 43. CARICOM, CARPHA. Caribbean Cooperation in Health Phase IV (CCH IV) Summary of the Regional Health Frameworl 2016- 2015 [Internet]. 2016 [cited 2021 Jun 21]. Available from: https://caricom.org/documents/16429-cch-iv-publication_rev-7_health_sector_development.pdf
- 44. Tulenko K, Møgedal S, Afzal MM, Frymus D, Oshin A, Pate M, et al. Community health workers for universal health-care coverage: from fragmentation to synergy. Bull World Health Organ [Internet]. 2013 Nov 1 [cited 2021 Jun 21];91(11):847–52. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3853952/
- 45. Naimoli JF, Frymus DE, Wuliji T, Franco LM, Newsome MH. A Community Health Worker "logic model": towards a theory of enhanced performance in low- and middle-income countries. Hum Resour Health [Internet]. 2014 Dec [cited 2021 Mar 26];12(1):56. Available from: https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-12-56
- 46. Kok MC, Dieleman M, Taegtmeyer M, Broerse JE, Kane SS, Ormel H, et al. Which intervention design factors influence performance of community health workers in low-and middle-income countries? A systematic review. Health Policy Plan [Internet]. 2015 Nov [cited 2021 Mar 26];30(9):1207–27. Available from: https://academic.oup.com/heapol/article-lookup/doi/10.1093/heapol/czu126

List of annexes

- Annex 1: WHO framework for classification of CHW roles(14).
- Annex 2: Call for key informants.
- Annex 3: Interview guide.
- Annex 4: Detailed table of results.
- Annex 5: WHO framework for development of CHW policies(39).

Annex 1: WHO framework for classification of CHW roles

Table 3.6 from the publication 'What do we know about community health workers? A systematic review of existing reviews' by WHO.

Table 3.6 Health system functions of community health workers

Ge	neral category of CHW function	Specific functions mentioned in reviews
1.	Deliver diagnostic, treatment and other clinical services Identify, assess and deliver treatment, as appropriate, to sick community members Provide medicines and other pharmaceuticals Directly provide care and treatment	Use rapid diagnostic tests (RDTs) for malaria (Boyce & O'Meara, 2017; Kamal-Yanni et al., 2012; Ruizendaal et al., 2014) and HIV (Bernelmans et al., 2016; Flynn et al., 2017); determine if a child's breathing is dangerously rapid (Noordam et al., 2014); identify high-risk pregnancies (Gogia et al., 2011); monitor clinical symptoms and signs of drug toxicity in people living with HIV and refer when appropriate (Kredo et al., 2014); monitor the effects of mental health-related medications (van Ginneken et al., 2013); conduct breast cancer screening exams (Wadler et al., 2011); measure and monitor blood pressure (Brownstein et al., 2007). Dispense contraceptives (Scott et al., 2015); administer injectable contraceptives (Malarcher et al., 2011); distribute antiretroviral drugs (Kredo et al., 2014), iron folic acid tablets (Sibley et al., 2012) or vitamin A (Sibley et al., 2012); malaria treatment (Paintain et al., 2014; Sibley et al., 2012). Perform home deliveries (Kok, Dieleman et al., 2015; Ribeiro Sarmento, 2014; Silveira Feyer et al., 2013); vaccinate children (Gienton et al., 2011); provide community-level diagnosis and treatment for pneumonia, malaria and other
		infectious diseases (Amouzou et al., 2014; Kabaghe et al., 2016; Sazawal & Black, 2003); and provide psychosocial stimulation, psychotherapy and counselling to prevent mental, neurological and substance use disorders (Mutamba et al., 2013).
2.	Assist with appropriate utilization of health services, make referrals	Help ethnic minorities in the USA make and keep medical appointments for cancer screening (Hou & Roberson, 2015) or for diabetes management (Cherrington et al., 2008; Hunt et al., 2011; Little et al., 2014); help people with hypertension in the USA access health insurance (Brownstein et al., 2007); help pregnant women with birth planning and preparedness to facilitate institutional delivery (Bhutta et al., 2011; Gogia & Sachdev, 2016); mobilize communities around maternal and neonatal health practices (Lassi & Bhutta, 2015); refer women to health facilities for delivery (Sibley & Sipe, 2006; Sibley et al., 2012); encourage access and adherence to HIV care (Bernelmans et al., 2016; Hall et al., 2017; Ma et al., 2016; Tso et al., 2016); or find underserved groups and encourage them to have their children immunized (Patel & Nowalk, 2010).
3.	Provide health education and behaviour change motivation to community members	Provide education to reduce HIV stigma (Mwai et al., 2013) or promote behaviours that reduce the risk of acquiring HIV (Petersen et al., 2014); assist with family planning (Scott et al., 2015); encourage physical activity among those with NCDs (Costa et al., 2015); promote exclusive breastfeeding (Sibley et al., 2012), antenatal and postnatal care and family planning (Sibley et al., 2012); advise on tetanus vaccination (Sibley et al., 2012) or family planning (Sibley et al., 2012); provide education on cancer (Gibbons & Tyrus, 2007; Hou & Roberson, 2015), hypertension (Brownstein et al., 2007) and diabetes (Cherrington et al., 2008; Norris et al., 2006); reduce childhood asthma-triggering behaviours and environmental pathogens that provoke asthma (Postma et al., 2009; Raphael et al., 2013).
4.	Collect and record data	Perform general clerical duties (Lizarondo et al., 2010) and data collection, including using mHealth tools (Agarwal et al., 2015; Braun et al., 2013); identify and report on malaria outbreaks (Källander et al., 2013), monitor medicine stocks and notify government agencies when stocks are low to prevent stock-outs (Källander et al., 2013; Kamal-Yanni et al., 2012).
5.	Improve relationships between health services and communities	Act as mediators between individuals and health services (e.g. to improve provider responsiveness to patient needs) (Brownstein et al., 2007); act as cultural mediators (Bornstein & Stotz, 2008) (e.g. between Aboriginals and non-Aboriginals in Australia) (Mercer et al., 2014); serve as patient advocates (e.g. for those with diabetes) (Cherrington et al., 2008; Hunt et al., 2011) or cancer (Hou & Roberson, 2015) in the USA, or for mental health care in LMICs (Bornstein & Stotz, 2008; Stacciarini et al., 2012); serve as community advocates (e.g. for Latino communities in the USA (Rhodes et al., 2007).
6.	Provide psychosocial support	Form support groups for people with HIV (Jaskiewicz & Tulenko, 2012; Mwai et al., 2013) or women (Lassi & Bhutta, 2015; Prost et al., 2013); provide anti-retroviral treatment adherence reminders (Mwai et al., 2013); provide one-to-one psychosocial support to reduce maternal depression (Hoeft et al., 2017; Rahman et al., 2013), to prevent mental, neurological and substance use disorders (Mutamba et al., 2013), for people with hypertension (Brownstein et al., 2007), or for USA Latino parents of youth with mental health issues (Hoeft et al., 2017); support adherence to drug regimens by sending short messages to mobile phones to remind people living with HIV to take their medication (Wouters, Van Damme et al., 2012).

Annex 2: Call for key informants

Call for volunteer interviewees for a thesis on Community Health Workers in the Caribbean

TITLE: The Role of Community Health Workers during the COVID-19 Response in the Caribbean, an exploratory study.

INVESTIGATOR:

Dr. Nina Rise, MD., MPH Candidate at the French School of Public Health (EHESP), Intern at PAHO/WHO Sub-regional Program for the Caribbean. Email: nina.rise@eleve.ehesp.fr

PURPOSE

Exploring the role of Community Health Workers in the COVID-19 response the Caribbean countries to identify practices which can potentially form basis for subregional policy and contribute to capacity building within human resources for health and health system strengthening in the sub-region.

METHODS

The thesis study consists of two parts:

A review of key policy documents about the use of Community Health Workers during the COVID-19 response in the Caribbean

Key informant interviews with health authority representatives and/or healthcare workers knowledgeable about community health interventions during COVID-19.

The key informant interviews will be conducted virtually (via Zoom, Skype, WhatsApp, FaceTime etc.) during May 2021.

A minimum number of two (2) interviewees from Barbados is needed. Interviews will take 30-45 minutes.

Conducting the interviews has been permitted by the Barbados CMO.

Annex 3: Interview guide

Interview Guide							
	interview Guid	1 e					
Theme	Questions	Cues					
	Who are fulfilling CHW tasks at a community level in the Caribbean? How are CHWs funded?	 Local level Name MoH appointed Private organisations 					
Integration		SalaryVolunteerFunding bodyBarriers/challenges					
	How are CHWs recruited and trained?	RecruitmentTraining					
	How are CHWs integrated into the health system?	 Relationship with health authorities Relationship with other HCW Existing policies 					
Roles	Are CHWs providing basic services?	 Vaccination drives Clinical examinations Vital signs Tests Other? 					
	Are CHWs agents for change and social justice?	 Community empowerment Health prevention Health promotion Health education Social impact Other? 					
	Have the role of CHWs changed compared to before COVID-19?	New tasksNew responsibilitiesNew geographical areas					
	Are there communities, where increasing the use of CHWs would be beneficial?	Vulnerable communitiesPoor health outcomesHard to reach					
Possibilities	What is needed to strengthen the contribution of CHWs to population health?	 Practical Financial Social Cultural Acceptance Confidentiality 					

	Other?
What is needed to strengthen the integration of CHWs into the health systems in the Caribbean?	 Cooperation with other HCW Formal training Cooperation with authorities Communication channels Political will Policy Other?

Annex 4: Detailed table of results

Country	n actions and/or CF Clinical Role	Navigational Role	Educational Role	Research Role	Advocacy Role	Support Role
Antigua and	Oll lloar Polo	rvavigational rvoic	Eddodional Pole	rescaron resid	Advocacy Role	Oupport Role
Barbuda						
The Bahamas						
The Bahamas Barbados For the COVID- 19 response, Barbados recruited 60 CHWs (locally known as Health Liaison Officers) throughout the country.	CHWs performed contact tracing.		CHWs worked with community leaders to disseminate accurate COVID-19 related information and encourage community cooperation with the COVID-19 response. *A webinar arranged by PAHO offered trainings on psycho-logical first aid for individuals and communities, and was attended by Barbadian community and religious leaders, influencers and COVID-19 hotline			*A virtual dialogue arranged by PAHO offered the youth information on how to cope with pandemicrelated isolation. *The Adopt a Family program encouraged corporations and well-off Barbadians to provide financial support for families in need.

Belize	CHWs delivered essential		CHWs performed health promotion			
For the COVID-	healthcare		and prevention.			
19 response,	services related		and provention			
Belize recruited	to maternal and					
230 CHWs.	child health,					
CHWs were	sexual and					
trained to	reproductive					
conduct	health,					
outreach in their	immunisation,					
villages, and	and self-care					
were equipped	management of					
'CHW Kits'	chronic diseases,					
containing non-	through carrying					
contact thermo-	out tasks such as					
meters, stethoscopes,	monitoring blood pressure and					
glucometers	glucose levels					
with strips and	etc.					
lancets, and first						
aid kits.	*Lay volunteers					
	manned and					
	coordinated					
	logistics at					
	quarantine					
	centres.					
Dominica	CHWs conducted	CHWs made	CHWs did outreach	CHWs reported on	CHWs serve as	Through home
	contact tracing,	check-ups on	to schools, bars,	information from	community	outreach, CHWs
	worked in	citizens in home-	restaurants, shops,	their communities	advocates by	provided
	quarantine	quarantine to make	and in the general	to the health	referring	psycho-social
	facilities, and went to the	sure they abided by quarantine	community to teach preventative	authorities through creating	community members to	support to vulnerable
	homes of	regulations.	measures, such as	community	appropriate	populations such
	community	rogulations.	proper hand-	profiles.	services e.g.,	as elderly,
	members in		washing	promos.	financial	people living
			· ··aoimig		manolai	poopio iiviiig

	home quarantine to check their temperature.		techniques, proper mask wearing and social distancing and deliver health education to promote COVID-19 vaccine uptake.		with physical or mental illnesses or disabilities, people in hard- to-reach areas or people in confinement.
**For the COVID- 19 response, Grenada hired 117 Environmental Health Wardens.	*Environmental Health Wardens conducted contact tracing	*Environmental Health Wardens ensured compliance with regulations in through outreach visits to e.g., restaurants or homes.			
Guyana	CHWs conducted contact tracing.	CHWs acted as a link between health authorities and communities.	CHWs developed culturally sensitive COVID-19 information materials translated into local languages and targeting specific communities and vulnerable populations such as indigenous populations and elderly. CHWs promoted preventative	CHWs increased community awareness and participation in the COVID-19 response.	CHWs provided social support for communities by e.g., procuring and distributing cloth for indigenous communities to sew face masks directly in the communities. CHWs provided psycho-social support focusing on loneliness, domestic and gender-based

			measures such as mask wearing.			violence, child abuse etc. *Teams of social workers and 'community gate-keepers' were established to provide psycho-social support to vulnerable households.
Haiti	CHWs performed contact tracing; early detection of suspected cases; infection prevention and control; as well as [unspecified] management of patients.		CHWs were involved in communication relating to the COVID-19 response; promoting community engagement for behaviour change; and ensuring evidence-based community engagement approaches.	CHWs documented lessons learned from the communities during the COVID- 19 response, and ensured bidirectional communication between communities and health authorities by establishing systematic community information and feedback mechanisms.	CHWs ensured involvement of community influencers and utilization of existing community resources.	
Jamaica	CHWs conducted contact training. Furthermore, was	CHWs did outreach to inform on health service				CHWs encouraged community

For the COVID- 19 response, Jamaica hired 1,000 CHWs and re-trained CHWs previously deployed in the Dengue response.	reported an [unspecified] task shifting from nurses to CHWs.	disruptions and changes.			engagement e.g., through advising community members on how to support elderly citizens.
Saint Kitts and Nevis					
Saint Lucia				*District disaster committees with participation of community members were established to support surveillance activities at the community level.	
Saint Vincent and the Grenadines					
Trinidad and Tobago			and in the appendix (the	10)	

^{*}Interventions were not carried out by CHWs, but are mentioned in the appendix (though not in table 1 pg. 16) as they applied a community centred approach.

^{**}Due to lack of information regarding the community embeddedness of these, we cannot verify whether the Environmental Health Wardens in Grenada are CHWs, however they are mentioned in the appendix (though not in table 1 pg. 16) as they carried out interventions that applied a community centred approach.

Annex 5: WHO framework for development of CHW policies

Pages 5-7 from the publication 'WHO Guideline on Health Policy and Systems Support to Optimize Community Health Worker Programs – Selected highlights' by WHO.

POLICY RECOMMENDATIONS Selecting, training and certifying CHWs CHW programmes should select CHWs based on criteria aim to develop technical competencies to prevent and treat including educational level, membership of and acceptance diseases, as well as socially oriented competencies to engage by the community, personal attributes and gender equity. effectively with patients and communities. Competency-Pre-service training should be tailored to context in terms based certification upon successful completion of pre-service training can improve quality of care, influence CHW motivation of both content and duration, based on expected roles and and enhance community perception. responsibilities, as well as baseline competencies. Training should balance theoretical knowledge and practical skills, and · Specify minimum educational levels; Require community membership and acceptance; Selection · Consider personal capacities and skills; and · Apply appropriate gender equity to context. Pre-service · Base on CHW roles and responsibilities; training . Consider pre-existing knowledge; and Factor in institutional and operational requirements. duration Curriculum Train on expected preventive, promotive, diagnostic, treatment and care services; . Emphasize role and link with health system; and competencies · Include cross-cutting and interpersonal skills. · Balance theory and practice; Training Use face-to-face and e-learning; and · Conduct training in or near the community. Offer competency-based formal certification upon successful completion of training WHO guideline on health policy and system support to optimize community health worker programmes - selected highlights

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Managing and supervising CHWs

Standard human resource management functions, while routinely implemented for skilled health workers in most countries, vary dramatically for CHWs. Successful CHW programmes require sustainable support by and integration into local and national health systems and plans, including: supportive supervision that solves problems and improves skills; appropriate CHW remuneration, commensurate to the work conducted; written contracts specifying roles, working conditions and rights; and the potential for career advancement opportunities.

Supportive supervision

- Establish appropriate supervisor-CHW ratios;
- · Train and resource supervisors to provide meaningful, regular performance evaluation and feedback; and
- . Use supervision tools, data and feedback to improve quality.

Remuneration

- · Include resources for incentives in health system resource planning; and
- Provide a financial package commensurate with the job demands, complexity, number of hours, training and roles that CHWs undertake.

Contracting agreements

· For paid CHWs, establish agreements specifying roles, responsibilities, working conditions, remuneration and workers'rights.

Career ladder

- Create pathways to other health qualifications or CHW role progression;
 Retain and motivate CHWs by linking performance with opportunities; and
- · Address regulatory & legal barriers.



WHO guideline on health policy and system support to optimize community health worker programmes - selected highlights

Integrating into health systems and gaining community support

Successful CHW programmes are integrated in the communities they serve and the health systems to which they connect. Optimizing the value and impact of CHW programmes requires appropriate planning, implementation, and measurement of performance, as well as adequate resources and supplies.

Engaging communities in defining needs, selecting and holding CHWs accountable, and mobilising local resources can improve community ownership and satisfaction, as well as the motivation and performance of CHWs.

Target population size

- Consider population size, epidemiology, and geographical and access barriers; and
 Anticipate expected CHW workloads, including nature and time requirements of the services provided.

Collection and use of data

- · Enable CHWs to collect, collate and use health data on routine activities;
- Train CHWs and provide performance feedback based on data; and
- Minimize reporting burden, harmonize requirements and ensure data confidentiality and security.

Types of CHWs

- Adopt service delivery models comprising CHWs with general tasks as part of integrated primary health care teams; and
- CHWs with more selective tasks to play a complementary role based on population health needs, cultural context and workforce configuration.

Community engagement

- Involve communities in selecting CHWs and promoting programme use; and
- Engage relevant community representatives in planning, priority setting, monitoring, evaluation and problem-solving.

Mobilization of community resources

- · CHWs to identify community needs and develop required responses;
- CHWs to engage and mobilise local resources; and
 CHWs to support community participation and links to health system.

Supply chain

- . Ensure CHWs have adequate and quality-assured commodities and consumables through the overall health supply chain; and
- . Develop health system staff capacities to manage the supply chain, including reporting, supervision, team management and mHealth.

Résumé en français

Contexte. Les pandémies commencent et se terminent dans les communautés et pour les gérer, la mobilisation de la communauté doit être une priorité. A cet effet, l'emploi d'agents de santé communautaire (ASC) dans la réponse au COVID-19 est essentielle pour engager les communautés et renforcer leur capacité à limiter la propagation de la maladie.

L'intégration des ASC dans les systèmes de santé est un élément clé de leur réussite et nécessite leur inclusion dans les politiques de santé. Ce mémoire a pour but d'explorer le rôle des ASC dans la réponse au COVID-19 dans les pays des Caraïbes afin d'identifier les pratiques qui peuvent potentiellement servir de base à une politique sous-régionale et contribuer au renforcement des capacités en matière de ressources humaines pour la santé et de renforcement des systèmes de santé dans la sous-région.

Méthodes. Une étude qualitative consistant en une revue de la littérature grise suivie d'entretiens avec des informateurs clés. Nous avons adopté une perspective exploratoire afin d'obtenir un aperçu de l'état des rôles et des politiques des ASC dans les Caraïbes. Nos analyses se sont faites à partir de rôles identifiés dans la littérature.

Résultats. Dans le cadre de la réponse au COVID-19 dans les Caraïbes, les ASC ont principalement rempli des rôles cliniques, de soutien et d'éducation dans les communautés. Alors que de nombreux pays des Caraïbes ont déployé des ASC, nous avons constaté que peu de politiques officielles sur le travail des ASC étaient disponibles dans la sous-région. Conclusion. Bien que les ASC semblent avoir été largement utilisés lors de la réponse au COVID-19 dans les Caraïbes, le manque apparent de politiques officielles peut être un obstacle à leur succès. L'élaboration d'une politique relative aux ASC permettra non seulement de renforcer les interventions de santé communautaire contre le COVID-19, mais aussi d'aider les pays des Caraïbes à renforcer leur personnel de santé après le COVID-19 et à améliorer la préparation aux urgences sanitaires. Les résultats de cette étude exploratoire contribueront à l'élaboration de directives de politique sanitaire sur les ASC dans les Caraïbes, en jetant les bases d'une enquête exhaustive à venir.

Mots clés: Santé communautaire, ressources humaines pour la santé, agents de santé communautaire, politique de santé, Caraïbes