



Public Health Emergency Preparedness Pilot
Project in Bipemba District, Kasai-Oriental
province, Democratic Republic of Congo
Pilot Year 1 Evaluation

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EXECUTIVE SUMMARY

INTRODUCTION

In October 2018, CARE began implementation of a pilot project focused on enhancing risk communication and community-based surveillance (CBS) in Bipemba district, Kasai-Oriental province in the Democratic Republic of Congo. CARE's approach in Kasai aims to enhance the existing surveillance system¹ by utilizing CARE program platforms and engagement approaches at the community-level to explore attitudes and norms related to disease transmission. The CBS structure also planned for 10 CBS Focal Points in each of the six health areas responsible for the rapid reporting of events to the Bipemba health district (BCZ) office. The aim of these efforts is to support prevention, early detection and control of disease (including but not exclusive to cholera) and to support safer, more relevant continuation of CARE programs in its operational areas.

In May/June of 2019, CARE conducted an evaluation to better understand the effectiveness of the pilot project to contribute to public health emergency preparedness, including prevention, early detection and response, as perceived by project participants. The evaluations also explored the motivation and other factors that can support the sustainability of the project and recommendations for strengthening CARE's public health emergency preparedness approach.

METHODS

The evaluation consisted of a rapid qualitative investigation of program stakeholders through a series of key informant interviews and group discussions. Participants included actors who have been working closely with the project and who have responsibilities linked to early detection and prevention of infectious disease as follows:

CARE Project Officer based in Mbuji-Mayi (n=1)

Nurses/health facility staff working in the project health zone areas who are also responsible for submitting disease surveillance data (n=6)

Staff members from the district ministry of health (BCZ) (n=4)

Community-based Surveillance Focal Points (n=32)

Data collection took place over 3 days in June 2019, headed by a CARE USA staff member and a local data collector. All discussions were conducted in either French or Tshiluba, according to the comfort of participants and with their full consent. Notes and interview recordings were analyzed by an independent third party consultant and synthesized for this report.

RESULTS

¹ Both WHO and MSF rely on community health workers (the *Relais Communautaires - ReCos*) to support CBS. WHO shared that they compensate ReCos working in identified 'hotspot' areas during an outbreak to support case finding and reporting but for limited periods of time only. MSF did not provide details on their engagement with the ReCos, but it is assumed that they rely on the reporting of prioritized disease symptoms to the health facilities. The structure supported by CARE aligns with this as many ReCos were selected as CBS FPs but also aims to enhance this system by encouraging reporting of events and aiming to ensure that the District Health office is notified along with health facilities.

Community norms, attitudes and behaviors contributing to disease spread - Respondents named a series of existing community norms or behaviors that could be contributing to the spread of infectious disease. Lack of hand washing behavior is viewed as a central cause of infection as is non-use of latrines, leaving food uncovered, consuming animals that have died of unknown causes and using stagnant wash basins to wash hands. The lack of readily accessible, clean water and sufficient latrines are a significant contributor to unhygienic behaviors. Detrimental cultural beliefs and practices include a suspicion of chloramine tablets as being poisonous, reliance on traditional methods of care once a family member has fallen ill, and improper handling of expired bodies during the burial process.

Roles, responsibilities and implementation of the emergency preparedness pilot system - The evaluation verified the steps in the emergency preparedness program and the roles and responsibilities of each actor. Results showed an effort to integrate the CBS process into existing health system structures by including nurses at the local health facility and the district health office as part of the alert and investigation process. The CBS-FPs act as front-line support for community sensitization and reporting disease alerts, while CARE provided technical training and supervision, coordination support and material supplies.

Perceived results of the emergency preparedness pilot project - When asked about the perceived outcomes of the CBS pilot, participants named the following benefits:

Community members exhibited improved hygiene behaviors such as increased latrine building and use, use of water tablets and jerry cans for drinking and hand-washing and a decline in harmful burial practices

CARE staff measured a decline in cholera cases from n=80 at the start of the pilot to n=0 by the time of evaluation

Community members were most willing to engage with and utilize formal health care services at the facility

Coordination between CARE, the BCZ and other local and international partners was improved, for example with a measles vaccination campaign.

The CBS system was proven effective in capturing additional diseases events such as measles and malnutrition

Implementation challenges and volunteer motivations - Participants were asked to share challenges specifically related to operating the program, and not general challenges associated with disease spread (as was already captured in section one of this report). There were several major operational issues of the pilot program:

Lack of transportation and communication mechanisms put undue burden on CBS-FPs when communicating disease alerts to the BCZ

Compensation for health workers and volunteers is low and may affect motivation and performance, particularly for health facility staff who have a separate full-time position

Lack of sufficient health care services and supplies to treat patients once a disease event is identified

Lack of sufficient services and supplies for identified disease patients

Lack of basic safety and operational equipment for CBS-FPs

The original list of events to be reported may also be too broad and unspecific, leading to an overwhelming number of “false alarms.”

Despite the challenges, CBS-FPs report a high level of motivation to do their work, stemming from their desire to help their community and the visibility and training that they receive.

Suggestions for improvements - Respondents shared some of their suggestions for improving the emergency preparedness system in future iterations. These included more training of CBS-FPs and training for BCZ and health providers in emergency response; more communication, transportation and supplies to improve CBS-FP reporting; refinement of the event list to be more specific and less sensitive; and the inclusion of financial incentives, particularly for health care staff.

LESSONS LEARNED

The pilot project is promising for early detection of emerging diseases and should be considered for continued funding and scale-up to other communities.

CBS-FPs are capable and motivated to facilitate an emergency preparedness system and act as an effective bridge to the community for engagement and sensitization.

Integrating BCZ and health facilities into the CBS process helps strengthen the overall health system and local capacity for emergency preparedness.

The support of CARE staff was critical in the overall success of the pilot.

The CBS-FP pilot should be continued and scaled-up for use in detecting multiple health events, but any additional alerts should be specific and not overly sensitive.

Future projects should review and revise the chloramine tablet strategy to ensure affordability and increase uptake.

The list of events to report should be refined and clarified to include only those alerts that would require investigation by BCZ or other oversight bodies.

Communication and transportation are critical elements that make the CBS system run; future programming should consider providing CBS-FPs with phones and credit as well as protective supplies/equipment (boots, umbrellas, etc) and bicycles for transportation.

Poverty is an enormous issue that affects much of the community and underlies many of the harmful norms and behaviors that lead to disease spread.

INTRODUCTION

CARE International is one of the world's largest humanitarian organizations fighting global poverty working in over 90 countries. As a humanitarian organization, CARE is committed to supporting emergency preparedness and response in the areas of food and nutrition security; sexual and reproductive health and rights; shelter; and water, sanitation and hygiene.

In 2017, CARE was awarded a 5-year grant to enhance capacity and preparedness to improve rapid responses to public health emergencies (PHEs). In line with CARE's strengths of having lasting relationships with governments and local partners and deep networks at the community level, CARE has aimed to leverage these networks to contribute to high quality, rapid public health responses.

In October 2018, CARE began implementation of a pilot project focused on enhancing risk communication and community-based surveillance (CBS) in Bipemba district, Kasai-Oriental province in the Democratic Republic of Congo. The pilot project is implemented in a province where CARE supports a sexual and reproductive health program and has utilized similar community-based approaches to explore attitudes and norms related to disease transmission and implement an approach to enhance CBS. The district where the pilot takes place experienced a cholera outbreak from February 2018 to January 2019. The outbreak in the larger Kasai Oriental province is ongoing.

CARE's (CBS) approach in Kasai is informed by global guidance² and aims to enhance the existing surveillance system³ by utilizing CARE program platforms and engagement approaches at the community-level. The CBS structure planned for 10 CBS Focal Points in each of the six health areas. CBS FPs were responsible for the rapid reporting of events to the Bipemba health district (BCZ) office.

The aim of these efforts is to support prevention, early detection and control of disease (including but not exclusive to cholera) and to support safer, more relevant continuation of CARE programs in its operational areas.

The pilot project's two main objectives are to enhance:

1. Prevention of disease through community engagement by drawing on CARE's approaches to participant-led, accountable and gender-sensitive programming
2. Community-based surveillance to improve detection of and response to emergency events

In May/June of 2019, CARE conducted an evaluation to better understand the effectiveness of the pilot project to contribute to the project aims.

² *Framework for Event-based Surveillance (draft, 2018)*. Africa CDC.; *Integrated Diseases Surveillance and Response in the African Region Community-based Surveillance (CBS): Training Manual (2015)*. WHO.

³ Both WHO and MSF rely on community health workers (the *Relais Communautaires - ReCos*) to support CBS. WHO shared that they compensate ReCos working in identified 'hotspot' areas during an outbreak to support case finding and reporting but for limited periods of time only. MSF did not provide details on their engagement with the ReCos, but it is assumed that they rely on the reporting of prioritized disease symptoms to the health facilities. The structure supported by CARE aligns with this as many ReCos were selected as CBS FPs but also aims to enhance this system by encouraging reporting of events and aiming to ensure that the District Health office is notified along with health facilities.

The evaluation aimed to assess:

- The pilot project's contribution to public health emergency preparedness, including prevention, early detection and response, as perceived by project participants.
- The extent to which the project was structured and supported to meet project objectives
- Motivation and other factors that can support the sustainability of the project
- Recommendations for strengthening CARE's PHE preparedness approach and integrating PHE preparedness into other CARE programs and contexts

METHODOLOGY

The evaluation consisted of a rapid qualitative investigation of program stakeholders through a series of key informant interviews and group discussions. Due to a variety of access and timing issues (further explained below), some participants slated for KIIs were included in group discussions instead. Participants included actors who have been working closely with the project and who have responsibilities linked to early detection and prevention of infectious disease as follows:

- CARE Project Officer based in Mbuji-Mayi (n=1)
- Nurses/health facility staff working in the project health zone areas who are also responsible for submitting disease surveillance data (n=6)
- Staff members from the district ministry of health (BCZ) (n=4)
- Community-based Surveillance Focal Points (n=32)

Data collection took place over 3 days in June 2019, headed by a CARE USA staff member and a local data collector. All discussions were conducted in either French or Tshiluba, according to the comfort of participants.

As all interview participants were active members of the CARE-supported project, they were verbally explained the purpose of the discussion and gave their oral consent for participation. As part of the consent, participants were informed that their participation is entirely voluntary and there would be no negative consequences from choosing not to participate. They were also informed of the purpose of the evaluation and that their insights will be used to better understand how the project is supporting the community and identify ways for improvement.

With participants permission, the discussions were audio-recorded. In addition to the audio-recording, the CARE-USA staff member, with the assistance of a local translator, took detailed notes on the discussion for later analysis.

All notes and recordings were then submitted to an independent 3rd-party evaluator, who performed a rapid analysis of the results for the purposes of this report. The analysis included collating and categorizing the data according to the predetermined set of themes generated through the data collection tool design process. Findings were then shared with the CARE staff who participated in data collection to validate the relevance and accuracy of the analysis.

RESULTS

Community norms, attitudes and behaviors contributing to disease spread

Participants were asked about existing community norms or behaviors that could be contributing to the spread of infectious disease. Respondents named a series of issues related to hygiene, access to clean water, and religious or cultural norms.

Nearly all respondents named a lack of hygienic behavior as a major source of infectious diseases spread. The lack of hand washing behavior in particular is viewed as a central cause of infection and may be due to an absence of knowledge on proper hygiene procedures, limited access to hand washing kits or difficulties related to obtaining clean water. Poor sanitary conditions also contribute to poor hygiene behaviors, as some people do not use latrines or consume food or water that is left uncovered and potentially exposed to infectious agents. People may also consume animals that have died of unknown causes. In cases where wash basins or jerry cans are available, they may be overshared or overused and become a point of disease spread. Likewise, with latrines, although their use in this community is slowly increasing, not everyone has access and there may be overcrowding at latrine points.

The lack of readily accessible, clean water is a significant contributor to unhygienic behaviors. Clean water points can be located long distances from most households, there can be long waits for access, and many people in the community cannot afford to pay for water or soap. The prohibitive nature of clean water access leads many to use unsanitary river water for drinking or household duties. In a group discussion with CBS-FPs, participants noted:

“It’s a problem of lack of water and buying soap. People don’t have money to buy water and soap. Also, it’s a long distance to get the water. Can be 1-2 hours round trip to travel. There can also be long lines. You can leave at 8a and return at 3p.” – CBS-FP

“Those without money go to the river...People use the river water which is dangerous. Some take the river water and just drink it, without treating it.” – CBS-FP

There are a number of cultural belief or practices that may also contribute to disease spread within these communities. Although sensitization around clean water and access to water sterilization pills has increased due to the CARE-supported program, some community members do not treat their drinking water due to misconceptions that the pills are poisonous. The lack of education around proper health procedures is common in this community and was also noted in cases of other diseases such as measles. As one local nurse said:

“Some people do not respect vaccination schedules, especially for measles...the health facility has enough [vaccines] but some people are not coming. The first reason for refusal is lack of education” - nurse

This same type of ignorance or skepticism towards modern medicine leads to a reliance on traditional methods of care once a family member has fallen ill, further increasing the risk of

morbidity, mortality or disease spread. Religious beliefs may also prevent community members from using preventative measures such as vaccines or accessing formal health care in a timely manner:

“Some people are used to using a traditional medication. The traditional medication, they don’t know how to use. There’s no indication. The problem with traditional medicine is they’re treating without knowing the cause. For example, a child can be treated with a traditional medicine and it is responsible for many deaths in the community.” – CBS-FP

“You know, speaking of norms, there are some churches that don’t accept vaccines. They say their children are already vaccinated by god” - nurse

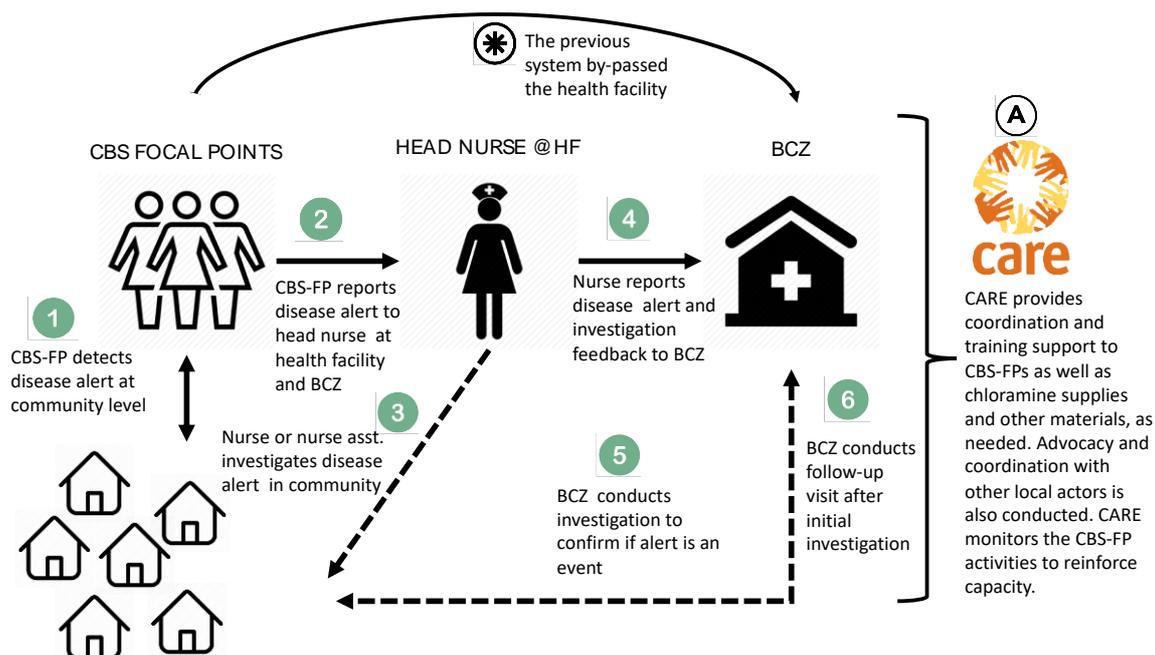
Unsanitary religious or cultural practices further exacerbate the threat of disease spread; the handling of expired bodies is a particular source of potential infection. In this community, a common practice is to wash the body of a dead family member with many members of the community handling the body prior to burial. In cases where the death may be unexplained or where witchcraft is suspected, people close to the deceased person will be asked to drink the water used to wash the body to detect who may be “responsible” for the death. If someone falls ill due to drinking the cadaver water, they are accused of having a hand in the death.

Roles, responsibilities and implementation of the emergency preparedness pilot system

As part of the evaluation, we wanted to verify the emergency preparedness system in terms of the individual roles and responsibilities of each party in the original systems and to describe the sequence of activities once an event is detected. We also wanted to document additional activities taking place at the community, facility or district level to support improved attitudes and behaviors to prevent disease spread.

We asked all participants to describe their roles and responsibilities in the project and to describe the program implementation. Figure 1 depicts the process by which the community is surveilled, how alerts are sent up through the health system and the role of CARE in the overall process. Table 1 provides a summary of the roles and responsibilities of each actor in the project. The community-based detection and reporting activities follow roughly these sequences of steps:

Figure 1: Current implementation scheme of the emergency preparedness pilot project in Bipemba



- 1) Community-based surveillance focal points routinely survey the community by doing house-to-house visits. Each CBS-FP is assigned a specific street or neighborhood to inspect on a weekly basis. The CBS-FPs also receive information from community members (who themselves may have noticed odd behavior or suspected health events) and investigate them as potential emergency events.
- 2) Once an alert⁴ (Figure 2) is detected, through routine visits or community informants, the CBS-FPs report the alert to the health facility and BCZ. Alerts are also recorded in the CBS-FP logs. Due to the cholera outbreak, all cases of diarrhea described in the local language as ‘running like a river’ are reported to the health facility. CBS-FPs are also responsible for ensuring that alerts are reported to the BCZ.

In addition to locating and reporting alerts, the CBS-FPs provide sensitization and education on good hygiene practices to the community during house-to-house visits and through group dialogues. CBS-FPs are also sellers/distributors of chloramine tablets. Examples of sensitization activities include:

- Advising on hand washing practices both at home, after latrine use and in public
- Educating on the link between an unclean environment and disease and how to keep the home compound clean
- Teaching people to cover food and water sources and to keep eating implements clean to avoid spread of disease by flies
- Asking people not to drink water just taken from the stream without boiling it or treating it with chloramine tablets

⁴ At the start of the project, CARE collaborated with BCZ, health facility staff and CBS FPs to create a list of 5 prioritized alerts, captured in Figure 2, below. The list was informed by global guidance including the Africa CDC Framework for Event-Based Surveillance (2018).

- Educating on use of latrines and sanitary latrine practices and asking them to educate their children in the same ways
 - Discouraging unsafe cultural practices such as drinking water from a washed cadaver
 - Encouraging the reporting of disease to health facilities and use of formal health care (over traditional methods)
- 3) The head nurse at the local health facility acts as the next link in the emergency alert chain. She receives the emergency alert directly from the CBS-FP and is the first to launch an investigation in the community.
- 4) Whether or not the head nurse detects an epidemic case from what the CBS-FP has reported, she will still report the alert to the BCZ, which acts as a validation mechanism for the health facility investigation. Health facility personnel also report any passive suspected cases of measles, cholera, yellow fever or Ebola that they detect during patient visits directly to the BCZ.

Health providers at the facility level also coordinate with and contribute to sensitization activities at the community level through their work with CBS-FP and CHWs.

- 5) Once the alert reaches the BCZ, they will analyze information provided by the health facility and investigate to confirm if an alert is or is not an event. The head nurse or her nurse assistant then investigates the alert and reports the alert to BCZ. Whether or not the nurse determines that the alert was a disease event, the BCZ will still come to investigate the alert. If the alert is confirmed to be a public health event, the BCZ will work with CBS-FPs to sensitize the community on how to prevent the spread of the epidemic. Sensitization is done house by house with the aim of preventing disease spread.
- 6) After the sensitization activities have been conducted, the BCZ conduct follow-up visits to see if the advised practices are being put into use. If not, they may conduct additional sensitization or education activities in coordination with the CBS-FPs and health facility.
- A. CARE provides a variety of support to the emergency preparedness program, namely training and coordinating the CBS-FPs; creating links between the BCZ, CBS-PFs and health facilities; providing a one-time free supply of chloramine tablets (with a plan to help procure additional supplies for CBS FPs to purchase at a low cost); providing lamps for stretchers (called a 'local ambulance') to be able to deliver patients to the health facility at night; conducting advocacy workshops for local civil society organizations, community leaders and sanitary authorities; coordinating programming with other local and international NGOs operating in the vicinity; and monitoring activities to identify points for additional capacity building or material supply, where appropriate.

* During the implementation process an important adaptation was made to the alert relay system. Initially, the CBS-FPs would report cases directly to the BCZ and only notified the health facilities, effectively by-passing the health facilities in the alert process. During the early stages of roll-out, implementors determined that in order to properly embed the emergency

preparedness system within the existing health system, it is essential to include the local health facilities as a step in the reporting process. Thus, the head nurse at the local health facility was charged with receiving alerts from the CBS-FPs directly and being part of the investigation and reporting chain to BCZ.

Figure 2: List of 5 events to report within the CBS system

<p>LISTES DES EVENEMENTS A NOTIFIES</p> <p>PROJET: CDC. PHE/ KASAI - SURVEILLANCE A BASE COMMUNAUTAIRE DES EPIDEMIES</p> <ol style="list-style-type: none"> 0. Pas d'évènement 1. Un ménage ou plus d'un ménage ayant des personnes présentant des cas de diarrhée, Fièvre, hémorragie, éruption issue d'un même quartier, de même école, même lieu de travail (marche), même Eglise qui apparaissent brusquement 2. Toute cérémonie funéraires avec consommation d'eau du cadavre a eu lieu dans mon quartier 3. Toute augmentation anormales des utilisateurs d'eau de la Rivière 4. Toute augmentation inexplicable de décès d'animaux domestique dans mon quartier 5. Tous cas de décès qui apparaissent dans plusieurs ménages ou plusieurs décès dans un même ménage dans mon quartier <p>OCTOBRE 2018</p>	<p style="text-align: center;">LIST OF EVENTS TO REPORT</p> <ol style="list-style-type: none"> 1. One or more households with two or more people presenting with diarrhea, fever, or hemorrhage that suddenly occurs within a neighborhood, school, same place of work, same church 2. Any funeral ceremony with water consumption from a (washed) cadaver that took place in my neighborhood 3. All notable increases in the normal utilization of river water 4. All increases in unusual death of domestic animals in a community* 5. Cases of unknown death that appear in more than one household or more than one death that appears in a single household*
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Overall, the emergency preparedness system appears to be functioning according to the planned design and creating potential for a self-sustaining system that is integrated into the existing health care framework and has strong procedures for detection, reporting and confirmation of disease events. The role of the CBS-FPs is the backbone of this system; as one CBP-FP put it:

“The role of being a FP is to be a bridge between the community & HFs. In that way, the information from the communities can reach the HF & BCZ. It’s a bridge, we take information to the HFs & BCZ and also bring information back to the community. We serve as the bridge.” – CBS-FP

Table 1: Roles and responsibilities of actors in the emergency preparedness pilot project

 Community-based Surveillance Focal Points	 Health Facilities (head nurse)	 BCZ	 CARE
<ul style="list-style-type: none"> - House-to-house visits - Alert detection/signaling 	<ul style="list-style-type: none"> - Receive alert signals from CBS-FPs - Report alerts to BCZ 	<ul style="list-style-type: none"> - Receive alerts from health facilities - Analyze alert reports 	<ul style="list-style-type: none"> - One-time supply of chloramine to CBS FPs - Training of CBS-FPs

- Sensitization/ education activities	- Investigate alerts from CBS-FPs	- Confirm public health events (e.g. cholera, measles)	- Advocacy workshops for civil society, community leaders and sanitary authorities
- Sale/distribution of chloramine	- Coordinate with FPs/CHWs for sensitization activities	- Conduct/coordinate sensitization, in case of epidemic event	- Support for coordination/integration of BCZ, CBS and health facility activities
- Recording and reporting all visits/activities	- Receive, diagnose and treat disease cases (passive surveillance)	- Conduct follow-up visits on any community-level investigations	- Provision of lamps for stretchers/local ambulances
	- Refer emergency cases to higher-level facilities		- Coordinate with other initiatives (WHO cholera vaccination campaign)

Perceived results of the emergency preparedness pilot project

Participants were asked to share any changes or improvements they noticed in hygiene behavior, disease detection or other areas related to the emergency preparedness program. They mentioned a number of changes in the areas of improved hygiene behavior, reduction in cholera cases, integration of the CBS process into the existing health care system, increased utilization of health care services and detection of additional diseases. CARE support was also credited with increasing coordination among the different part of the existing health care system and with other local and international partners working in the area. Respondents attribute these positive changes in hygiene behaviors, program coordination and health care outcomes directly to the pilot project.

Improved hygiene behaviors

One of the most significant changes perceived by the participants is in improved hygiene behaviors following the implementation of the pilot project. In particular, a number of respondents noted improved latrine use, following project initiation. More community members appear to be building and using latrines, and the CBS-FPs are even working with landlords and local leaders to ensure improved zoning and access to latrines for all community members. Not only is there a higher demand for latrines, but CBS-FPs noted improvements in proper upkeep and cleanliness of latrines and of hand-washing after latrine use.

“In the beginning, it was not the culture for people to have latrines. Thanks to our community sensitization, we try to show people the advantage of having a latrine at home and how it is dangerous to use the latrines of the neighbor. Some landlords did not allow some tenants to build/dig their own latrine on their compound. So we advised tenants to talk to their landlords about building a latrine. If the landlord doesn’t agree, the person can ask the village chief to talk to the landlord. So for some tenants, they

didn't know that they could have a latrine. Now, landlords know that people have the right." CBS-FP

"For latrines, there is a big change. A big percentage of the people now have latrines (at their homes). I observe that the latrines are kept clean. Also people are washing their hands after leaving the latrines. So now we can see the latrines are clean and we have a big number of latrines in this community. So this is the result of the work of the project and the fruit of the community-based surveillance and sensitization" – CBS-FP

Beyond just latrine use, participants also observed changes in handwashing behavior, use of water treatment tablets and jerry cans and the use of flowing water sources for handwashing (as opposed to wash basins):

"There is a mentality change. You know people are going to get water (from the river) and they just drink it. Now people are treating with ¼ a tablet in a 20L jerry can, wait 15 minutes, then drink. This is a change." - CBS-FP

"Before people were washing in the same basin (stagnant water). Now people are using flowing water." - CBS-FP

"Before the sensitization, there was this open defecation. Now this has changed, people are not continuing with that behavior. This is a big change in the community. For example, washing hands before eating, this is another change. People are now washing hands before eating. Also treating water with chloramine. This was not done before." - CBS-FP

There have also been noted changes in cultural practices that may have been contributing to disease spread, such as the drinking of water used to wash a dead body. This change is attributed directly to the presence of and work of CBS-FPs within the community:

"People don't drink the water used to wash dead bodies. For example, my neighbor was initiating the practice of drinking the water to wash the dead body, but someone stopped him saying that an FP said it was a bad practice, he was pointing at me, and no one drank it." - CBS-FP

Elimination of Cholera

The system also worked to detect and eliminate the original target disease, cholera. According to local CARE staff, over the course of the project, the reported cases of cholera went from 80 in Bipemba to currently zero cases, demonstrating the impact of the project on disease spread prevention. Furthermore, CARE provided lamps for the stretchers (used as local ambulances) so that cholera cases could be transported to the health facility after sundown (which previously was not possible due to uneven terrain and lack of light)

"The curve of cholera has changed. When we started it was 80 cases, then down to 29, now zero in Bipemba." – CARE staff

Integration of CBS-FPs and health system strengthening

One of the key successes of the pilot project was in integrating the CBS-FPs into the existing health system as means of improving detection and reporting of disease events. Prior to the project, community health workers played a hand in reporting diseases; but with a lack of training and mandate, the reporting times were slow and recording of the cases was inconsistent. Through their outreach and sensitization efforts, CBS-FPs have also engaged the community and integrated them into the reporting activities, strengthening the connection and trust between the health system and the community. The project also adapted its approach to ensure health facilities are included as a step in the disease detection and reporting route and integrate the district-level ministry of health into the process as a means of respecting and strengthening the existing health system.

“Before this project, surveillance was done between community health workers and health facilities. It is the project that has integrated BCZ, so with CARE, we are working in a transparent way. We are recording (our alerts). Before with the CHWs, we did not know what was being recorded/reported.” - CBS-FP

“CBS-FPs are considered as strengthening the system. It fits within the system. You know it fits in the system and is strengthening as it helps the alerts to be faster.” – BCZ member

“We as focal points (FPs) have integrated others – neighborhood/avenue leaders, church leaders and different community members.” - CBS-FP

The BCZ and CARE also included the CBS-FPs into other outreach work that they are doing, as a means of integrating them into broader community-level activities, extending the reach of the project and engaging community members in more meaningful ways. By participating in other outreach activities such as vaccination campaigns, CBS-FPs’ are also able to earn additional money.

“When we are doing activities like the distribution of mosquito nets, we include the CBS FPs in this work. We also included CBS FPs in the cholera vaccine campaign. So we integrate them in the different vaccination programs [like malaria and cholera]. - BCZ

[On International Women’s Day] we even invited women from BCZ and women from the community to attend the event. For the province, the subject was the implication of women in public services. We took advantage of that day to do the promotion of chloramine as women are the ones collecting water and in charge of the drinking [supply]. We also took advantage of that time to show that every woman is responsible for surveillance in the community. So that if all are aware, they can all report. – CARE staff

Improved health care utilization

CBS-FP also credited the project with an increase in community engagement around issues of health care. The result is not only changes in hygiene behaviors, but also an increased use of health facility care by community members.

“With this project, the engagement with the community has become stronger. Now we have a badge and a bag and people know we are here for work. Before we had no badge and were not welcome in people’s homes. Now they recognize us and we are welcomed in” – CBS-FP (also a CHW)⁵

“We have seen – thanks to the CBS-FPs, we are seeing many cases at the health facilities” nurse

“Now with the sensitization, we taught people that anytime you don’t feel better, you should go to the health facility, not treat yourself with traditional medicine. Now people say they don’t have means. Then we say, suppose this child dies. How will you buy a coffin. They see it is better to go to the health facility than to bury a child. With this explanation, we convince them to go to the health facility.” - CBS-FP

“Another change is many people are now coming to the HFs. People now know how to keep the latrine clean, how to cover food. You see for example, people suffering from TB. Before, they didn’t know how to detect. Now, they are detecting and send them to the HFs.” - nurse

Improved coordination with partners

Through their support for the project, CARE created links with local groups and other international partners working in the Bipemba region to coordinate hygiene and health efforts aimed at tackling underlying contributors to disease spread. CARE advocated with local authorities and community leaders to encourage them to dig and clean latrines for the community. CARE also worked with Mediciens san Frontiers and the Red Cross to coordinate efforts to improve treatment of drinking water and change dangerous cultural practices such as drinking water from a dead body. As the local CARE project coordinator stated:

“CBS FPs were giving the alert of cholera cases early to BCZ. Then BCZ shares the alerts with other partners, such as MSF who would come and disinfect the environment/house” – CARE staff

Detection of additional diseases

Although the emergency preparedness pilot started during the cholera outbreak, the process was proven effective in early detection of other health issues in the community such as a measles outbreak and malnutrition among children. CBS-FPs did not originally recognize or understand what measles was, but they noticed some odd cases of illness and reported them to the BCZ. As a result,

⁵ This CBS-FP also worked as a CHW in the same community and was comparing her experience in the CBS-FP program to that of the CHW program, citing the improved reception of CBS-FPs and overall engagement from the community.

an investigation was launched, and more cases of measles were quickly located and confirmed by the BCZ, which then sent the patients to health facilities for treatment. The BCZ and CBS-FPs worked together to educate the community on isolating measles cases and CARE and BCZ worked with other international partners to coordinate a measles vaccine campaign. Although the vaccination campaign has stalled due to a local health care worker strike, this example shows the potential of the CBS-FP program to go beyond its original scope. As one CBS-FP said:

“CBS makes an impact because we were going to each house. Because with surveillance, we are not limited to just sickness but any event. You know what I detected, I record, I go to the HF and then I don’t stop. I then go to BCZ. It is during CBS that we discovered measles in the community.” – CBS-FP

Implementation challenges and volunteer motivations

The evaluation captured a number of challenges faced by implementors of the emergency preparedness pilot project. Participants were asked to share challenges specifically related to operating the program, and not general challenges associated with disease spread (as was already captured in section one of this report). They identified several major operational issues during pilot program: transportation and communication of diseases alerts from CBS-FPs to BCZ, compensation for health workers and volunteers, lack of sufficient health care services and supplies for identified disease patients, and a lack of basic safety and operational equipment for CBS-FPs. The original list of events to be reported may also be too broad and unspecific, leading to an overwhelming number of “false alarms.” Despite the challenges, CBS-FPs report a high level of motivation to do their work, stemming from their desire to help their community and the visibility and training that they receive.

Transportation/communication

The strength of the pilot project is in capturing real-time diseases alerts at the community level and reporting them up to the health facility and district level for rapid investigation. However, limitations in transportation and communication methods impeded the ability of BCZ and health workers respondents to reach all cases in a timely manner and placed an undue burden on CBS-FP volunteers, who were often reporting cases to the BCZ office or health facility on foot. The project did not provide material goods such as mobile phones, phone credit or transport vehicles, which participants noted could have helped improve operations:

“When there’s an event, we need to go but we have a problem of transport. Sometimes, you can have 3 alerts and you don’t have means to go to the 3 places.” - BCZ

“Also, there may be an immediate alert. The FP may have no phone or phone without a credit which could delay the reporting of the alert. It can take time to find the head nurse. Can also find the head nurse and this person may also not have [phone] credit. [It would be] good if the CBS FP has a phone to report directly.” - BCZ

“As we said, we need to communicate, it means phones and phone credit. Community health workers don’t receive credit and 1 in 10 have a phone” - nurse

Compensation and financial incentives

Participants in this project were given coordination and training support, but only a small financial incentive for participation. This low level of compensation may have affected motivation, particularly in the case of health care workers who are expected to conduct community-level investigations in addition to their routine daily workload. As the local CARE project coordinator noted:

“The biggest challenge to supporting the CBS-FPs was the financial motivation. Because before our project, there were some other partners in that area who paid better. We say that the FP is only a volunteer. And chief nurse was supposed to accompany FPs in the community to investigate the notification but since they were not compensated, they were hesitant to do this.” – CARE staff

Lack of health care services and supplies

A critical function of the CBS-FPs and the emergency preparedness system in general is to identify and refer diseases cases to the health facilities for further care. However, a few participants noted issues of health care access at the point of care. In some cases, the health facility may not have the proper medicines or equipment to care for the referred patient, while in other cases, the patients cannot afford the health care fees thus discouraging community members from attempting to seek formal care.

“There were cases that the FPs were taking to HFs but then they came to see that the HFs do not have all the means to treat – this was another challenge. This created some resistance in the community as they saw that they would sometimes go to the HFs and they could do nothing with them. They need malaria kits, something to treat malnutrition, also vitamin A, etc. Even some medicines to treat simple diarrhea are not there.” - CARE staff

“A treatment kit is also a problem. Can identify an illness but don’t have the tools/treatment to treat. This is an overall problem.” – BCZ staff

“They sensitize people to come to the HF. More are coming to the HFs but then when they are asked to pay a fee, many leave. We wish the HF would have some project support, like medications, treatment kits and financial motivation for the nurses (like the FPs receive)” – nurse

The lack of supplies also affects the CBS-FPs in their daily work, as several mentioned a dearth in hand washing kits as a serious challenge. Furthermore, CBS-FPs themselves lack basic equipment such as protective boots, masks, bags and stationary supplies to ensure their safety and comfort when they are making visits throughout the community. Even the BCZ does not have computers for recording and tracking alerts and keeps all records by paper and pen. One nurse also noted the lack of sufficient numbers of trained CBS-FPs or community health workers to monitor the wellness of the whole community.

“We work a lot, the [financial] motivation is not enough. We ask to advocate to increase the financial motivation. Also need to have phones, rain coat, bags (larger book bags to carry the register book, etc), boots, umbrellas, bikes (for transport), pens/office kit, loud speaker, photo-based [information, education, communication] materials for community sensitization.” – CBS-FP

“And another challenge is our FPs did not have equipment to protect themselves when they were going into the community. They were meeting sick people but did not have protection.”- CARE staff

“One of the biggest challenges, we don’t have a computer to keep the data. Don’t have a good place to organize them (they are paper records). Papers may not be well kept.” – BCZ staff

“The first challenge is that many community health workers are not trained. We have CHWs but CARE has trained only 10 people for a population of 20,000 people. This is not enough.” – nurse

Overly-broad list of health events

Participants noted that the current list of alerts to report (Figure 2) is too broad and vague and may capture too many items that are not considered emergencies. This, in turn, creates a burden on CBS-FPs to report every single alert (often on foot) and creates more work for BCZ and health providers to review and analyze reports. In its current form, CBS-FPs interpret the list to include events such as mild fevers or observations of community members drinking river water. While these are incidents that should be recorded and reported through the health system in a routine manner, they do not warrant the type of immediate reporting and investigation that CBS-FPs and BCZ are currently obligated to conduct. In many cases, BCZ will just advise the CBS-FPs to return to the village and give simple instructions or sensitization; but even this level of interaction can be time-consuming and overwhelm the small number of CBS-FPs in the community.

“FPs were notifying on many cases so think we need to reduce the work for them. For example, paralysis (polio) cases – they were reporting but this is not on the list.

Sometimes they would notify and BCZ would say this is already known/confirmed.” – CARE staff

“When people are short of water and you see people going to the river (for water/drinking water – untreated). In this case, we will report and BCZ will only give instructions on how to promote on the use of chloramine” – CBS-FP

CBS-FP motivations

Despite the challenges of the project, CBS-FPs shared their motivations for working as volunteers in their communities. Many of them noted a sense of purpose and a love for their community as a principle factor for their participation. They are buoyed by the response and engagement of the community in sensitization and preparedness activities and by seeing positive behavior changes among community members. CBS-FPs also appreciate the knowledge and awareness they obtained as a result of their training. In particular, they are grateful for the support that they receive from the CARE and the local project coordinator.

“The love of the community. We don’t want to see people dying. That is our biggest motivation.” – CBS-FP

“This project has taken us out of ignorance of the realities of many illnesses. Thanks to this project, we’re aware.” – CBS-FP

“What I appreciate in this project is training because training brings us knowledge and helps us do this work comfortably” – CBS-FP

“We also appreciated Nathan. We had a very good collaboration and we appreciate that.” – CBS-FP

Suggestions for improvements

Respondents shared some of their suggestions for improving the emergency preparedness system in future iterations. These suggestions included more training of CBS-FPs and training for BCZ and health providers in emergency response; improved communication, transportation and supplies; refinement of the event list to be more specific and less sensitive; and the inclusion of financial incentives, particularly for health care staff.

More training of CBS-FPs, training for BCZ/health providers

Both CARE staff, BCZ and nurse respondents highlighted the need for additional training support not only to increase the number of trained CBS-FPs in the community but also to train health care workers and BCZ on disease event responses. Only 3 BCZ staff were trained in the first round, which led to delays on reporting and investigation.

“In BCZ, there were 10 members but only 3 were trained by CARE. Only the 3 BCZ members could sign (the other 7 would not as they said they weren’t trained by CARE). So sometimes the FPs could not find the right person to sign or were waiting a long time.” – CARE staff

Additional training of BCZ and health providers could also help distribute response and sensitization duties among the different actors, rather than putting the sole burden of surveillance, reporting and sensitization on the CBS-FPs. By training the nurses and BCZ on response management, the project can also improve event notification and response time as well as treatment strategies for epidemic control once they have been confirmed.

Improved communication, transport and supplies

Respondents again emphasized the difficulties in relaying disease events and making timely house visits without access to mobile phones, phone credits and transportation. Furthermore, CBS-FPs noted the need for more hand wash kits to distribute in the community. Chloramine, though available for purchase through CBS-FPs at half the local market price (100 francs per tablet versus 200 francs per tablet, respectively), may still be out of reach for some community members. The CARE staff suggested lowering the prices even more (to 3 tablets for 100 francs) to encourage their uptake. At present, stocks of chloramine tablets are not moving at expected rates.

Refining the event list

In cases of events that are mild or non-emergency, BCZ would advise CBS-FPs to return back to the community on their own and advise the community members directly (rather than BCZ making a visit). However, during this process, CBS-FPs were still obliged to trek the distance to BZ (often on foot), creating an undue burden for the volunteers. Under the current model, the list is too sensitive (triggering constant reporting) and non-specific (unable to distinguish between emergency and non-emergency events). A suggestion was made to modify the CBS-FP alert reporting list to only those items that would trigger immediate reporting to BCZ or health facilities and require investigation. Removed items could be shifted to a second list of non-emergency concerns to note to inform topics for community sensitization. This would not only reduce the reporting burden on the CBS-FPs but could also reduce the workload for BCZ and the health providers to review reports and determine the need for investigation.

Financial incentives

A few respondents noted the need for financial incentives for all levels of participants: BCZ staff, health providers and CBS-FPs. The program currently does not provide substantial financial incentives and only provides a modest incentive to CBS-FPs (5 USD per month), which may be demotivating for certain participants. In particular, health providers seem to need motivation to do the investigative work associated with the emergency preparedness program which is in addition to their daily responsibilities. It should be noted that in this region of the DRC, salary payments to

health providers are often delayed and may exacerbate their need for financial incentives when participating in additional activities outside of their normal duties (Figure 3).⁶

Figure 3: Sign in health facility window indicating a worker strike due to salary delays (May 2019)



LIMITATIONS

This rapid assessment provides a glimpse into the success of the CARE-supported public health emergency preparedness pilot in Bipemba District, Kasai-Oriental province, Democratic Republic of Congo. However, the use of qualitative methods limits the generalizability of these findings to other participants/areas of Bipemba where the pilot may have been operating. Furthermore, the lack of comparison group data makes it difficult to attribute changes in hygiene behaviors and disease events solely to CARE's project. That said, the interviews and discussions involved those actors who work most closely with the communities, and their perspectives and opinions are valuable in understanding the overall performance of the pilot.

LESSONS LEARNED

- **The pilot project is promising** for early detection of emerging diseases and should be considered for continued funding and scale-up to other communities. During the pilot project period, not only were cases of cholera reduced to from 80 to zero during the

⁶ During the period of evaluation, health care workers were on strike and surrounding the Ministry of Health in protest. Due solely to CARE's positive relationship with health care workers and the community, we were able to gather data from health facility employees. However, the fact that human resources management is a chronic issue within the health sector in the DRC can greatly affect the operation of project like this and should be taken into consideration for future design.

intervention, but CBS-FPs were able to identify additional health issues in the community such as measles and malnutrition.

- **CBS-FPs are capable and motivated** to facilitate an emergency preparedness system, able to follow instruction and undertaking the burden of reporting by any means available to them. CBS-FPs also act as an effective bridge to the community, able to raise their engagement and participation in sensitization and reporting activities.
- **Integrating BCZ and health facilities helps strengthen the overall health system** and create validation checks and balances in the emergency preparedness process. By including the health facilities in the reporting process, the project was able to create an additional layer of investigation capability and to increase awareness and utilization of health facility services at the community level. BCZ and health workers were also able to assist in sensitization activities, creating support and legitimacy for CBS-FP efforts.
- The **support of CARE staff was critical** in monitoring and supervising participants, in keeping people motivated, in providing financial and material support and in helping to coordinate activities with other partners in the area (for example with measles) Overall, participants reported high satisfaction with CARE's support, especially that of the local project coordinator in Bipemba.
- **The CBS-FP pilot should be continued and scaled-up** for use in detecting multiple health events, as evidenced by the successful reporting of measles and malnutrition by the CBS-FPs. However, any additions to the **system should be specific and not overly sensitive** so as to reduce the reporting, analysis and investigation burden on the system for non-emergency events.
- Future projects **should review and revise the chloramine tablet strategy**. In this instance, the chloramine tablets may have been priced too high to create a self-generating market within the community; local CARE staff suggest lowering the price of chloramine tablets to encourage uptake by community members and increase CBS-FP motivation by generating a sustainable source of income. Further investigation with community members, volunteers and local suppliers is necessary to determine the correct pricing for chloramine tablets.
- The list of **events to report should be refined and clarified** to include only those alerts that would require investigation by BCZ or other oversight bodies. Although the premise of the project was to let the community lead in developing the alert list, and it was the community who developed the initial list of events, there should be opportunities for testing and refining the list as the project is rolled out to ensure the list is as responsive as possible to the contextual needs.
- **Communication and transportation are critical elements** in enabling timely reporting and investigation in any emergency preparedness system. In an impoverished area such as Bipemba, most CBS-FPs do not have phones or phone credit, which creates a great burden on them to travel on foot to the BCZ or facilities to report events. Future programming might consider providing phones and credit to enable rapid communication and reduce pressure on CBS-FPs, as well as providing protective supplies/equipment (boots, umbrellas, etc) and bicycles for transportation.

- **Poverty is an enormous issue** that affects a much of the community and underlies many of the harmful norms and behaviors that lead to disease spread. Furthermore, many of those working for the pilot project themselves are impoverished or under economic burden. It is important to consider this burden when asking participants to provide their time and dedication without offering financial incentives.

The CARE-supported public health emergency preparedness pilot in Bipemba District, Kasai-Oriental province, Democratic Republic of Congo shows that an integrated and well-supervised approach to community-based surveillance can be effective in identifying diseases events and improving health behaviors and outcomes at the community level. This approach, however, should coordinate with existing health system mechanisms and other area health partners, when possible.