



**USAID**  
FROM THE AMERICAN PEOPLE

**Liberia**

# *Ebola Community Care Center Project (EC3)*

**BONG, NIMBA, BOMI AND GRAND CAPE MOUNT COUNTIES**



SUBMITTED TO:

USAID Office of Foreign Disaster Assistance  
March 30, 2016

**Final Program Results Report**

**Period: October 29, 2014 – December 31, 2015**

Agreement: AID- OFDA- G- 15-00013

Contact: Mr. Tim Ogborn, Vice President and Managing Director, Washington D.C

## Table of Contents

Acronym List .....	2
Executive Summary .....	3
Final Program Performance Report for EC3: October 2014 – December 2015 .....	3
Sector: HEALTH .....	4
Sub-sector: Health Systems and Clinical Support .....	4
Support for Community Care Centers (CCCs):.....	6
Support to health facility infrastructure:.....	8
Training for clinical staff:.....	10
Support county health system capacity: .....	11
Support to cross-border initiatives:.....	12
Sub-sector: Medical Commodities Including Pharmaceuticals .....	13
Essential supplies for healthcare facilities and workers: .....	14
Sub-Sector: Community Health Education / Behavior Change.....	15
Community trainings and outreach: .....	17
Strengthen community resilience and preparedness:.....	18
Support for reintegration of Ebola survivors: .....	18
General challenges and lessons learned .....	19
Conclusion .....	19
Annex 1: List of Indicators and Results.....	21
Annex 2: EC3 List of Health Facilities Supported .....	21
Annex 3: Research Study Health Facility Capacity Assessment.....	21
Annex 4: Research Study Behavior Change .....	21

## Acronym List

CCC	Community Care Center
CHT	County Health Team
CUG	Caller User Group
EC3	Ebola Community Care Center Project
ETU	Ebola Treatment Unit
EVD	Ebola Virus Disease
gCHV	General Community Health Volunteer
HMIS	Health Management Information System
IPC	Infection Prevention and Control
KSKS	Keep Safe Keep Serving
MOHSW	Ministry of Health and Social Welfare
OIC	Officer in Charge
PCI	Project Concern International
REACT	Rapid Ebola Awareness Creation and Training Project
RITE	Rapid Identification and Treatment of Ebola
SOP	Standard Operating Procedure
STEP	Support to Ebola Treatment Unit Project
SQS	Safe and Quality Service
TTIU	Temporary Triage and Isolation Unit
WHO	World Health Organization

## Executive Summary

The Ebola Community Care Center (EC3) Project was an Ebola Virus Disease (EVD) emergency response project implemented by Project Concern International (PCI) in Bong, Nimba, Bomi, and Grand Cape Mount Counties of Liberia through a grant from the United States Agency for International Development/Office of Foreign Disaster Assistance (USAID/OFDA). The project was implemented from October 29, 2014 through December 31, 2015. One modification of the project was approved in August 2015.

The goal of the EC3 project was to support the establishment and management of community supported Ebola Community Care Centers (CCCs) and rapid response efforts to slow the spread of Ebola through better isolation of cases and provide a higher standard of care for suspected and confirmed cases. To that end, PCI implemented health sector activities in three sub-sectors: Health Systems and Clinical Support, Medical Commodities, and Community Health Education / Behavior Change.

Over the life of this project, EC3 reached a total of 241,582 beneficiaries, including:

- 5,065 people consulted at the three PCI-managed CCCs;
- 700 clinical and non-clinical, paid and volunteer, health facility staff (513 male and 187 female) trained on EVD related topics;
- 437 general Community Health Volunteers (gCHVs) trained and engaged in community EVD education activities that reached an estimated 235,817 participants in four counties.

PCI also supported a total of 112 health facilities in the four intervention counties with supplies and infrastructure support. PCI provided emergency temporary triage and isolation units at 25 health facilities in the four counties and distributed a total of 1,108,145 units of supplies (14,135 units of equipment and 1,094,010 units of consumables) to 97 health facilities in the four counties. PCI's support to these healthcare facilities benefits an estimated total catchment population of 844,612 persons.

## Final Program Performance Report for EC3: October 2014 – December 2015

**Program Goal:** Support the establishment and management of community supported Ebola Community Care Centers (CCCs) and rapid response efforts that will slow the spread of Ebola through better isolation of cases and provide a higher standard of care for suspected and confirmed cases.

Number of beneficiaries targeted: 17,280

Number of IDPs targeted: 0

Number of beneficiaries reached: 241,582 individuals (127,203 male, 114,379 female)

Number of IDPs reached: 0

The cumulative number of beneficiaries reached over the life of this project was 241,582 people (127,203 male and 114,379 female). This number includes 700 clinical and non-clinical, paid and volunteer, health facility staff trained (513 male and 187 female); 5,065 consultations (2,055 male and 3,010 female) at three PCI-managed CCCs; and 235,817 awareness raising beneficiaries (124,635 male and 111,182 female).<sup>1</sup> PCI also provided training, infrastructure and/or material support to an additional 112 government health facilities, serving an estimated total catchment population of 844,612.<sup>2</sup> (See Annex 2 for a complete list of health facilities supported.)

The number of beneficiaries reached under the project greatly exceeded the target. This is because when the project was initially approved in October 2014, it was expected that EC3 would provide services to those people treated in the ten proposed CCCs. As the EVD context in Liberia evolved, so too did the project strategy. Therefore, ultimately, EC3 supported only three CCCs but provided extensive support to other healthcare facilities and healthcare providers and engaged in broad community education activities. The EC3 project was also modified in August 2015, expanding the geographic reach of the project to include Bomi and Grand Cape Mount Counties.

## Sector: HEALTH

Objective: To provide critical health sector activities for the treatment of Ebola patients and prevent the spread of the Ebola through the construction and support of Community Care Centers

### Sub-sector: Health Systems and Clinical Support

*Table 1: Indicators for sub-sector Health Systems and Clinical Support\**

Ref #	Indicator	Life of Project (LOP) Target	LOP Achievement
1.1	Improved healthcare facility capacity to provide quality treatment (Baseline: 57%)	20% improvement	43.9% improvement (Endline: 82%)
1.1.1	Number of health care facilities supported and/or rehabilitated by type (e.g. primary, secondary, tertiary)*	TOTAL: 87	112
		Bong: 19	20
		Nimba: 38	43
		GCM: 15	32
1.1.2	# of CCCs open to the public and operational	Bomi: 15	17
		Bong: 1	Bong: 1
		Nimba: 2	Nimba: 2
1.1.3	# of EC3 initiatives implemented to support cross-border prevention activities	3	3 (Two TTIUs in Nimba; radio installation in Nimba and GCM; gCHVs trained in Bomi; provision of medical supplies)
1.1.4	Number of health care providers trained	TOTAL: 696	700

<sup>1</sup> PCI's radio-based activities were ongoing throughout the project, but the radio listeners are only counted once.

<sup>2</sup> Catchment population estimates from Ministry of Health and Social Welfare data.

Ref #	Indicator	Life of Project (LOP) Target	LOP Achievement
	by type (e.g. doctor, nurse, community health worker, midwife, and traditional birth attendant), by sex*	Bong: 152	(513 male, 187 female)
		Nimba: 304	
		GCM: 120	
		Bomi: 120	
1.1.5	Number and percentage of health facilities submitting weekly surveillance reports	3	3
		100%	100%
1.1.6	Number of consultations, by sex and age, per quarter*	TOTAL: 100	5,065 (2,055 male, 3,010 female)
		Nimba: 67	9 (4 male, 5 female)
		Bong: 33	5,056 <sup>3</sup> (2,051 male, 3,005 female)

Over the life of this project, EC3 met or exceeded nearly all of the project's health sector targets. As a result, we improved the capacity of targeted health facilities to provide quality treatment for suspected and confirmed Ebola cases by 43.9%, from 57% to 82%. For the purpose of this project, PCI quantified health facility capacity by developing a simple scoring process based on the Liberia Health System Minimum Standards for Safe Care Provision by Healthcare Facilities in the Context of Ebola assessment tool. Using this tool, PCI conducted pre- and post-intervention assessments at a total of 87 healthcare facilities in the four project counties. The complete report of the pre-intervention health facilities assessment was submitted to OFDA in January 2016. The complete report of the final project evaluation, including the detailed results of the post-intervention health facilities assessment, will be submitted in March, 2016.

Additional analysis of the data for this indicator was conducted by PCI. The analysis concluded that, in all counties, the capacity of facilities was greatly and significantly increased over the life of the project beyond our target of 20%, with a notable 66% percent increase among facilities in Nimba County. The full report of this analysis is attached as Annex 3.

A summary of the pre- and post-intervention health facilities assessment results is provided in the table below.

**Table 2: Pre- and post-intervention results of the health facility assessment**

#	Description/Area of assessment	Pre-intervention	Post- intervention <sup>4</sup>
		All counties	All counties
		Percent score	Percent score
1	Administrative control	60%	81%

<sup>3</sup> The number of people consulted at the CCC in Bong was significantly higher than the number of consultations in Nimba. This is because in Bong, the CCC staff screened every person at the entry point to the health facility whereas the two CCCs in Nimba served as referral centers for linked health facilities, therefore only screening those patients referred to them as suspected EVD cases.

<sup>4</sup> Reporting the average of scores from all the facilities assessed at post-intervention.

2	Supply and Equipment	75%	88%
3	Personnel/Staffing & Training	67%	83%
4	Triage	61%	87%
5	WASH/Waste Management	54%	86%
6	Isolation Unit	26%	71%
7	Miscellaneous	45%	69%
<b>Average score</b>		<b>57%</b>	<b>82%</b>

PCI was able to provide support to a total of 112 health care facilities in four counties, 105 primary, 5 secondary, and 2 tertiary.<sup>5</sup> For this project, “support” was defined as training for health facility staff, materials (equipment or consumables, including pharmaceuticals), or infrastructure support. We exceeded the target of 87 health facilities supported primarily because of the geographical expansion of the project into Bomi and Grand Cape Mount Counties following the project modification in August, 2015.

PCI managed three CCCs, two in Nimba and one in Bong, and provided direct healthcare services to a total of 5,065 people at these sites. The total number of consultations was vastly higher than the target of 100. This was because when the project was initially conceived, in the fall of 2014, it was expected that the CCCs would only see suspected Ebola patients. This was not the case in practice. In Bong County, the CCC staff screened patients at the entrance to the health facility compound that the CCC shared with the Handii Clinic. In Nimba, the patients were first seen by the adjoining clinics and only referred to the CCCs if they were suspected Ebola cases. This is why there were so many more consultations at the Bong CCC (5,056) than at the Nimba CCCs (9).

PCI’s EC3 project also implemented cross-border Ebola prevention activities in Nimba and Grand Cape Mount Counties, and trained a total 700 Liberian clinical and non-clinical healthcare workers (2 doctors, 74 nurses, 467 gCHVs, 6 midwives, 6 hygienists, 1 physician’s assistant, and 144 other health facility staff) on topics specific to the prevention, identification, and treatment of Ebola.

### **Support for Community Care Centers (CCCs):**

In October 2014, the EC3 project was initially approved with the objective of constructing and managing a total of ten CCCs in Bong and Nimba Counties. As the Ebola situation and the Government of Liberia’s response strategy evolved, PCI’s strategy for EC3 evolved as well. In order to meet the actual needs of the communities, PCI worked closely with the MOHSW, partner agencies, and OFDA to adjust the project design as necessary. In the end, due to a change in the Government’s strategy, PCI managed three CCCs that were constructed by UNICEF (2) and Oxfam (1) in Bong County (Handii) and Nimba County (Saclepea and Karnplay).

---

<sup>5</sup> Refer to Annex 1, List of Indicators and Results.

The CCC in Handii (Bong) was open to patients from March to June, 2015. The CCCs at Saclepea and Karnplay opened to patients in May, 2015. Both the Karnplay and Saclepea CCCs were closed to patients in September, 2015.

PCI faced a few challenges in opening and operating the CCCs. First, the CCCs as originally constructed were not completely in line with the MOHSW/WHO requirements for a CCC. Therefore, before opening the facilities, PCI completed minor upgrades and restructuring for patient flow to ensure the CCCs followed WHO Infection Prevention and Control (IPC) protocols, including: improving the flow of staff and patients in the red and green zones, increasing functionality of WASH infrastructure and drainage facilities, and ensuring safe waste management by repairing several incinerators and covering organic and non-organic waste pits. These adjustments were essential, but did delay the opening of the facilities.

Staffing the CCCs was also a challenge in that there were a limited number of healthcare workers with knowledge of or experience with the required IPC measures. Also, the Nimba CHT wanted to utilize only healthcare workers from Nimba County. This was a strategic decision on their part in order to ensure that any knowledge and expertise gained by working in the CCC would remain in the county after the end of the project, but it did somewhat hamper CCC staff identification and recruitment.

Acquiring all of the required medical supplies and consumables from UNICEF for the CCCs in a timely manner was also a challenge. PCI addressed this by utilizing a mix of donated and internationally and locally procured supplies. These activities are discussed in greater detail below under the Medical Commodities sub-sector.

The biggest challenge in the management of the CCCs (for PCI and throughout the country) was garnering community support for the CCCs. By the time the CCCs opened in early 2015, the number of Ebola cases in the country had significantly decreased and local leadership in Bong and Nimba reported that the common perception was that Ebola was eradicated in Liberia and, therefore, there was some concern among community members that the CCCs might somehow bring Ebola back.

Also, as was the case with the Ebola Treatment Units (ETUs), the community members had fears and uncertainties about what exactly happened inside of CCCs. Some community members reported believing or hearing rumors that health workers allowed patients to die, or even killed them, at the CCC. The incinerator used for burning materials heightened the fear of inhumane treatment of patients, as it was rumored that dead bodies would be cremated at the CCC. Even surrounding structures were stigmatized due to their proximity to the CCC. For example, staff were told during informal conversations that some parents would not allow their children to attend the nearby school.

To address these fears and to build community acceptance of the facilities, PCI undertook extensive community outreach and education activities in the CCC catchment areas during the construction of the CCCs. PCI staff conducted community group meetings with 4,934 individuals (3,073 females, 1,861 males) in 87 communities, and radio campaigns that reached

an estimated 10,000 listeners in Bong County and 200,000 listeners in Nimba County, Guinea and Ivory Coast.<sup>6</sup> Before the CCCs opened PCI also conducted public tours of the facilities.

Through our work in the communities, we were able to gain an understanding of the real depth of concern and misinformation about Ebola in the communities. To address these challenges, PCI engaged the clinical staff from the CCCs and the Ganta ETU,<sup>7</sup> along with our community mobilization staff, to assist with the community outreach efforts. The communities responded well to this approach. Hearing the Ebola messages from clinicians reinforced the veracity of the information. The clinical staff were also able to answer the communities' specific questions and concerns about, among other issues, what happens when a sick person reports to the CCC with various symptoms; how patients are screened, triaged, tested, and transferred if necessary; the type of care that is provided if Ebola positive; and what actually happens within the CCCs and at an ETU.. This type of personal engagement with the community members also served to build community trust in the local healthcare system, which suffered during the Ebola outbreak. PCI believes these community engagement efforts were integral in building community acceptance of the CCCs.

When it was time to close the CCCs, PCI worked closely with the Nimba and Bong County Health Teams, the national MOHSW, and WHO to develop transition plans for the CCC structures that meet the needs of the county health systems. The needs of adjacent facilities, the district, and the county were taken into consideration when developing the transition plans. In the end:

- The CCC in Saclepea was integrated into the pre-existing Saclepea Comprehensive Health Center, where PCI's OFDA-funded Support to Ebola Treatment Unit Project (STEP) is working with the CHT to integrate full-EVD care capacity.
- The CCC in Karnplay became an extension of the existing maternal care center. The existing maternity ward was too small to meet the needs of the patients, resulting in overcrowding and unhygienic conditions. For example, because there was not space, some women were forced to give birth on the floor, creating risks for the mothers and babies as well as the staff and other patients due to exposure to bodily fluids.
- The CCC in Handii became a warehouse. The CHT requested this strategy to improve their supply chain management capacity by increasing district level storage in this more isolated area.

### **Support to health facility infrastructure:**

As mentioned above, EC3 conducted a pre-intervention health facility assessment of 87 healthcare facilities in Bong, Nimba, Bomi and Grand Cape Mount Counties from May to August, 2015. The assessment was conducted in partnership with the CHTs from each county and utilized the MOHSW's Liberia Health System Minimum Standards for Safe Care Provision by Healthcare Facilities in the Context of Ebola assessment tool. The complete report of this assessment was submitted in January, 2016, but the following table provides a summary of the pre-intervention results.

---

<sup>6</sup> Estimates of numbers of listeners and geographic range are from the radio stations.

<sup>7</sup> The Ganta ETU is also funded by OFDA under PCI's STEP project.

**Table 3: Overall findings of the pre-intervention health facility assessment**

#	Description/ Area of assessment	All Counties	GCM	Bomi	Bong	Nimba
1	Administrative Control	60%	51%	77%	53%	61%
2	Supply and Equipment	75%	78%	85%	72%	70%
3	Personnel/ Staffing & Training	67%	51%	64%	67%	76%
4	Triage	61%	52%	78%	49%	64%
5	WASH/ Waste Management	54%	43%	66%	63%	51%
6	Isolation Unit	26%	10%	29%	35%	29%
7	Miscellaneous	45%	54%	45%	43%	42%
	Average score per geographic area	57%	50%	67%	56%	57%

Informed by the assessment findings, under EC3, PCI constructed 25 temporary triage and isolation units (TTIUs) at primary healthcare facilities in four counties (three in Bong, ten in Nimba, six in Bomi and six in Grand Cape Mount). PCI provided additional infrastructure support at two of the facilities in Bomi County, Golodee Lansana and Beh-Sao, including repairing the roof, latrines, and hand-pumps. This infrastructure support was fundamental in improving the average health facility capacity in triage from 61% to 87% and in isolation units from 26% to 71% among the EC3 supported healthcare facilities (see Annex 2 for the complete list of health care facilities supported under EC3 and Table 2 above for a summary of the pre- and post-intervention assessment results).

One of the challenges of providing infrastructure support was coordination with partners. In those counties in which PCI had a long history of working, such as Nimba and Bong, PCI had strong relationships with the county and district leadership and the communities. Also, those counties have a long history of partnering with NGOs and relatively robust systems are in place for coordination and information sharing. Nevertheless, because there were so many NGOs and other agencies working in those counties, especially in Nimba, coordination of activities remained challenging.

There were different coordination challenges in Bomi and Grand Cape Mount. Since PCI was new in those counties and had first begun working in the area with another, non-health sector project, it took time to gain the trust of the county and district level health authorities. To overcome this challenge we involved the CHT in every step of our assessment and planning activities. For example, CHT members formed part of the health facility assessment teams in each county, which provided an opportunity for trust-building, capacity building, and built a sense of ownership of the activities among the CHTs. When the assessment was completed, PCI organized a meeting with all of the partners in the county to present the findings and offer a forum for division of responsibilities at each site. In Grand Cape Mount, for example, this process allowed us to plan our activities to complement, rather than duplicate, the work of Action Contre la Faim (ACF) by building TTIUs at sites where they built incinerators and ash pits.

In the end, the needs at the health facilities exceeded our resources. The counties required far more assistance than we could provide within the allocated funds and project duration. The poor

state of the roads and other critical infrastructure, as well as the heavy rains during the implementation period, further limited the health facilities we could assess and support. We also elected to prioritize providing services at government run facilities, leaving out privately held facilities, many of which also have great needs. Furthermore, the challenges of implementing and supervising construction activities in so many geographically dispersed sites were a strain on the operational capacities of the organization. One strategy to address a similar challenge in the future may be to either employ or contract a person or group to work specifically and exclusively on the management and oversight of the administrative and logistical aspects of getting the quotes, contracts, supplies, etc. as well as supervising the actual construction work on the ground.

### **Training for clinical staff:**

Over the life of this project, PCI trained a total of 700 clinical and non-clinical, paid and volunteer, health facility staff (513 male, 73%, and 187 female, 27%).

**Table 4: Number of health care providers trained by type**

<b>Type of healthcare provider</b>	<b>Sex disaggregation</b>	<b>Number</b>
Doctors	Males	0
	Females	2
	<b>Sub-total</b>	<b>2</b>
Nurses	Males	34
	Females	40
	<b>Sub-total</b>	<b>74</b>
CHWs (gCHVs)	Males	363
	Females	104
	<b>Sub-total</b>	<b>467</b>
Midwives	Males	0
	Females	6
	<b>Sub-total</b>	<b>6</b>
Hygienists	Males	3
	Females	3
	<b>Sub-total</b>	<b>6</b>
Physician assistants	Males	0
	Females	1
	<b>Sub-total</b>	<b>1</b>
Other (CM, Psychosocial counselor, lab tech, TTM)	Males	113
	Females	31
	<b>Sub-total</b>	<b>144</b>
Total (all types)	Males	513
	Females	187
	<b>Total</b>	<b>700</b>

PCI was able to utilize a wide range of technical experts to train the CCC staff. Because PCI had funding for projects that included EVD-focused activities from household level (REACT<sup>8</sup>) to

---

<sup>8</sup> Rapid Ebola Awareness, Communication and Training Program, OFDA-funded, October 2014 – June 2015.

tertiary healthcare services at the Ganta ETU (STEP<sup>9</sup>), these projects were able to provide technical assistance in EC3's trainings of the CCC staff on topics ranging from IPC to community mobilization. CCC staff were also included among the beneficiaries of the other projects. For example, most recently, the CCC staff in Nimba were trained by the STEP project staff on the MOHSW's new protocol, Safe and Quality Service (SQS).

An essential piece of PCI's training strategy was to include every person on the health facilities' staff. Since the risk of Ebola transmission was so great at health facilities, we made sure that both clinical and non-clinical staff received appropriate training on how to protect themselves whenever interacting with patients and family members at the entrance, treating patients directly or cleaning the facilities. Prior to Ebola it was not a common practice to train all health facility staff on Standard Operating Procedures (SOPs). Instead, a representative from each facility, such as the Officer in Charge (OIC) or head nurse, would be trained and expected to relay the information to the other staff members, which did not always happen. PCI identified the need for all staff to receive training, and PCI would consider this a best practice. It is not clear if other partners took the same approach during the Keep Safe Keep Serving (KSKS) training period, but this practice was ultimately adopted nationally by the MOHSW - every health facility staff person is now required to be trained under the new SQS protocols.

### **Support county health system capacity:**

Over the course of this project we worked with MOHSW partners to identify ways to help support the basic capacities and operation of the health system from the community level to the national level.

At the community level, the EVD outbreak created new challenges for community health volunteers. Therefore, under this project we trained gCHVs in IPC and community mobilization specific to EVD. We also trained 77 gCHVs in Bomi County, in partnership with WHO, on how to safely collect and store dead body swabs until they can be transported for testing for EVD.

Under this project we also supported capacity at the health facility level. The KSKS standard set by the MOHSW required that an IPC Focal Person be selected at each health facility to be responsible to ensure the safe management of patients in their communities. PCI's CCC staff worked with the community health stakeholders (OIC, head nurse, County Health Disease Control and Prevention Director, etc.) to ensure the identification and training of IPC Focal Persons at EC3 supported health facilities in Bong and Nimba Counties.

The EVD outbreak also highlighted the gaps in health workers' understanding and utilization of health management information systems (HMIS). Therefore, as requested, in November, 2015 PCI trained 32 OICs from Grand Cape Mount on HMIS – what this system consists of, why it is important, what the information is used for, and how to fill in the forms properly.

At the county level, PCI also supported the Rapid Identification and Treatment of Ebola (RITE) Teams in Nimba, Bomi and Grand Cape Mount Counties. We provided training and materials for

---

<sup>9</sup> Support to Ebola Treatment Unit Project, OFDA-funded, December 2014 – present.

the RITE Team in Nimba County; provided materials for the RITE team in Grand Cape Mount, such as thermoflashes and IPC materials; and we repaired RITE Team vehicles in Grand Cape Mount and Bomi. We also provided Codan radios at ten remote border health facilities and created a Caller User Group (CUG) for the RITE Team in Grand Cape Mount to strengthen the referral processes from the clinic level health centers and hospitals and to promote technical collaboration amongst the health providers. For the CUGs, PCI provided the phones and initiated the service, and the CHT agreed to take over the monthly payments of US\$8 per member per month after the end of this project.

From our perspective, nationally, one of the weaknesses of the initial Ebola response in Liberia was the quality of training being provided to healthcare workers. Ebola was new to Liberia and healthcare providers, and others, required specialized training delivered quickly and effectively. In order to help build this capacity for the future, PCI was requested by the MOHSW Department of Training to train 45 of the Ministry's Master Trainers from all 15 counties on how to develop and lead effective trainings. To help these trainers communicate and coordinate their ongoing training efforts, PCI also started a Caller User Group for the trainers, which the Department of Training agreed to continue supporting beyond the life of this project.

### **Support to cross-border initiatives:**

Over the life of this project, the primary cross-border activities undertaken by PCI were provision of consumables and equipment at border healthcare facilities and checkpoints, and training for cross-border health service providers.

Liberia was initially declared Ebola Free in May of 2015, but EVD transmission continued in neighboring countries of Sierra Leone and Guinea until November and December of 2015, respectively, and small outbreaks of Ebola were identified in Liberia in July and again in November of 2015. Due to the close geographic, economic, and cultural ties among Liberia, Sierra Leone and Guinea, the porousness of the international borders, and the demonstrably weak health systems in all three countries, effective cross-border and regional strategies will be required if another major EVD outbreak is to be avoided in the future. However, the challenges in implementing these activities are many.

Although there was consensus on the need for cross-border initiatives, it was difficult to design and implement such initiatives for many reasons. A challenge for all partners was the lack of a comprehensive regional strategy or framework within which to operate. For example, each country developed and utilized its own awareness raising messages and strategies, clinical protocols, and training materials. Another challenge for us was that PCI is not licensed to operate in Guinea or Sierra Leone; therefore, our staff could not cross the international borders to work in those communities or health facilities nearest the border with Liberia. We were unable to identify a Guinea-based partner working in the communities on the other side of the border because of the remoteness of those villages. So, for example, when the border with Guinea was officially re-opened in February of 2015, the Liberian MOHSW understood the need for enhanced community mobilization along the borders to avoid a resurgence of EVD cases, but NGOs could only address this need by stepping up efforts on the Liberian side of the border. In order to provide information to Guinean villages, PCI utilized and supported regular educational

radio programs that were transmitted to an estimated 200,000 listeners in Liberia, Guinea and Ivory Coast.<sup>10</sup>

PCI also provided material support for service providers along the borders. PCI provided ten Codan radios at cross-border health facilities in order to support robust and timely surveillance, reporting and rapid response. Six radios were provided to health facilities in Nimba County and four in Grand Cape Mount County. We also provided basic IPC materials at border checkpoints, such as thermoflash thermometers and bleach.

The health facilities operating on the Liberian side of the borders with Sierra Leone and Guinea serve patients from both sides of the borders; therefore, in the future it will continue to be essential to strengthen these health facilities' and health care providers' capacities to effectively identify, triage, isolate, refer and /or treat suspected EVD cases; provide appropriate education and contact tracing activities to communities on both sides of the border through gCHVs; and appropriately document and report clinical data. Strengthened mechanisms at border crossing points to screen immigrants as well as document their origin and destinations are also needed.

### **Sub-sector: Medical Commodities Including Pharmaceuticals**

*Table 5: Indicators for sub-sector Medical Commodities, including Pharmaceuticals\**

<b>Ref #</b>	<b>Indicator</b>	<b>Target</b>	<b>LOP Achievement</b>
2.1.1	Number and percentage of health facilities, supported by USAID/OFDA, out of stock of selected essential medicines and tracer products for more than one week	0	0
		0%	0%
2.1.2	Number of people trained, by sex, in the use and proper disposal of medical equipment and consumables	TOTAL: 110	454
		Bong: 30	37
		Nimba: 60	117
		GCM: 10	150
		Bomi: 10	150
2.1.3	Number of supplies distributed by type (e.g., medical kits, equipment, consumables)	284,284	1,108,155

\*See attached List of Indicators and Results (Annex 1) for the fully disaggregated indicator data for all project quarters.

Over the life of the project, EC3 met or exceeded all of the targets for the Medical Commodities sub-sector. All of the PCI managed CCCs were fully stocked at all times; EC3 trained a total of 454 people (352 male, 102 female) in the use and proper disposal of medical commodities (37 from Bong County, 117 from Nimba County, 150 from Bomi County, and 150 from Grand Cape Mount County); and EC3 distributed a total of 1,108,145 units of supplies (14,135 units of equipment and 1,094,010 units of consumables) to 97 health facilities in the four counties. The number of people trained in the Medical Commodities sub-sector exceeded the target of 110 because this training topic was incorporated into the healthcare worker trainings around IPC. The

<sup>10</sup> The number of estimated listeners and geographic reach was provided by the radio stations.

number of supplies distributed exceeded the target of 284,284 because PCI received a large quantity of donated medical supplies that were distributed under this project. Furthermore, since PCI distributed a large variety of items under this activity, for clarity and consistency of reporting we elected to report the number of items distributed by piece, e.g. a box of gloves containing 100 gloves was recorded as 100 items distributed.

### **Essential supplies for healthcare facilities and workers:**

Ultimately, UNICEF provided the supplies for the CCCs, including the starter kits. However, the provision of these supplies was delayed, so before these supplies were assured, PCI procured PPEs such as surgical hoods, hazmat suits, and knee-high boot covers, that met the Ebola minimum requirements (i.e. impenetrable, resistant to blood borne pathogens). PCI worked with a number of organizations and supply vendors to get the necessary commodities to Liberia.

**Airlink:** Airlink is an emergency response organization that provided invaluable in-kind support to PCI in the timely air transportation of two shipments for EC3. In addition, Airlink provided one passenger air transportation for a PCI staff member who directly supported the EC3 project.

**MAP International:** MAP provides in-kind medicines and healthcare supplies to support hospitals, clinics and community health centers. In addition to donating 15 pallets of medical supplies to PCI for EC3, MAP was extremely helpful as they also allowed PCI to ship additional purchased items to their warehouse where they stored and palletized for PCI on two occasions.

**Project CURE:** Project CURE provides in-kind containers of medical supplies and equipment in order to appropriately stock hospitals, clinics and community health centers. Although they did not perform an on-site assessment, they worked closely with PCI IO and field staff to ensure the container items were specific for the needs in country. They donated one 40 foot container of supplies for EC3.

**Panalpina:** Panalpina is a dependable freight forwarder company that successfully assisted PCI in coordinating three shipments for EC3.

**Hasa, Inc.:** Hasa donated 6,300 gallons of bleach to PCI, to be used in medical and community care centers in Liberia. Bleach is used to create a chlorine solution which kills Ebola germs and is used extensively in Ebola treatment from hand washing, to cleaning medical instruments, health facilities, and hazmat suits for doctors and nurses treating patients. The transportation of bleach was donated by Maersk and coordinated via Panalpina.

**Maersk:** Maersk donated the two ocean freight transportation shipments of the bleach from Hasa, Inc. from the U.S. to Liberia through its port in Houston. This was coordinated through the Logistics Cluster and led by World Food Programme. PCI also hired Maersk for another ocean freight shipment of commodities from the U.S. to Liberia. This was coordinated by Panalpina.

**Supply Vendors:** PCI worked very closely with the below supply vendors, often communicating multiple times per day, to obtain the needed supplies for Liberia. When specific needs could not

be met, due to many of the U.S. hospitals consuming the stock, these vendors worked with PCI to find acceptable alternatives.

- A&E Glove & Safety
- Calolympic
- Abatix

Online Vendors: We also utilized online vendors, listed below, to purchase many commodities such as gloves, aprons, diapers and infant cribs. These supplies were sent to one of PCI’s partners, MAP or Project CURE, and included in containers that were shipped directly from their warehouses.

- Amazon
- U-Line
- Mosquito Curtains
- Wholesale Point
- Wayfair

In-country Procurements: Apart from the internationally procured commodities under EC3, local procurement of supplies was critical. Locally procured items included non-contact infrared thermometers, emergency medical flash lights, solar lights, medical waste collection buckets, etc. The PCI field team was also successful in receiving a number of field level pharmaceutical donations from UNICEF and WHO. Donated pharmaceuticals included antibiotics, anti-malarial drugs, anti-analgesics, ORS, and different emergency and non-emergency first aid drugs.

Collaboration was the key to success in Liberia. A good example of this was through the Logistics Cluster which offered coordination, information, and common logistics services: this was a great tool for reference and resources (e.g. Maersk GIK shipments). Another good example of collaboration is the teamwork between PCI, Airlink and MAP which allowed needed commodities to arrive in Liberia quickly and efficiently.

The challenge for the Liberian health system going forward, and their NGO partners, will be to sustainably strengthen the MOHSW’s supply chain management, transport capacity, and accountability mechanisms. In our experience, it appears that often there are sufficient quantities of basic materials in the country, but the challenge is in getting those supplies from the national level to the counties and, ultimately, to the health facilities.

## **Sub-Sector: Community Health Education / Behavior Change**

**Table 6: Indicators for sub-sector Community Health Education/ Behavior Change\***

<b>Ref #</b>	<b>Indicator</b>	<b>Target</b>	<b>LOP Achievement</b>
3.1	Number and percentage of community members utilizing [Ebola] health education message practices (measured through observation)	90%	96.8%
3.1.1	Number of CHWs trained and supported (total and per 10,000	TOTAL:	437

Ref #	Indicator	Target	LOP Achievement
	population within project area), by sex	300	
		Bomi: 150	150
		GCM: 150	150
		Bong: NA	37
		Nimba: NA	100
3.1.2	Number and percentage of CHWs specifically engaged in public health surveillance	TOTAL: 450 <sup>11</sup>	437
		Bong: 50	37
		Nimba: 100	100
		Bomi: 150	150
		GCM: 150	150
3.1.3	# of community events or campaigns to strengthen community resilience and preparedness	TOTAL: 108	367
		Bong: 12	69
		Nimba: 24	245
		Bomi: 36	33
		GCM: 36	20

\*See attached List of Indicators and Results (Annex 1) for the fully disaggregated indicator data for every project quarter.

PCI nearly met or exceeded every target for the Community Education / Behavior Change sub-sector activities. Over the life of this project PCI trained and engaged a total of 437 gCHVs (339 male, 98 female) in community EVD education activities that reached an estimated 235,817 participants in four counties.

As part of the final project evaluation, an external consultant surveyed 378 households on their use of Ebola health education messages (Indicator 3.1), and found that 96.8% of the households surveyed reported utilizing one or more of the Ebola prevention techniques. Therefore, PCI exceeded the target for this indicator by 6.8%. The complete report of the final evaluation will be submitted in March 2016.

Additional analysis of the data for this indicator was also conducted by PCI. (See Annex 4 for the complete report on this analysis.) The results of this analysis indicate that the effectiveness of PCI's campaign messages was not influenced by differences in the population in terms of age, sex and education level. This means that EC3 campaign messages were able to reach many different segments of the population, regardless of whether they were old or young, female or male, or educated or not. While knowledge does not necessarily equate to behavior change, it is a prerequisite to change, and therefore, reaching as much of the target audience as possible is critical for an effective intervention. This analysis also highlights the importance of the gCHVs

<sup>11</sup> The CHWs in Bong and Nimba received training under REACT, but receive refresher training and ongoing support under EC3.

in disseminating these messages. From our analysis, those who did not receive Ebola prevention messages one-on-one from a gCVH were more likely not to have received any messages at all.

### **Community trainings and outreach:**

Over the life of this project, PCI conducted a total of 367 community outreach activities reaching a total estimated population of 235,817 awareness raising beneficiaries (124,635 male and 111,182 female)<sup>12</sup> in the four counties. Community awareness raising activities included small group discussions as well as mass campaigns such as soccer matches, regular radio spots, and call-in shows.

One challenge in implementing the community outreach activities was the communities' receptiveness to the messages over time. As the EVD outbreak subsided so did the communities' interest in and patience with Ebola-specific health messages. For example, at the height of the outbreak, the MOHSW-approved messages were clear and rigid, e.g. "Don't touch!" As the number of EVD cases reduced, the people grew resistant to these messages. To address this, PCI incorporated general infectious disease prevention and health and hygiene messages along with the approved EVD messages. PCI also employed more interactive strategies such as community sports matches and public dramas to engage the communities more actively and help build social cohesion with discussions of more cross-cutting and forward looking themes such as reintegration of Ebola survivors and resilience.

Much of EC3's community outreach work was done with and through gCHVs. This strategy had its strengths and weaknesses. The gCHVs play an important part in the Liberian health system. Prior to Ebola, the gCHVs were respected members of the community who were chosen for this role by each Community's Health Committee. The gCHVs worked as unpaid volunteers focused primarily on providing preventive education about and basic treatment for diarrhea, malaria, and acute respiratory infections. GCHVs were generally viewed positively by other community members and were seen as working for the good of the entire community. Therefore, when the time came, the gCHVs were an obvious choice for dissemination of EVD messages.

However, the nature of the EVD response seems to have negatively affected both the performance and the status of the gCHVs. In order to meet the urgent needs of the Ebola response, the number of gCHVs was increased to include people selected by the District Health Officers. Also, because of the increased demands made on the gCHVs' time and the increased risks involved in going door-to-door during an Ebola outbreak, the gCHVs, for the first time, were paid monthly stipends by the NGOs. Once stipends were paid in one location, gCHVs in other areas refused to work without also receiving stipends. The fact that the gCHVs received money for their Ebola work, however, appeared to lower their status in some communities. This was expressed in informal conversations with multiple gCHVs. One gCHV said that community members became skeptical of his motives when he started receiving a stipend, explaining, "... the community people didn't listen to me. No matter what I did. They thought I was being paid by the people who wanted blood." In other words, gCHVs reported feeling, and being treated, as outsiders in their communities and having diminished influence in their communities once they

---

<sup>12</sup> PCI's radio-based activities were ongoing throughout the project, but the radio listeners are only counted once.

began being paid for their services. In the future, if working with gCHVs, the use of stipends should be carefully considered. Providing material support such as backpacks, notebooks, and rain gear and/or high quality trainings may be a better alternative in some contexts.

### **Strengthen community resilience and preparedness:**

In order to be better prepared for a future Ebola case, community members, health facility staff, and local leadership identified needs for training, safe triage and isolation areas, and strengthened referral mechanisms. Therefore, under EC3, we addressed these needs by educating community members and healthcare workers, constructing temporary triage and isolation units (TTIUs) at 25 health care facilities in the four counties. We also supported referral networks by improving communication abilities (for example, we established caller user groups and provided CODAN radios), providing the SOPs for referrals, and repairing ambulances as needed.

For future interventions, an effective strategy to build long-term resilience and preparedness might be to work more closely with the communities to enable them to develop their own health education messages about Ebola (and other disease) transmission and prevention and their own dissemination strategies. During this outbreak the MOHSW closely controlled much of the messaging, but now that there is more general understanding of Ebola and the context has changed from an acute emergency to a long-term, possibly endemic situation, messaging may be more effective with a more nuanced approach than, for example, the early “don’t touch!” messages, as well as if more targeted to address the fears and questions within a specific community.

### **Support for reintegration of Ebola survivors:**

PCI conducted community education activities focused specifically on the reintegration of Ebola survivors and reducing stigma. For example, in Bong County PCI collaborated with UNICEF in leading a six-week “Say No to Stigma” campaign that included community-led meetings and dramas that addressed the issue of stigma, radio talk shows featuring survivors and community leaders, and sporting events with integrated teams of survivors and community members. In Bomi and Grand Cape Mount, PCI’s EC3 team educated gatherings of vulnerable households, including EVD survivors and EVD-affected persons among others, who are beneficiaries of a PCI food security project in the area.

Deeper investigation into the experiences of EVD survivors and the true beliefs about EVD survivors is necessary. However, in our experience, it appears that Ebola survivors are now, generally, readily accepted back in their communities. During the early days of the outbreak there was a lot of fear about the survivors returning. Over time, as the population learned more about EVD and saw that the survivors were healthy and not making others sick, the fears abated but not did vanish completely. There still appears to be an underlying fear because of the general impression that no one really knows where Ebola comes from. With every new piece of information, rumor or case, we saw a resurgence of questions and concerns in our areas of operation. This was especially true when new EVD cases popped up in July, two months after the country was declared Ebola Free.

## **General challenges and lessons learned**

The lessons learned regarding specific project activities are described above. However, there were also some general challenges and lessons learned during project implementation.

One of the greatest challenges in implementing this project was that as the EVD context evolved, so did the government's response strategy, which impacted the project strategy. For example, when the proposal was approved in the fall of 2014, the plan was for PCI to build and manage ten CCCs. In the end, PCI managed three CCCs which were constructed by other partners and were not operational until early 2015; and the remaining project resources were shifted to community education and providing more general health system strengthening support, for example, with material and infrastructure improvements. These changes in strategy, and the resulting several months that it took to get formal approval for a project modification from the donor, led to delays in activity implementation.

Once the project modification was formally approved on July 31, 2015, we expanded the geographic area of the project to include two new counties, Bomi and Grand Cape Mount. These were counties in which PCI had only recently begun to work (under another project), and therefore, required extra time and effort to establish a relationship with County and District authorities, as well as the communities. This created a mix of challenges and opportunities. In some ways PCI struggled to gain the trust of the authorities because we were either completely unknown to them or known only for our work under the other project, which is not health related. At the same time, in some ways, not having any prior history working in these counties was helpful in that there were no preconceived ideas or expectations. We were able to make a conscious effort to build the kind of sincere partnership that we wanted from the very beginning. To that end, we worked closely with the CHTs in both counties throughout the implementation process. For example, we conducted the health facility assessments together with CHT representatives and then organized county-level coordination meetings with all partners to present the findings and facilitate the CHT's coordination role.

## **Conclusion**

There were many challenges to the implementation of this project. This was the largest known outbreak of Ebola ever, in countries that were unfamiliar with it and had fragile, under-resourced healthcare systems. Therefore, the Government of Liberia, with the support of the international community, faced challenges in determining the best course of action and gathering the required resources to implement it. All of these factors complicated the planning and implementation of EC3 inasmuch as PCI was required to constantly adapt the EC3 project to meet the needs as they evolved on the ground.

Nevertheless, in the end, PCI was able to meet or exceed nearly all of the targets for this project and learn some valuable lessons both for our own internal use as well as, we hope, for contributing to the broader knowledge and experience base around infectious disease response globally. Unfortunately, it is quite possible that Ebola may return to Liberia again someday. The

contributions of EC3 and other projects and partners have provided knowledge, skills, and physical resources to many Liberian communities which will help facilitate early detection and a safe and appropriate response to suspected EVD cases - steps that are required in order to prevent another large outbreak in the future.

## **Annex 1: List of Indicators and Results**

See attached Excel spreadsheet.

## **Annex 2: EC3 List of Health Facilities Supported**

See attached Excel spreadsheet.

## **Annex 3: Research Study Health Facility Capacity Assessment**

See attached report.

## **Annex 4: Research Study Behavior Change**

See attached report.





EC3 List of HF's supported

#	County/Site	District	Health Facility Name	Facility Type	Catchment Population	Training support	Medical Supplies support	Medical Equipment support	Infrastructure support
1	Bong	Fuamah	Degai Clinic	Clinic	8,512		Yes		
2	Bong	Fuamah	Haindii Clinic	Clinic	12,856		Yes		
3	Bong	Fuamah	Handii Health center	Health center	No data	Yes			
4	Bong	Fuamah	Handii CCC	CCC	NA*	Yes	Yes	Yes	
5	Bong	Fuamah	Mawatta Health Post	Health Post	3,751		Yes	Yes	Yes
6	Bong	Fuamah	Mawah Health Post	Health Post	10,235		Yes	Yes	Yes
7	Bong	Fuamah	Yarwayar Health Post	Health Post	5,345		Yes	Yes	Yes
8	Bong	Sanoyea	Kelebei Clinic	Clinic	4,354		Yes		
9	Bong	Salala	Tokpaipolu Clinic	Clinic	1,769		Yes		
10	Bong	Salala	Totota Clinic	Clinic	30,590		Yes		
11	Bong	Salala	Salala Clinic	Clinic	27,660		Yes		
12	Bong	Suakoko	Gbarnla Clinic	Clinic	6,954		Yes		
13	Bong	Suakoko	Fenutoli Clinic	Clinic	7,880		Yes		
14	Bong	Suakoko	Nyarta Clinic	Clinic	19,860		Yes		
15	Bong	Suakoko	Gbartala Clinic	Clinic	19,162		Yes		
16	Bong	Suakoko	Zeansue Clinic	Clinic	14,365		Yes		
17	Bong	Jorquelleh	Wainsue Clinic	Clinic	18,600		Yes	Yes	
18	Bong	Zota	Belefanai Clinic	Clinic	11,023		Yes		
		<b>Sub - TOTAL:</b>	<b>18</b>		<b>202,916</b>	<b>2</b>	<b>17</b>	<b>5</b>	<b>3</b>
19	Bomi	Dewion	Bonjeh Town Clinic	Primary Clinic	2,809		Yes	Yes	Yes
20	Bomi	Dewion	Darweh Town Clinic	Primary Clinic	2,574		Yes	Yes	
21	Bomi	Dewion	Jenneh #3 Community Clinic	Primary Clinic	2,270		Yes		
22	Bomi	Dewion	Vortor Community Clinic	Primary Clinic	2,686		Yes	Yes	
23	Bomi	Dewion	Beh Town Clinic	Primary Clinic	2,836		Yes		
24	Bomi	Senjeh	Ahmadiyyi Clinic	Primary Clinic (Private)	3,759		Yes	Yes	Yes
25	Bomi	Senjeh	Beafine Clinic	Primary Clinic	3,330		Yes	Yes	
26	Bomi	Senjeh	Sackie Town Community Clinic	Primary Clinic	3,468		Yes		
27	Bomi	Senjeh	Yomo Town Clinic	Primary Clinic	3,201		Yes	Yes	
28	Bomi	Senjeh	Beh-Sao Clinic	Primary Clinic	No data			Yes	Yes
29	Bomi	Suehn Mecca	Fefeh Town Community Clinic	Primary Clinic	4,174		Yes		
30	Bomi	Suehn Mecca	Mecca Clinic	Primary Clinic	4,679		Yes		
31	Bomi	Klay	Sime Darby Clinic	Private Clinic	4,367			Yes	Yes
32	Bomi	Suehn Mecca	Suehn Town Clinic	Primary Clinic	6,538		Yes		
33	Bomi	Klay	Gayah Hill Community Clinic	Primary Clinic	6,116			Yes	Yes
34	Bomi	Suehn Mecca	Weawolo Clinic	Primary Clinic	3,754		Yes	Yes	
35	Bomi	Klay	Golodee Lansana Clinic	Primary Clinic	No data			Yes	Yes

		<b>Sub - TOTAL:</b>	<b>17</b>		<b>56,561</b>	<b>0</b>	<b>13</b>	<b>11</b>	<b>6</b>
36	Grand Cape Mount	Gola Konneh	Mbaloma Community Clinic	Clinic	6,887	Yes	Yes		
37	Grand Cape Mount	Gola Konneh	Than Gola-Konneh Clinic	Clinic	5,367	Yes	Yes	Yes	Yes
38	Grand Cape Mount	Gola Konneh	Lofa Bridge Clinic	Clinic	9,583	Yes	Yes		
39	Grand Cape Mount	Gola Konneh	Varguaye Clinic	Clinic	6,560	Yes	Yes	Yes	Yes
40	Grand Cape Mount	Porkpa	Bamballa Community Clinic	Clinic	10,697	Yes	Yes	Yes	
41	Grand Cape Mount	Porkpa	Bendaja Commuity Clinic	Clinic	14,141	Yes	Yes		Yes
42	Grand Cape Mount	Porkpa	Damballa Health Center	Health Center	9,558	Yes	Yes		
43	Grand Cape Mount	Porkpa	Kawelahun Clinic	Clinic	4,458	Yes	Yes	Yes	
44	Grand Cape Mount	Porkpa	Kongo Clinic	Clinic	6,881	Yes	Yes	Yes	
45	Grand Cape Mount	Tewor	Bangorma Community Clinic	Clinic	3,474	Yes	Yes	Yes	Yes
46	Grand Cape Mount	Tewor	Bo-Waterside Community Clinic	Clinic	3,859	Yes	Yes		
47	Grand Cape Mount	Tewor	Diah Community Clinic	Clinic	4,973	Yes	Yes		
48	Grand Cape Mount	Tewor	Fahnja Clinic	Clinic	1,270	Yes	Yes	Yes	Yes
49	Grand Cape Mount	Tewor	Gonelor Community Clinic	Clinic	1,187	Yes	Yes		
50	Grand Cape Mount	Tewor	Gordama Community Clinic	Clinic	2,999	Yes	Yes		
51	Grand Cape Mount	Tewor	Jene Wonde Clinic	Clinic	2,473	Yes	Yes		
52	Grand Cape Mount	Tewor	Kulangor Clinic	Clinic	1,104	Yes	Yes	Yes	
53	Grand Cape Mount	Tewor	Mambo Community Clinic	Clinic	2,232	Yes	Yes	Yes	
54	Grand Cape Mount	Tewor	Than Mafa Community Clinic	Clinic	3,544	Yes	Yes	Yes	Yes
55	Grand Cape Mount	Tewor	Tienii Community Clinic	Clinic	4,880	Yes	Yes		
56	Grand Cape Mount	Common Wealth	Tallah's Town Clinic	Clinic	No data	Yes			
57	Grand Cape Mount	Common Wealth	Fanti Town Clinic	Clinic	No data	Yes			
58	Grand Cape Mount	Common Wealth	St. Timothy Clinic	Clinic	No data	Yes			
59	Grand Cape Mount	Common Wealth	Sembelum Community Clinic	Clinic	No data	Yes			
60	Grand Cape Mount	Garwula	Zaway Clinic	Clinic	No data	Yes			
61	Grand Cape Mount	Garwula	Kpeneji Clinic	Clinic	No data	Yes			
62	Grand Cape Mount	Garwula	Karnga Community Clinic	Clinic	No data	Yes			
63	Grand Cape Mount	Garwula	Sinje Health Center	Health Center	No data	Yes		Yes	
64	Grand Cape Mount	Garwula	Bendu Community Clinic	Clinic	No data	Yes			
65	Grand Cape Mount	Garwula	Madina Clinic	Clinic	No data	Yes			
66	Grand Cape Mount	Garwula	Jundu Community Clinic	Clinic	No data	Yes			
67	Grand Cape Mount	Garwula	Bomboja Clinic	Clinic	No data	Yes			
		<b>Sub - TOTAL:</b>	<b>32</b>		<b>106,127</b>	<b>32</b>	<b>20</b>	<b>11</b>	<b>6</b>
68	Nimba	Gbehlay-Geh	Beo-yoolar Clinic	Clinic	22,151		Yes	Yes	Yes
69	Nimba	Gbehlay-Geh	Duoplay Clinic	Clinic	5,455		Yes		
70	Nimba	Gbehlay-Geh	Garplay Clinic	Clinic	5,616		Yes		
71	Nimba	Gbehlay-Geh	Gbe-vonwea Clinic	Clinic	4,705		Yes	Yes	Yes
72	Nimba	Gbehlay-Geh	Give Them Hope Clinic	Clinic	21,097		Yes	Yes	Yes
73	Nimba	Gbehlay-Geh	Goagortuo Clinic	Clinic	5,608		Yes		
74	Nimba	Gbehlay-Geh	Karnplay Health Center	Health Center	21,097		Yes		
75	Nimba	Gbehlay-Geh	Kpairplay Clinic	Clinic	11,917		Yes	Yes	Yes
76	Nimba	Gbehlay-Geh	Loguatuo Clinic	Clinic	7,389		Yes	Yes	Yes

77	Nimba	Gbehlay-Geh	Slangonplay Clinic	Clinic	11,917		Yes	Yes	Yes
78	Nimba	Gbehlay-Geh	Varyenglay Clinic	Clinic	2,718		Yes		
79	Nimba	Gbehlay-Geh	Younlay Clinic	Clinic	4,690		Yes		
80	Nimba	Gbehlay-Geh	Zorgowee Clinic	Clinic	8,794		Yes	Yes	Yes
81	Nimba	Gbehlay-Geh	Karnplay CCC	CCC	NA*	Yes	Yes	Yes	
82	Nimba	Zoo-Geh	Bahn ULIC	Clinic	48,143		Yes		
83	Nimba	Zoo-Geh	Beadatuo Clinic	Clinic	17,996		Yes		
84	Nimba	Zoo-Geh	Gbloulay Clinic	Clinic	5,680		Yes		
85	Nimba	Zoo-Geh	Lepula Clinic	Clinic	6,070		Yes		
86	Nimba	Zoo-Geh	Paree Clinic	Clinic	21,435		Yes		
87	Nimba	Zoo-Geh	Wehplay Community Clinic	Clinic	17,824		Yes		
		<b>Sub - TOTAL:</b>	<b>20</b>		<b>250,302</b>	<b>1</b>	<b>20</b>	<b>8</b>	<b>7</b>
88	Nimba	Yarwin Mehnsonoh	Zekepa Clinic	GOL Clinic	12,409		Yes	Yes	
89	Nimba	Yarwin Mehnsonoh	Mehnla Clinic	GOL Clinic	8,950		Yes	Yes	
90	Nimba	Yarwin Mehnsonoh	Kwendin Clinic	GOL Clinic	15,245		Yes		
91	Nimba	Tappita	Mid Baptist Clinic	Private Clinic	6,164		Yes	Yes	
92	Nimba	Tappita	Graie Clinic	GOL Clinic	6,078		Yes	Yes	
93	Nimba	Tappita	Zuolay Clinic	GOL Clinic	5,988		Yes		
94	Nimba	Saclepea Mah	Saclepea Comprehensive Health Center	Health Center	31,018		Yes	Yes	
95	Nimba	Saclepea Mah	Karnwee Clinic	GOL Clinic	18,697		Yes	Yes	Yes
96	Nimba	Saclepea Mah	Saclepea ULIC Clinic	Private Clinic	4,601		Yes		
97	Nimba	Saclepea Mah	Bunadin Clinic	GOL Clinic	8,824		Yes	Yes	
98	Nimba	Saclepea Mah	Dorcas Martor Memorial Clinic	Private Clinic	2,500		Yes		
99	Nimba	Saclepea Mah	Flumpa Community Clinic	GOL Clinic	20,665		Yes	Yes	Yes
100	Nimba	Saclepea Mah	Flumpa Inland Clinic	Private Clinic	20,665		Yes	Yes	
101	Nimba	Saclepea Mah	Kpein Clinic	GOL Clinic	12,846		Yes		
102	Nimba	Saclepea Mah	Duo Clinic	GOL Clinic	10,825		Yes		
103	Nimba	Saclepea Mah	Beindin Community Clinic	GOL Clinic	6,235		Yes	Yes	
104	Nimba	Saclepea Mah	Gbehyi-Duayee Clinic	GOL Clinic	8,614		Yes		
105	Nimba	Saclepea Mah	Kpaytuo Clinic	GOL Clinic	6,872		Yes	Yes	
106	Nimba	Saclepea Mah	Cocopa Clinic	Private Clinic	2,493		Yes	Yes	Yes
107	Nimba	Saclepea Mah	Zahn Blanla Clinic	GOL Clinic	5,282		Yes	Yes	
108	Nimba	Saclepea Mah	Lugbeyee	Clinic	13,735			Yes	
109	Nimba	Saclepea Mah	Boyee	Clinic	No data			Yes	
110	Nimba	Saclepea Mah	Tappita	Hospital	No data			Yes	
111	Nimba	Saclepea Mah	Yourpea	Clinic	No data			Yes	
112	Nimba	Saclepea Mah	Saclepea CCC	CCC	NA*	Yes	Yes	Yes	
		<b>Sub - TOTAL:</b>	<b>25</b>		<b>228,706</b>	<b>1</b>	<b>21</b>	<b>18</b>	<b>3</b>
		<b>TOTAL:</b>	<b>112</b>		<b>844,612</b>	<b>36</b>	<b>91</b>	<b>53</b>	<b>25</b>
							<b>97</b>		

\* The catchment populations for the CCCs have not been included in this table because the populations are also served by the other primary health facilities.



**LIBERIA HEALTH SYSTEM MINIMUM STANDARDS FOR SAFE CARE PROVISION**  
**BY HEALTHCARE FACILITIES IN THE CONTEXT OF EBOLA**

The Infection Prevention and Control (IPC) taskforce was tasked to develop a checklist that would be used to determine if clinics, health centers and hospital can safely operate during the Ebola outbreak at the same time as providing the path for sustainable safe health care. The goals of this document are NOT to provide an overall assessment of health facility, but rather to provide a checklist of minimum standards that ensures that a health facility can operate and provide care in an environment that is safe for both patients and staff.

These standards were developed to address core components of IPC: administrative controls (i.e., IPC structure with defined focal point and budget, triage and patient placement, staff training and health), environmental controls (i.e., waste management, water and sanitation) and Personal Protective Equipment (PPE). The development of this document is an adaptation of the document "Components for Infection Prevention and Control Programmes (WHO, 2008)". Each of these areas is critical in ensuring that care is delivered in a safe and effective manner for both staff and patients.

As these are the "Minimum Standards", a facility must be able to say yes to each and every one in order to safely operate. Due to resource availability, some standards are only applicable in larger health facilities such as hospitals and health centers.

**INSTRUCTIONS:** Complete the first page of this instrument electronically for each health facility to be assessed making use of drop down lists where appropriate. The form will black out questions that are not relevant to the level of facility you are assessing. The form can now be printed to take with you to conduct the assessment. On your return, you should capture the appropriate responses electronically. Note that any red text indicates an error in capture. The spreadsheet will automatically calculate the total score for the health facility. Print the completed instrument with the total score and submit to EC3 County level M&E.

**Name of Facility:** \_\_\_\_\_  
**County:** \_\_\_\_\_ **District:** \_\_\_\_\_  
**Level:** Hospital **Date:** \_\_\_\_\_

**AVAILABLE SERVICES AND STAFF** *(List all services currently provided)*

**Out Patient:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
**In Patient:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Total # of functional beds:** \_\_\_\_\_ **Expected patient load/day:** \_\_\_\_\_  
**Preventive Services:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**NUMBER OF AVAILABLE STAFF**

<b>Physicians:</b> _____	<b>Physicians assistants:</b> _____
<b>Nursing staff:</b> _____	<b>Lab personnel</b> _____
<b>Midwives:</b> _____	<b>Other staff</b> _____

**HEALTH FACILITY CONTACT PERSONS**

**Medical Director**  
**Name:** \_\_\_\_\_ **Tel:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_  
**Administrator**  
**Name:** \_\_\_\_\_ **Tel:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**FACILITY TEAM ASSESSMENT MEMBERS**

Name	Organization	Tel	E-mail
------	--------------	-----	--------


## ASSESSMENT OF STANDARD OPERATING PROCEDURES

### SECTION 1: ADMINISTRATIVE CONTROLS

Place an X to indicate response	CRITERION	COMMENT ON INTERPRETATION
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. IPC focal point identified with TOR	Also ensure dedicated time to perform duties
<input type="checkbox"/> Yes <input type="checkbox"/> No	2. IPC committee exists and has TOR	Ask for document. TOR should include the following elements: IPC committee meets on regular basis (e.g., 12/month), addresses HCF IPC issues, follows up on previously defined action points and defines actions for the future.
<input type="checkbox"/> Yes <input type="checkbox"/> No	3. Budget allocated to support IPC Program	For public facilities, these data will come from the CHT; for private facilities, information should come from the owner/operator. There should be items in the budget that cover IPC supplies, and the time required of the IPC focal point.
<input type="checkbox"/> Yes <input type="checkbox"/> No	4. MOHSW-approved IPC SOP available in facility <b>(OBSERVE)</b>	The SOP should be available in the facility for staff to review including vaccinators and cleaners
<input type="checkbox"/> Yes <input type="checkbox"/> No	5. Clear referral system is in place	In case an EVD case is suspected, the HCF is aware of and able to refer the patient immediately/as soon as possible to an EVD structure (ETU or other EVD structure)
<input type="checkbox"/> Yes <input type="checkbox"/> No	6. Reliable communication device (e.g., mobile phone)	
<input type="checkbox"/> Yes <input type="checkbox"/> No	7. Job-aids (e.g., poster) posted <b>(OBSERVE)</b>	A minimum of one job aid related to IPC other than triage (e.g. hand hygiene, sharps management) is posted in the facility
<input type="checkbox"/> Yes <input type="checkbox"/> No	8. Job-aids are present on wards regarding twice daily re-triage of in-patients <b>(OBSERVE)</b>	This refers to three times daily temperature check and daily symptom screening of in-patients to assess whether there is EVD with onset in hospital
<input type="checkbox"/> Yes <input type="checkbox"/> No	9. SOP is available for staff exposure to body fluids and needle-stick injuries <b>(OBSERVE)</b>	SOP should address different routes of exposures and testing and prophylaxis recommendations.
<input type="checkbox"/> Yes <input type="checkbox"/> No	10. SOPs for laboratory bio-safety are available in the facility <b>(OBSERVE)</b>	SOPs should address minimizing staff exposures, safe transportation and processing of samples, and proper disposal of hazardous materials.
<input type="checkbox"/> Yes <input type="checkbox"/> No	11. SOP for cleaning, disinfection of environmental and reusable material and equipment is available <b>(OBSERVE)</b>	SOPs should address minimizing staff exposures, safe transportation and processing of samples, and proper disposal of hazardous materials.
<input type="checkbox"/> Yes <input type="checkbox"/> No	12. A schedule and tool for internal IPC practice and monitoring is available	

### SECTION 2: SUPPLY AND EQUIPMENT

Place an X to indicate response	CRITERION	COMMENT ON INTERPRETATION
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. One month of basic drugs and supplies present at the facility	Ask if clinics have a pharmacy
<input type="checkbox"/> Yes <input type="checkbox"/> No	2. One month of IPC supplies present at the facility	Supplies include basic and enhanced PPE, hand hygiene

	<b>(OBSERVE)</b>	needs, cleaning/disinfection supplies, sharps management supplies, and laboratory biosafety supplies
<input type="checkbox"/> Yes <input type="checkbox"/> No	3. Basic PPE and functioning thermometers present and available for use at triage	Basic PPE consists of face shield, fluid resistant gown and gloves. Staff should also wear closed toe shoes.
<input type="checkbox"/> Yes <input type="checkbox"/> No	4. Puncture-resistant sharps containers are available in all patient care and other relevant areas <b>(OBSERVE)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	5. Needles and syringes are not reused <b>(OBSERVE)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	6. Functional sterilization equipment available for use	Includes autoclaves, cold sterilization equipment, and thermometers for sterilization by heating, etc.
<input type="checkbox"/> Yes <input type="checkbox"/> No	7. Functional laundry is present	Includes autoclaves, cold sterilization equipment, and thermometers for sterilization by heating, etc.

### SECTION 3: PERSONNEL / STAFFING AND TRAINING

Place an X to indicate response	CRITERION	COMMENT ON INTERPRETATION
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. Healthcare facility staffing meets or exceeds the criteria outlined in the MOHSW Essential Package of Health Services	
<input type="checkbox"/> Yes <input type="checkbox"/> No	2. Staff have been trained in the MOHSW Keep Safe Keep Serving Package	<b>ASK:</b> When was the last training done
<input type="checkbox"/> Yes <input type="checkbox"/> No	3. At least one clinician is present in the clinic whenever it is open	Clinician is defined as physicians, physicians assistant, and nurse
<input type="checkbox"/> Yes <input type="checkbox"/> No	4. At least one laboratorian is present in the laboratory whenever it is open	Clinician is defined as physicians, physicians assistant, and nurse
<input type="checkbox"/> Yes <input type="checkbox"/> No	5. A system for checking and reporting staff health issues, including daily temperatures check during EVD outbreak, is in place	

### SECTION 4: TRIAGE

Place an X to indicate response	CRITERION	COMMENT ON INTERPRETATION
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. Limited number of designated entry points to the facility for triage of patients, staff and visitors is established	Entry to the facility is controlled such that it is not possible for staff, visitors or patients to enter without being triaged.
<input type="checkbox"/> Yes <input type="checkbox"/> No	2. All persons (patients, staff and visitors) entering the facility are triaged	The complete triage process – including handwashing, temperature screening and asking about case contact and symptoms – applies to everyone entering the facility and should operate at all times when the facility is open.
<input type="checkbox"/> Yes <input type="checkbox"/> No	3. All triage areas should at minimum have hand washing stations, functioning thermometers, and PPE available	
<input type="checkbox"/> Yes <input type="checkbox"/> No	4. Distance between patient beds is at least 1 m in all patient rooms <b>(OBSERVE)</b>	

<b>SECTION 5: WASH / WASTE MANAGEMENT</b>		
Place an X to indicate response	CRITERION	COMMENT ON INTERPRETATION
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. Functioning incinerator is present, or facility has the use of a functioning incinerator <b>(OBSERVE)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	2. Placenta pit is present	
<input type="checkbox"/> Yes <input type="checkbox"/> No	4. Waste management SOP based on national standards is available in the facility <b>(OBSERVE)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	5. Written plan exists for management of dead bodies <b>(OBSERVE)</b>	This may be as simple as saying that bodies will be covered by a sheet, and not touched by untrained staff until the burial team arrives; the contact number for the burial team should be available.
<input type="checkbox"/> Yes <input type="checkbox"/> No	6. Functioning latrine or toilet facility is available for staff and for patients <b>(OBSERVE)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	7. Protocols for waste segregation, storage and disposal exist <b>(OBSERVE)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	8. Potable water source available for the facility	
<input type="checkbox"/> Yes <input type="checkbox"/> No	9. A schedule internal IPC practice monitoring exists <b>(OBSERVE)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	10. All patient rooms are well ventilated	
<input type="checkbox"/> Yes <input type="checkbox"/> No	11. Space is dedicated to and supplies are available for mixing/making the appropriate chlorine solution dilutions daily <b>(OBSERVE)</b>	
<b>SECTION 6: ISOLATION UNIT</b>		
Place an X to indicate response	CRITERION	COMMENT ON INTERPRETATION
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. Written plan exists for management of a suspect/probable EBV cases	This plan should include contact information for reporting, transport, and facility decontamination.
<input type="checkbox"/> Yes <input type="checkbox"/> No	2. Isolation space includes supplies and an area for HCWs to put on and take off enhanced PPE <b>(OBSERVE)</b>	
<input type="checkbox"/> Yes <input type="checkbox"/> No	3. Facility-appropriate isolation space exists and is prepared for isolation of probable or suspect cases awaiting transport, and – in hospitals and health centers – to provide care for suspect/probable patients who cannot be transferred.	Entrance and exit should be restricted to essential personnel only.
<input type="checkbox"/> Yes <input type="checkbox"/> No	4. Latrine/toilet that can be dedicated to managing suspect patients is present <b>(OBSERVE)</b>	
<b>SECTION 7: MISCELLANEOUS</b>		
Place an X to indicate response	CRITERION	COMMENT ON INTERPRETATION
<input type="checkbox"/> Yes <input type="checkbox"/> No	1. Safe and reliable electric supply is present	

<input type="checkbox"/> Yes <input type="checkbox"/> No	2. Functional ambulance service is present	
<input type="checkbox"/> Yes <input type="checkbox"/> No	3. Motorbike or ambulance available and functioning	Health Centers should have motorbike; hospitals should have ambulances
<input type="checkbox"/> Yes <input type="checkbox"/> No	4. Functional morgue is present	
<input type="checkbox"/> Yes <input type="checkbox"/> No	5. The MOHSW list of priority diseases is available at the facility and reporting systems in place	

<input type="checkbox"/> Yes <input type="checkbox"/> No	6. Laboratory personnel have been trained in safe collection, packaging, and transport of biological specimens	
<input type="checkbox"/> Yes <input type="checkbox"/> No	7. Remediation has occurred in response to any Ebola-related IPC audit previously conducted in the facility	If an Ebola-related IPC audit has been conducted, the audit results should be available in the facility, and there should be evidence that any recommendations from the audit have been acted upon.

<b>The total calculated score for (Hospital):</b>	<b style="color: red;">You have not responded to all Questions</b>
---	--

<b><u>Quality Control</u></b> <b>Assessor</b> Name: _____ Date: _____ Signature: _____ All fields are captured correctly to this assessment instrument <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span>		
---	--	--

<b><u>Quality Control</u></b> <b>County Level Data Capturer</b> Name: _____ Date: _____ Signature: _____ Record #: _____ Captured correctly to Health Facility Minimum Standards Assessment Collation sheet <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span>		
---	--	--



**USAID**  
FROM THE AMERICAN PEOPLE

**Liberia**

# ***Ebola Community Care Center Project (EC3)***

**BONG, NIMBA, BOMI AND GRAND CAPE MOUNT COUNTIES**

SUBMITTED TO:

USAID Office of Foreign Disaster Assistance

March 30, 2016

## **Research Study Behavior Change**

**Period: October 29, 2014 – December 31, 2015**

Agreement: AID- OFDA- G- 15-00013

Contact: Mr. Tim Ogborn, Vice President and Managing Director, Washington D.C

# Table of Contents

Introduction .....	3
Background .....	3
Objectives of Research Study.....	3
Methods:.....	4
Included in this Study.....	4
Data Collection.....	4
Survey Collection Tool.....	4
Survey Sampling Design .....	4
Qualitative Data Collection .....	4
Data Analysis.....	5
Limitations.....	5
Results.....	5
General Findings .....	5
Table 1. Make-up of the six demographic groups by cluster analysis .....	6
Table 2. Effectiveness of EC3 campaigns messages to change behaviors .....	7
Figure 1. Number of respondents receiving Ebola campaign messages, by communication mediums .....	8
Table 3. Ebola campaign mediums that most influenced recipient behaviors.....	8
Findings on Behavior Changes from Focus Group Discussions.....	9
Conclusions / Discussion .....	10
Appendix A: Household Survey Data Collection Tool .....	11
Appendix B: Focus Group Discussions (FGDs) with Intervention Community Members Guide.....	18
Appendix C. Cluster Analysis Details: Make-up of the 6 clusters using Centroid Method .....	23

# Introduction

## Background

The Ebola Community Care Center (EC3) Project was an Ebola Virus Disease (EVD) emergency response project implemented by Project Concern International (PCI) in Liberia through a grant from the United States Agency for International Development/Office of Foreign Disaster Assistance (USAID/OFDA). The project was initially planned to be implemented in two counties, Bong and Nimba, and was later expanded to two additional Counties, Bomi and Grand Cape Mount, following an approved modification of the project in August 2015. Including the modification and the no-cost extension, the project was implemented from October 29, 2014 through December 31, 2015.

The goal of the EC3 project was to support the establishment and management of community supported Ebola Community Care Centers (CCCs) and rapid response efforts to slow the spread of Ebola through better isolation of cases and provide a higher standard of care for suspected and confirmed cases. To that end, PCI implemented health sector activities in three sub-sectors: Health Systems and Clinical Support, Medical Commodities, and Community Health Education / Behavior Change.

To support community efforts towards preventing and controlling the Ebola epidemic, the EC3 project designed and implemented different household and community level health education and Ebola messages. The project organized and facilitated several health education activities using project staff and trained general community health volunteers (gCHVs) at the community and health facility level disseminating messages around a variety of Ebola safety topics such as hand washing practices, social distancing, safe burial practices, and others. Several delivery techniques were used including mass education campaigns, small group discussions, soccer matches, outreach and social mobilization activities, home to home visits by the gCHVs, radio messages and call-in shows, all aimed to reach the wider community in the project catchment area. Over the life of the project an estimated population of 235,817 was reached using a total of 367 community outreach and mobilization activities. More detailed information regarding all the project's activities is provided in the EC3 Project Final Report.

This research study was conducted to respond to the EC3 project outcome level indicator "Community members utilizing Ebola health education message practices." This indicator examines behavior change of community members as a result of EC3 community level interventions, and has a project target of 90%.

## Objectives of Research Study

The goal of this study was to assess the effectiveness and efficiency of the EC3 project's Ebola prevention message campaign.

The specific study objectives were to:

1. Determine whether EC3 awareness campaign messages influenced recipients to change their behavior.
2. Identify which of the campaign message mediums were most likely to change behaviors.
3. Determine whether recipients with certain similar demographic attributes, such as sex, age and education level, were more or less influenced by EC3 campaign messages than other groups.

## Methods:

### Included in this Study

The study population included the general population in EC3 intervention areas (direct and indirect beneficiary households) in the target counties of Bong, Bomi, Nimba and Grand Cape Mount. Quantitative household survey responses are included in this study, as well as qualitative data focused on Ebola messaging and behavior change that was collected during the final project evaluation using focus group discussions and key informant interviews. The quantitative household survey collected responses from household members in all four counties, and survey respondents included both men and women of all ages, and both heads and non-heads of households.

The qualitative data used in this study was collected during community focus group discussions and key informant interviews with gCHVs that focused on EC3 interventions in the community, effectiveness of EC3 interventions and behavior change as result of the project intervention.

### Data Collection

#### Survey Collection Tool

The household survey was intended to primarily collect data on the performance of the EC3 project's outcome indicator "number and percentage of *community members utilizing Ebola health education message practices.*" The survey was designed to capture the change in community knowledge, attitude and practice as the result of the EC3 intervention. The full survey tool is provided in Appendix A.

#### Survey Sampling Design

Study methods follow a simple descriptive study in line with the project's stated objectives.

The minimum required sample size was calculated to be 337 households/respondents based on the expected value of the key indicator described above (90% target), the desired margin of error of 5% on the estimate (5%), desired degree of confidence ( $\alpha = 0.95$ ,  $Z\alpha = 1.96$ ), and an adjustment of 10% for non-responses.

A multi-stage sampling strategy selected individuals from households in a representative geographic area that included all four intervention counties. Purposive and convenience sampling of districts in all four counties was followed by systematic random sampling of communities from the sampled districts. Survey respondent households in each community were selected by systematic random sampling; a pen was spun to determine the first respondent house, and then every second compound/house in between was sampled continuously. At each household, one survey participant was randomly selected by a coin toss.

#### Qualitative Data Collection

Qualitative data was taken from focus group discussions (FGDs) and key informant interview notes collected by the EC3 project final evaluation team. The final evaluation field team conducted a total of 28 qualitative interviews as well as 6 focus group discussions with 60 participants in 42 communities, 7 districts in all 4 EC3 intervention counties. The FGDs included 10 community members per session and included men-only groups, women-only groups, and groups with a mix of men, women, boys, girls, elders and religious group leaders, and community health volunteers. A total of 10 in-depth interviews

were conducted with the County Medical Officers or their representatives, district medical officers or their representatives, key PCI EC3 staff. Key informant interviews were also conducted with 12 general community health volunteers. The interview guide can be found in Appendix B.

Most significant change (MSC) methodology was employed as part of the qualitative data collection process. MSC was incorporated in the focus group discussions, the process involved the collection of significant change stories emanating from the field level through the study population, and the systematic selection of the most significant of these stories by designated stakeholders and evaluation team members. The discussion group members were asked as part of the discussions to freely list out any significant changes that have occurred as a result of EC3 interventions in the community. They were then asked to identify the most significant changes out of that list. The final determination of the most significant changes that occurred in the community as a result of EC3 interventions was made by designated stakeholders and final evaluation team members.

## Data Analysis

Demographic attributes of the household survey respondents were assessed and grouped into 6 groupings according to similarities in the demographic attributes using a centroid method cluster analysis in SPSS. The cluster groups were determined based on similarities in respondent age, education level, and sex.

Pearson correlations were performed using SPSS to determine whether any significant associations exist between demographic variables (marital status, education, sex, age), distance to nearest clinic/hospital, campaign messages and mediums that influenced behaviors.

Survey responses in each of the six demographic groups were tabulated, and a chi-square test was performed in SPSS to determine whether any significant difference in self-reported behavior change was observable between groups at the 95% confidence level.

## Limitations

The primary purpose of this study was to collect data to report on a project outcome indicator, and therefore, the study used simple descriptive analysis for several reasons. Due to the emergency nature and priority of the Ebola epidemic, no baseline data was collected at project start up. As a result, a comparison of the end result against the prevailing behaviors prior to EC3 interventions is not possible. On the other hand the baseline data was not collected due to the emergency priority of life saving prevention and control activities. Further, since Ebola has not been there before, it is likely that community knowledge on Ebola prevention was extremely low to non-existent prior to interventions.

Another limitation to this study is that it is difficult to prescribe any behavior changes as being due to the EC3-specific messages (as opposed to other prevention messaging); behavior changes are self-reported.

## Results

### General Findings

A total of 378 individuals were surveyed, exceeding the minimum sample size criteria of 337. A total of 372 individuals answered the survey question regarding whether EC3 campaign messages influenced

their behavior with a valid “yes” or “no” answer. Of these 372 respondents, 362 (97%) reported that EC3 campaigns influenced them to change their behaviors, while 10 individuals (3%) reported that EC3 campaign messages did not influence them.

The demographic make-up of survey respondents included 204 females (54%) with an average age of 35 years, and 174 males (46%) with an average age of 38 years. Overall, respondents’ ages ranged from 14 to 88 years. A total of 155 respondents reported being married or living together, a total of 114 respondents were single or widowed, and 9 respondents were separated or divorced.

A total of 374 individuals provided information on their level of formal education, and of these, 144 (39%) reported having no education and 91 (24%) reported having only a primary school level education. The remaining 139 respondents reported having received a higher level of education, such as middle school/ continuation (77, or 21%), technical/ commercial (56, or 15%) or university level education (6, or 2%). Further details on demographic characteristics of survey respondents are provided in the Final Evaluation report.

Being married (or living together with a partner) was significantly negatively correlated with education level (Pearson correlation coefficient = -0.2, and  $p < 0.001$ ), meaning that these individuals were more likely to have lower formal education. Being married or living together was also positively correlated with increased age (correlation coefficient = 0.3,  $p < 0.001$ ) as well as being male (correlation coefficient = 0.2,  $p = 0.003$ ). No significant correlations were identified between any of these demographic attributes and a household’s distance to a hospital or clinic (an Ebola risk factor).

None of the demographic variables evaluated, such as respondents’ marital status, education level, sex or age, were correlated with whether or not they were influenced by EC3 campaigns to change their Ebola risk behaviors. In addition, the type of message medium most influential in changing Ebola-related behaviors was also not correlated with any of these demographic variables.

Several demographic variables were correlated with each other according to the Pearson correlations. For example, education level was significantly correlated with both sex (being male) and age (being younger). Therefore, cluster analysis defined six independent demographic groups based on their similarities in sex, age and education level. The demographic make-up of these six groups is reflective of the gender and educational correlations within the respondent sample (See Table 1). The detailed results of the cluster analysis can be found in Appendix C.

Table 1. Make-up of the six demographic groups by cluster analysis

Group 1: Mostly older women with no education; (Cluster 2) n=69
Group 2: Younger men and women with no education; (Cluster 3) n=75
Group 3: Mostly women with basic level education; (Cluster 1) n=105
Group 4: Mostly men with middle or technical schooling; (Cluster 4) n=69
Group 5: Mostly young women with middle or technical schooling; (Cluster 5) n=51
Group 6: All young men with university level education; (Cluster 6) n=5

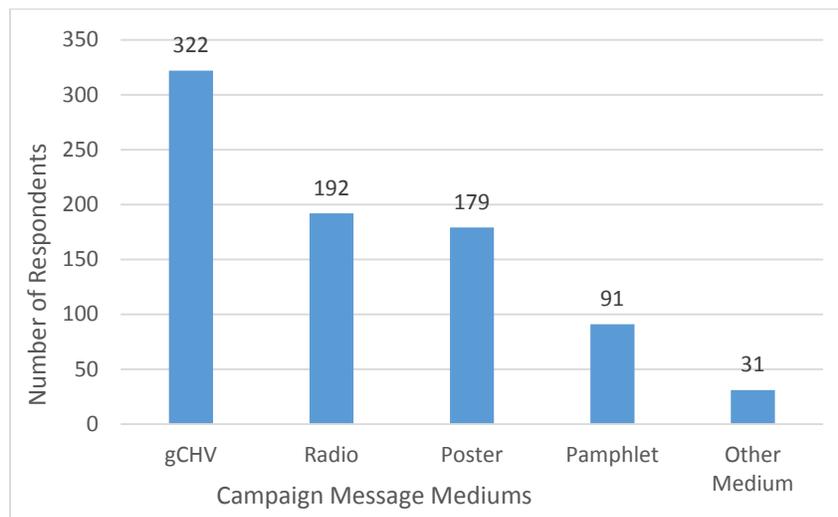
Behavior changes due to EC3 Ebola campaign messaging were overwhelmingly reported across all demographic groups, but no significant differences were observed between demographic groups ( $\chi^2 = 4.85$ ,  $p=0.44$ ). These results show that differences in age, sex and education level were not related to whether or not they were influenced to change behaviors due to Ebola prevention messages (See Table 2 below).

Table 2. Effectiveness of EC3 campaigns messages to change behaviors

Demographic Group	Survey Question: Did any of the PCI EC3 campaigns influence you to change your behavior?		Total
	No	Yes	
Group 1: Mostly older women with no education	0	69	69
Group 2: Younger men and women with no education	4	70	74
Group 3: Mostly women with basic level education	3	101	104
Group 4: Mostly men with middle or technical schooling	1	68	69
Group 5: Mostly young women with middle or technical schooling	2	49	51
Group 6: All young men with university level education	0	5	5

A total of 365 respondents reported that they received Ebola prevention campaign messages from EC3 from at least one type of medium, such as radio announcements, pamphlets, posters, one-on-one from a community health volunteer (gCHV), or some other source. The majority (322) reported that they received EC3 project's messages through their gCHV (See Figure 1).

Figure 1. Number of respondents receiving Ebola campaign messages, by communication mediums



Among respondents who identified a message medium – whether it was EC3 specific or from another intervention (n=369) – that was most influential to changing their behavior, a vast majority (76%) reported that the one-on-one messages from the gCHV was the medium that most affected them (See Table 3). Although many respondents reported receiving messages through more than one medium, interestingly, 40% of respondents who did not receive messages through their gCHV also did not receive any messages through any other mediums.

Table 3. Ebola campaign mediums that most influenced recipient behaviors

Demographic Group	Survey Question: Which of the Ebola campaign mediums affected your behavior the most?				Total
	One-on-one with gCHVs (%)	Pamphlet (%)	Poster (%)	Radio broadcast (%)	
Group 1: Mostly older women with no education	62 (90%)	0 (0%)	2 (3%)	5 (7%)	69
Group 2: Younger men and women with no education	53 (71%)	1 (1%)	9 (12%)	12 (16%)	75
Group 3: Mostly women with basic level education	78 (77%)	0	10 (10%)	13 (13%)	101
Group 4: Mostly men with middle or technical schooling	47 (69%)	2 (3%)	11 (16%)	8 (12%)	68
Group 5: Mostly young women	34	0	6	11	51

with middle or technical schooling	(67%)		(12%)	(22%)	
Group 6: All young men with university level education	5 (100%)	0	0	0	5
Total	279 (76%)	3 (1%)	38 (10%)	49 (13%)	369

## Findings on Behavior Changes from Focus Group Discussions

Specific behavior changes that were widely reported during FGDs included accepting Ebola survivors and washing hands. Knowledge regarding the importance of washing hands was in fact very wide-spread: 329 of the survey respondents identified washing hands as a means for preventing the spread of Ebola. Some behaviors, however, such as shaking hands, seemed less changed despite relatively widespread knowledge of the message:

*“One very important behavior change was accepting Ebola survivors in this community. For me I saw it as very good. We accepted them, interacted with them and they feel free moving in the community”. (Community Key Informant)*

*“Yes, yes because number one, washing hand is existing before but now people get used it. Hand shaking not too much. Then Ebola gone but the handshaking not too much. You see when you entered self, if someone was shaking hands, I can’t tell; but I think you saw it” (Community Health Volunteer)*

*“...the people change totally. Mainly, with the hand washing and handshakes behaviors is going away gradually.” (Community Key Informant)*

People also reported an important behavior change was being willing to seek health care at facilities, as opposed to hiding patients:

*“I’ve observed my community behavior change in the area of going to clinic. They are coming to clinic often. Because before then, few people never use to come to clinic. But during the PCI EC3 project, with the awareness being provided by the gCHVs under PCI, people in the community heard it and that change came to their minds that they need to go to hospital and they’ve began to come to hospital. Most often people attend clinic as a result of the awareness being provided to them by the gCHVs”. (Community Key Informant)*

Behavior changes, such as the ones described above, due to EC3 Ebola campaign messaging were overwhelmingly reported across all demographic groups, as demonstrated by 362 of 372 survey respondents who reported that the EC3 project’s messages influenced them to change their behaviors.

In summary, among the most significant changes observed were regular and continuous awareness education, provision of resources, supportive follow up and guidance by well trained staff. These have resulted in:

1. Improvement in the quality of health service delivery and enhancement of the health system.
2. Improvement on Ebola awareness, improved knowledge of EVD, and improved preventive and control practice at the community level.

3. Improvement in the general health seeking behavior of community members.

## Conclusions / Discussion

Behavior changes due to EC3 campaign messages were significant according to the survey results. The project's effectiveness in both reaching community members with prevention messages and influencing their behaviors is further supported through the findings from the FGDs. In summary, the EC3 project positively affected community members through sensitization and awareness.

The results indicate campaign message effectiveness was not influenced by differences in the population in terms of age, sex and education level. This means that EC3 campaign messages were able to reach many different segments of the population, regardless of whether they were old or young, female or male, or educated or not. While knowledge does not necessarily equate to behavior change, it is a prerequisite to change, and therefore, reaching as much of the target audience as possible is critical for an effective intervention.

In our study, respondents often received messages through multiple mediums. The role of the gCHV as an important medium for communicating Ebola prevention messages is supported by this study. Those who did not receive messages one-on-one from the gCVH were more likely not to have received any messages at all. Although limitations exist in our study in terms of attributing behavior changes to the gCHV one-on-one messages, our findings do show that gCHVs were able to reach a substantial proportion of the target population. The gCHVs were extremely effective according to our study, reaching about 3 out of 4 individuals.

Study findings suggest further research is needed to understand factors and variables that affect the change in behavior in response to Ebola and other infectious diseases prevention and control practices at household and community level.

# Appendix A: Household Survey Data Collection Tool

## 1.0. Basic Information:

1.1. Study ID:.....

E	C	3	0				
---	---	---	---	--	--	--	--

STUDYID

1.2. Respondent's name:.....

RESPNAME

1.3. Community Name.....

CNAME

1.4. District Name.....

DISTNAME

1.5. County Name.....

COUNTNAME

1.6. Date of visit: dd/mm/yyyy).....

				2	0	1	5
--	--	--	--	---	---	---	---

DATEVISIT

1.7. Interviewer Name: .....

INTERNAME

1.8. Has consent been given (check from complete consent form)?.....

1. Yes	2. No
--------	-------

CONSENT

**NOTE: If Consent is not given, Please kindly cancel the rest of the form with a diagonal double line**

1.9. Date of consent (dd/mm/yyyy).....

--	--	--	--	--	--	--	--

DATECONS

## 2.0. Socio-Demographic Characteristics:

2.1. What is your age? (in years) [Confirm with 2.1, estimate age if yyyy = NK,].....

--	--

AGE

2.2 Sex of respondent?.....

1. Male	2. Female
---------	-----------

SEX

## 2.3. What is your highest educational level?

1. None	2. Primary school	3. Middle/continuation school, JHS	4. Technical/commercial/SH S secondary school	5. Post-middle college – teacher training, secretarial	
6. Post-secondary – nursing, teacher, polytechnic, etc.		7. University	8. informal education (Religious institutions like Church, Mosque, etc)		8. Not known

MEDLEV

2.4. What is the number of years completed at the highest educational level reached? [88 = NK, 99 = NA, 00 = no education].....

--	--

NUMYRS

2.5. Are you currently single, married, or living with a man, or are you widowed, divorced or separated?

1. Married	2. Living together	3. Widowed
------------	--------------------	------------

MARRIED

4. Divorced	5. Separated	6. Single, unmarried
-------------	--------------	----------------------

### 3.0. Section A: Water & Sanitation

3.1. What is the main source of drinking water for members of your household?

1. Piped into dwelling/yard/plot	2. Public tap	3. Bottled Water	4. Sachet/Pure Water	5. Closed well	6. Open well	WATER
7. Stream / river	8. Lake / dam /pond	9. Water trucks	20. Rain water	21. Handpump / closed bore hole	22. Other	

3.3. What kind of toilet facility does your household have?

1. Flush latrine / WC	2. Ventilated improved pit (VIP) /KVIP	3. Other pit latrine	4. Open fields	DEFAEC
5. Defaecates in house, faeces transferred elsewhere / bucket latrine		6. Other: Specify.....		

### 4.0. Section B: Access to Health

4.1. What type of health facilities are available here?

1. None	2. Public Hospital	3. Private Hospital	4. Private Clinic	HFACILITAVAILABLE
5. CCC	6. ETU	7. Mobile Clinic	8. <b>Field Hospital<sup>1</sup></b>	
9. Other-Specify.....				

4.2. When did you or any member of your HH last visit a health facility (*not traditionalist/ chemical store*) to seek health care?

1. < 1 month	2. 1 – 3 months	3. 4 -6 months	4. > 6 months	5. Never visited	VHOSP
--------------	-----------------	----------------	---------------	------------------	-------

4.3. Which reason best describes why you or your household member last sought health care in this facility?

1. Malaria	2. Diarrhea disease	3. Respiratory disease	4. Chronic body ulcer	RVHOSP
5. Diabetes	6. Hypertension	7. Jaundice (yellow eyes)	8. Violent Accidents	
9. HIV/AIDS	10. Skin disease	11. Arthritis	12. Intestinal worms	
13. Anaemia	14. Chronic Cough	15. Dental illness	16. Ebola	

<sup>1</sup> Field hospital is an unofficial medical facility established to treat casualties on site, ideally to stabilize patients so they can be safely transported to more permanent medical facilities. They can be established in houses, basements, schools, mosques, or clinics, and are often unmarked for security reasons.

17. Antenatal, CWC,FP	18. Child birth	19. Surgery	20. Body pains	21. Other:.....
-----------------------	-----------------	-------------	----------------	-----------------

4.3. How far do you live from the nearest health clinic or hospital (walking distance in time)?

1. 5-15 Minutes	2. 20-30 Minutes	3. 1 hour	4. 2 Hours and more	5. N/A, HF
-----------------	------------------	-----------	---------------------	------------

HFDISTAN

**5.0. Section C: Health Seeking Behaviour**

5.1. Where do you usually go if you are sick, or to treat a general health problem?

1. Clinic or hospital
2. Traditional healer
3. Family member
4. Other (specify) \_\_\_\_\_

5.2. If you answer 'Traditional healer or family member, what would make you go there before you go to the health facility?

.....

.....

.....

.....

.....

5.3. If you thought you might have Ebola or another disease, where would you go?

1. Clinic or hospital
2. Traditional healer
3. Family member
4. Other specify \_\_\_\_\_

5.4. If you had symptoms of Ebola, how many days would you wait before seeking treatment?

1. 1-2 days
2. 5-9 days
3. 10-15 days
4. Other specify \_\_\_\_\_

5.5. What do you do to prevent people from getting sick in your home or community?

1. Encourage hand washing
2. Encourage environmental cleaning
3. Go to the health facility
4. Other specify \_\_\_\_\_

5.6. Who would you talk to about your illness if you had Ebola?

1. Family member
2. Work mates
3. Medical staff
4. Other specify \_\_\_\_\_

5.7. If someone in your community were showing signs or symptoms of Ebola or other diseases (Malaria, Typhoid, etc), what would you do?

1. Inform the community leaders or other leaders ( Traditional, religious, etc)
2. Take them to the nearest health facility
3. Not take any action to assist the person
4. Other (specify) \_\_\_\_\_

**6.0 Section D: Community Events or Campaigns**

6.1. Have you ever received any Campaign on EBOLA from PCI EC 3?

1. Yes	2. No	9.NA
1. Yes	2. No	9.NA

EBOLACAMP

6.2. Have you ever heard of any messages on EBOLA from PCI EC 3?.

EBOLAMESSAGE

6.3.1. Which of the following EBOLA messages have you received from PCI EC 3?

6.3.1. Ebola Awareness.....	1. Yes	2. No	EBOLAWARE
6.3.2. Safe Burial.....	1. Yes	2. No	SBURIAL
6.3.3. Distancing.....	1. Yes	2. No	DISTANCE
6.3.4. Symptoms.....	1. Yes	2. No	SYMPTOMS
6.3.5. Prevention.....	1. Yes	2. No	PREVENTION
6.3.6. Behaviour Change.....	1. Yes	2. No	BCHANGE
6.3.7. Clinic Services.....	1. Yes	2. No	CSERVICES
6.3.8. Malaria .....	1. Yes	2. No	MALARIA
6.3.9. Mixing of Chlorine and Handwashing.....	1. Yes	2. No	MCHLORINE
6.3.10. Diarrhea.....	1. Yes	2. No	DIARRHEA
6.3.11. Typhoid and Chlorea.....	1. Yes	2. No	TYPCHLOREA
6.3.12. Addressing Stigma.....	1. Yes	2. No	ADSTIGMA
6.3.13. Reintegration of EBOLA Victims.....	1. Yes	2. No	REINTVICTIMS
6.3.14. Early Warning Systems For Ebola.....	1. Yes	2. No	EWSEBOLA
6.3.15. Other 1.....	1. Yes	2. No	OTHER 1
6.3.16. Other 2.....	1. Yes	2. No	OTHER 2

6.4.1. Ranked the following EBOLA messages that you received from PCI EC 3 with the one that affected you the **MOST** and Caused a change in your behaviour as the topmost? ( from 1-16)

1. Ebola Awareness.....	
2. Safe Burial.....	
3. Distancing.....	
4. Symptoms.....	
5. Prevention.....	
6. Behaviour Change.....	
7. Clinic Services.....	
8. Malaria.....	
9. Mixing of Chlorine and Handwashing.....	
10. Diarrhea.....	
11. Typhoid and Chlorea.....	
12. Addressing Stigma.....	
13. Reintegration of EBOLA Victims.....	
14. Early Warning signs For Ebola.....	

15. Other 1.....  
 16. Other 2.....


6.5.1. Where did you received PCI EC 3 EBOLA Campaigns? (Check all that is applicable)

6.5.1.1. Radio Broadcast.....	1. Yes	2. No	RADIOCAMP
6.5.1.2. Poster .....	1. Yes	2. No	POSTERCAMP
6.5.1.3. Pamphlet.....	1. Yes	2. No	PAMCAMP
6.5.1.4. One-on-one with GCHVs.....	1. Yes	2. No	GCHVCAMP
6.5.1.5. Other.....	1. Yes	2. No	OTHERCAMP

6.6.1. Did any of the PCI EC 3 campaigns influence you to change your behaviour?

1. Yes	2. No	9.NA	EBOLACAMP
--------	-------	------	-----------

6.7.1. Which of the EBOLA campaign mediums affected your behaviour the MOST?

1. Radio Broadcast	MOSTCAMP
2. Poster	
3. Pamphlet	
4. One-on-one with GCHVs	
5. Other	
6. Not Applicable	

6.8.1. Could you kindly state three of the behaviour changes that have occurred in you as result of the PCI EC3 BOAL awareness Campaign?

1.....  
 2.....  
 3.....

6.8.1. Are the following available in your household or community as a result of EC 3? (**OBSERVE**)

6.3.1. Health Education Posters and Flyers.....	1. Yes	2. No	EBOLAWARE
6.3.2. Clean Latrine.....	1. Yes	2. No	SBURIAL
6.3.3. Mosquito Nets in used.....	1. Yes	2. No	DISTANCE
6.3.4. Handwashing Facility.....	1. Yes	2. No	SYMPTOMS
6.3.5. Clean environment.....	1. Yes	2. No	PREVENTION
6.3.6. Clean Water.....	1. Yes	2. No	BCHANGE
6.3.7. Clinic Services.....	1. Yes	2. No	CSERVICES

**7.0. Section E: Knowledge and Awareness of EBOLA**

**7.1. What causes Ebola?**

- 7.1.1. Virus.....
- 7.1.2. Bats/Monkeys/Chimpanzees/Other Animals
- 7.1.3. Witchcraft.....
- 7.1.4. Evil Doing.....
- 7.1.5. Curse.....
- 7.1.6. Sunshine/Weather.....
- 7.1.7. Other1: \_\_\_\_\_
- 7.1.8. Other2: \_\_\_\_\_

1. Mentioned	2. Not mentioned

- VIRUS
- BATS\_ANIMALS
- WITCHCRAFTS
- EVILDOING
- CURSE
- WEATHER
- OTHER 1
- OTHER 2

**7.2. Can someone get Ebola and survive?**

- 1. Yes
- 2. No

**7.3. Have you ever heard of Ebola?**

- 1. Yes
- 2. No

**7.4. Can you name three signs and symptoms of Ebola?**

- 1. ....
- 2. ....
- 3. ....

**7.5. Do you know how a person can get Ebola?**

**(Select all that apply.)**

- 1. From a person who is infected but doesn't have any signs or symptoms
- 2. Eating/preparing bush meat
- 3. Eating wild fruits likely eaten by bats
- 4. Touching the blood of an infected person
- 5. Touching Sperm of an infected person
- 6. Shaking hands or other physical contact with an infected person
- 7. Other fluids from an infect person
- 8. Other specify \_\_\_\_\_

**7.6. Do you know how a person can prevent getting Ebola? (Select all that apply.)**

- 1. Don't touch the skin or body fluids of people sick with/who have died from Ebola
- 2. Cook food very well
- 3. Use mosquito net
- 4. Bathing someone that has died with signs and symptoms of Ebola
- 5. Other (specify) \_\_\_\_\_

**7.7. Do you think you or someone in your family could get Ebola?**

- 1. Yes
- 2. No

## **8.0. Section F: Stigmatization**

**8.1.** Do you know people who had Ebola?

1. Yes
2. No

**8.2.** If there is a person who survived Ebola, when he/she come back to your community, how would they be regarded/treated?

1. No differently than they had always been treated
2. Community members would not engage with them(wash with them, eat with them or visit them)
3. They would be welcomed back and appreciated
4. They would not be allowed into the community

**8.3.** Can people who survived Ebola make others sick?

1. Yes
2. No

## **9.0 Section G: gCHV Role in the Community**

**9.1.** Have you been seeing the gCHVs working in your community?

1. Yes
2. No

**9.2.** How often do you see the gCHVs working in your community?

1. Daily
2. Weekly
2. Monthly
4. Not Applicable

**9.3.** What does the gCHV in your community normally discuss with the community members?

(Select all that apply.)

1. Ebola prevention and control
2. Malaria and prevention (using mosquito net)
3. Clinical services
4. Diarrhea
5. Typhoid & cholera
6. Vaccination(deworming, polio & measles)
7. Cleanliness of environment(toilets, surrounding, etc)
8. Hygiene (Hand washing, etc)
9. Nutrition (food and its nutrients)

---

**END OF FORM. CHECK YOUR FORM AND THANK THE STUDY PARTICIPANT**

## Appendix B: Focus Group Discussions (FGDs) with Intervention Community Members Guide

### FOCUS GROUP DISCUSSIONS (FGDS) WITH INTERVENTION COMMUNITY MEMBERS

---

**Instruction:** Kindly identify Intervention Community Members and conduct 2 FGDs per District. First FGD should be among a group of EC3 female beneficiaries and they should be between 8 to 10 members. The second FGD should be among a group of EC 3 male beneficiaries and they should be between 8 to 10 members. Kindly use the voice recorder to record every detail of the FGDs after the informed Consent Processes and ensure notes are also taken.

---

1. Could you kindly tell me what your professional/demographic background is?
2. What would you do if you encounter someone in your community who is sick? What do you see others do? **Probe**
3. Have you noticed any changes in your community since Ebola came to Liberia? **Probe**
4. Do you think community members are prepared to fight infectious diseases in (name of community)? Why or why not? **Probe**
5. Were the GCHV in your community helpful? If yes how, if no why? **Probe**
6. What do you think the biggest challenge will be for your community and individuals in your community to remain disease-free? Why? **Probe**
7. What are some of the most important things you have learned this year about keeping your community safe and healthy? **probe**
8. What do you know about the PCI Emergency Community Care Center (EC 3) Project?
9. What did the PCI EC 3 project do in your community? **Probe for the PCI EC 3 activities and package**
10. Has PCI EC3 been efficient and effective in responding to EVD emergency response? **Probe for timeliness and appropriateness of the interventions. Probe for reasons why PCI EC 3 was efficient and efficient if YES Probe for reasons why PCI EC 3 was not efficient and efficient if NO**
11. How has the behavior of the community members' change as a result of PCI/EC3 community level interventions? **Probe for specific BCC interventions/Messages and what worked and what did not worked. Probe for each of the following:**
  - **Community trainings and outreach.**
  - **Strengthen community resilience and preparedness.**
  - **Support for reintegration of Ebola survivors.**
  - **Support cross-border initiatives.**
12. Have you observed and Specific behavior changes? **Probe for the behavior changes observed?**
13. Has there been any changes in your health facilities in the areas of infrastructure, supplies, clinical staff capacity and service quality as a result of PCI implemented EC 3

interventions? **Probe for each, e.g. infrastructure, supplies, clinical staff capacity, quality of service, etc,**

**Probe for the following:**

- **How safe do health facility staff feel to respond to suspected Ebola cases?**
  - **How prepared do they feel now as compared with before the crisis?**
  - **What activities were most useful in increasing their preparedness?**
  - **Did they receive adequate tools/training to respond?**
  - **If not, how did they handle it?**
  - **Did they implement any of their own solutions?**
14. Has there been any community events or campaigns to strengthen resilience or preparedness from EC 3? **Probe for Specific events and campaigns**
  15. What do you know about the objectives of the EC 3 project?
  16. Do you think the EC3 project results have been achieved? If not why? If yes how? **Probe**
  17. What are some of the successes of the PCI EC3 project in your community? **Probe**
  18. What are some of the challenges the PCI EC3 project in your community?
  19. What lessons you learned from the PCI EC3 project?
  20. What changes in terms of behavior have occurred in your community as result of the PCI EC3 Project? **Probe for changes such as health behavior changes, disaster preparedness, EVD awareness, etc.**
  21. What are the MOST Significant changes in terms of behavior that have occurred in your district as result of the PCI EC3 Project?
  22. Did your community derived any benefit from the EC 3 project? **Probe**
  23. How did your community benefitted from the EC3 project. **Probe**
  24. Do you think these benefits are sustainable? Why? **Probe**
  25. What will you say are some the best practices of the PCI EC3 project? **Probe**
  26. What do you think is the best role for gCHVs during an EVD outbreak? What do you think? **Probe for the most appropriate and effective role of gCHVs and activities of gCHVs during and an EVD outbreak.**
  27. What are your recommendations/Suggestions for a similar project? **Probe**

## **ANNEX I: KEY INFORMANT INTERVIEW (KIIS) WITH GENERAL COMMUNITY HEALTH VOLUNTEERS (GCHVS) GUIDE**

**Instruction:** Kindly identify two General Community Health Volunteers (GCHV) in each district and conduct this Key Informant Interview (KII) on one-one and use the voice recorder to record every detail of the interview after the informed Consent Processes.

- 
1. Could you kindly tell me what your professional background is?
  2. What do you know about the PCI Emergency Community Care Center (EC 3) Project?
  3. What did the PCI EC 3 project do in your district? **Probe for the PCI EC 3 activities and package**
  4. Has PCI EC3 been efficient and effective in responding to EVD emergency response? **Probe for timeliness and appropriateness of the interventions.**

5. **Probe for reasons why PCI EC 3 was efficient and efficient if YES**
6. **Probe for reasons why PCI EC 3 was not efficient and efficient if NO**
7. How has the behavior of the community members' change as a result of PCI/EC3 community level interventions? **Probe for specific BCC interventions. Probe for each of the following:**
  - **Community trainings and outreach.**
  - **Strengthen community resilience and preparedness.**
  - **Support for reintegration of Ebola survivors.**
  - **Support cross-border initiatives.**
8. Have you observed and Specific behavior changes? **Probe for the behavior changes observed?**
9. Has there been any changes in your health facilities in the areas of infrastructure, supplies, clinical staff capacity and service quality as a result of PCI implemented EC 3 interventions? **Probe for each, e.g. infrastructure, supplies, clinical staff capacity, quality of service, etc, Probe for the following:**
  - **How safe do health facility staff feel to respond to suspected Ebola cases?**
  - **How prepared do they feel now as compared with before the crisis?**
  - **What activities were most useful in increasing their preparedness?**
  - **Did they receive adequate tools/training to respond?**
  - **If not, how did they handle it?**
  - **Did they implement any of their own solutions?**
10. Has there been any community events or campaigns to strengthen resilience or preparedness from EC 3? **Probe for Specific events and campaigns**
11. What do you know about the objectives of the EC 3 project?
12. Do you think the EC3 project results have been achieved? If not why? If yes how?
13. What are some of the successes of the EC3 project in your district?
14. What are some of the challenges the EC3 project in your district?
15. What lessons you learned from the EC3 project?
16. What changes in terms of behavior have occurred in your district as result of the EC3 Project? **Probe for changes such as health behavior changes, disaster preparedness, EVD awareness, etc.**
17. What are the MOST Significant changes in terms of behavior that have occurred in your district as result of the PCI EC3 Project?
18. Did your district derived any benefit from the EC 3 project? **Probe**
19. How did your district benefitted from the EC3 project. **Probe**
20. Do you think these benefits are sustainable? Why? **Probe**
21. What will you say are some the best practices of the PCI EC3 project? **Probe**
22. What do you think is the best role for gCHVs during an EVD outbreak? What do you think? **Probe for the most appropriate and effective role of gCHVs and activities of gCHVs during and an EVD outbreak.**
23. Did gCHVs received training from PCI EC 3 project? **Probe for all supports received.**
  - **Was training/support sufficient? Probe for all supports received**

- What could be done better? **Probe for all supports received**
24. In your professional opinion, do you see opportunities for similar programs in future? **Probe**
25. What are your recommendations/Suggestions for the similar project? **Probe**

### **INDEPTH INTERVIEW (IDIS) WITH COUNTY MEDICAL OFFICERS OR REPRESENTATIVES**

**Instruction:** Kindly identify the County Medical Officer or his/her representative and conduct this in-depth interview (IDI) on one-one and use the voice recorder to record every detail of the interview after the informed Consent Processes.

- 
1. Could you kindly tell me what your professional background is?
  2. What do you know about the PCI Emergency Community Care Center (EC 3) Project?
  3. What did the PCI EC 3 project do in your county? **Probe for the PCI EC 3 activities and package**
  4. Has PCI EC3 been efficient and effective in responding to EVD emergency response?
  5. How has the behavior of the community members' change as a result of PCI/EC3 community level interventions? **Probe for specific BCC interventions. Probe for each of the following:**
    - a. Community trainings and outreach.
    - b. Strengthen community resilience and preparedness.
    - c. Support for reintegration of Ebola survivors.
    - d. Support cross-border initiatives.
  6. Have you observed and Specific behavior changes? **Probe for the behavior changes observed?**
  7. Has there been any changes in your health facilities in the areas of infrastructure, supplies, clinical staff capacity and service quality as a result of PCI implemented EC 3 interventions? **Probe for each, e.g. infrastructure, supplies, clinical staff capacity, quality of service, etc,**
  8. Has there been any community events or campaigns to strengthen resilience or preparedness from EC 3? **Probe for Specific events and campaigns**
  9. What do you know about the objectives of the EC 3 project?
  10. Do you think the EC3 project results have been achieved? If not why? If yes how?
  11. What are some of the successes of the EC3 project in your county?
  12. What are some of the challenges the EC3 project in your county?
  13. What lessons you learned from the EC3 project?
  14. What changes in terms of behavior have occurred in your county as result of the EC3 Project? **Probe for changes such as health behavior changes, disaster preparedness, EVD awareness, etc.**
  15. What are the MOST Significant changes in terms of behavior that have occurred in your county as result of the PCI EC3 Project?
  16. Did your county derived any benefit from the EC 3 project? **Probe**
  17. How did your county benefitted from the EC3 project. **Probe**
  18. Do you think these benefits are sustainable? Why? **Probe**

- 19.** What will you say are some the best practices of the PCI EC3 project
- 20.** In your professional opinion, do you see opportunities for similar programs in future?
- 21.** What are your recommendations/Suggestions for the PCI EC3 project?

Appendix C. Cluster Analysis Details: Make-up of the 6 clusters using Centroid Method

**Age**

Centroid Method			Frequency	Percent	Valid Percent	Cumulative Percent
.	Valid	26-39	1	25.0	25.0	25.0
		Over 40	3	75.0	75.0	100.0
		Total	4	100.0	100.0	
1	Valid	Under 25	44	41.9	41.9	41.9
		26-39	55	52.4	52.4	94.3
		Over 40	6	5.7	5.7	100.0
		Total	105	100.0	100.0	
2	Valid	Over 40	69	100.0	100.0	100.0
3	Valid	Under 25	30	40.0	40.0	40.0
		26-39	45	60.0	60.0	100.0
		Total	75	100.0	100.0	
4	Valid	26-39	28	40.6	40.6	40.6
		Over 40	41	59.4	59.4	100.0
		Total	69	100.0	100.0	
5	Valid	Under 25	41	80.4	80.4	80.4
		26-39	10	19.6	19.6	100.0
		Total	51	100.0	100.0	
6	Valid	26-39	5	100.0	100.0	100.0

**Educational level**

Centroid Method			Frequency	Percent	Valid Percent	Cumulative Percent
.	Missing	System	4	100.0		
1	Valid	Primary school	79	75.2	75.2	75.2
		Middle/continuation	26	24.8	24.8	100.0
		Total	105	100.0	100.0	
2	Valid	None	69	100.0	100.0	100.0
3	Valid	None	75	100.0	100.0	100.0
4	Valid	Primary school	12	17.4	17.4	17.4

		Middle/continuation	36	52.2	52.2	69.6
		Technical/commercial	21	30.4	30.4	100.0
		Total	69	100.0	100.0	
5	Valid	Middle/continuation	15	29.4	29.4	29.4
		Technical/commercial	35	68.6	68.6	98.0
		University	1	2.0	2.0	100.0
		Total	51	100.0	100.0	
6	Valid	University	5	100.0	100.0	100.0

### Sex

Centroid Method			Frequency	Percent	Valid Percent	Cumulative Percent
.	Valid	Female	1	25.0	25.0	25.0
		Male	3	75.0	75.0	100.0
		Total	4	100.0	100.0	
1	Valid	Female	69	65.7	65.7	65.7
		Male	36	34.3	34.3	100.0
		Total	105	100.0	100.0	
2	Valid	Female	42	60.9	60.9	60.9
		Male	27	39.1	39.1	100.0
		Total	69	100.0	100.0	
3	Valid	Female	42	56.0	56.0	56.0
		Male	33	44.0	44.0	100.0
		Total	75	100.0	100.0	
4	Valid	Female	7	10.1	10.1	10.1
		Male	62	89.9	89.9	100.0
		Total	69	100.0	100.0	
5	Valid	Female	43	84.3	84.3	84.3
		Male	8	15.7	15.7	100.0
		Total	51	100.0	100.0	
6	Valid	Male	5	100.0	100.0	100.0