Concern Worldwide

External Evaluation
Concern Worldwide Sierra Leone's Emergency Response to 2012 Cholera Outbreak

Sarah Hughes, November 2012

'Safiatu is a young single mother with two under 5s. She is paying her first visit to the family planning clinic in Grey Bush, Freetown. She knows that cholera kills and had a home visit from a Blue Flag volunteer who explained that faeces, dirty hands and a dirty environment cause cholera. She takes responsibility for her family and washes her and her children's hands and her home carefully but struggles with the shared latrine in her compound because it is dirty. She drinks tap water but it is not chlorinated. Her children have not had diarrhoea lately. She uses a bednet but she fears scabies, malaria, coughs and chicken pox.'

Acknowledgement: Many Concern Worldwide staff in Dublin and Sierra Leone have provided the basis for the findings in this report and I am grateful for their interest and expertise.

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Acronyms

BFV	Blue Flag Volunteer
C4/CDC	Centre for Disease Control
CEO funds	These are unrestricted funds made available by the Chief Executive Officer
CERF	UN/OCHA Central Emergency Response Fund
CFR	Case Fatality Rate
CSP	Community Surveillance Programme
DDPC	Department of Disease Prevention and Control
DHMT	District Health Management Team
DMO	District Medical Officer
GOSL	Government of Sierra Leone
MOHS	Ministry of Health and Sanitation
ORP	Oral Rehydration Point
ORS	Oral Rehydration Solution
PEER plan	Preparedness for Effective Emergency Response plan
PLHA	Persons Living with HIV/AIDS
PHU	Peripheral Health Unit
SHAPE	Sustained Health Actions through People's Empowerment
SMC	School Management Committee

1 Executive Summary

Sierra Leone is not a disaster prone country but it has endemic cholera. The major cholera outbreak during 2012 has brought into sharp focus the debilitating effects of extreme levels of poverty and the inadequacy of the country's infrastructure and health services.

Concern Worldwide conducted a sizeable multi-sectoral response to the cholera outbreak. The main objectives of the response were to reduce cholera cases and the case fatality rate (CFR). Concern Worldwide began responding in about mid-July in rapid response to requests from the District Health Management Teams in both of its areas of operation, that is 10 poor sections of Freetown and the 6 poorest chiefdoms of Tonkolili District. This was well before the government's declaration of emergency, however the range of interventions was not full scale until the third week of August when 50% of cases had already occurred (according to UNICEF). The activities continued in these areas until the end of October (with certain activities continuing into November). It has been calculated that 216 deaths were avoided through the combined cholera interventions of the government of Sierra Leone and the international community.[1]

Concern Worldwide's most successful activity was widespread social mobilisation, training a total of 2,279 volunteers (1280 women and 999 men) in the Freetown and Tonkolili target areas and reaching 190,789 beneficiaries (95,895 women, and 94,894 men) with hygiene promotion and community sensitization messages. Secondly, support to the DHMTs in Freetown and Tonkolili Districts was vital as they were so under-resourced. Logistical support was provided to back up the gathering of important surveillance data at community level, and PHUs (20 in Tonkolili District) were provided with ORS and sanitation kits. The water treatment activities were relevant though they should have been started earlier; they consisted of bucket chlorination in Freetown which reached 71,178 (36,301 females and 34,877 males) beneficiaries. Also, NFI kits were distributed to households and selected schools in both Freetown and Tonkolili Districts (80% of households in the selected urban areas were targeted and 60% of households in the selected rural areas (the latter target was surpassed)). It is estimated that an impressive total of 182,864 beneficiaries (87,808 women and 95,056 men) were reached in Tonkolili district, and whilst the distributions should have been started earlier they were accompanied by important cholera sensitization messages; the combined activity helped reinforce the all-important messaging for long term cholera prevention.

A total of €803,745 was obtained from a number of donors for this response: Concern Worldwide CEO funds, DFID/RRF,UNICEF/CERF, Irish Aid/ERF, and DFID/Urban WASH project. Expenditure was well controlled and monitored even though staff capacity was stretched at times. In-country staff were redeployed from their long term programmes and a total of 12 additional short term staff were brought in from Dublin and external recruitment supplemented vital functions including logistics and finance.

Overall, Concern Worldwide's response made a tangible impact. It contributed to keeping case fatality rates (CFR) down in both operational areas. In Freetown the CFR peaked at 4.4 in Wk 27 (first week of July) and dropped to the 1.0 alert level and then consistently below that level from Wk 33 (third week of August) onwards which corresponded to the start of Concern Worldwide's period of full intervention. In Tonkolili District, the CFR peaked at 7.5 in Wk 32 (second week of August) and

[1] DFID epidemiological expert. However there is also a general observation that cases, and perhaps deaths, were under reported generally.

dropped to the 1.0 alert level and then consistently below from Wk 37 (second week of September) onwards. Here Concern Worldwide's early efforts may have had a more decisive impact. The improved capacity of communities in target areas, and of GOSL facilities, to respond to cholera and prevent its further spread were all effective. In Tonkolili District the number of new cases in the target chiefdoms dropped sharply one week to 10 days after Concern Worldwide had started NFI distributions there. The range of interventions was appropriate and the inclusive community targeting that was in general used covered vulnerable groups. The total beneficiary figures show that women and girls were reached in roughly equal numbers to men and boys which was appropriate. There was ample evidence from all respondents including children that they had become well aware of the importance of hygienic practices especially in the home, and were practising them as much as was feasible.

Concern Worldwide experienced a number of challenges – both internal and external -which reduced the extent of the impact. The major one, poor timing of case fatality reducing measures, was a more or less universal feature of the overall response to the outbreak and not Concern Worldwide's alone. Timing will be improved in future if better preparedness plans emphasise the importance of supplying cholera treatment kits to PHUs and ORPs as early as possible in an outbreak, together with water treatment measures. According to staff respondents, the initial phase of Concern Worldwide's response was hectic because of lack of experience with cholera combined with normal programming responsibilities; there were also external weaknesses such as the government's late declaration of emergency and donors consequent slow mobilising of resources. Concern Worldwide's limited capacity to carry out rapid assessments in the early weeks was one of the reasons why community and beneficiary targeting suffered. On the programmatic side, the effectiveness of the distribution of NFIs, particularly in Tonkolili District, was compromised by confused targeting and lateness, though the accompanying sensitization on the prevention of cholera was reinforced by this material activity. The NFI distribution in Tonkolili District was ambitious given the limited staff and logistical capacity. Finally, weaknesses in Concern Worldwide's application of the country PEER plan, and weaknesses in national and international coordination of the overall response to the outbreak compromised efficiency.

Many lessons are being learnt from this response. The most crucial is to continue the successful preventive messaging to ensure sustainable behaviour change through mainstreaming it into regular programmes. Secondly, the period up to the end of January 2013 is vital for putting in place the preparedness plans which were so absent in 2012. The ultimate effectiveness of the response will be measured in light of this follow through, at all levels from communities to the international community. Concern Worldwide should prepare a Country Cholera Preparedness Plan which draws on its strengths and implements lessons drawn from the challenges of the 2012 response. The plan should sit within an updated and reactivated PEER plan. The internal process should be supplemented by external advocacy to the Government of Sierra Leone for more commitment to effective cholera management and prevention, and to the international UN and donor institutions for more rapid response and better coordination. Such cross-cutting preparedness will be the only way to manage cholera outbreaks in Sierra Leone in the long term, first by reducing case fatality rates to the minimal levels obtained in other countries, and second by working towards its eradication.

2 Basic information

2.1 Nature and treatment of cholera

The findings and recommendations in this report are based on an understanding of the nature of cholera which is summarised in the extracts from Oxfam's cholera guidelines, June 2012 (Annexes 1 and 2.) Most crucially, Oxfam divides the curve of a typical cholera outbreak into four response phases (see Annexe 2). Two essential elements stand out, first the importance of prevention and preparedness activities on a permanent basis, and second the importance of reducing the case fatality rate in the second upward phase of the outbreak through containment in active areas and pre-emptive preventive activities in at-risk non-affected areas. The findings in this report assess Concern Worldwide's response against these two essential elements and find that prevention was a strength of Concern Worldwide's response, whereas early containment of case fatalities was limited.

It is recommended to keep a copy of the Oxfam guidelines, together with other basic reference material such as SPHERE guidelines, in the Country Office at all times. It was observed that in the case of the 2012 outbreak no one in the Country Office had prior experience of responding to a cholera outbreak, and basic information had to be sought which was stressful at a time when rapid response was vital.

2.2 Nature of cholera in SL and the significance of the 2012 outbreak

Cholera is an endemic disease in Sierra Leone. Cholera outbreaks occur in different parts of the country every few years. However, the 2012 outbreak was different, it was the largest cholera outbreak reported in Sierra Leone since 1970. It began with reports of cases of acute watery diarrhoea in Port Loko, Kambia and Pujehun in February, an unusual time of year for this to occur. Further cases began to be reported from different Districts from June onwards. However it wasn't until August 16th 2012, that the Government officially declared a public health emergency as the outbreak had spread to 12 out of 13 districts in the country. As of 7th November 2012, 22,503 cases of cholera had been officially reported nationwide and 293 deaths had been confirmed. High case fatality rates were reported in many Districts and were difficult to control; they had not been brought consistently below the action threshold of 1.00% nationally by the time of the present evaluation in mid-November.

The 2012 cholera outbreak is not a major epidemic by global standards but it shocked the government, people and international community in Sierra Leone. The curve of the national, Western Area and Tonkolili outbreaks (case fatality rates and case incidence rates) are attached in Annexe 2. The national curve shows the unusual rise in fatalities and incidence in February 2012 which threw the government off course, followed by an early peak but continued high rate of fatalities, together with a fairly standard curve in incidence which peaked in early August. The Western Area (Freetown) curve is similar to the national curve. The Tonkolili curve is a week or two behind the national curve, with a high case fatality rate peaking at 7.5% in the week beginning August 6th (Week 32).

Though Sierra Leone is not a disaster prone country (when compared to say Bangladesh) it is rather the debilitating effects of its continuing extreme levels of poverty[2] that have been brought into

[2] Sierra Leone is 180 out of 187 countries in the UN Human Development Index.

sharp focus by the cholera outbreak and given it high prominence. Countries with regular outbreaks (such as Bangladesh or neighbouring West African countries such as Ghana) have a minimal case fatality rate (CFR) compared to SL so bringing cholera under better control is of the highest priority.

Moreover the 2012 outbreak has been politically sensitive in an election period. The November 17 elections in Sierra Leone are seen by many commentators as a pivotal moment in the country's progress. According to the World Bank, Sierra Leone's economic growth for 2011 was 6 % ; and foreign investors are continuing to move in particularly to the mining and industrial agriculture sectors (eg. ADDAX who is growing sugar cane for bio-ethanol in Tonkolili District). Donors are waiting to see what the outcome of the elections will be before deciding whether to shift their support from that designed for a failed state to that of a stable, developing country (source : International NGO respondent). The outcome of the decision, though generally positive for the country, could have the contradictory effect of scaling back further those UN institutions which are present with an emergency or post-conflict profile, thereby exposing continuing gaps in capacity for emergency response.[3]

The challenges of long term development remain huge and no more so than in the water and sanitation sector where currently only 55% of the population have access to clean water, and only 13% have a latrine (GOSL Cholera Emergency Preparedness and Response Plan for Sierra Leone, 2011). Failure to meet national water and sanitation targets will negatively impact Sierra Leone's ability to achieve the other MDGs. So Concern Worldwide's WASH programme is well targeted in this sector.

3 Evaluation methodology

The evaluation focused on the appropriateness, timeliness, efficiency and effectiveness of the interventions carried out, and attempted to extract lessons and recommendations so as to enhance preparedness for future responses.[4]

In the 7 days allowed for the evaluation in the field, three took place in Freetown and three in Tonkolili District (with one day for travelling). Secondary data was provided including proposals, monitoring and verification reports and internal and external reviews. Primary data was gathered through interviews with Concern Worldwide staff, government staff, community volunteers, international stakeholders, local partners, beneficiaries; together with direct observation during site visits. The names of respondents are given in Annexe 8.

In one exercise, a group of four of the most involved staff in Freetown were asked to score their evaluation of the response according to appropriateness, timeliness, level of participation, impact, coordination and systems. Their scores were generally between 3 and 5 (with 0 being the lowest and 5 being the highest score) though timeliness only scored 2.5 according to two staff and NFI distribution only 2 with one of them. The reasons will be discussed below. In Magburaka, 24 staff

[3] This trend has already started : OCHA withdrew in 2004 and UNICEF has developmental rather than emergency response programmes which was problematic for the efficiency of the cholera response.

[4] See TORs for details Annexe 7.

attending the weekly staff meeting were asked to score the overall response from 0 – 5. The majority score (14 staff) was 5 indicating that staff were satisfied with the response made; those choosing 4 (7 staff) did so because, amongst other reasons, they felt staff were not adequately informed or involved in the response; the few choosing 3 (3 staff) did so because they felt the whole response had lacked preparedness and preparation, and that communities had complained about targeting.

4 Findings (incorporating lessons from what went well and what didn't go so well)

4.1 Activities undertaken

4.1.1 Concern Worldwide's country programme overall is well aligned with government policy according to the 2012-2016 Country Strategy. In the health sector Concern Worldwide works closely with the MOHS District Health Management Teams (DHMT) and was approached by them in the early days of the outbreak. Rapid response to emergencies is a core value of the country strategy so the response to the 2012 cholera outbreak must be understood as a necessary response by Concern Worldwide.

4.1.2 Concern Worldwide's response advisedly **concentrated in its operational areas** of Western and Tonkolili Districts. In the Western Area (Freetown) the communities of 10 sections were targeted, and in Tonkolili District the 6 poorest chiefdoms were targeted, with Concern Worldwide taking Kholifa Rowalla, Kunike Barina and Kunike chiefdoms, and Oxfam the other three (Yoni, Malal Mara and Kholifa Mabang). The responses in Freetown and Tonkolili were conducted quite separately and this will be indicated where necessary in the discussion below, but the lessons learnt are common to the whole response and are reported together.

4.1.3 The **overall funding obtained** is Euros 803,745 as follows :

Donor	Amount	Detail
UNICEF/CERF	SLL 220,934,000	Cash and in kind
Irish Aid/ERF	Euros 212,588	
DFID/RRF	£ 319,181	
Concern CEO funds	Euros 200,000	
DFID/Urban WASH project	£ 23,820	Reallocation

The funding enabled a reasonable multi-sectoral response. It represents about 15% of total 2012 country expenditure and is similar in scale to that of the other large INGOS who intervened. Expenditure has been approximately two thirds in Tonkolili District and one third in Freetown ; this is also in line with Concern Worldwide's predominant position in Tonkolili District. Expenditure on the DFID grant in Tonkolili experienced some delays.

4.1.4 Integrated programming is a strategic objective of the 2012-16 Strategy (Strategic Objective 3). The impact of cholera was **cross-cutting** and staff appreciated working together on the response (for

the first time according to one staff member in Tonkolili). Continuing prevention efforts can build on this experience by being mainstreamed across all programmes (see further discussion below).

4.1.5 Concern Worldwide, along with all the other major stakeholders, based their cholera response interventions on **SPHERE standards and guidelines[5].** SPHERE Essential Health Services Standard 3 for the control of communicable diseases begins with the following statement : 'Outbreaks are prepared for, detected, investigated and controlled in a timely and effective manner' (Annexe 9). The following sections discuss in detail the mixed results in terms of meeting the standards. In relation to the overall national response, several indicators (SPHERE 2004 edition) were not met : risk identification was not effective, participatory design did not occur and equitable access to facilities was not achieved because facilities were lacking. The inadequate service provision at state level placed more burden on INGOs such as Concern Worldwide. Concern Worldwide's most effective contribution to meeting SPHERE standards was in delivering hygiene promotion messages to address key behaviours including some misconceptions about cholera. Yet it fell short of a number of the other – demanding – standards. For instance technical difficulties were encountered with the payment of incentives to volunteers which were not universally the same; and also in reaching water treatment standards using aquatabs, because the size of tablet supplied varied across agencies so it was difficult to harmonise accurate dilution instructions. Difficulties such as these are best addressed through constant attention to coordination. [6] The broader challenges regarding for instance timeliness are discussed below.

4.1.6 The Concern Worldwide response can best be described by week in accordance with epidemiological convention[7] :

Weeks 27 – 34 (July/August) : Initial response and gearing up for full intervention.

This period roughly corresponded to the upward phase of the outbreak (see Annexe 4).

MSF and ACF were the first international agencies to respond (with ECHO funding) and had already been managing cases for a number of weeks by the time of the government declaration on Aug. 16th. Concern Worldwide had started to carry out community sensitization 3-4 weeks before the declaration in both Freetown and Tonkolili District in the targeted areas, in response to reports from local clinics.

District level government staff described being caught by surprise by the rapid progress of the outbreak at an unfamiliar time of year. This fact notwithstanding, the health infrastructure at all levels was severely lacking to manage the first cases as needed, especially at PHU level where ORS and IV drips were frequently not in place. Concern Worldwide provided a pragmatic response within its relatively limited means at the time as soon as it could. Concern Worldwide also started using volunteers to conduct community surveillance in all areas from the beginning of August.

[5] See SPHERE Project : Essential Health Services – control of communicable diseases standard 3 : Outbreak detection and response.

[6] Some confusion appears to have been caused when SPHERE standard levels of NFI distribution were increased by the Emergency Coordinator in Tonkolili based on his judgement of high levels of poverty in Sierra Leone. While the judgement may have been appropriate, it may have needed more thorough communication as it seems to have caused confusion amongst some implementing staff.

[7] The graph in Annexe 4 charts these activity periods as Phases in order to compare them with the 4 Phases of cholera response set out in the Oxfam guidelines.

This period was dominated by negotiation with donors, preparation of proposals, and setting up of coordination mechanisms with other actors.

Weeks 34 – 43 (3rd week August/September/October) : Intervention

This period roughly corresponded to the lag phase of the outbreak (see Annexe 4).

Full multi-sectoral intervention began as soon as funds were available. Concern Worldwide responded with community sensitization, water treatment, provisions to clinics, distribution of NFIs to communities and schools in the Freetown area; and community sensitization, provisions to clinics and schools, and distribution of NFIs to communities in Tonkolili District. The choice of large scale water treatment by bucket chlorination in the more confined urban area (a total of 118 water points), but not in the rural area was appropriate. All these activities maximised community participation and ownership by using large numbers of trained volunteers (a total of 2279) and also involving local community committees and institutions. A total of close to 200,000 beneficiaries were reached by each of these activities; this met targets. Programme implementation is discussed in the achievements and challenges sections below.

Attendance at coordination meetings was a demanding activity during this period.

Weeks 43 and beyond (November onwards): Transitioning activities and preparedness planning

This period corresponded to the post-outbreak phase of the outbreak (see Annexe 4).

Community sensitization activities ended at the end of October, water treatment in mid-November, and school distributions of NFIs were due to end in the third week of November.

4.1.7 The PEER (Preparedness for Effective Emergency Response) plan which had been prepared by the Sierra Leone Country Office in 2010 following 2 trainings for DRR (Freetown and Magbaraka) and a PEER workshop, included **staffing arrangements**. However to respond to the cholera outbreak, many in-country staff were diverted from their regular duties for a short or longer period. The Emergency Coordinator who arrived in mid-August prepared an organogram (see Annexe 6) which was partly filled by these country staff together with a succession (12 in all) of staff seconded from Dublin or recruited externally.[8]

4.1.8 Concern Worldwide has already achieved a good standard of **monitoring and learning** at the time of the evaluation thanks to the in-country Programme Quality and Monitoring Unit (PQMU)who had already trained field staff, government agents and community stakeholders on monitoring and communicating data as part of the community health monitoring project, before the onset of the cholera outbreak. Monitoring forms were regularly completed, as verified in Magburaka by the external evaluator. Weekly updates were a regular means for informing Dublin of the progress of field activities. Even when they were not regularly provided Dublin continued to feel well informed about the progress of activities. A learning review was organised by the PQMU at the end of October and is reproduced in Annexe 5.

[8] At the time of the evaluation it was not possible to obtain a comprehensive staff list or chronology of staff movement during the period. The HR Manager was away from the office and the existence of records was not known.

4.2 Achievements

4.2.1 It has been calculated that 216 deaths were avoided through the combined cholera interventions of the government of Sierra Leone and the international community.[9] Concern Worldwide contributed to this response, but more particularly to preventing a more prolonged and widespread case incidence through its large scale social mobilisation and focus on preventive messaging .

4.2.2 Concern Worldwide made an **appropriate** choice to intervene in its existing areas of operation as they are amongst the poorest areas in the country and gave Concern Worldwide a head start in terms of access to the affected community. This head start was capitalised on through Concern Worldwide's focus at community level, extending its regular network of community volunteers by training large numbers of new recruits in community surveillance of cholera and also community sensitization on how to prevent and treat the disease, from the beginning of August onwards. These are useful activities throughout the cholera cycle as pre-emptive measures for containing its spread.

4.2.3 The DMO in Freetown, Western Area, and two of the four District Surveillance Officers praised Concern Worldwide's support for **surveillance and reporting**. With the DHMT's very inadequate staff capacity it is only capable of passive surveillance at clinic level (with one vehicle serving 106 PHUs also being a challenge), so Concern Worldwide's use of community volunteers enabled a more active, regular and community level surveillance. However late referral was still the main cause of high case fatality rates in both Freetown and Tonkolili District (according to several MOH respondents in both places) ; once again sensitization about the importance of treating cases in clinics and not at home is revealed as the most effective intervention in the longterm.

4.2.4 Social mobilisation (incorporating all of the community level activities) was the strongest of Concern Worldwide's interventions and helped to contain incidence rates. It involved many more volunteers than other INGOs were able to mobilise[10] (446 were trained in Tonkolili District*)* and was largely effectively carried out. It is a credit to Concern Worldwide's long term programmes in Sierra Leone that they were flexible enough to assign their wide network of field staff, community mobilisers and volunteers to the task of conducting cholera prevention and treatment sensitization campaigns as soon as the first increase in cases was reported by PHUs and DHMTs in Freetown and Tonkolili District. The Blue Flag volunteers in Freetown who are used by the government for health alerts and front line emergency response, and community health workers in Tonkolili District who have the same remit were supplemented by hygiene promoters roughly selected according to capability, and broadly demographically representative (60% men, 40% women and a considerable number of young people). They were trained by Concern Worldwide staff who had to put together training modules using UNICEF and GOSL IEC materials as well as their own ingenuity. Of course this took time in the early days of the response which would have been saved if modules had been available, but it was effective and the training period could even have been extended (according to a staff manager). The WHO/CDC evaluation complimented Concern Worldwide on its social mobilisation.

[9] DFID epidemiological expert. However there is also a general observation that cases, and perhaps deaths, were under reported generally.

[10] Apart possibly from the Red Cross

The large numbers of volunteers spread messages about the nature of cholera, its treatment, and its prevention. Levels of factual knowledge gained during evaluation focus groups seemed quite high, but from the feedback of a few volunteers, some of the messaging was undoubtedly diluted and may not have dispelled the many myths and traditional practices around cholera which are still prevalent. Furthermore, as many stakeholder respondents asserted during the evaluation, a 3 month intervention may be enough to change practice, at least in the short term, but it is most unlikely to be sufficient for long term behaviour change. Continuous repeating of core messages over a far longer period will be necessary for that. In the meantime Concern Worldwide's social mobilisation already effectively deployed a variety of media to reinforce messaging, for example pictorial handouts and posters, drama, discussion, radio.

Linking in to community structures was an effective and sustainable way of reinforcing the messaging. In Freetown Concern Worldwide organised the volunteers through employing zonal leaders who were paid an incentive (20,000 Le per day) and liaised with different community structures such as the WDC, CDMC, and WASH committee. In Tonkolili District headmasters were trained, and headmen and SMC members were associated with the distributions; this was effective and in future even more could be done to engage other community leaders such as religious leaders, traditional healers and women's group leaders.

4.2.5 Concern Worldwide's close relationship with the DHMTs is also a strength. It has already been mentioned in relation to community surveillance and it also facilitated a first line of contact for ministry staff for **logistical and other vital support**. Thus in both Freetown and Tonkolili District Concern Worldwide used what limited means it had to purchase ORS solution and drips for certain PHUs, and gave much needed logistical support to DHMT surveillance officers, including vehicles and fuel, and phone credit, throughout the course of the outbreak.

4.2.6 Concern Worldwide's **water treatment** intervention in Freetown was well planned and conducted in all locations served. Bucket chlorination at 118 water points in Freetown was a recommended strategy for the most effective water treatment for the highest number of at-risk households; though the random testing carried out by the urban WASH consortium during its mid-term review of the Freetown response found that only 58.5% of the water tested had the required level of .5mg/L free residual chlorine. However, the alternative, providing aquatabs to households, is more expensive and even more subject to misuse.

Aquatabs was a more practical option for immediate results in the rural areas of Tonkolili District though, and the 'medicine' was much appreciated by beneficiary respondents during the evaluation: 'water shines now' according to one. Both methods of treatment are unsustainable over the longer term unless cheaper forms such as chlorox can be made available through a form of social marketing. This possibility should be explored through appropriate bodies such as the urban WASH consortium.

An important lesson learnt is to test water quality at household delivery point rather than at source and an appropriate indicator has already been added to the new WASH project.

4.2.7 The selection of **NFIs for distribution** (based on SPHERE standards) included buckets, soap, ORS sachets, aquatabs, and cloths (to be used as sanitary towels). The items were distributed as appropriately composed kits to PHUs initially (which was highly appropriate given their position as

first referral centres for the majority of the population, combined with their general lack of preparedness) ; households in the major part of the distribution; and finally schools in Tonkolili District only at the end of the active response period. The distribution of NFIs was an **appropriate** intervention, particularly where it took place rapidly after hygiene promotion and cholera prevention messaging (this was not the case in some parts of Freetown). All the items distributed to households, except one, were appreciated by beneficiaries (most especially the buckets with lids which had been substituted for jerry cans when these proved unavailable but seem to have been equally appropriate). Beneficiaries did not feel it was worthwhile receiving a cloth ('lapa' or wrapper) as they are cheap and easily available. Staff seems to have assumed that the cloth was for filtering water, which was inappropriate as the cloths were coloured, and was misleading messaging in terms of preventing cholera. It does not seem to have been understood or communicated to the field staff implementing the project that the cloths were for use by women as sanitary towels (in line with SPHERE guidelines).

The distributions seem to have been well carried out despite very large numbers of beneficiaries in some places (1000 or more). Post distribution monitoring was carried out in the first communities[11], but became too voluminous for staff to handle later on. In Tonkolili District the number of new cases in 6 chiefdoms dropped sharply one week – 10 days after Concern Worldwide had started NFI distributions there.

4.2.8 In conclusion therefore, all these interventions were **appropriate and effective** in at least continuing to reduce the spread of cases, even though the peak incidence had already passed before the water treatment and NFI distributions commenced at the end of August. Oxfam's guidelines (p 20) state that 'after the initial point-source transmission … person-to-person transmission takes over and progression slows down. Person-to-person infection can occur successively or simultaneously.' Concern Worldwide's community interventions: a) water treatment, helped address the first type of transmission albeit belatedly; and b) community sensitization, the second type of transmission.

The logistical support and supplies to clinics also undoubtedly saved lives. However the activity was somewhat limited in scale and it is hard to attribute an exact impact on reducing case fatality rates overall to it. Other significant limitations to the impact of Concern Worldwide's response, particularly in relation to targeting of the NFI distribution is discussed along with the broader challenges faced, in the next section.

4.3 Challenges

The positive impact of Concern Worldwide's response has to be qualified by the challenges which were faced.

4.3.1 Poor timeliness was a more or less universal feature of the overall response to the outbreak and not Concern Worldwide's alone. The nature of the response of virtually all actors (except MSF and ACF) lagged behind the progress of the outbreak especially during its first two phases (see Oxfam guidelines Annexe 2). During the period when cases were increasing dramatically and the CFR was high (the second or upward phase), the response should focus on immediate containment and prevention of spread with activities such as active surveillance, water treatment , removal of other contaminated material such as faeces, access to ORS and quick referral, predominating. Concern

[11] Post Distribution Monitoring (PDM) forms were verified during the evaluation.

Worldwide's efforts at social mobilisation and support to DHMTs were laudable in the circumstances but the latter in particular were limited by a lack of preparation and limited means, as already stated. Concern Worldwide's major interventions such as water treatment and NFI distribution did not begin in earnest until the week after the incidence rate peaked, corresponding to the beginning of the lag phase when the priority is reduction of the attack rate through rehabilitation and more community education.

The government's response was slow and this contributed to the lateness of the international community's response (led by WHO/CDC). When the President declared a public health emergency in Week 33(Aug. 16th) the peak case fatality rate had occurred weeks before (though it is true the levels in a number of Districts were still above alert levels). The contributing factors to the late announcement were 2012's protracted and heavier than usual rainy season which had in fact increased the risk of using unsafe water for vulnerable populations, the lack of adequate laboratory testing facilities in Sierra Leone, and political sensitivity. Actors outside the UN system (including donors) are not constrained by an official government announcement however, and several are now considering setting their own trigger thresholds. Likewise Concern Worldwide has general thresholds in its PEER plan but these may not be specific enough with regard to cholera.

4.3.2 Despite the existence of the PEER plan many Concern Worldwide staff in both Freetown and Tonkolili described the Phase One period of the response as being **hectic and chaotic** for them. There was no in-country knowledge of cholera according to the Country Director, and support from Dublin was considered inadequate given the rapid progress of the emergency. It is a credit to staff at all levels that they did the best they could: playing to Concern Worldwide's strengths in-country and mobilising the broad network of community volunteers already involved in the child survival and WASH programmes for hygiene sensitization and community surveillance, as well as responding to the daily requests of their government partners, in both Tonkolili and Freetown. In Dublin negotiations began for accessing CEO funds, and contacting the emergency Senior Engineer. He was delayed by logistical problems but when he arrived in mid-August he principally provided the technical knowledge that was lacking for preparing donor proposals. According to a staff respondent, the CEO funds approved (which were less than originally requested) were vital but inadequate. Given that the PEER plan was already only partially operationalised due to lack of funding, this may have contributed further to its not being used and to the sense of inadequate overall management and staffing provision.

4.3.3 The rush to prepare proposals (with a deadline for submission only 2 days after the announcement of funding in the case of DFID), as well as to respond to the emergency, limited staff capacity to conduct **rapid assessments**. The KAP surveys that were carried out (in September) provided excellent data through use of digital data gathering devices (DDGs), but may not have been a genuine baseline in Freetown at least, given that they took place after a certain amount of sensitization had already occurred.

4.3.4 The NFI distribution in Tonkolili District faced the most serious challenges of any of the Concern Worldwide interventions. The initial set of challenges was in relation to **targeting:**

a. The first challenge concerned choice of communities in the six operational chiefdoms in the District. Because of government surveillance weaknesses it was difficult to pinpoint particular cholera hotspots within them. Thus Concern Worldwide began its sensitization

and NFI distributions in the three generally poorest and then through coordination meetings it was agreed with Oxfam that they would take on these areas. Concern Worldwide continued in the other 3 chiefdoms, but reverted to the first three for the schools' NFI distributions. While coverage was thus broad, it was impossible to say by the end of the activity whether the most vulnerable communities in each chiefdom had been targeted in an effective manner or not[12]. An ability to better target hotspots (through clinic and surveillance data) would be more efficient and effective, especially in view of limited operational capacity.

b. It was difficult to record accurate figures of the numbers of people reached as reliable up to date demographic data was not available. Population figures varied, and high population mobility was also mentioned as a difficulty in determining percentages of beneficiaries reached within a total population. In the end the pressure of tight proposal deadlines further contributed to an ultimate confusion between calculating beneficiaries on the basis of individuals (as in the proposals) or on the basis of households (as in subsequent implementation). This has created problems for reporting.

c. The aim was to reach 60% of rural households in targeted chiefdoms (as per SPHERE standards) for NFI distribution. However communities' expectations had been raised by hygiene promotion trainings given to Community Health Volunteers from all communities, so staff encountered a negative reaction from communities adjacent to those where distributions took place. Area managers did do their best to inform headmen and elders in non-selected communities through letters and visits. In fact 85% of communities were eventually reached in some places, which helped meet community expectations but was more difficult to justify in terms of responding to greatest need and operating within available capacity.

d. Staff and beneficiary respondents during the evaluation were confident that all vulnerable groups were reached, stating that the registration process which was checked by community headmen, encouraged individuals to represent the elderly and infirm. It was not known whether there were any PLHA living in the communities, though HIV prevalence is about 1.5% in general. Health Promotion Officers also reported many discrepancies between registration lists and distribution ticket holders indicating that there may have been some malpractice at community level. But they appear to have addressed this well through systematic monitoring.

   The numbers of beneficiaries' confusion carried over in to the calculation of supplies procured. SPHERE standards define the standard kit and recommend 6 weeks supply. This was planned in the DFID/RRF proposal according to a target number of households (11,500), but in addition CEO funds were used to procure a further quantity of soap (equivalent to 8 weeks supply). It was a sensible decision to distribute the additional soap to schools because children are an important target group for hygiene messaging, but a new target group in new locations was an operational challenge for an already overstretched staff.

[12] A decision was taken in principle to use Oxfam's 5 criteria for community selection : 1) unprotected water well, few latrines ; 2) distance to PHU/limited resources in community ; 3) high population and high incidence of cholera and other diseases ; 4) convergence of heavy rain, poor sanitation and high levels of population movement through trade etc. ; 5) availability of human resources. Communities were initially chosen on the basis of fulfilling any 2/5 criteria, the choice was later extended to those fulfilling just 1/5.

4.3.5 Logistical constraints – impassable roads –were a major challenge for implementation. In the end all the targeted communities were reached but some of the distribution sites had to be changed to be accessible for even small trucks, and this meant that some communities had to walk further.

4.3.6 The effectiveness of the **distribution of NFIs** particularly in Tonkolili District (which included aquatabs to households) was reduced given it took place a month after the peak in cholera case incidence.

However distributions were generally accompanied by further cholera prevention and treatment messaging. The distribution of items with sensitization encourages practice change, moreover if the messaging is forceful it might help dissuade recipients from adopting a dependent attitude towards handouts. Dependent attitudes were very frequently expressed during evaluation focus groups but this is generally to be expected and should be addressed by further careful prevention messaging.

4.3.7 The most important lesson for Concern Worldwide arising from the NFI distribution is that it was **over ambitious** in Tonkolili District given the lack of staff and logistical capacity, made worse by the exceptionally heavy rains which made many roads impassable especially for the big trucks which had been hired to move the large quantities of items. A lesson learnt is to try to plan within staff and logistics capacity and focus on more needy communities (while maintaining SPHERE standards) – or expand capacity .

The schools distribution is a case in point. This was the last distribution exercise, still underway at the time of the evaluation. 20 schools in the three most needy chiefdoms of Tonkolili District were well targeted with the headmasters receiving cholera prevention training and a school NFI kit, and then children and SMC members receiving a supply of laundry and bathing soap. Children are very appropriate vehicles for hygiene messaging and in the school visited they chanted handwashing messages with conviction. This school had a bar of soap next to the cistern outside the latrines, but the tap was broken, reducing the water flow to a drip (and thereby limiting the effectiveness of the intervention). The main question is whether at such a late stage of the cholera outbreak it was necessary to distribute soap (to communities who have never had an emergency hand out before) alongside the more general and long term cholera prevention message. The planned WASH programme monitoring of Concern Worldwide water installations should be able to address the problems with the water points which is good for the long term but would be better if it was extended to all those communities served by the cholera programme.[13]

4.3.8 Two further programmatic challenges should be mentioned. Firstly, the **payment of incentives** to volunteers in Freetown was a somewhat vexed issue. The rate (10,000 Le per day) was standard across the intervening agencies (except one). At the time of the evaluation Concern Worldwide staff was facing much grumbling from volunteers about the withdrawal of incentives and were worried that this would affect ongoing voluntarism. They might be advised to adopt other agencies' strategy which was to be clear from the outset with volunteers that the incentive payment only applied to the period of increased activity, as a compensation for lost income earning opportunity. It was useful as a motivational tool to have given volunteers non-financial incentives such as certificates. The

[13] This would apply, as an effective mainstreaming measure, even in a future emergency response programme which was more limited and targeted.

community health workers in Tonkolili District were not paid and should be highly prized as the following testimony indicates:

> John M. Koroma was chosen by the community in Mabai as a community health worker 10 years ago. He monitors the environment every week and gives a report to the headman who can fine people for poor care. He works without an incentive because 'the community are my relatives and they encourage me to work'.

4.3.9 The second issue is the **handling of complaints** by beneficiary and non-beneficiary communities and households. Concern Worldwide has a commitment to HAP and a mechanism was set up at the beginning of 2012 as a pilot in 13 operational communities in Sierra Leone. However there was a significant funding gap between the pilot completing and actions being taken for a general roll out and there was no mechanism in the communities targeted for the cholera response at the time. This did not stop feedback from coming through to the teams which was dealt with as and when it arose but not documented. The plan is to roll HAP out officially in 2013 but to start again in a small number of communities to get it right rather than rushing to implement everywhere and not with any depth.

4.3.10 The last set of challenges are those which **compromised** e**fficiency:** these included both internal and external weaknesses.

Concern Worldwide made a commendable response to cholera at quite a high cost to a handful of key staff who coped with additional work and pressure. In general, the emergency response lacked clear and consistent **leadership.** In-country programme managers were obliged to organise the many emergency activities alongside their regular work; the Magburaka area office felt unsupported by the Freetown office; and support departments such as finance were sometimes left out of the picture. Several factors contribute to this statement. There was a sense of unclarity regarding exact roles and responsibilities within the overall structure of the response and between in-country staff and those brought in to carry out or support certain roles; this was combined with a general lack of adequate additional staffing. One case was the recruitment of nationals for the NFI distributions in Tonkolili District, 14 were requested but only 4 recruited due to insufficient budget.

4.3.11

The procurement and logistics offices faced challenges also but handled them well, taking pragmatic decisions to find alternatives when items or vehicles were not available (or in the case of vehicles which got stuck in the mud!). In future a procurement plan should be developed as part of the emergency response (as recommended in the PEER plan). Waivers are not advised, despite being desired by the country office, and should only be used as a last resort.

4.3.12 Concern Worldwide's deficiencies pale in comparison to those of the GOSL and international agencies (particularly UNICEF and WHO). These added to the burden of implementing agencies through **inefficient coordination mechanisms**. The government created or sanctioned many overlapping coordinating committees (the Presidential Task Force, the Cholera Task Force, C4, working groups, all at central level alone) which met on a weekly or sometimes daily basis. This was partly because the UN does not have the humanitarian structure in place in Sierra Leone to be able

to establish the usual cluster coordination mechanism. The confusion was apparent at all levels. It was evident too in the organisation of the CERF which was announced in mid-July, but funds were not available for a further month.

4.4 Lessons learned

4.4.1 There have been many lessons to learn from the emergency cholera response; the most important immediately is to continue the preventive messaging and in particular to use the next few months (up to February 2013) to put preparedness plans in place. The election in November and then Christmas periods will interrupt work; as well as the need to catch up on regular programme work, and prepare end of year reports and new year plans. But it is important to stress both prevention and preparedness and to use the momentum that has built up over the last four months or so to follow through on both aspects.

Because Concern Worldwide is a humanitarian organisation, and its strength is its social mobilisation ; the overall **effectiveness** of the organisation's response to the 2012 cholera outbreak will depend on this exit strategy. The strategy should include **transitioning cholera prevention messaging into regular programmes** as is planned, and also **developing a cholera preparedness plan** for Sierra Leone. This is important because of the acute nature of a cholera outbreak, and secondly because in the case of Sierra Leone it is an endemic national hazard. The experience of 2012 indicates that the PEER plan which is in place contains very pertinent material but is not specific enough to guide an emergency cholera response. Building humanitarian capacity to address the specific hazard should be given greater attention.

The WASH programme has hygiene promoters who expressed readiness to integrate cholera messaging into their programme, they have the ability to do so through their training as part of the cholera response. The education team will continue to be in touch with the schools which received training and NFIs. And in the health sector, the Child Survival Project was the first to use their monthly meetings with pregnant women and men to pass on cholera prevention messages and should continue to do so. Mainstreaming cholera prevention messaging is an ideal way to move integrated programming forward, in line with the Sierra Leone country strategy objective.

The same lesson about preparedness has been learnt by all the stakeholders involved in the 2012 response with whom Concern Worldwide collaborates. The Government of Sierra Leone issued its first ever Cholera Emergency Preparedness and Response Plan in 2011 and apparently revised it in June 2012, though the revised version was not circulated amongst stakeholders. Some of the key preparedness messages were already in the agenda for action (p8) : early detection, multi-sectoral response, public awareness, safer drinking water and sanitation, cross-border collaboration, high alert.

4.4.2 The reviewing and lesson learning taking place at the time of the evaluation at all levels in Sierra Leone was an ideal opportunity for following through on these broader lessons. 2012 should have been a wake up call for GOSL and the international community and the 2-3 months to February 2013 are crucial for seeing whether it has indeed been the case. A national preparedness plan needs to be drafted by GOSL in the first half of December, and should be developed in consultation with individual stakeholder plans prepared by donors and INGOs. District level preparedness plans should be prepared by DHMTs in Jan. 2013 prior to a planned donor conference at the end of January. The

donor conference is an important opportunity for **advocacy** by the international NGO community. In 2012 INGOs substituted for the government in many areas, this will only be reduced by persistent advocacy, capacity building and adequate funding. The urban WASH consortium, of which Concern Worldwide is a proactive member, was a key player in the response and should use its ongoing reviews to remain a solid group and position itself to best effect within this trajectory. It is an important vehicle for advocacy with the government to follow through on its commitments on the one hand; and with donors on the other to speed up their processes and also be considerate towards the impact of emergency response on regular programme implementation.

4.4.3 Concern Worldwide could build on its **comparative advantage** in social mobilisation by conducting small pieces of research : on community structures in Sierra Leone (the many community committees in Freetown must be overlapping and perhaps less effective as result), and on barriers to behaviour change in health messaging. The latter cholera analysis will be built into the barrier analysis planned for the Child Survival Project and SHAPE in Tonkolili. It might usefully distinguish barriers according to gender and pay greater attention to men. Most sensitization has focused on women and children in the home, but men's higher levels of mobility may make them frequent transmitters of harmful bacteria, and they are victims in equal proportions according to the national statistics. It would be a useful study for the sector as a whole[14]. To further capitalise on its strength, Concern Worldwide could study the impact of Blue Flag Volunteers who curiously were only known by 13.5% of respondents according to the urban WASH consortium survey.

4.4.4 Finally regarding social mobilisation, Concern Worldwide could **involve local partners** to a far greater degree than was the case during the response. Three local partners in Magburaka, Tonkolili District provided one field worker for about a week at the height of the NFI distributions. The field worker and the partner (BOMFA) interviewed during the evaluation both appreciated the training received and the opportunity to be part of the response, and indicated that they would have been more than ready to be more involved. Using this opportunity would help overcome the problem of staff capacity and be an effective vehicle for spreading prevention and treatment messages even further. Increasing partnership is Strategic Objective 5 of the Country strategy.

4.4.5 The Programme Quality and Learning Unit organised a timely internal learning review at the end of October. Useful lessons are contained in the detailed report (Annexe 5) and many of them are echoed in this external evaluation report.

5 Recommendations

Moving towards meeting SPHERE standards for the control of communicable diseases should be the **guiding principle** for taking action on the following recommendations. The majority of the recommendations reflect these standards and accompanying guidelines (see SPHERE Project 2011, Annexe 11).

5.1 Recommendations for Concern Worldwide

- Concern Worldwide should continue to focus on community level prevention and response, which is all-important to reduce the spread of cholera and Concern Worldwide's area of strength. Community level activities comprise sensitization on the nature, treatment and

[14] Oxfam is also planning a gender study so liaison will be important.

prevention of cholera and general hygiene, water point chlorination, community surveillance of water and sanitation and of cases of acute diarrhoea and vomiting, provision of supplies such as ORS and IV drips to PHUs, and distribution of drinking water containers. With adequate sensitization most communities should be able to afford and obtain their own soap.

- Concern Worldwide should seek to identify which of the many community structures that exist in both rural and urban areas are best placed to ensure a strong alert system through regular community surveillance and reporting to PHUs.
- In order to maximise behaviour change, Concern Worldwide should make every effort to mainstream cholera prevention and treatment messaging, as well as point of delivery water quality testing, throughout its WASH, health and education programmes on an ongoing basis.
- Local partners should be used as much as possible to reinforce staff capacity and extend messaging, according to a standard MOU. There is no substitute to adequate training for all personnel involved in implementation.
- The KAP endline survey in Freetown should if possible be delayed until January 2013 to increase the likelihood of gathering reliable data on sustainable changes in knowledge, attitude and practice.
- A Cholera Preparedness Plan should be developed taking into account the National Cholera Preparedness Plan.
- The Concern Sierra Leone PEER plan should be reviewed and revised.
- All country staff should be trained as appropriate on the PEER plan during their induction
- Concern Worldwide should consider preparing generic cholera response guidelines and 'how to's' for use by all country programmes, or at the least include a list of resources such as the Oxfam guidelines in every PEER plan.

5.2 Recommendations for advocacy to the Government of Sierra Leone, the UN and other international institutions

Concern Worldwide should use its membership of the inter-agency urban WASH consortium to advocate to the Government of Sierra Leone for the following:

- A more community based health management system which will begin to address the gaps between PHUs and district level health structures in areas such as active community surveillance. Given the existing commitments to this in the CSP and SHAPE programmes Concern Worldwide will be a leader in this field.
- A training module on the nature of cholera, its management and its prevention to be included in all health personnel training curricula (Ministry of Health (MOH)).
- Increased priority and funding to be given to significantly improving the water and sanitation infrastructure. This will involve overcoming institutional ownership issues between ministries (the Ministry of Health and the Ministry of Energy and Water Resources) and between the Ministry of Energy and Water Resources and private companies such as GUMA which supplies water to Freetown.
- An annual contingency budget for DHMTs which includes provision of vital cholera treatment supplies such as ORS and IV drips and which is properly funded.

- Support for the completion of and implementation of a realistic National Cholera Preparedness Plan which follows through the lessons learnt from the 2012 outbreak to be presented to donors and the rest of the international community at the end of January 2013.
- The development of a suitable coordination mechanism (such as a cluster) for an emergency of this nature.

Concern Worldwide should engage with donors and the UN to advocate for:

- Every effort possible to be made towards rapid approval and disbursal of donor funds. (The DFID RRF has largely been a success in this respect). Funding is needed in the post-outbreak phase of the emergency also.
- Standard Operating Procedures for Cholera Response.

Annexes

Annexe 1 Nature and Treatment of Cholera

From Cholera outbreak guidelines, Oxfam, June 2012.

'Cholera is a diarrhoeal disease caused by a bacterial infection of the intestine. The bacterium is *Vibrio cholerae,* which is type 01, serotype Ogawa, bio type El Tor in Sierra Leone in 2012. It can infect both children and adults.

Only about 20 per cent of those infected develop acute, watery diarrhoea (AWD), and of these, between 10–20 per cent develop severe watery diarrhoea with vomiting. If people are not promptly and adequately treated, the loss of large amounts of fluid and salts through diarrhoea and vomiting can lead to severe dehydration and death within hours. The case fatality rate (CFR) if untreated may reach 30–50 per cent.

The typical presentation of cholera is a sudden onset of profuse, painless, watery stools, sometimes like rice-water, often accompanied by vomiting. Dehydration appears within 12–24 hours. The first 24 hours of cholera manifestation are the riskiest, and if the sufferer is not rehydrated, death can result.

Cholera is usually transmitted through faecally contaminated water, hands or food, and is endemic in many countries. New outbreaks can occur sporadically where water supply, sanitation, food safety, and hygiene are inadequate. The greatest risk occurs in over-populated communities, displaced populations and refugee settings, which are characterized by poor sanitation, unsafe drinking water and increased person-to-person contact. Because the incubation period is very short (two hours to five days), the number of cases can rise very rapidly.

Treatment is straightforward (basically rehydration), and should keep the CFR below 1 per cent. In severe cases, an effective antibiotic can reduce the volume and duration of diarrhoea and the period of bacteria excretion. Emphasis should be on public health promotion, prevention through use of safe water and food, and through environmental sanitation.

Cholera not only affects health but also economies and livelihoods, through the directly incurred costs of curative and preventative care, and through indirect costs such as loss of production and potential embargoes on trade and tourism.' (p6)

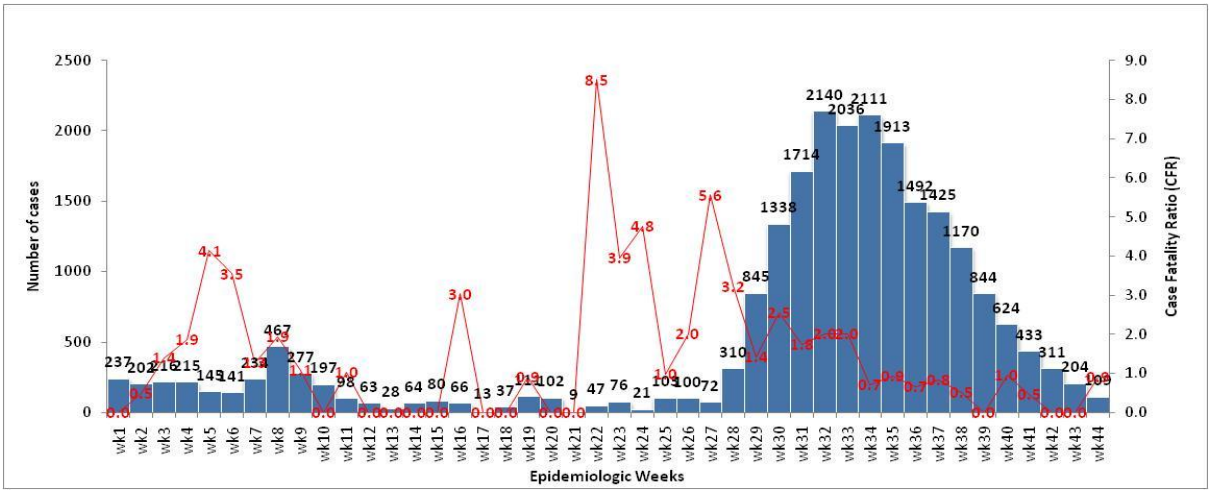
Annexe 2 Phases of a cholera outbreak programme focus summarised (Oxfam cholera guidelines, 2012, p9)

Epidemic 1/pre-outbreak phase Cholera reservoir present Constant/sporadic few cases **Key programme focus:** preparedness and preventive activities	**Epidemic upward phase** Cases on upward trend **Immediate target:** reduction of case fatality rate **Key programme focus:** outbreak containment	**Epidemic lag phase** Cases on downward trend **Immediate target:** reduction of attack rate **Key programme focus:** rehabilitation, recovery and community education	**Endemic 2/post-outbreak phase** Levels higher than endemic 1 due to person-to-person transmission **Immediate target:** reverting situation to pre-outbreak levels **Key programme**

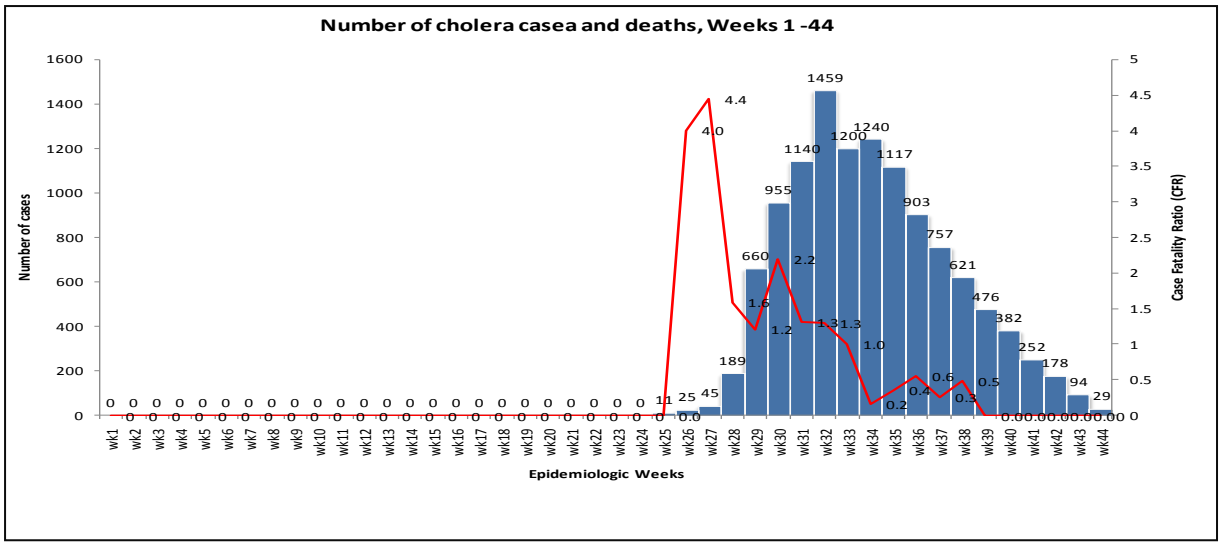
	in active areas and pre-emptive preventive activities in at-risk non-affected areas	activities	**focus:** rehabilitation, recovery and community education activities

Annexe 3 The cholera outbreak curve

SIERRA LEONE NATIONAL CHOLERA TREND 1 Jan – 4th November 2012 (Week 1 -44)[15]

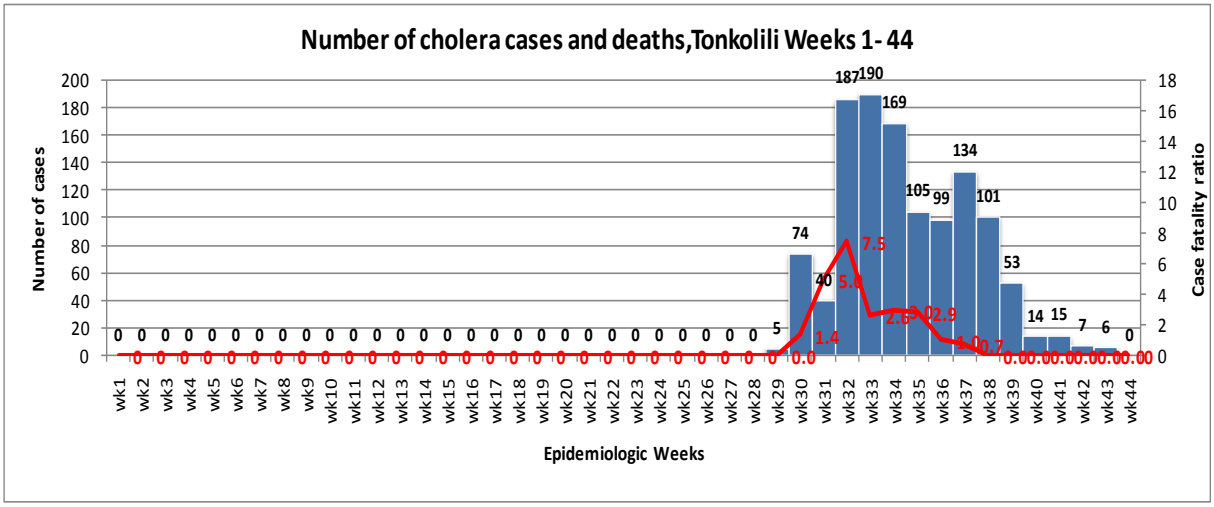


Weekly Cholera Cases from Western Area. Sierra Leone, Weeks 1 – 44



Weekly cholera cases from Tonkolili District Weeks 1-44

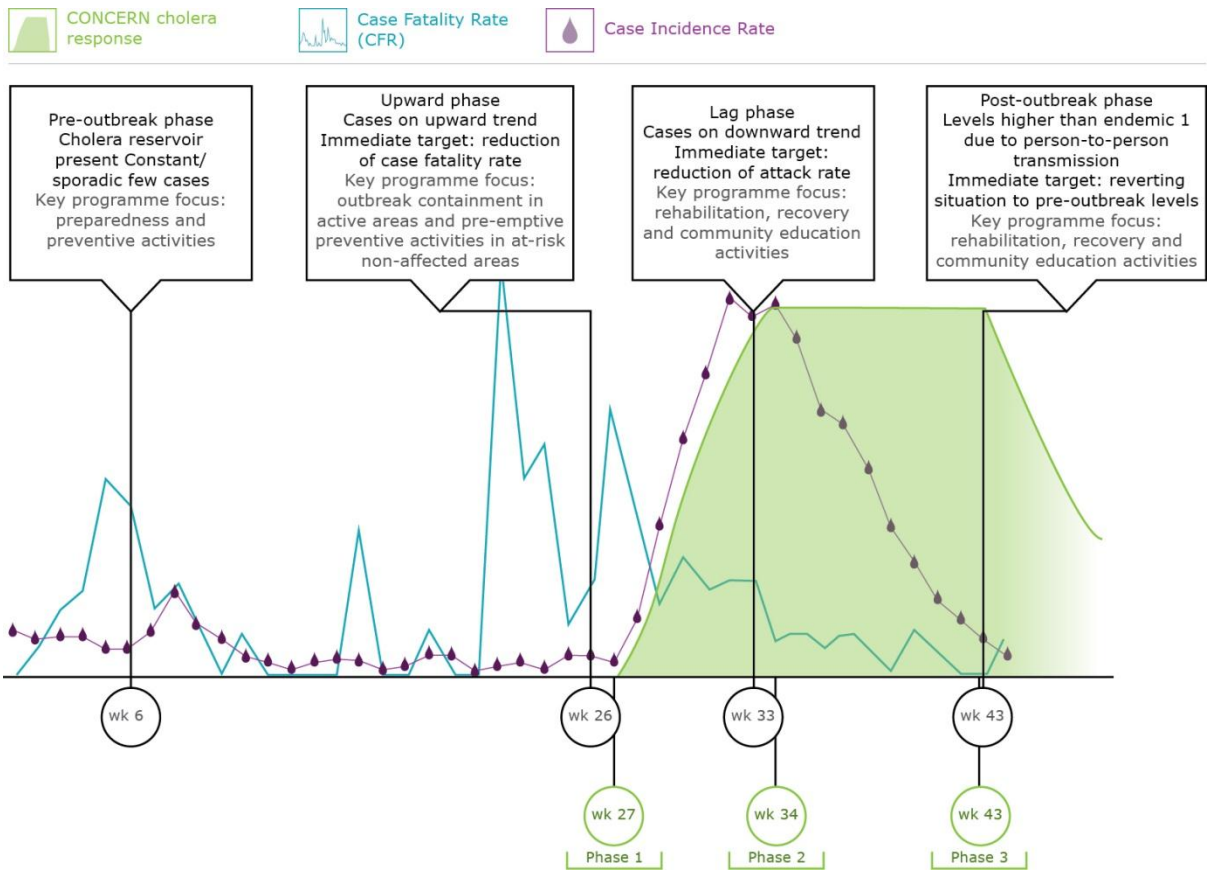
[15] Daily situation update



Annexe 4 Chart of Concern Worldwide's response

The following graph plots the case fatality rate and the curve of the national outbreak, together with the four phases of an effective response (Oxfam guidelines), and the 3 phases of Concern Worldwide's response.

Sierra Leone cholera outbreak phases and Phases of Concern Worldwide's response



Annexe 5 Internal Learning Review

Project / Programme: Cholera Emergency Response. **Date of the review**: 30th October 2012

Headline: "Together we can fight an epidemic**"**

Summary of the Project/Programme

On August 16th 2012, the Government of Sierra Leone officially declared an outbreak of cholera in Sierra Leone, which spread to 12 out of 13 districts. This has proved to be the largest cholera outbreak reported in Sierra Leone since the pandemic last hit the country from 1970 to 1971. As of 3rd November 2012, 22,444 cases of cholera have been officially reported nationwide and 293 deaths had been confirmed.

Both rural and urban areas in Sierra Leone experience limited access to safe water which has been a contributing factor to the outbreak and rapid spread of cholera, especially in densely populated urban slum areas.

2012's protracted and heavier than usual rainy season increased the risk for vulnerable populations of using unsafe water sources which attributed to the rapid spread of diarrhoea and vomiting (D&V) and cholera.

Concern Worldwide Sierra Leone's Response:

Concern Worldwide has been responding to the cholera outbreak in Freetown and Tonkolili district, where Concern Worldwide has long-term development programmes and which are amongst the worst affected areas in the country. The main objective of the response is to reduce cholera cases and case fatality rate (CFR), by increasing community access to safe drinking water through water chlorination and/or aqua-tabs, distribution of cholera non-food item (NFI) kits, hygiene promotion, community mobilization and surveillance and capacity building of community health volunteers including public health unit (PHU)staff.

Concern Worldwide received funding of €900,000 (approximate) for its response from a range of donors including DFID, Irish Aid, UNICEF (CERF) and public donations in Ireland.

Significant changes :

Significant changes identified during the review process were as follows:

Impact on Beneficiaries

- Changes are also seen in the behaviour of community people especially towards basic hygiene practices like hand washing before eating food and after defecation, conducting referrals and caring for victims. This happened as a result of Concern Worldwide and other NGOs changing the perception of people about victims of cholera
- There is quality control of water sources and food management, this was evident among water service providers during the intervention
- Increased capacity building of community stakeholders and volunteers to manage the epidemic was effective compared to the past
- A reduction of incidence and prevalence of cholera was witnessed in targeted communities as a result of the intervention of Concern Worldwide and other organisations

Internal Management of Response

- Staff were sourced from outside by Concern Worldwide to monitor the activities of volunteers and this brought significant changes within the organisation in terms of output and also helped to reduce challenges faced by programme support and health staff.
- Resources mobilised in the form of water, biscuits etc. to support staff during field work served as a source of motivation for most staff engaged in the cholera field work
- Concern Worldwide's intervention was a joint effort at organisational (rather than sectoral) level, and brought on board staff from all programme sectors to respond in a timely and effective way.

- Concern Worldwide Sierra Leone was the first NGO to respond to cholera outbreak in Tonkolili district and also the first to respond to the outbreak in Mabella and Grey Bush alongside DHMT in Freetown.
- Emergency response was a new activity for Concern Worldwide Sierra Leone, which (since the war ended) has been focused on development projects. Nevertheless, Concern Worldwide was able to respond in a timely way by intervening first in some affected communities like Mabella and Grey Bush.

NFI Kits

- The use of NFI materials introduced by Concern Worldwide played a pivotal role in reducing/eliminating the outbreak: it enhanced safe keeping of water and other hygiene practices, people now purify water preserve in a clean container for drinking.

External Coordination

- WHO and UNICEF stepped up effectively to take the lead in coordinating the cholera response amongst the different actors.
- The coordination between partners and stakeholders in targeted communities to avoid duplication of functions brought in expertise and facilitated the intervention by partners.
- There is also a good coordination between DHMT and CWW in Tonkolili, and also the DHMT and Concern Worldwide, as well as Concern Worldwide and other actors involved in cholera response (including Urban WASH Consortium) in Freetown.

Impact of Coordination

- The effective and efficient intervention by Concern Worldwide and other organisations towards the outbreak, led to the reduction in death rates within affected communities.
- The existence of a national level cholera Task Force coordinated by the Ministry of Health and Sanitation helped to enhance the fight against cholera by partners.
- Awareness amongst members of targeted communities about the existence of cholera and prevention methods was enhanced through the active intervention of Concern Worldwide and other NGOs in support of Government/MoHS.

Lessons Learned :

The following were identified as lessons learned during the review process:

Staffing

- A lot of community volunteers were motivated to work because they received a financial incentive on time by the Concern Worldwide finance team.
- A lot of knowledge was gained by Concern Worldwide staff and partners as a result of collaboration with experts, DHMT and other consultants hired for the 2012 cholera emergency response
- The data collected by partners assisted the team (Concern Worldwide Staff) in the management of logistics and reporting of accurate figures
- Due to the team capacity and need to continue focus on on-going development activities, a core team to focus purely on the cholera response was not available until a later stage, which placed a burden on programme staff (especially managers) who had to multi-task. Bringing in consultants and a CWW technical advisor on a short term basis dedicated to the cholera response greatly helped the CSL team capacity to respond (conduct and monitor activities, develop funding proposals, report to donors, attend external coordination meetings etc.) at least compromise to on-going development project commitments.
- Normal programme activities were affected since programme/support staff were removed from their normal programme activities, which hence fell behind work plan.

Reporting

- There was difficulty in determining how many households we had reached in community sensitisation efforts, since we worked on a house-to-house basic and the number of households per house varies greatly (even averages from one city section to the next). We were asked to report however on the number of households reached rather than houses, so it was challenging to state accurate figures.

NFI KITS

- The procurement of NFI materials done within the country also facilitated the fight against the cholera outbreak
- There was also a limited storage facility in both Freetown and Magburaka to safely keep the NFI materials, in Magburaka for example, the conference room was used as a store for keeping NFI materials which affected meeting space available for the team.

Internal Management of Response

- Lack of a comprehensive cholera preparedness plan hindered smooth administration of the intervention, since all other activities had to be put on hold as project staff from across all sectors were called upon to support the emergency response. This led eventually to the short term recruitment of other project staff to focus specifically on cholera.
- There was a difficult experienced in managing volunteers at community level, some participants suggested the use of students, especially when schools and colleges are closed.
- This is first of a series and planned learning reviews which will cover all Concern Worldwide projects in turn: the review (purpose as well as format) was welcomed and found to be a useful process for all involved.
- There was poor coordination/communication between the cholera team staff in Tonkolili and Freetown, which should be improved for any subsequent intervention

Quality Control

- Lack of quality control and monitoring of emergency activities, coupled with poor coordination of logistics was also a problem at the start of Concern Worldwide's response to the cholera outbreak
- Staff engaged on cholera activities worked overtime without receiving their overtime payment, this resulted in some staff becoming de-motivated
- There was also a lack of or limited monitoring of the cholera budget at the early stage of Concern Worldwide's intervention

Practical Contextual Challenges

- The Tonkolili road network was an obstacle to Concern Worldwide's smooth response to the cholera outbreak since there was an experience of vehicles not easily accessing remote communities affected by the outbreak. Furthermore, the heavy rains persisted throughout the response period, which meant that the heavy-duty lorries initially used were unable to pass along heavily potholed and waterlogged roads to reach remote communities. This was resolved by instead using/hiring smaller, lighter pick-up trucks.

Targeting

- Aqua-tabs and ORS were supplied to all targeted communities in Tonkolili, but since it was difficult to determine the most vulnerable in Freetown (the original criteria), we instead distributed through schools in our targeted city sections. Ideally, funding permitting, we would like to reach 100% of the targeted areas in future.

Recommendations:

Key recommendations based on changes and learning described are highlighted below**:**

External Coordination

- Government of Sierra Leone should develop a policy in relation to procedures of dealing with emergency outbreaks
- Community participation is highly needed in the design and implementation of strategies of an emergency response like the recent cholera outbreak

Internal Management of Response

- There is an increased realisation of the need for rehabilitation and construction of community toilets and garbage collection
- A proper criteria is needed in future for the selection of community volunteers for addressing emergency cases
- An early response to conduct confirmatory test to diagnose cholera will be required in an event

of another outbreak with the accurate reagent available.

- A data base of the population of Concern Worldwide's operational communities is required for any future intervention
- Early warning activities to alert Concern Worldwide in an event of another epidemic should be put in place, especially by the Concern Worldwide Health team
- Concern Worldwide as an organisation needs a separate account for emergency response, in Tonkolili for example, there was a funding constraint to efficiently address the outbreak
- Concern Worldwide Health team should continue to work on hygiene sensitization, "Since health is wealth".
- More vehicles are needed by Concern Worldwide for an effective response to any future outbreak, since the organisation presently has limited vehicles.
- Concern Worldwide should continue to embark on a timely emergency response in future as it has been done in the 2012 cholera outbreak.
- There should be an emergency preparedness plan in place by Concern Worldwide for responding to such outbreaks
- Any future outbreak of cholera should be communicated on time to beneficiaries for urgent treatment of the epidemic
- Concern Worldwide Sierra Leone should also have some technical health staff to be trained as expert in addressing emergency issues like the cholera outbreak

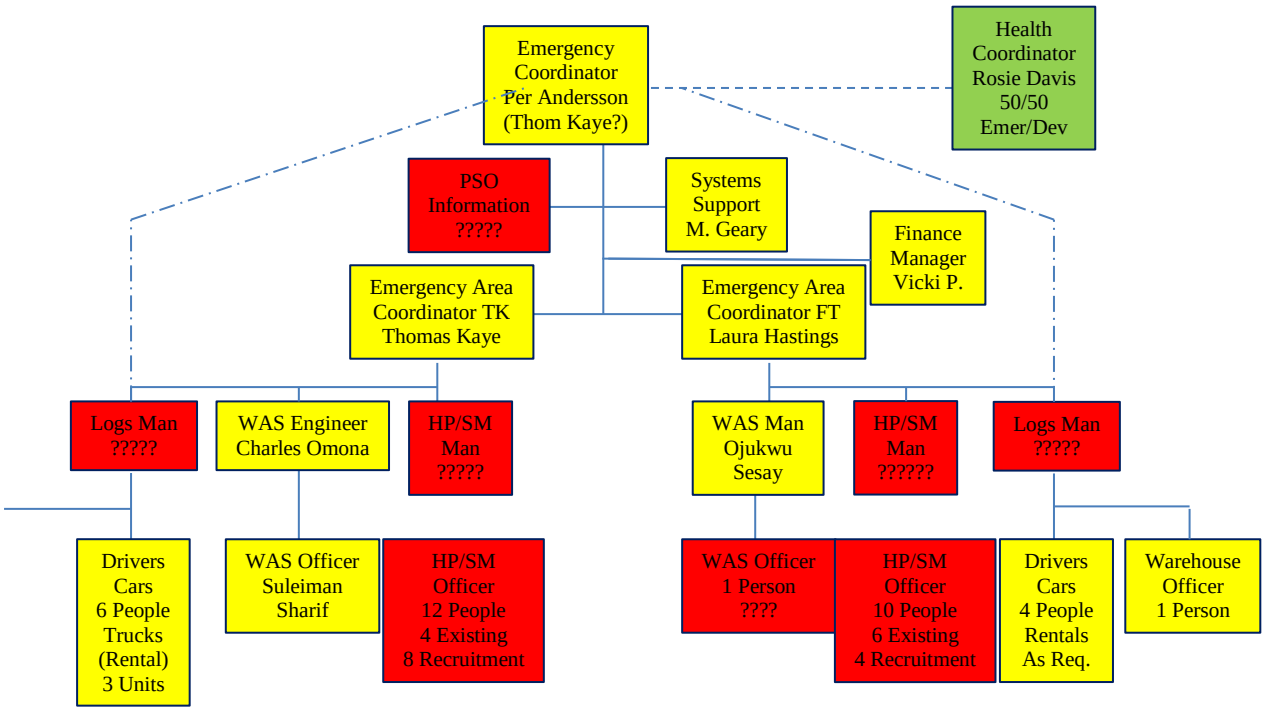
Distribution of IEC Materials, Drugs and Payment of Volunteers

- Distribution of IEC materials and the chlorination of water points should start on time for any future cholera outbreak, since it proved to be effective in fighting against the disease.
- Concern Worldwide and other NGOs could aid the distribution of drugs to PHUs by providing vehicles for drug delivery
- Need to review the methods of payment for volunteers and consider the payment through mobile phones.
- Finance team requires more staff to address the financial requirements of any subsequent emergency outbreak

Other Information

- Provision of incentive to volunteers may impact negatively on our future development work, since volunteers will after this experience always request money for their services
- Partners working with Concern Worldwide should assist in all emergency response cases and on time, this according to participants should be reflected in the partnership agreement or MOU signed between partners and Concern Worldwide
- There was a difficulty in determining how many households we had reached in community sensitisation efforts, since we worked on a house -to -house basis and the number of households per house varies greatly (even averages from one city section to the next). We were asked to report however on the number of households reached rather than houses, and it was challenging to state accurate figures.

Annexe 6 Proposed emergency cholera response organigram



Annexe 7 Terms of Reference for External Evaluation

Terms of Reference
External Evaluation
Concern Worldwide Sierra Leone's Emergency Response to 2012 Cholera Outbreak

1. Background

Concern Worldwide Worldwide has been operational in Sierra Leone since 1996, with a primary focus on providing emergency shelter, primary health care and targeting internally displaced people through refugee and returnee centres during and immediately post-civil war. Since 2000 the emphasis has moved away from emergency interventions, to rehabilitation and now long term development, transitioning from a short term projects approach to a longer term, more sustainable, programmatic approach, guided by the country strategic plans 2006-2011 and 2012-16.

Cholera Outbreak: An outbreak of cholera in Sierra Leone has spread to 12 out of 13 districts. This is the largest cholera outbreak reported in Sierra Leone since the pandemic hit the country from 1970 to 1971. As of 4 October, across the country 20,834 cases of cholera have been reported and 285 deaths had been confirmed since 1 January 2012. Both rural and urban areas in Sierra Leone experience limited access to safe water. The onset of rains increased the risk of using unsafe water sources and the spread of diarrhoea and vomiting (D and V) and cholera.

Concern Worldwide Sierra Leone's Response: Concern Worldwide has been responding to the cholera outbreak in Freetown and Tonkolili district, where Concern Worldwide has long-term development programmes and amongst the worst affected areas. The main objective of the response is to reduce cholera cases and case fatality rate (CFR) by increasing community access to safe

drinking water through water chlorination and aquatabs, distribution of cholera NFI kits, hygiene promotion, community mobilization and surveillance and capacity building of community health volunteers and public health units staff. Concern Worldwide has received funding of €900,000 (approximate) for its response from a range of donors including DFID, Irish Aid, UNICEF (CERF) and public donations in Ireland.

2. Purpose and Objectives of the Evaluation

The overall purpose of the evaluation is to evaluate Concern Worldwide's response following the cholera outbreak in Sierra Leone with particular emphasis on appropriateness, timeliness, efficiency and effectiveness of the interventions carried out and extract the lessons/recommendations to enhance the preparedness for future responses.

Following are the major objectives of the evaluation:

2.1. Relevance

- Did we choose the right response in the right areas in the right way and in a timely manner?
- Were there areas – geographic or programmatic – that were not covered by others?
- Were the most vulnerable and poorest targeted appropriately?
- Was the targeting criteria communicated and understood by all members within the community?
- How well have we worked with our existing local and international partners? What were the challenges encountered?

2.2. The quality, effectiveness, efficiency and impact of the response

- Did the response achieve what it set out to do?
- Were humanitarian standards met? (Sphere, HAP, Codes of Conduct)?
- Was the response timely, appropriate and cost effective?
- Were affected communities able to participate in the design and planning of the interventions?
- Did interventions identify and target specific vulnerable groups (women, the disabled, children)?
- How was gender, gender based violence, HIV and AIDS and capacity building considered in programme response?
- How well did the response mainstream/integrate equality/equity, disaster risk reduction (DRR), HIV and AIDS, and the environment?
- Did the interventions improve awareness and resulted in better hygiene practices at household level?
- To what extent was the 'accountability to the beneficiaries' promoted and what progress was made against the achievement of HAP (Humanitarian Accountability Partnership) principles/benchmarks. To what extent did we follow up with complaints?
- To what extent did Concern Worldwide have the capacity, systems and procedures, sufficient human resources and appropriate level of preparedness to facilitate a rapid and appropriate response?
- Were the needs assessments, monitoring, evaluation systems and indicators used for this purpose appropriate? What tools were used in the assessments and comment on their effectiveness?

2.3. The level of connectedness and coherence of the response

- Did the short-term emergency activities take longer-term issues into account?
- Did the responses reduce future vulnerabilities?

2.4. Relevance of Concern Worldwide's systems to cope with a major sudden onset emergency –HR, Finance, Procurement and Logistics systems

- Was appropriate staff deployed in a timely manner?

- Were systems adaptable to an emergency of this scale – were the systems followed?

2.5. The extent to which 'lessons' or recommendations from previous emergencies were incorporated into this response

- Assess the extent and effectiveness of coordination between the Urban WASH Consortium partners and other international NGOs, the UN system and government organisations.
- To what extent were the lessons identified for learning arising from Cholera responses in other countries?

2.6. Identify lessons to be learned to inform the future emergency responses of Concern Worldwide

- Identify examples of best practice in 'what has worked well' and 'what has not worked well'.

3. Scope of Work

- Review of relevant secondary data – e.g. proposals, donor reports.
- Meet and/or interview key staff in Concern Worldwide's head office.
- Use of appropriate tools and interview/focus groups discussions. The process should be participatory to the extent possible and should involve all stakeholders in the project.
- Visit the areas where the emergency responses were implemented, using appropriate tools to interview programme participants and other key stakeholders, including partners and project staff; the views of non- beneficiaries should also be included.
- Debriefing and / or presentation to key staff on key findings and recommendations
- Produce and solicit feedback on the draft report from relevant Concern Worldwide staff in Dublin and Sierra Leone.
- Production of the final report from the analysis.

4. Deliverables

The evaluator(s) will produce/submit the report (of no more than 15 pages plus annexes). The report should include:

- Basic Information (1 page)
- Executive Summary (2 pages)
- Background/introduction (1 page)
- The evaluation methodology (1 page ?)
- Findings from the evaluation in relation to the issues noted under serial number 2
- Above (9 pages ?)
- Summary of recommendations/lessons indicating with how recommendations/lessons should be incorporated and with whom should be shared (1 page)
- Annexes - Evaluation ToRs, Names & contact details of the evaluators along with a signed declaration of their independence from the programme team, evaluation schedule, list of persons interviewed and sites visited, documents consulted, data collection tools and raw data.

5. Duration

The consultant will complete the work over a period of fourteen (14) working days beginning with the date of signature of the contract and ending with the acceptance of the final report.

Activity	Number of Days
Initial meetings/briefing	2
Document review, meetings, data collection, travel	7
Analysis, Draft report, Final report, Debriefing	4
Total	**14**

6. Reporting Line

The consultant will report to the Concern Worldwide Country Director in Sierra Leone and liaise closely with the Assistant Country Director - Programmes and Programme Quality & Monitoring Coordinator.

7. Consultant(s) Expertise

- Post-graduate degree in Humanitarian Studies, Disaster Management, Social Sciences and/or related field
- At least 7 years' experience of conducting evaluations of emergency/humanitarian programmes
- Familiarity with International quality and accountability standards applied in emergency
- Experience in the use of participatory methodologies and developing gender sensitive evaluation methodologies
- Competency in Equality & Gender issues
- Excellent written and spoken communications skills in English
- Experience of Sierra Leone or West Africa will be an advantage
- Experience in assessing organizational capacity and gaps and ability to recommend the corrective measures.

Annexe 8 Schedule of meetings

Tentative Schedule for Sarah Hughes, Cholera Evaluator

6 to 15 November 2012

Date	Time	Proposed Schedule	Comments
6 Nov (Tues)	5:25am	Arrival Freetown Lungi International Airport and transfer to hotel	
	1pm	Leave for the office	
	2:00-3.00pm	Meeting with ACDP Yousaf Jogezai, security briefing and introduction with the team	
	3.00-5.00pm	Group meeting with Concern Worldwide staff involved in cholera project: Laura, Khadijatu Bakarr, Ojukwu, Andrea	
	Evening	Heather Kerr, CD Save the Children	
7 Nov (Wed)	8:30am to 4pm	Field visit (Grey Bush). Visit to community latrine, meeting with volunteers, community members. Focus groups planned: 1. Community stakeholders (CDMC Chairman Foday B. Koroma, Blue Flag volunteer Chairman John A G Elliott, WASH committee Chairman Osman T Kamara), 2. Community volunteers 3. Home visit. 4. Meeting with clinic CHO, Peter Ishmael Conteh	Odjukwu (WASH Manager)will be accompanying and will inform community
	4.45 – 5.30	Helene Jullard, Oxfam Cholera Coordinator	

8 Nov (Thu)	9:00-10:30am	Meeting with UNICEF Cholera coordinator, Yannick Brand	
	10:30am - 12:00pm	Meeting with DHMT Dr Joseph Kandeh, DMO; Charles Keimbe and Michael Koposowa, Surveillance Officers	Khadijatu Bakarr to accompany
	12.30 – 1.30	James Shepherd-Barron, DFID seconded to DDPC	
	PM	Meeting with Marianne Burns, CD	
	3 - 4	Dr Shyam, SAVE Cholera Response Coordinator	
	5pm	Kevin, Finance Controller	
	5.30-6.30	Rosie Davis, Health Coordinator	
9 Nov (Fri)	7.30am	Travel to Magburka (preferably a direct car)	
	12:00pm-1:00pm	Meeting with Clare Szalay-Hrwell, Cholera Response Coordinator, Tonkolili District	Needs to be as brief as possible because Clare needs to travel back to FT
	2-3	Memenatu M Sesay, Alie Sankoli, Hygiene Promotion Officers	
	3 - 4	Meeting with Abu Hanif, Area Coordinator	
10 Nov (Sat)		Rosalind McCullom, PHC Coordinator	
11 Nov (Sun)		Weekend Off/Report Writing	
12 Nov (Mon)	8.30 - 9	Staff meeting, Magburaka	
	9:00- 10:00am	Meeting with DHMT, Disease Survelliance Officer (Tejan Saidu) 076.71.85.35 and Edwin Jibao (Malaria Focal Point and Team Leader Cholera Response Team)	
	10:00-11:00am	Meeting with Systems staff Tonkolili: Tijan, Alusine, Edward Davies, Benjamin	
	11:00-12:00pm	Meeting with Programme staff involved in distribution: Ramatu K Dumbuuya M/E Officer FIM), Mustapha Kamara (Partnership/Accountability Advisor), Angela (Health Project Officer), Ishmail K Dumbuya (Health Project Officer SHAPE), Francis A Musa (PME Education), Joseph	
	1:00-2:00pm	Meeting with Programme staff involved in mobilization: Sheriff, Lansana, Ibrahim and Alusine Bakarr	
	2:00-3:00pm	Meeting with Programme staff involved in CHW trainings: Dauda Mohamed (Health	

		Project Officer), Sheriff Suleiman (Construction Supervisor)	
	PM	Mohamed K Sankoh (Food Security Officer), BOMFA and James Kamra, Director BOMFA	
		Peter Bailey, Primary Health Programme Manager	
13 Nov (Tue)	9:00-12:00pm	Field Visit with Ishmail: Visit to Mabai PHU (site of distributions), visit headman Usman M Kamara, visit to Mabai village (visit with trained CHW) and FGD with Mabai villagers	Trained CHW at Mabai is John M Koroma (088.810.344) Coordination of FGDs with Mabai villagers to be coordinated with the CHW and chief
	1:00-4:00	Field Visit with Joseph: visit to school (UMC Matuku 2) to visit headmaster trained, headman, SMC members, children and parents	Contact headmaster about visit at Matuku 2
14 Nov (Wed)	8:00-8:30am	Debriefing meeting with Abu Hanif and the team	
	8:30am	Swap car: Travel to Freetown	
	2:30-3:30pm	Meeting with Systems: Bashiru, Bintu, Bockarie	
	3:30-4:00pm	Meeting with Finance: Kevin	
	5:00-6:00pm	De-brief with the country team	
15 Nov (Thu)		Departure	Admin to confirm the pick-up time and other arrangements

Annexe 9 Essential health services – control of communicable diseases standard 3: Outbreak detection and response (SPHERE project 2011)

Outbreaks are prepared for, detected, investigated and controlled in a timely and effective manner.

Key actions (to be read in conjunction with the guidance notes)

Detection

Establish a disease EWARN (early warning) surveillance and response system based on a comprehensive risk assessment of communicable diseases, as part of the broader health information system (see guidance note 1 and Health systems standard 5).
Train healthcare staff and Community Health Workers to detect and report potential outbreaks.
Provide populations with simple information on symptoms of epidemic-prone diseases and where to go for help.

Preparedness

Prepare an outbreak investigation and response plan (see guidance note 2).
Ensure that protocols for the investigation and control of common outbreaks, including relevant treatment protocols, are available and distributed to relevant staff.
Ensure that reserve stocks of essential material are available for priority diseases or can be procured rapidly from a pre-identified source (see guidance note 3).
Identify sites for isolation and treatment of infectious patients in advance, e.g. cholera treatment

centres.
Identify a laboratory, whether locally, regionally, nationally or in another country, that can provide confirmation of outbreaks (see guidance note 4).
Ensure that sampling materials and transport media are available on-site for the infectious agents most likely to cause a sudden outbreak (see guidance note 5).

Control
Describe the outbreak according to time, place and person, leading to the identification of high-risk individuals and adapted control measures (see guidance notes 6–8).
Implement appropriate control measures that are specific to the disease and context (see guidance note 9).

Key indicators (to be read in conjunction with the guidance notes)
A written outbreak investigation and response plan is available or developed at the beginning of disaster response.
Health agencies report suspected outbreaks to the next appropriate level within the health system within 24 hours of detection.
The lead health agency initiates investigation of reported cases of epidemic-prone diseases within 48 hours of notification.
Case fatality rates (CFRs) are maintained below acceptable levels:
cholera – 1 per cent or lower
Shigella dysentery – 1 per cent or lower
typhoid – 1 per cent or lower
meningococcal meningitis – varies, 5–15 per cent
malaria – varies, aim for <5 per cent in severely ill malaria patients
measles – varies, 2–21 per cent reported in conflict-affected settings, aim for <5 per cent
(see guidance note 10).

Guidance notes
These steps do not need to be implemented in any strict order and control measures should be implemented as soon as possible.

1. Early warning system for outbreak detection:
The key elements of such a system will include:
a network of implementing partners
implementation at all health facilities and at community level if possible
a comprehensive risk assessment of all potential epidemic-prone diseases
identification, based on risk assessment, of a small number of priority conditions (10–12) for weekly surveillance and a select number of diseases for immediate “alert” reporting (see Appendix 2: Sample weekly surveillance reporting forms)
clear case definitions for each disease or condition on the standard surveillance form
alert thresholds defined for each priority disease or condition to initiate investigation
communications to ensure rapid notification of formal or informal alerts (rumours, media reports, etc.)to relevant health authorities
a system for recording and responding to immediate alerts
data reporting, entry into standard database and analysis on a weekly basis
feedback of weekly surveillance and immediate alert information to all partners
regular supervision to ensure data quality as well as timeliness and completeness of reporting
standard case investigation protocols and forms
standard procedures for information-sharing and initiation of outbreak response.

2. Outbreak investigation and control plan: This must be prepared with full participation of all stakeholders. The following issues should be addressed:
the criteria under which an outbreak control team is to be convened
the composition of the outbreak control team
the specific roles and responsibilities of organisations and positions in the team
the arrangements for consulting and information-sharing at local and national levels

the resources and facilities available to investigate and respond to outbreaks

3. Reserve stocks: On-site reserves should include material to use in response to likely outbreaks. A prepackaged diarrhoeal disease or cholera kit may be needed in some circumstances. It may not be practical to keep some stocks on-site, such as meningococcal vaccine. For these items, procedures for prompt procurement, shipment and storage should be determined in advance so that they can be rapidly obtained.

4. Reference laboratories: Laboratory testing is useful for confirming the diagnosis during a suspected outbreak for which mass immunisation may be indicated (e.g. meningococcal meningitis) or where culture and antibiotic sensitivity testing may influence case management decisions (e.g. shigellosis). A reference
laboratory should also be identified either regionally or internationally that can assist with more sophisticated testing, e.g. serological diagnosis of measles, yellow fever, dengue fever and viral haemorrhagic fevers.

5. Transport media and rapid tests: Sampling materials (e.g. rectal swabs) and transport media (e.g. Cary-Blair media for cholera, Shigella, E. coli and Salmonella) and cold chain material for transport should be available on-site or readily accessible. In addition, several rapid tests are available that can be useful in screening for communicable diseases in the field, including malaria and meningitis.

6. Outbreak investigation: The ten key steps in outbreak investigation are:
1. establish the existence of an outbreak
2. confirm the diagnosis
3. define a case
4. count cases
5. perform descriptive epidemiology (time, person, place)
6. determine who is at risk
7. develop hypotheses explaining exposure and disease
8. evaluate hypotheses
9. communicate findings
10. implement control measures.

7. Confirmation of the existence of an outbreak: It is not always straightforward to determine whether an outbreak is present, and clear definitions of outbreak thresholds do not exist for all diseases. Nevertheless, thresholds exist for the diseases listed below:
diseases for which a single case may indicate an outbreak: cholera, measles, yellow fever,viral haemorrhagic fevers
diseases for which an outbreak should be suspected when cases of, or deaths due to, the disease exceed the number expected for the location or are double the previous weekly averages
shigellosis – in non-endemic regions and in refugee camps, a single case of shigellosis should raise concern about a potential outbreak
malaria – definitions are situation-specific; an increase in the number of cases above what is expected for the time of year among a defined population in a defined area may indicate an outbreak. Without historic data, warning signals include a considerable increase in the proportion of fever cases that are confirmed as malaria in the past two weeks and an increasing trend of case fatality rates over past weeks
meningococcal meningitis – in the meningitis belt, for populations above 30,000, 15 cases/100,000 persons/week; however, with high outbreak risk (i.e. no outbreak for 3+ years and vaccination coverage <80 per cent), this threshold is reduced to 10 cases/100,000 persons/week. In populations of less than 30,000, five cases in one week or a doubling of cases over a three-week period confirms an outbreak. In a camp, two confirmed cases in one week indicate an outbreak

dengue – increase in fever cases in the past two weeks that show increased IgG levels (based on paired testing of consecutive sera-samples) of a febrile patient with 3–5 days illness and decreasing platelet count (<20,000).

8.Outbreak response: Key components of outbreak response are coordination, case management, surveillance and epidemiology, laboratory, specific preventive measures such as water and sanitation improvement depending on disease, risk communication, social mobilisation, media relations and information management, logistics and security.

9.Control measures: Control measures must be specifically developed to halt transmission of the agent causing the outbreak. Often, existing knowledge about the agent can guide the design of appropriate control measures in specific situations. In general, response activities include controlling the source and/ or preventing exposure (e.g. through improved water source to prevent cholera), interrupting transmission and/or preventing infection (e.g. through mass vaccination to prevent measles or use of LLINs to prevent malaria) and modifying host defences (e.g. through prompt diagnosis and treatment or through chemoprophylaxis) (see Health systems standard 5, Water supply standards 1 – standards 2, Hygiene promotion standards 1–2 and Vector control standards 1–3).

10. Case fatality rates: The acceptable CFRs for communicable diseases vary according to the general context, accessibility to health services and the quality and rapidity of case management. In general, aim to reduce CFRs to as low as possible. If CFRs exceed the minimum expected levels, an immediate evaluation of control measures should be undertaken and corrective steps followed to ensure CFRs are maintained at acceptable levels.