Embedding Care in Communities: Mixed-Methods Evaluation of a Community Health Worker Training in Rural Haiti

Shirley Bejarano, MPH, MS, CPH\textsuperscript{1}, Jean Pierre-Louis, MPH\textsuperscript{2}, Roberto Benoit, MPH\textsuperscript{3}, Prachurjya Barua\textsuperscript{4}, Taheera T. Ilma\textsuperscript{4}, Tachel Jean\textsuperscript{4}, Mariana A. Pinanez\textsuperscript{4}, Yolene Gousse, DrPH, MPH\textsuperscript{3}

**Corresponding Author:**

**Dr. Yolene Gousse**, Dr.PH, is Assistant Professor of the Department of Pharmacy Administration and Public Health.

St. John’s University  
Department of Pharmacy Administration and Public Health  
Dr. Andrew J. Bartilucci Center  
8000 Utopia Parkway  
New York, NY 11439  
Goussey@stjohns.edu  
Phone: 1.718.812-1981  
Fax: 1.718.990.8646

1. Women in Global Health  
   California, United States

2. capracare, Inc.  
   Les Cayes, Haiti

3. St. John’s University  
   Department of Pharmacy Administration and Public Health  
   College of Pharmacy and Health Sciences  
   Queens, New York 11439  
   United States
4. St. John’s University  
   Biomedical Program  
   College of Pharmacy and Health Sciences  
   Queens, New York 11439  
   United States

Submitted 30 September 2021, revised 20 March 2022, 8 June 2022.

KEYWORDS: Community Health Worker, Rural Health Ambassador, Health Training, Health Education, Community Health Services, Haiti
ABSTRACT

Background: Community Health Workers (CHW) are valuable members within the communities they serve and increase access to healthcare by garnering the trust of their fellow neighbors, providing services including facilitating access to care, and improving the quality and cultural competence of service delivery. In Southern Haiti, there is a healthcare provider shortage with one doctor or nurse per 3,000 persons. CHWs are critical to help close the gap of the lack of access to care and facilitate the provision of basic healthcare.

Objectives: To describe the CHW training initiative at capracare, a community-based health care provider in rural Haiti, using survey and focus groups results highlighting key findings and implications for the CHW initiative.

Methods: A mixed-method approach was used to evaluate capracare’s CHW Training program. Focus groups were conducted that documented the lived experience of CHWs following the training program; examined barriers and facilitators to translating the training skills to practice in the community. Pretest and posttest data assessed change in knowledge post the CHWT program.

Results: Findings included fifty-one (57%) training graduates. A statistically significant increase was observed in mean test scores from baseline (n=51, m=61.48 ± 1.80) to post-test (m=76.93 ± 1.73), t (-7.69), p<0.001, indicating that the CHW training was successful in increasing participants’ knowledge. Themes that emerged from the qualitative analysis were comprehension of skills learned, community benefit, and empowerment.

Conclusions: Results from this CHWT program has implications to increase the healthcare workforce thus facilitating access to care among community residents in under-resourced regions.
INTRODUCTION

The Community Health Worker (CHW) model originated in the 1920’s in China to address health care access in underserved rural regions. Over the past century, the CHW model has flourished in both developed and developing nations, creating bridges between patients and health care services\(^1\). CHWs provide basic medical care including first aid, record public health data, delivery of vaccinations, health education, and support communities to sustain environmental health\(^2\)\(^-\)\(^4\). There is deep evidence demonstrating CHWs have become invaluable members of health care teams and have improved access to health care for underserved communities and for marginalized populations\(^1\).

The effectiveness of CHWs in health care engagement and in improving health outcomes has been well documented in the literature. In particular, the relationships between patients and CHWs has emerged as a focal point of the success of this model, with community trust being central to the CHWs identity\(^5\)\(^,\)\(^6\). Studies have documented CHWs often contributing their own resources to provide financial support for their patients’ unmet needs including assisting patients with disabilities in domestic chores\(^7\). While CHWs have frequently been willing to take on additional tasks, the increased workload, paired with low pay and limited career advancement opportunities, have resulted in high attrition rates which negatively impacts long-term planning for the CHW programs\(^8\)\(^,\)\(^9\).

The sustainability of CHW programs is affected by the financial and social aspects of the program model for the CHWs. Frequent cited barriers to sustainability are the lack of financial incentives for the CHWs. CHW programs have gained traction because of the economic and social capital initially generated through the services to the community, which are not adequately
reflected in worker payment or recognition levels\textsuperscript{10}. Despite poor compensation, the relationships formed through CHW programs are primary facilitators that increase CHW motivation to continue providing services\textsuperscript{11}. While, there have been initiatives using methods such as the Community-based Participatory Research (CBPR) that aim to assess CHW training needs and regulations\textsuperscript{12}, there is still much to be learned about effective approaches to expanding and sustaining CHW programs\textsuperscript{3}, while also tailoring CHW training to specific communities in underserved regions.

In 2012, capraca\textit{re}, a community-based health organization in a rural region of Haiti, developed a CHW training initiative with the goal of training residents as lay health care workers. The training program evaluation was designed to employ a mixed-methods assessment of the training initiative. Here, we aimed to assess the impact of capraca\textit{re}’s CHW training program in three programmatic evaluation areas: 1) helping trainees develop new skillsets; 2) increasing the capacity to obtain employment at capraca\textit{re} or elsewhere post-training; and 3) developing recommendations for the existing CHWT program based on the evaluation outcomes. Both quantitative and qualitative data were collected as part of the evaluation.

\section*{METHODS}

This study evaluated a CHW training program collaboratively developed as a community-academic partnership between capraca\textit{re} and St. John’s University’s (SJU) Public Health Program. This partnership builds on a 5-year collaboration history, including capraca\textit{re} serving as a fieldwork host site for SJU master in public health program. capraca\textit{re}, founded in 2009 is a not-for-profit organization located in the rural community of Fonfrede, Haiti, a community located 120 miles outside the capital, Port-au-Prince, with an estimated population of 20,000
residents. In 2009, more than 40% of the Haitian population reported not accessing the health system due to their inability to afford the associated cost\textsuperscript{13}. As a result of lack of access to care, community members suffer from infections and communicable diseases. Historically, community members have primarily learned to rely on alternative medicine and religious healers as a way to combat illnesses\textsuperscript{14}. capracare provides free or low cost services including basic medical care, preventive health care for women and children, health education, social services, professional development training, and low-threshold mental health counseling. In 2019, seven years after the inception of the capracare’s CHW training program, a faculty member from SJU Public Health program developed a mixed-methods evaluation of the CHWT initiative, in collaboration with capracare and results are described forthwith.

Founded in 1870, SJU is an academic institution located in Queens, NY. The university’s mission emphasizes connections with local communities in Queens and surrounding regions, facilitating numerous national and international initiatives. The SJU faculty member served as the Principal Investigator for the project and was not previously affiliated with capracare’s CHWT program. The one-year (June 2019 - May 2020) evaluation was conducted with funding from the Catholic Relief Services (CRS) through an existing internal funding partnership with SJU. Project materials were approved by SJU Institutional Review Board (FWA # 00009066). All participants provided informed consent prior to participating in the evaluation activities.

\textit{CHW Training Initiative}

capracare’s CHW training Initiative was developed in 2012 with the goal of training lay community members to provide basic health services and education to a community of 20,000
residents. The CHW training program was certified by the Haitian Ministry of Public Health and Population (MSPP) and capracare instructors are all certified trainers, thus increasing the CHWs graduates future employability, and providing access to partner organizations as potential employers. The MSPP strong reputation as a trusted resource with existing ties to the priority communities and populations facilitates acceptability of the program. The core instructors were all Haitian, provided the training in Haitian Creole, and were supported by international professors, graduate-level university students, and experts in the fields of medicine, public and mental health. These additional support assisted in select training, and on program assessment and development. The CHWT program was implemented at capracare in Haiti, and comprised of a five-week training, with sessions held three days per week, totaling 15 sessions. The curriculum focused on four key areas: 1) Public Health; 2) Psychological First Aid (PFA) and Mental Health; 3) Emergency Management and Response; and 4) Professional Development (Figure 1).

Figure 1: capracare Inc. Community Health Worker Training Curriculum Topics

<table>
<thead>
<tr>
<th>Week 1</th>
</tr>
</thead>
</table>

*Community Health Worker Training Evaluation*
**CHW Trainees Recruitment and Eligibility**

The CHW training was offered to members of the greater Les Cayes, Haiti community. Participant referrals were made through partner organizations and from community members who had learned about the program from various promotions on social media, distributed flyers, previous graduates of the training, and/or word of mouth from community members. Additionally, applications for the CHW training program are distributed throughout the community eight-weeks prior to each training cycle start date.

The eligibility criteria for the CHW training program enrollment are: 18 years or older, able to read and write Haitian Creole, and a minimum of 9th grade education. Additionally, potential trainees completed an interview process to ensure that they would be a good fit for the

<table>
<thead>
<tr>
<th>Week 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team work</td>
</tr>
<tr>
<td>Diabetes</td>
</tr>
<tr>
<td>Traumatic event and psychological support</td>
</tr>
<tr>
<td>CPR</td>
</tr>
<tr>
<td>Early pregnancy</td>
</tr>
<tr>
<td>First aide psychologic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
</tr>
<tr>
<td>Professional Development</td>
</tr>
<tr>
<td>Hypertension</td>
</tr>
<tr>
<td>Leadership</td>
</tr>
<tr>
<td>Reproductive system- Female/Male</td>
</tr>
<tr>
<td>Loss and mourning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical cancer</td>
</tr>
<tr>
<td>Conflict</td>
</tr>
<tr>
<td>Community social support</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview for work</td>
</tr>
<tr>
<td>HIV</td>
</tr>
<tr>
<td>Post- Test</td>
</tr>
</tbody>
</table>
training. Upon admission, all trainees were administered a baseline assessment, completed prior to the start of the CHW training program. Applicants who did not meet the eligibility criteria were excluded from participation. Program completion required a score of at least 70% on the posttest. In the event that trainees score less than the required average on the posttest, supplemental instructions are provided and students are given the opportunity to retake the posttest.

CHW trainees who completed or who were undergoing the CHW training during the study data collection period were eligible to participate in the evaluation. Participants provided informed consent prior to engaging in the evaluation data collection activities.

Instrumentation

Quantitative evaluation data were collected through pretest and posttest training surveys, with data collected since the initiation of the CHW training in 2012. The pre and post-test outcome evaluation tools were developed by capracare’s team in Haitian Creole to assess changes in knowledge acquired between baseline and immediately following the CHW didactic training. The survey questions represented the four main constructs covered in the training curriculum: 1) Public Health; 2) Psychological First Aid (PFA) and Mental Health; 3) Emergency Management and Response; and 4) Professional Development. Twenty-six questions that were consistent across surveys were used for this evaluation. The pre and post-tests were self-administered by the CHW trainees and independent of the CHW training sessions.

Qualitative Assessment
The goal of the qualitative assessment was to understand the CHW trainees’ self-perceptions as a CHW and learn about their experiences during the training program. The qualitative evaluation included four focus groups conducted in Haiti. The focus groups were designed to capture and explore: 1) the lived experience of health ambassadors retroactively following the training program; and 2) examine barriers and facilitators to translating the training skills to the community. The focus groups were conducted with CHW who graduated up to 7-years prior to the CHWT Program evaluation. The gap in time between graduation and the focus groups sessions allowed time for the CHWs to apply the skills learned during the CHWT in practice.

The PI and evaluation team developed a semi-structured interview guide with open-ended questions to ascertain CHW trainees and graduates’ experiences and their feedback on the CHWT program. The interview guide included questions on personal experiences, ability to apply learned skills in the field, receiving support, and resources available and/or the lack of barriers and opportunities encountered during and after the CHW training program (Appendix 1).

The focus groups lasted approximately two to three hours in total, which included the introductory activities, including obtaining informed consent and close-out procedures. Participants were given a medical supplies gift worth $20 as compensation for their participation in the focus sessions. Focus groups were audio-taped and transcribed. To preserve the data gathered through the focus groups, verbatim transcripts were created and were not “cleaned” to remove slang, grammatical errors, etc.15

Quantitative Analysis
Univariate statistics were used to describe the study sample. Paired sampled t-test was employed to assess change in Public Health, Psychological First Aid (PFA) and Mental Health, Emergency Management and Response, and Professional Development in the pre and post training surveys. All analyses were performed at the p\leq .05 level using IBM SPSS Statistics 24.

Qualitative Analysis

An inductive approach using a grounded theory-informed methodology was used for the qualitative data analysis. This informed approach enabled the identification and formulation of theories based on emergent themes found in the data\(^{16}\). The qualitative analysis was conducted by a team of six analysts, including an investigator. Each focus group was recorded and transcribed verbatim in Haitian Creole. The transcripts were translated from Haitian Creole to English. Each analyst independently read all focus group transcripts and developed the codebook by using an inductive approach. The codes were either words or phrases that assign a summative attribute to the qualitative data\(^{17}\). To enhance inter-rater reliability each analyst applied the codes to the same transcript separately (FG1) and then met others to compare codes and identify discrepancies. After the analysts resolved inconsistencies, the codebook was finalized. One analyst continued to assign codes for the remaining focus group transcripts. The data were analyzed by utilizing Atlas.ti Cloud Qualitative Data Analysis software. Based on the analysis of codes, we identified key emerging themes.

RESULTS
A total of 117 trainees enrolled in the CHW training program between 2012 and 2019. Three-quarters (n=89, 76%) of participants graduated from the program. The analysis was based on fifty-one (n= 51, 57%) graduates for whom completed pretest and posttest data were available. The mean age of the participants was 28 years (Table 1). Over half of the sample was female (n=30, 59%), with 2% of participants identifying their gender as ‘other.’

Half of the participants completed four years of college or higher (n =25, 49%), with 7.8% (n =4) not having completed high school or equivalent. The survey results show an increase in mean participant knowledge across training areas, following the training (Table 2). Pre and post-test analysis identified a statistically significant increase in mean test scores from baseline ($m= 61.5, sd= 1.8$ to posttest ($m= 76.9, sd= 1.7$), $t=7.7$, $p<.001$.

Key Themes

The most salient themes that emerged during the evaluation were 1) comprehension and application of skills learned; 2) community benefit; and 3) empowerment. The themes are described in further detail below.

Comprehension and application of skills learned

Participants discussed understanding the material learned in the CHW training program by describing the ways in which they have applied their skills in practice. Many of the CHWs reported they were part of church groups through which they were able to reach a large number of community members (adults and adolescents). The health education topics the CHW’s reported primarily using to educate their community were prevention of non-communicable
diseases (uterine cancer, cervical cancer, hypertension, and diabetes) and first aid (CPR, wound care, proper lifting skills, respiratory distress). The participants also reported that youth and women were the populations they engaged with the most in the community, and that they provided education on hygiene and sexual health to youth groups.

Additionally, many CHWs reported they learned about professional development (time management, conflict management, leadership, teamwork, and commitment).

“The CHW training did not only provide medical training, it trained us to be professional... “We were trained to become a pillar of the community by learning the importance of sharing the knowledge we gained from the training. I learned about leadership, how a leader should be....” (FG4)

"Antrenman Fòndamantal pou Ajan Kominote-a pa sèlman bay fòmasyon medikal, li fòme nou pou nou vini pwofèsyonèl..."nou fòme pou nou vini poto mitan kominote-a nan fason nou aprann enpòtans pou nou patatje konesans nou aprann nan fòmasyon an. Mwen aprann de lidèship, kijan pou yon lidè ye...." (FG4)

Community benefit

The participants expressed they felt the CHW training program has a cost-benefit by saving the community members money and time. As CHWs, they can provide basic services and education free of charge which saves the community members travel time and cost of transportation. The participants also expressed that the education they are providing is saving the community members from developing preventable diseases and preventing any existing diseases to worsen (cervical cancer screening, checking blood pressure for hypertension, measuring
glucose for diabetes). Participants also described the first aid training has helped several of their fellow community members by being first responders during accidents, where they provided wound care to mitigate the situation while they arrived to the hospital.

“Our services are free, and we are readily available to help the community with basic health care needs. All this could happen because the training we received from the program. Hence, there is a cost benefit for the community, it saves them money on transportation and give peace of mind because of the comfort and reliable advice we offer.” (FG3)

“Sévis nou yo gratis, epi nou pare pou nou bay kominote-a èd swen sante bezwen elemantè yo. Tout sa ka rive akòz antrenman nou jwenn nan pwogram nan. Donk, genyen yon zèv ki pa koz kominote-a fè depans, li pa depans lajan nan transpò epi bay yo lapè nan espri akoz yo konfôt tab ak bon swen nou ofri. (FG3)

Empowerment

The participants expressed a sense of empowerment resulting from the CHW training program. They felt the program benefited themselves and their families because of the knowledge gained and the prevention methods they can now implement in their daily lives, and they felt more confident about providing health education to their communities. Participants feel they are contributing to their community especially because the skills they apply are at times life saving.

“It has benefitted my family and friends I now conduct sessions in my neighborhood, especially with young women I talked to them about consequences. I always focus on the positive
instead of the negative to keep their attention. Being able to share my knowledge with community helps me feel good about myself.” (FG1)

"Antrenman an benefisye fanmiy ak zanmi mwen; kote kounyea mwen fè fòmasyon nan katye m, espesyalman ak jèn fanm kote mwen pale yo de konsekans. Mwen tout tan fokis sou pozitif apa de negatif pou m kenbe atansyon yo. Akoz mwen ka patatje konensans mwen ak kominote m, sa fè m santi m byen ak tèt mwen." (FG1)

DISCUSSION

The evaluation of the CHW training in rural Haiti finds capracare’s program to successfully increase knowledge among CHW trainees. Overall, the CHW training improved competency and skill set with an 80% increase between pre-post test scores. As a result of the CHW training program, CHWs serve as the bridge connecting the community with health care services. For example, the CHWs conduct health education, and provide first aid services in varied venues throughout the Fontfrede community and surrounding regions in schools, open spaces, and backyards, thus facilitating access to care.

Furthermore, when health needs are beyond what the CHWs can provide, they extend access to care by referring and or accompanying community members to capracare, a CBO equipped with a clinic and medical staff on site.

The healthcare support services provided by these CHWs in the community of over 20,000 residents is a critical step toward increasing access to health care services and improving health status in this rural region. Since the initiation of the CHW training program, capracare has employed 11 of the trained CHWs. Given the relatively high education level of the CHWs
compared to average education levels in rural Haiti, the CHW program also provides a viable financial and economic opportunity for residents of the area.

The evaluation identified core elements of CHW’s functioning within the community they serve. CHWs social ties, trust, understanding the significant services they provide their community, and empowerment motivated CHWs to participate in the training and volunteer their time. The latter confirms the critical role they play in the health care system in a remote area. The health topics the participants discussed centered around those topics that affect women and youth. It is likely these topics were particularly pertinent in part because over half of the participants were women, but more so due to the fact that women and youth were the only specific demographic populations CHW’s reported engaging with, in contrast to mentioning a place-based group like a “church groups”. CHW training participants specifically discussed educating women on the importance of health screenings or accompanying women to access health tests. Despite the many men graduating from the program, it appears few male community members are engaged outside of the training, making this an opportunity for expansion. This study also underscores that women continue to make up the majority of CHWs which aligns with other CHW programs seen globally.

Our findings highlight the success in the training program for CHWs, which may be replicated in similar rural and under-resourced countries and communities. Previous studies have recommended integration of CHW programs into health care systems and similarly demonstrate that CHWs are a valuable asset in low-resource communities and developing nations, providing contextually relevant health services and education. CHWs serve as liaisons between the health care system and community members, a bridge which may otherwise not exist. A qualitative study conducted in Australia described how CHWs help disadvantaged
populations access health care resources\textsuperscript{23}. Further, a US-based study documented how CHW trainings not only help the community but also support the researchers involved by further enriching their work\textsuperscript{24}. Another study conducted by Gunderson et al.\textsuperscript{25}, described the collaborative development of a community-based CHW program to address the social determinants of health to decrease health care cost. Moreover, it is evident from the focus group in the present study that the CHW’s understand the need for health service access support in their communities and how their role helps many residents prevent disease and manage health conditions. In many cases, the CHWs are the only source of health education and take pride in the community benefit they deliver.

The World Health Organization’s (WHO) Guideline on Health Policy and System Support to Optimize Community Health Worker Programmes\textsuperscript{26}, highlights that CHWs’ selection, education, and certification are the essential categories of a successful CHW program. The WHO essential categories include five sub-componenets: [1.) selection; 2.) pre-service training duration; 3.) curriculum to develop competencies; 4.) training modalities; and 5.) offer competency-based formal certification upon successful completion of training]. capracare’s CHW training program meets all five of the essential category’s sub-component guidelines. Using these as a model helped ensure the positive outcomes of capracare’s CHW training program and demonstrates the capacity to continue developing the program with a strong foundation if additional resources are available.

An essential consideration for all CHW programs is ensuring sustainability\textsuperscript{27}. The success of CHW programs depends on creating and embedding a service in the community that is trusted, which requires tenure within that community. A study by Caricia et. al., found that trust is the
most essential characteristic that distinguishes CHWs from other members of the health care system and affords them open access into communities\textsuperscript{12}. At a community-level, success of CHW interventions depends on high levels of community involvement and participation and a positive relationship between the CHW program and the formal health system\textsuperscript{28,5}. Presently, these programs are largely reliant on grants, which do not represent long-term investment. Health care reimbursement models in many nations are shifting from fee-for-service to value-based-payment models, however, these models may not be available in developing nations, requiring other sustainable resources must be established. The funding for CHWs should be aligned with other health professionals and should be integrated into the larger clinical care system\textsuperscript{29}. A lack of sustainability for CHW programs is a disincentive for CHWs themselves to participate and increases interruptions of services for the patients and community the programs are meant to serve\textsuperscript{30}.

Establishing long-term CHW programs in rural regions of developing nations is essential to creating equity in health care worldwide\textsuperscript{31}. To do this, the availability of CHW training must be increased in areas where it has been identified that health care access is low, based on provider shortages, or there is a lack of relevant care\textsuperscript{32}. To do this, it will be critical to identify sustainable financial and care reimbursement models that ensure both the adequacy of services delivered as well as adequate pay for CHWs\textsuperscript{33}. CHW programs should be structured and implemented in a way that represents good career opportunities for CHWs, including professional growth opportunities, and can serve as an economic opportunity in the communities they serve. Positioning CHWs as part of a coordinated workforce strategy offers an opportunity to enhance
the performance and efficiency of the health system and improve population health equity and outcomes\textsuperscript{31}.

**LIMITATIONS**

The study and evaluation are subject to a number of potential limitations. First, the study was conducted among a relatively small sample size in a rural region of Haiti. The region in which the program and evaluation were conducted have many unique characteristics in terms of demographics and care access, meaning that future iterations of the program should identify areas to adapt the program to the communities in which the CHWs will be working. There may be recall bias for participants that completed the training years ago who may have trouble recalling their experience.

**NEXT STEPS**

Based on the study findings, the authors recommend additional research and study into community-specific CHW training programs to identify regional and cultural considerations that should be used in both the development and sustainability of these programs. Models like capracare’s CHW training program may be used as a basis to model and evaluate future programs. Particularly, the inclusion of the CHW trainers and trainees’ voices and insights will be integral to developing culturally-tailored programs region by region. Evaluation should occur in tandem with the CHWT to avoid recall bias. The successful and demonstrated outcomes associated with these programs may be used to advocate for local and state governments funding to ensure CHW programs are sustained at this level.
**CONCLUSION**

The evaluation of capracare’s CHW training program in rural Haiti provides evidence of how successful programs may facilitate access to care among community residents in under-resourced regions while simultaneously providing economic opportunities to the residents. The training increased CHW trainee knowledge and CHWs discussed how they had applied their skills in the community. Overall, CHWs understand the community benefit of their role and feel empowered because of the service they offer. The knowledge of the community benefit being provided through their work was a primary motivator for the CHWs. In Haiti and in other developing nations, CHW programs must be sustainably funded to fully establish this service for rural regions and to maintain the financial opportunity for CHWs in their community.
REFERENCES


**Acknowledgements**

This study was supported with funding from the Catholic Relief Services and St. John’s University. The contents of this publication are solely the responsibility of the authors and do not necessarily represent the official views of the Catholic Relief Services and St. John’s University. The authors would like to thank capracare staff for their contributions to this work.
Author Contributions

Yolene Gousse was responsible for conceiving the study and design, acquisition and interpretation of data, drafting of manuscript, critical revision, and final approval of the manuscript. Shirley Bejarano contributed to the analyses and interpretation of data, drafting of manuscript, critical revision, and final approval of the manuscript. Jean Pierre-Louis was responsible for acquisition of the data, critical revision of the manuscript, and final approval. Roberto Benoit was responsible for drafting of manuscript, critical revision, and final approval of the manuscript. Tachel Jean, Prachurjya Barua, Taheera T. Ilma, and Mariana A. Pinanez, contributed to drafting of manuscript, interpretation of data, critical revision, and final approval of the manuscript. All authors are accountable for all aspects of the work.
Table 1: Baseline Demographic Characteristics and Test Scores of Participants (n=51)

<table>
<thead>
<tr>
<th>Variables</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>Range=20-45; Mean = 27.82; SD = 5.77</td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>20 (39.2%)</td>
</tr>
<tr>
<td>Female</td>
<td>30 (58.8%)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (2%)</td>
</tr>
<tr>
<td><strong>Education (missing, n = 2)</strong></td>
<td></td>
</tr>
<tr>
<td>Did not complete high school</td>
<td>4 (7.8%)</td>
</tr>
<tr>
<td>Completed high school/GED/vocational/technical/trade school</td>
<td>8 (15.7%)</td>
</tr>
<tr>
<td>Some college or two year degree</td>
<td>11 (21.6%)</td>
</tr>
<tr>
<td>Complete college (4 years) or higher</td>
<td>25 (49%)</td>
</tr>
<tr>
<td><strong>Knowledge Test scores</strong></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>Range=33.30-88.80 Mean = 61.5 SD = 12.89</td>
</tr>
<tr>
<td>Posttest</td>
<td>Range=22.20-94.35 Mean = 76.9 SD =12.36141</td>
</tr>
</tbody>
</table>

Table 2: Paired t-test for baseline and follow-up Community Health Worker Knowledge Questions (n=51)

<table>
<thead>
<tr>
<th>Mean Scores</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>61.48</td>
<td>Posttest</td>
<td>76.9</td>
<td>t-7.69</td>
</tr>
</tbody>
</table>
APPENDIX I

Evaluation of Capracare’s Community Health Worker Training Program

St. John’s University, Queens, NY

Capracare Inc., Fonfrede, Haiti

FOCUS GROUP INTERVIEW GUIDE

Facilitator notes:

1. Greet participants as they enter the meeting room.
2. Provide participants a nametag with a preprinted number. Study participants will be addressed by this number during the focus group sessions to maintain confidentiality.
3. Arrange chairs so that all participants are facing one another and facing the area in which any information will be displayed.
4. Consent participants if not previously consented
5. Provide incentive (at the end of the session)
### Self-Introductions and Warm up

**SCRIPT:**

Thank you all for joining us today. My name is _____, and I work at St. John’s University, Queens, NY and collaborate with the Capracare Inc. to evaluate Capracare’s Community Health Worker Training Program. I’ll be guiding our discussion today. Also with me is ______, who will be helping out today. Before we get into talking about why we are here, let’s first introduce ourselves.

We will then give you some background about who we are and what we hope to do here today.

So what are we asking of you? First, we are asking you to participate in this focus group, which will last no more than 2 hours. What is a focus group? A focus group is a research method in which groups of people are asked about their thoughts, ideas, opinions, beliefs and attitudes towards a particular topic. The topic that we will be discussing today is Capracare’s Community Health Worker Training Program.

We are interested in your viewpoints; you represent other Community Health Workers in our community in Haiti who may have views similar to yours. You are here because we believe that we need each other to be a voice of change in Haiti. You bring an experience with and connection to Capracare’s Community Health Worker Training Program, and in Haiti’s neighborhoods that is very valuable, and that few people have. We are asking you to share your experiences with us to help promote Capracare’s Community Health Worker Training Program.

In this study we are not selling anything; we just want your thoughts, ideas, and experiences. There are no right or wrong answers, OK. If your opinion is different we want to hear it so please feel free to share. Everyone will have an opportunity to talk; there’s no need to raise your hand. This focus group will also be recorded so that we can have a record of what was said later. But please be assured that anything you say here will be kept private. My role as the moderator is just to put out issues or topic to discuss and to facilitate the discussion. We want to hear from you so please feel free to talk to each other and not just to me.

Before we can start, we should establish some ground rules for how we will work together as a group. We have found that in new situations or with new groups it is helpful to have some guidelines to follow so that we can make the
most of our time together. This is especially important because we may talk about some personal topics while we work together.

From our experience we found that the following guideline can be helpful:

- Please turn off your cell phones or put them on mute/vibrate
- Let’s try to have one person talk at a time so that we can hear each other out
- Let’s try not to interrupt when someone else is speaking
- Let’s try to be respectful to each other. Please do not use judging statements or laugh at other’s comments, etc.
- Finally, please do not repeat any personal information that other participants might reveal about themselves

This last point is very important so that we can have an honest and open discussion. We are all adults and do not judge one another based off particular behaviors, preferences, or family history. With that being said, we hope that we can all agree to keep the things discussed in this meeting confidential, along with any other information, like our names, our partner’s name, our address or neighborhood, where we work, or anything else that someone outside here may use to identify individuals. This is to protect each other’s privacy. When private information ends up in the wrong hands, it can cause harm by making people feel uncomfortable. It can also disrupt relationships with family, partners or friends.

**Evaluation of Capracare’s Community Health Worker Training Program**

**SCRIPT:**

Now that we have had an opportunity to meet and learn more about the project, let’s get started.

The first set of questions is about your **knowledge** about Capracare’s Community Health Worker Training Program.
### Individual/Family Level

<table>
<thead>
<tr>
<th>Q#</th>
<th>Question</th>
<th>Probes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>From your experience as a former trainee, what would you say is the goal of Capracare’s Community Health Worker Training Program?</td>
<td>Probe: • Train lay community members in the delivery of health services? • Help Haiti’s communities? • Building resilience? • What did you learn?</td>
</tr>
<tr>
<td>2</td>
<td>What do you remember learning from this program?</td>
<td>Probe: • Hygiene • Mental health • Cervical cancer • First aid</td>
</tr>
<tr>
<td>3</td>
<td>How well did you understand the health information provided to you during the Capracare’s Community Health Worker Training Program?</td>
<td>Probe: • Understand • Do not understand • Need help/ have help</td>
</tr>
<tr>
<td>4</td>
<td>Do you feel that you or your family have benefited from this program?</td>
<td>Probes: • How? • Change in your/family health status, and/or behaviors? • Change in your/family health knowledge, attitude, and/or social support •</td>
</tr>
</tbody>
</table>

### Service Delivery

<table>
<thead>
<tr>
<th>Q#</th>
<th>Question</th>
<th>Probes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>How have you used the information that you learned since you graduated from Capracare’s Community Health Worker program?</td>
<td>Probe: • Gained employment (At Capracare? If elsewhere, specify) • Volunteer in the community to help provide education and access to health services • Did not use information</td>
</tr>
<tr>
<td>6</td>
<td>What are the activities that you have conducted as CHWs?</td>
<td>Probes: • Improving access • Services ➤ Referrals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
| 7 | Who is being served or coming into direct contact with you as a CHWs? (describe the population) | Probes:  
- Patients (those that are sick)  
- Healthy community members seeking prevention services |
| 8 | What is the nature of the interaction between you (CHWs) and the population being served? | Probes:  
- Health Educator  
- First Aid Service Provider  
- Referral provider  
- Provide social support |
| 9 | What changes are expected in the population being served? | Probes:  
- Better access to care  
- Obtain health care services  
- Increase education about health information |

**Program Performance**

| 10 | How many individuals you believe you help access care since you graduated from the program? | Probes:  
- Educated  
- Increased health awareness |
| 11 | Is Capracare’s Community Health Worker Training Program needed in the community? | Probe:  
- Why?  
- Why not?  
- Access to health care services is difficult due to (lack of proximity to clinical sites; lack financial resources)  
- Community members need social support to aid with care plans/with the coping with the disease |
### Do you think that there is a cost benefit to having CHWs provide health services in Haiti?

**Probes:**
- Community members receive health services at no/lower cost that if they went to a clinic or hospital

### System Change

#### What do you think would happen if this training program was not available in this region of Haiti?

**Probe:**
- Not caring for oneself
- Lack of access to resources
- Depression
- Lack of social support
- Lack of financial support
- Lack of understanding about stroke care plan

#### Are there any system change occurring as a result of Capracare’s CHW Training Program?

**Probe:**
- Increase awareness about health
- Increase identification of health problems
- Increase number of people seeking health services

### Support and Community Resources

#### Who is the most influential person in your life regarding your health decisions? Why?

**Probe:**
- List and identify how these individuals help

#### What other resources are available in this community to address health problems?

**Probe:**
- How can these resources help?
- Proximity to clinic/hospital

#### What are some barriers that prevent people from accessing resources that they need to manage their health?

**Probe:**
- Transportation
- Finance
- Time
- Support systems

### Recommendations

**Community Health Worker Training Program Recommendations**
SCRIPT:

Now, let’s switch gears and talk a little about ways to improve Capraccare’s Community Health Worker Training Program.

As a Health Ambassador, what ideas do you have to improve and/or expand Capraccare’s Community Health Worker Training Program?

As a Health Ambassador, is there anything that would help facilitate the provision of healthcare services in the community?

Again, these questions are just about your thoughts and ideas about how to meet the needs of individuals in the community.

LAST QUESTIONS
Before we end, we just wanted to get some feedback on your experience in the focus group today

<table>
<thead>
<tr>
<th>Q#</th>
<th>Question</th>
<th>Probes</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>How has participating in the interviews been for you?</td>
<td>• Use feedback assessment probes</td>
</tr>
<tr>
<td>19</td>
<td>Given that our interest in this study is focused on the evaluation of the Capraccare’s CHW Training program, are there any questions that I should have asked you and didn’t?</td>
<td>• Use feedback assessment probes</td>
</tr>
<tr>
<td>20</td>
<td>Is there anything else that you would like to say about the Capraccare’s CHW Training Program, or any other topics that have come up?</td>
<td>• Use feedback assessment probes</td>
</tr>
</tbody>
</table>

Thank you again for your help today.

If you have any questions about what we did today or what will happen with the information that you gave us, please don’t hesitate to contact us at: