



Kenya Red Cross Cholera Response After Action Review Focused on Bomet, Homabay, Nakuru and Migori Counties February to June 2015

**Response supported by DREF N° MDRKE033,
with some funding from a long term WASH programme**

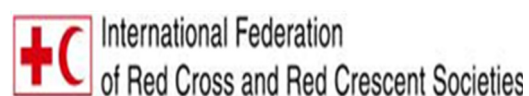


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ABBREVIATIONS/ACRONYMS

AWD	Acute Watery Diarrhea
CDC	Centre for Disease Control
CHEW	Community health extension worker
CHV	Community health volunteer
CTC	Cholera Treatment Centre
DREF	Disaster Relief Emergency Fund
DSRU	Disease Surveillance and Response Unit
ESU	Emergency Stock Unit
ERT	Emergency response team
FELTP	Field Epidemiology and Laboratory Training Programme
FGDs	Focus Group Discussions
IEC	Information Education Communication (material)
IFRC	International Federation of Red Cross and Red Crescent Societies
KRCS	Kenya Red Cross Society
LVNWSB	Lake Victoria North Water Services Board
MOH	Ministry of Health
MSF	Médecins Sans Frontières
ORS	Oral Rehydration Solutions
PA	Public Address system
PHO	Public health officer
PLWD	People living with disability
RCRC	Red Cross Red Crescent
UNICEF	United Nations Children's Fund
WASH	Water, sanitation and hygiene
WTC	Water Treatment Chemicals

EXECUTIVE SUMMARY

On the 3rd February 2015, the Director of Medical Services issued a cholera outbreak alert following an increase in cases of Acute Watery Diarrhoea (AWD) in several counties. Epidemiologic investigations were conducted by the Ministry of Health's (MoH) Disease Surveillance and Response Unit (DSRU) and the Field Epidemiology and Laboratory Training Programme (FELTP). The findings indicated that the cholera outbreak probably began before what had been assumed to have been the reported index case

Following the alert, KRCS with support from IFRC (through a DREF) and the British Red Cross (by adjusting long term programme funding) intervened with a three months cholera response in some of the affected counties to help curb the spread of the infection.

This after action review (AAR) was undertaken between the 9-23rd July 2015 to document the response and lessons learned. The AAR was undertaken in the Counties of Bomet, Migori, Homabay and Nakuru.

The key objective of the review was to assess the results of the intervention against the planned outputs in order to inform future emergency operations, specifically those related to the cholera.

The survey covered all the four counties¹ although for Bomet only the reflection workshop was done. The review adopted a mix of both primary and secondary data collection. Both quantitative and qualitative data collection methods were adopted. Data was thus collected using household survey via mobile data collection platform, reflective workshop, key informant interviews and review of secondary data.

Key findings included:

1. The response was reported to have been generally well undertaken across most planned activities.
2. All planned interventions were conducted except the distribution of soap and establishment of school hygiene promotion clubs. The household survey also indicated that only 25% of the need on water storage containers was met. Thus the community identified this as one element that did not work well.
3. There were reported budget constraints which hindered effective implementation of some activities.
4. Health education and messaging seemed to have been well done although needed to be continually strengthened. This aspect was depicted as well met by household respondents. This was further supported by the knowledge displayed by the respondents on cholera prevention.
5. The review indicated that although volunteers were trained, the quality of the training was inadequate. In addition, the numbers of volunteers were also reported to realize low coverage in the targeted area.
6. Distribution of chemical products for water treatment was satisfactory but there was a noted delay in procurement and distribution in some counties, plus some items had expired and had to be replaced.
7. The review noted some level of accountability to the targeted beneficiaries as communication and messaging was constant and the needs of the beneficiaries were sought beforehand.

Thirty five recommendations were made to strengthen future cholera responses. Recommendations relate to (a) planning, management and coordination, (b) training, (c) procurement and equipment (d) health promotion (e) treatment and (f) links to longer term work.

¹ Three counties, that is, Migori, Homabay and Nakuru had been covered by the DREF Appeal and were the main targets for the AAR.

1 INTRODUCTION

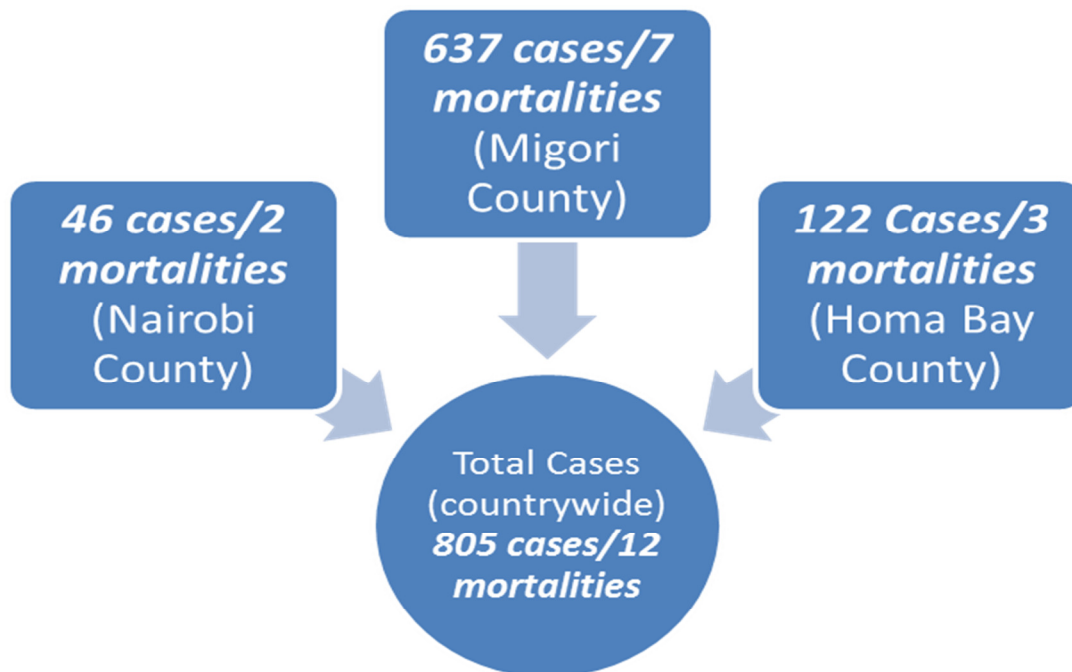
1.1 Background

On the 3rd February 2015, the Director of Medical Services issued a cholera outbreak alert following an increase in cases of Acute Watery Diarrhoea (AWD) in several counties. Epidemiologic investigations were conducted by the Ministry of Health's (MoH) Disease Surveillance and Response Unit (DSRU) and the Field Epidemiology and Laboratory Training Programme (FELTP). The findings indicated that the cholera outbreak probably began before what had been assumed to have been the reported index case. Laboratory confirmation indicated that the *Vibrio* in circulation was *Vc* *ogawa* and this was found in most of the cases². In many areas the outbreak began towards the end of January 2015 with a sudden rise in cases between the 9th and 10th February 2015.

In Homa Bay and Migori counties, the population's main sources of water supply are the river Riana, and shallow wells in villages. Public water supply infrastructures are concentrated mostly in urban areas, which are away from the epicentre of this outbreak, leaving people in the rural areas to rely on unsafe water sources. Moreover, access to latrines was also low which, when combined with poor hygiene practices, results in conditions that enable for the spread of diarrhoeal diseases such as cholera.

In Homa Bay, a release of sewage into the river Riana in Suneka, Kisii County was also believed to have contributed to the outbreak. As of 16th February, 2015 a total of 805 cases had been reported with 12 deaths. In Homa Bay, 122 cases and 3 deaths had been reported with majority of the cases being reported between 9th and 11th of February 2015, which indicated that the numbers of cases were rising at the time. The outbreak had been localized in areas where previous cases had not been reported and which cholera prevention and control activities had not been carried out. Migori had the largest number of cholera cases in the county; 637 cases (79 per cent of those reported) and 7 deaths while Nairobi reported 46 cases and 2 deaths. One additional case had been reported in Kisii County with the MoH's DSRU reporting an increase in AWD that was under investigation Lamu County.

Fig 1: Number of Cholera Cases and fatalities reported



Early warning and emergency response preparedness

² Throughout this report, Case(s) has been used to mean individuals suspected or confirmed to be affected by Cholera.

Following the Kenya Cholera response, KRCS issued early warning alerts through the DMIS, Emergency Operation Centre and through the local media. There was continued information sharing through the scientific lab analysis conducted by the County MoH.

Migori and Homabay Counties' scientific analysis was conducted by the County MOH for all specimens and positive samples identified rapid needs assessment was done by the County Diseases Surveillance Coordinators. Partners who participated in the assessment included MSF and KRCS, and the assessment report was circulated with the partners across all the counties.

Disease mapping was done effectively in the worst hit areas and an existing emergency response team meets on a quarterly basis at National Level to monitor the situation as the Cholera risk map unfolds.

In Bomet and Nakuru County there were no systems in place for early warning and emergency response preparedness despite neighbouring Counties of Homabay and Migori reporting series of cases of Cholera.

General WASH supplies were available - stocked by the regional humanitarian hub (KRCS, UNICEF, Care Kenya, and MSF).

During the Lessons Learnt workshop (22/23 July 2015) stakeholders, including KRCS staff and volunteers, engaged in discussions on what they will do differently in future to improve on aspects of early warning and emergency response preparedness. The recommendations for this phase were:

- Strengthen early warning systems
- Conduct health talks in schools and at household level
- Community mobilization on hygiene promotions
- Ensuring close collaboration with county government and other stakeholders

1.2 The Role of the Kenya Red Cross Society (KRCS)

KRCS was mandated by the MoH to conduct social mobilization and hygiene and sanitation promotion in agreed counties. In addition it was meant to support community level prophylaxis and provide peripheral health facilities with case management supplies.

Both Migori and Homa Bay Counties are vast. KRCS deployed 4 staff in areas of Migori and Homa Bay where cases had been reported and 104 volunteers to cover all the communities that were affected and who reside along the river Riana (suspected source of the V.cholerae).

Volunteers were sensitized on prevention and control messaging and were involved in early case identification and contact tracing. Moreover, response teams were, at the time of the assessment, distributing point of use water treatment chemicals and prophylaxis to support the MoH. Two cholera treatment kits were to be deployed to Migori and Homa Bay to support the programme.

1.3 The Role of RCRC Movement in country

The International Federation of Red Cross and Red Crescent Societies (IFRC) through its East Africa and Indian Ocean Islands regional representation, based in Nairobi, supports operations in 15 countries in the region, including Kenya. IFRC and Partner National Societies provided a supportive role to KRCS. The support ranges from sourcing for resources (monitory and non-monitory) to provision of technical support in different aspects/levels of the response. DFID supported the initiative with support channelled through the British Red Cross.

1.4 The role of non-RCRC actors in country

The MoH is leading the response at both county and national level, with support from partner organizations.

Partners directly involved in the cholera response included Médecins Sans Frontières (MSF), Plan Kenya, Lake Victoria North Water Services Board (LVNWSB), United Nations Children's Fund (UNICEF) and World Vision.

Coordination mechanisms were initiated at national as well as county and sub-county levels. Meetings were held at county and sub-county levels to deploy joint assessments teams, develop response plans and

allocate resources.

As of 16 February 2015, UNICEF had contributed supplies, comprising medical, water, sanitation and hygiene promotion (WASH) items, to the government health facilities, as well as through KRCS and LVNWSB; however these did not cover all that has been required. Refer to the “Needs analysis, beneficiary selection, risk assessment and scenario planning” section for further information on what is needed.

2 AFTER ACTION REVIEW

2.1 BACKGROUND

Overall objective

The objective of the response was to contribute to the prevention and control of the cholera epidemic in the Nakuru, Homa Bay and Migori counties, targeting 319,734 people (53,290 households), through provision of safe water, hygiene promotion and social mobilization with partners. The KRCS response in Bomet was enabled by adjusting plans/budgets related to an on-going WASH programme.

Proposed Strategy/Approaches to Support the Response

Through the DREF supported operation the Cholera Response, the plans were to:

- Carry out joint assessments in collaboration with MoH personnel to:
 - Establish cholera related indicators at community level
 - Focus on establishing community specific cholera related risk factors.

This was to enable targeted messaging and routine monitoring.

- Train volunteers on response against cholera outbreak using the ‘Epidemic Control for Volunteers manual’ to strengthen volunteer capacity in:
 - Advocacy communication
 - Social mobilization for hygiene promotion and sanitation
 - Disinfection of facilities,
 - Early detection and treatment at household level
 - Prophylaxis and referral
 - Contact tracing, cholera surveillance and supervision.

The training budgeted for the costs of MoH led facilitation, refreshments, transport, venue hire and stationery. Protective items (gloves and boots) were to be provided for 60 volunteers and 10 supervisors.

- Two complete cholera kits were to be used in affected areas to support the management of cholera cases.
- Chlorination of water supply sources in Homa Bay and Migori, in collaboration with county public health officers.
- Promotion of prevention and control measures at household level through distribution of disinfectants and soap (Lysol 6% and sodium hypochlorite 3.5% to be used). WASH related items such as hand washing kits, jerry cans, soap and water purification chemicals, were to be distributed to improve water storage and hygiene conditions in the affected areas.
- Community and household level social mobilization and sensitization activities related to cholera prevention, control and hygiene promotion.
 - KRCS volunteers were to sensitize communities on the use of Oral Rehydration Solutions and zinc.
 - KRCS volunteers were to support the MoH in case finding, contact tracing and referral at community level.
 - KRCS volunteers were to conduct sensitization sessions at public barazas, in schools and through

house to house visits.

- School hygiene promotion clubs were to be established.
- Posters (5,000) translated to locally used languages and radio spots on local radio stations would be used to support awareness raising campaigns on the prevention and control of cholera.
- KRCS volunteers to provide demonstrations on proper hand washing at four critical times.

The community-based health and first-aid (CBHFA) approach was used to organize the community, especially regarding hygiene and sanitation.

- To support coordination mechanisms at sub-county, county and national level cholera response teams.
- Operational review/lessons learned exercise would be carried out to inform future operations.

2.2 AFTER ACTION REVIEW - PROCESS

2.2.1 Review Objectives

Outcome 1: Review the effectiveness of the response in meeting the planned outputs.

Outcome 2: Provide a means of identifying success, challenges, lessons learned from the operation in order to inform recommendations for future operations, specifically those related to the cholera.

2.2.2 Expected deliverables

- Review report – including executive summary, findings, key conclusions and recommendations.
- Joint management response by KRCS/IFRC to the recommendations made following the review; including a plan of action for their application in future operations.

2.2.3 Methodology

Design

This was a cross sectional study that adopted a mix of both primary and secondary data collection approaches. This included both quantitative and qualitative data collection, and a literature review.

Data collection methods

Different methods of data collection were used as follows:

- **Household survey:** A household survey targeted affected populations. Systematic random sampling was used to select a sample of 746 households from the supported households. Thus, 289 households were covered in Nakuru, 255 in Migori and 202 in Homabay. No Household survey was done for Bomet County. The survey was administered by 10 KRCS volunteers.
- **Key Informant Interviews** included:
 - KRCS County Manager
 - KRCS Health Programme Manager
 - County Ministry of Health
 - Health facilities in charges
 - NGOs involved in cholera response
 - Community Leaders.
 - Partner National Societies
 - IFRC Programme Managers
 - Community extension workers
 - Community health volunteers
- **Focus Group Discussions** were conducted with beneficiaries and volunteers
- **Desk review and review of secondary data** included the review of:
 - DREF document
 - Updates from WHO, MOH, OCHA
 - ECHO cholera response 2011 & 2012
 - Dadaab Cholera Response.
 - Drought Cholera Response

3 KEY FINDINGS

3.1 QUANTITATIVE

This section highlights quantitative data findings from the household survey in Migori, Homa bay and Nakuru counties. All the county data was presented with the sample size of 255 for Migori, 202 for Homabay and 289 for Nakuru with a summation of 746 for variables that were not disaggregated.

3.1.1 Socio demography

Most respondents were female i.e. 65% in Homa Bay, 59% in Migori and 67% in Nakuru. This is particularly important when it is considered that women are considered as the first contacts of care at household level and they also understand household matters better than the males.

The majority of the respondents in the three counties were between 25 and 45 years old. The oldest respondents (77 years) were in Migori and Homabay while the oldest in Nakuru was 67 years old.

70% of respondents from the three counties were married. 12% were widowed/widowers, 15% were in a single relationship and the rest reporting to have been divorced.

3.1.2 Knowledge, Attitude and Practice

3.1.2.1 Perceptions on vulnerability to cholera

About half (48.9%) of respondents in Nakuru believed that persons with very young children (0–5 years) were vulnerable to cholera. This was slightly higher than reported in Homa Bay (42.0%) and Migori (38.2%). Nearly a quarter of respondents in Homa Bay (26%) and Migori (24%) thought that older people over 60 years and living alone were also more vulnerable. In Nakuru County, this was slightly lower at 21.2%.

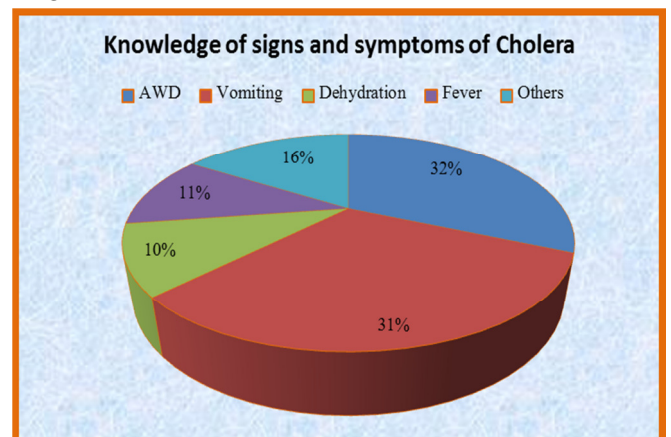
Interesting, people with disability, orphaned or child headed family and self-supporting mothers were believed to be less vulnerable.

3.1.2.2 Knowledge of sign and symptoms of cholera

Early identification of cases within the community is a critical component in the fight against cholera. So that care givers can identify suspected cases, administer the right care and refer cases to health facilities - ultimately helping reduce rapid disease progression and mortality.

A measure of knowledge of signs and symptoms of cholera is a proxy way of determining if care givers can do most or all the above - it all begins with having the right knowledge.

Overall, about a third of the caregivers identified cholera with AWD (31.1%) and vomiting (30.8%). Only 10.3% of the caregivers interviewed thought dehydration was also a symptom of cholera. Fever and 'others' was classified as a symptom of cholera by 11% and 16% of all respondents respectively.



Complications related to cholera

Slightly more than a third (33.6%) of the respondents identified weakness as the main complication of cholera (range across counties 26.4 - 35.6%) - with thirst, sunken eyes and dry mouth and eyes being complications mentioned by the least respondents across the three counties at 14.9%, 16.2% and 12.7% respectively.

Table 1: Complications Related to Cholera

Complications	Migori (n=255)	Homabay (n=202)	Nakuru (n=289)
Weakness	26.4%	38.7%	35.6%
A very thirsty person	14.8%	14.9%	15.1%
Sunken eyes	17.3%	10.5%	20.8%
Dry mouth and eyes	13.4%	14.6%	10.0%

3.1.2.3 Knowledge on action to take in case of a suspected case

In case of a suspected cholera patient, slightly more than half of the respondents (51.2%) indicated that they would alert health authorities to manage the case while 34.5% indicated that they would administer ORS to rehydrate the patient. 15% would offer antibiotics and supplements to reduce volume and duration of diarrhoea. The breakdown across counties is shown in the table below:

Table 2: Actions to be taken on reported cases

Actions to perform	Homa Bay (n=202)	Migori (n=255)	Nakuru (n=289)
Rehydration with ORS	29.7%	30.5%	43.2%
Antibiotics/zinc supplementation to reduce volume and duration of diarrhoea.	10.0%	20.2%	11.6%
Alert health authorities (health facility / Red Cross members) to organize the management of the case.	59.7%	48.6%	45.2%
Other (specify)	0.7%	0.7%	

3.1.2.4 Knowledge on preventive measures of cholera

The respondents mentioned a number of preventive measures that would be undertaken to tame cholera outbreaks. Hand washing was the highest mentioned (79%) followed by food safety as indicated below:

Table 3: Reported Cholera Preventive Measures

Preventive measures (n=746)	Freq.	%
Hand washing	591	79.2
Water chlorination/safety	422	56.6
Improving food safety	513	68.8
Household hygiene	482	64.6
Observing hygiene during social gatherings	167	22.4
Disinfection of affected persons waste	108	14.5
Vaccination	44	5.9

3.1.3 Access to water and sanitation

3.1.3.1 Water sources

Contrary to the information from the initial back ground check on the affected counties, most community members (88%) across the targeted counties accessed water from protected sources, with only 12% mentioning open water sources like rivers and lakes as their source of water. The improved sources mentioned included, piped water, boreholes, protected springs and wells.

3.1.3.2 Distance from the water source

There is significant variation in reported distance to water sources. 72% of the respondents in Homa Bay County reported that they could access a water source within a radius of 500m. This was higher than what was reported in Migori County (51%) but less than in Nakuru County (92%).

3.1.3.3 Does the water meet the needs of the community?

In Homa Bay County 68% of the respondents said that the water they access meets their daily needs while in Migori 52% of the respondents thought that it met their need. Among the three counties, Nakuru had the highest number (70%) of respondent who reported that the water they accessed met their needs.

3.1.3.4 Latrine Coverage

In Migori County 68% of the respondents indicated that they had pit latrine compared to 77% in Homa Bay and 90% in Nakuru County.

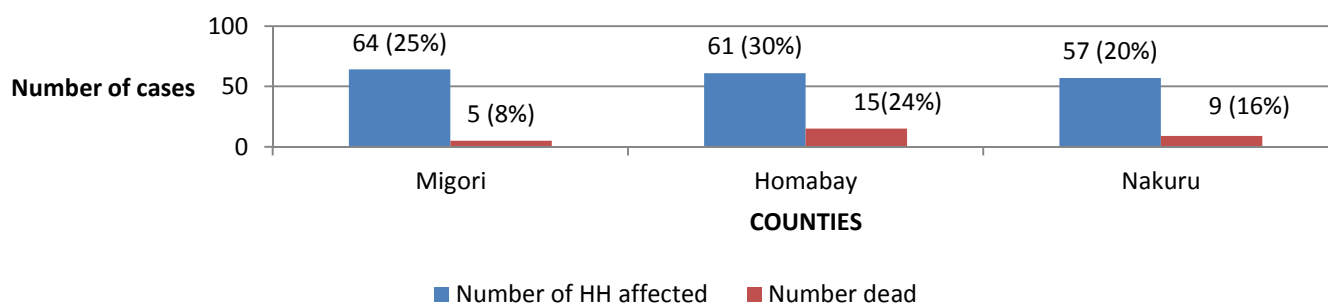
3.1.4 Critical hand washing times

Knowledge on critical handwashing times was commendable with 86% mentioning at least three critical hand washing times.

3.1.5 Effect of the outbreak

Of the households covered, 24% (182) reported having had a confirmed cholera case in their households, with 35% (64) of them occurring in Migori, 33% (61) in Homabay and 31% (57) cases in Nakuru County. Out of the cases reported 8% of those in Migori, 25% in Homabay and 16% in Nakuru passed on as indicated in the graph below:

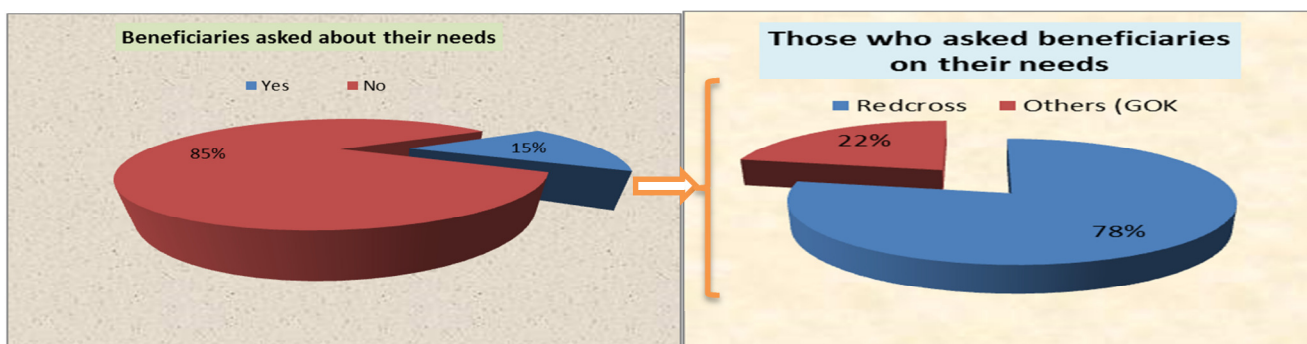
Fig 2: Effect of cholera (n=182)



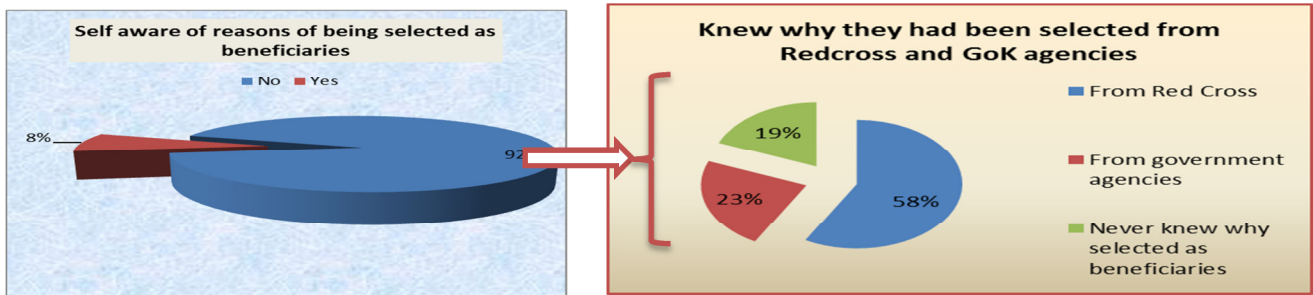
3.1.6 Accountability

3.1.6.1 Beneficiary involvement (information sharing and needs assessment)

The findings show that only 15% (114) of the respondents were asked about their needs. Of these, 78% (89) indicated that the Red Cross had asked while 21.9% (25) of respondents reported that they had been asked about their needs by the government and other sources.



Only 8% (63) of the households were aware of why they had been selected for assistance. The reasons mentioned for being selected included residing in villages where cases had been identified and areas where sanitation and hygiene conditions were not conducive.



An additional 38% (284) got the information on the assistance from the Redcross volunteers with 21% (158) receiving similar information from the government officials.

As much as Red Cross was indicated to have some level of accountability in terms of ensuring beneficiary participation and communication, a lot still needs to be done to increase coverages in future operations.

3.1.6.2 Assistance needed and received

The assessment also looked at the assistance required and whether it was provided.

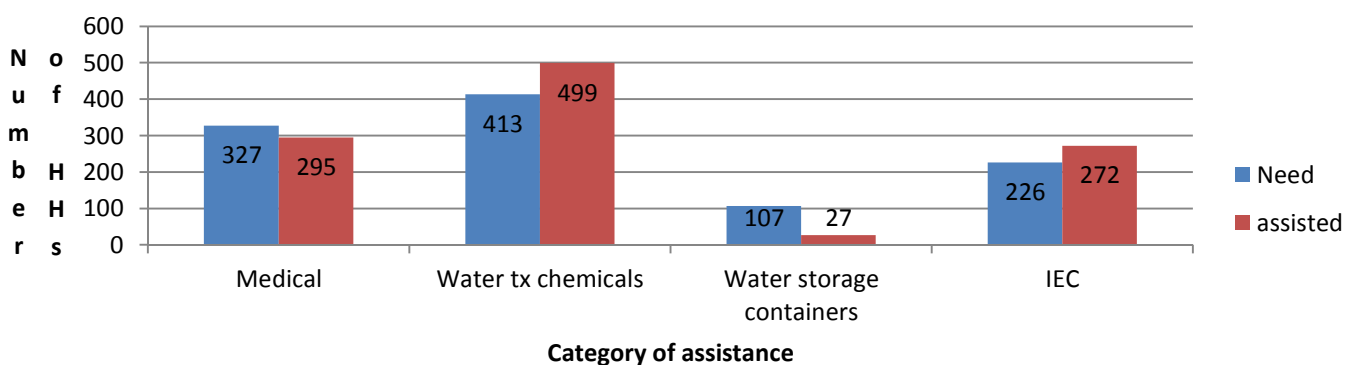
413 (55%) of the households affected said they required water treatment chemicals to help them prevent the further spread of the disease. 67% reported that they had actually received the chemicals with about a third not receiving the assistance as required.

327 households (44%) required medical assistance. 90% of them reported that they had received assistance from the cholera treatment camps.

Distribution of IEC materials was well done at both at household level and treatment centres.

Distribution of water storage containers was the lowest met, meeting only the needs of a quarter of targeted households. The graph below shows the coverage of assistance provided against the expressed need.

Fig 3: Assistance needed and received



3.2 QUALITATIVE

This section covers qualitative findings based on the operational plan of the response. It includes responses from key informants, FGDs and reflection sessions focusing on what worked and what did not work well.

3.2.1 Health and care

The findings from FGDs and key informant interviews indicate that this component was generally well handled across the counties save for a few hiccups that were realised due to ineffective planning process. The summary of the observations are listed below:

Went well	Did not go well	What to be done differently
<i>Nakuru County</i>		
<ul style="list-style-type: none"> • Provision of aqua tabs and water treatment chemicals • Community mobilization • Rapid response • Logistics provision • Collaboration between stakeholders to decide / split roles. • Support from many organizations and individuals (MOH, PHO, community health workers) helped reach a large number of people • Contact tracing enabled effective treatment of infected persons • Community communication and participation • Quick response of health services • Hospitals set aside to deal with cholera /services offered free 	<ul style="list-style-type: none"> • Limited chemoprophylaxis / water treatment chemicals • Water was inadequate in the communities • There were poor drainage system during the operation • Not all volunteers and CHVs were trained on cholera and for those trained, the training was said to be inadequate. • Not all the households were reached during sensitisation • Sporadic charging of patients for treatment • Directives were not adhered to by the communities • Poor work plan by stakeholders 	<ul style="list-style-type: none"> • Sensitizing the community early before the outbreaks. • Giving out health talks in schools and also plots • Advising the community on proper hygiene promotions always • Collaboration with the public health sector and other stakeholders • Adequate training of more volunteers
<i>Bomet County</i>		
<ul style="list-style-type: none"> • Infection control in the health facility • Partner support (National government, KRCS, MSF, UNICEF, World Vision) for provision of CTC beds etc • Case identification • Recalling of health staff – commitment of health workforce • Availability of drugs • Discharge mechanisms was successful 	<ul style="list-style-type: none"> • Panic all over • Gap in knowledge • Lack of referral mechanisms due to poor understanding of the community. • Lack of motivation of the staff, no overtime allowance • Accountability of supplies • No clear guidelines on cholera management had been provided by the MOH at the county level • Diagnostic centre was far away from the county 	<ul style="list-style-type: none"> • Have contingency plan in place • Have technical working group to be instituted • Equip the laboratory with relevant diagnostic
<i>Migori County</i>		
<ul style="list-style-type: none"> • Quick mobilization of care and treatment commodities • Quick update of standard case definition to health care workers • Strengthened referral systems through volunteers on the ground • Infection prevention measures at the CTU helped contain spread. 	<ul style="list-style-type: none"> • Consumption of commodities was too high and replenishment wasn't prompt. • Serious shortage of staff at the facilities lead to burn-out • Heavy congestion CTU • Less supervision due to less staff and logistical 	<ul style="list-style-type: none"> • Strengthen coordination at all levels • Routine updates on cholera standard case definition • Strengthen disease surveillance by ensures weekly updates on disease trends.

<ul style="list-style-type: none"> Contact tracing and dosing was well coordinated 	<p>constraints led to compromised standards of care.</p>	
Homa Bay County		
<ul style="list-style-type: none"> Availability of drugs (prophylactic) and other commodities (IEC, WTC) Availability of personnel (volunteers, CHV, MoH) Available referral mechanism Availability of treatment guidelines PSP to those affected 	<ul style="list-style-type: none"> ORS inadequate Specimen collection done after treatment Commodities not sufficient Specimen shipment took a lot of time 	<ul style="list-style-type: none"> Have sufficient contingency stock Have a working contingency plan with bias to cholera. Strengthen infection prevention control for health workers.

3.2.2 Water, sanitation and hygiene promotion

With a focus on water and sanitation, Bomet County brought the cholera outbreak under control within the shortest time. Nakuru, Migori and Homa Bay Counties still had active cases of cholera at the time of review hence a need to look at what aspects can be ventured into in order to address the problem with a longer-term approach. Observations across the targeted counties are summarized in the table below:

Went well	Did not go well	What to be done differently
Nakuru County		
<ul style="list-style-type: none"> KRCS distributed 83,520 aqua tabs 10 water containers provided IEC materials provided Training conducted on hygiene promotion 	<ul style="list-style-type: none"> Inadequate supply of IEC materials Inadequate water treatment tablets Preventive measures were not fully enforced 	<ul style="list-style-type: none"> Mass education before epidemic Supply of more aqua tabs Supply of more IEC materials Training of more volunteers for effective outreach Adequate beneficiaries consultation Provision of clean water for domestic use
Bomet County		
<ul style="list-style-type: none"> Water treatment at household level Distribution of water treatment kits (buckets, purr, water guard, tabs) Protection of water bodies Water sampling Good political will and governance New constructions and use of toilets among the affected communities Decontamination for affected households Tracing of contact persons and provision of health education The community was receptive 	<ul style="list-style-type: none"> Inadequate supply of water treatment kits Ratio of cholera response team to the affected population was small Infection prevention at household level was very low e.g. bucket sterility Access of piped water among the affected population was minimal Decontamination was affected by contact persons perception 	<ul style="list-style-type: none"> Access to clean and safe water by all Continuous M&E of water standards Policy implementation and enforcement Behavioural change by our communities Increase in latrine coverage Capacity build technical staffs and community health units
Migori County		
<ul style="list-style-type: none"> Sensitization and advocacy on water treatment 	<ul style="list-style-type: none"> Ineffective water treatment chemicals 	<ul style="list-style-type: none"> Engage more volunteers

<ul style="list-style-type: none"> • Distribution of water treatment chemicals • Assessments and identification of water points and treatment • Joint pre-planning between KRCS and partners • Joint trainings • Prepositioning of supplies • Decentralization of supplies • Quarterly and bi-annual refresher courses. • Demonstration on water treatment and components. • The water treatment chemicals. • Hand washing and hygiene promotion • Supplies rightly and timely targeted. • Awareness/communication on safe water for domestic use using multimedia channels • Campaign against use of natural water sources 	<ul style="list-style-type: none"> • PLWD were not factored. • Water supply. • DREF was not shared with all the partners. • Delay in water treatment chemicals supply and distribution • No water storage facilities supplied • Behaviour change and socio-cultural beliefs were hindrance. 	<ul style="list-style-type: none"> • Work closely with MoH staff in the initial stages till end • Map out centre points • Constant stock checking and replenishment. • Contingency plan for cholera operations • Establish ERT at all levels. • Continuous water quality control • Continuous health education and refresher trainings and community sensitization.
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Homa Bay County

<ul style="list-style-type: none"> • Assessments and identification of water points and treatment • Demonstration on water treatment and components. • The water treatment chemicals. • Hand washing and hygiene promotion • Supplies rightly and timely targeted. • Awareness/communication on safe water for domestic use using multimedia channels • Campaign against use of natural water sources 	<ul style="list-style-type: none"> • PLWD were not factored • Behavioural change was a hindrance in the operations • Water supply • DREF was not shared with all the partners. • Delay in water supply distribution • No water storage facilities supplied • Behaviour Change and Socio-cultural beliefs were hindrance. • Inadequate supply of water treatment supplies. 	<ul style="list-style-type: none"> • Engage more volunteers • Inclusion/work closely with MoH staff in the initial stages till end • Establishment of ESU and constant stock checking and replenishment. • Map out of centre points • Continuous health education and refresher trainings and community sensitization. • Contingency plan for the operations. • Establish ERT at all levels. • Continuous water quality control
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3.2.3 Logistics and coordination

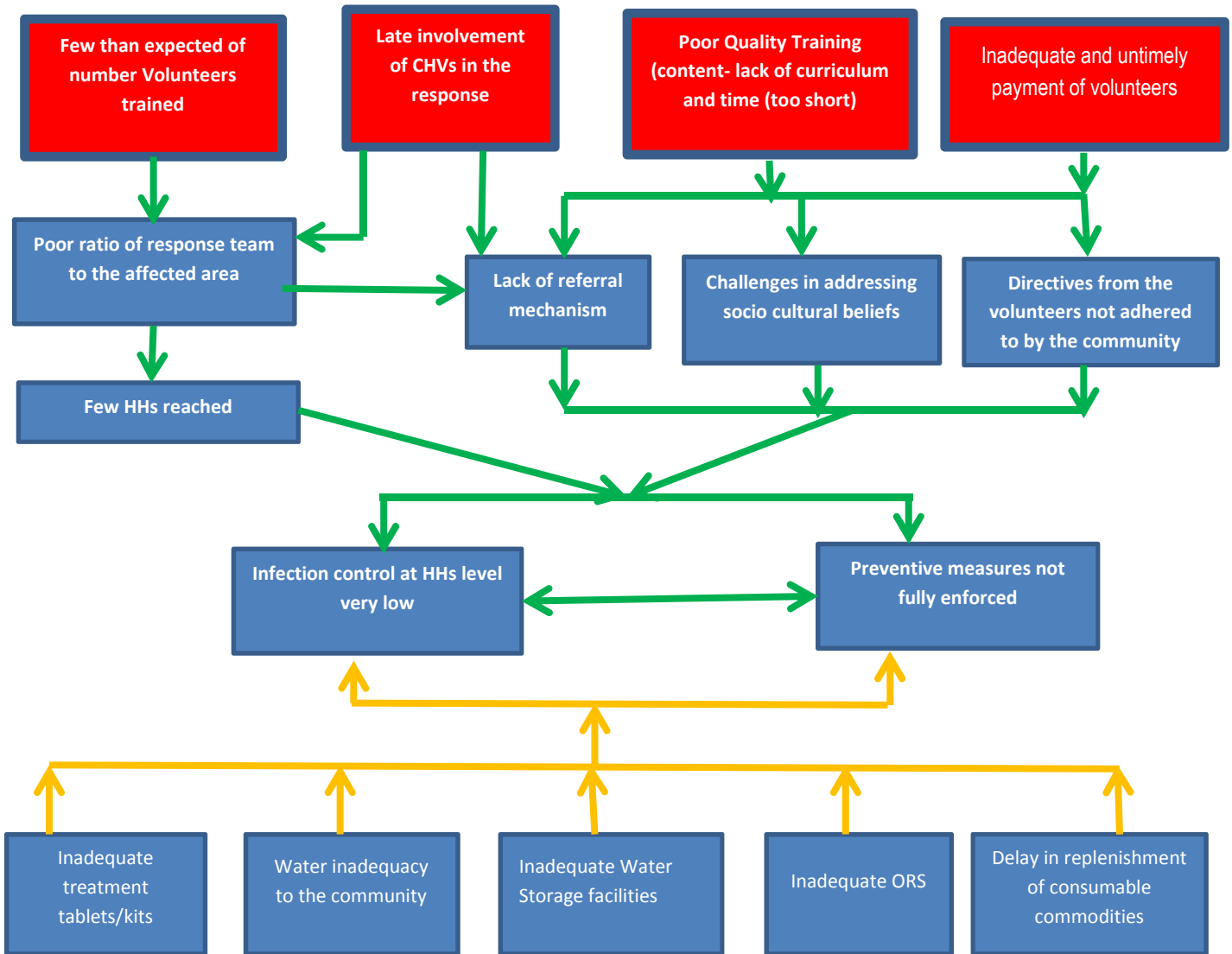
In all the counties, logistics and coordination was well done. This was assessed as a reflection of KRCS' fleet capacity, partnerships and coordination. A summary of observations are listed below.

Went well	Did not go well	What to be done differently
Nakuru County		
<ul style="list-style-type: none"> • Transport was reliable • There was coherent coordination in terms of incident command • Responses were informed with rapid assessment and the adapted activities met the needs 	<ul style="list-style-type: none"> • Activities planned weren't informed by consultation and agreement by beneficiaries • Negligence of beneficiaries during 	<ul style="list-style-type: none"> • Adequate stock of necessary supplies • Prior and regular stakeholders mapping so as to have joint planning • Routine risk assessment

<p>of vulnerable and hence met the qualification of a disaster requiring response as articulated by the national policies</p> <ul style="list-style-type: none"> Contributed to capacity building of KRCS staff 	<p>planning</p> <ul style="list-style-type: none"> DREF operations failed to meet the exact needs of beneficiaries Improper coordination channels between the HQ and county branch offices 	<ul style="list-style-type: none"> Proper linkages among the partners and the community health workers at grass roots Provision of alternative means of transportation to areas inaccessible by motor vehicles especially during door to door visits.
Bomet County		
<ul style="list-style-type: none"> Detailed assessment influenced by line-listing Planning used the line listing information. There was information from the communities on diarrheal cases. There was information from lab reports Consulting with department of public health. There were continued discussions with partners. Stakeholders started coming in to identify gaps. Follow-ups and cholera health posts were set-up to address the issues. Consultation with MoH and partners. DREF was shared with partners Supplies were done based on assessments. Disinfectants were availed to the volunteers. Daily updates on operations. Debrief sessions with volunteers. The response was rapid. There was accountability. 	<ul style="list-style-type: none"> There were cases from other sub-counties. Coordination between Counties. Lack of updated cholera guideline Lack of PLWD involvement There was inadequate and untimely volunteer allowance. Improve coordination from partners Minimization of movement. Not sufficient involvement with the CHEWs. Administration of drugs and sticking to guideline. 	<ul style="list-style-type: none"> Transport refund to the volunteers. Budget with health officers. Joint planning and transparency. Obey the standby emergency ops vehicles. More advanced budget. Inclusion of budgets for logistics and supplies.
Migori and Homa Bay Counties		
<ul style="list-style-type: none"> Detailed assessment influenced by line-listing. Information from lab reports Consultation with MoH and partners. DREF was shared with partners Disinfectants were availed to the volunteers. Daily updates on the operations. Debrief sessions with volunteers. 	<ul style="list-style-type: none"> Lack of PLWD involvement Took too long to respond There was inadequate and untimely volunteer allowance. Improve coordination from partners No accountability. 	<ul style="list-style-type: none"> Budget with health officers Have a proper planning and transparency. More advanced budget. Obey standby vehicles for emergency response. Media coverage needs to be increased. Inclusion of budgets for logistics and supplies.

QUALITATIVE REVIEWS

The chart below shows summarized findings from the reviews and how they link to each other.



3.3 PERFORMANCE AGAINST THE PLANNED ACTIVITIES

Table 4: Summary of Performance of Activities under the DREF Support

Activities/tasks	Conclusion
Training of 104 KRCS volunteers.	“ Somehow worked well ”
Procure and equip 60 volunteers and 10 supervisors with protection materials (boots and gloves).	“ Somehow worked well ” – the procured items were delivered to the MoH instead of the volunteers. However, volunteers report to have received gloves and boots.
Conduct volunteer debriefing sessions.	“ Worked well ”
Conduct awareness raising / sensitization campaigns for cholera prevention and control (Target: 319,734 beneficiaries / 53,290 households).	“ Worked well ”
Conduct house to house visits for cholera prevention and control (Target: 41,523 people / 6,921 households).	“ Worked well ”
Organize weekly local radio sensitization broadcasts (Target: 319,734 beneficiaries / 53,290 households).	“ Worked well ”
Distribution of 500 posters for information, education and communication.	“ Worked well ”
Procure 2 cholera kits/set up oral dehydration points in the affected areas	“ Worked well ”
Demonstration/sensitizations on the use of ORS	“ Not worked well ”
Case detection and referral of cases to nearest health facilities	“ Somehow worked well ”
Distribution of water purification chemicals to affected HHs	“ Somehow worked well ”
Distribution of jerricans at HHs	“ Not worked well ”
Distribution of chlorine to carry out disinfection of water supply sources – shallow wells, springs	“ Somehow worked well ”
Chlorination of 300 water supply sources	“ Worked well ”
Distribution of soap to the affected HH	“ Did not happen ”
Conduct hygiene promotion campaign targeting hand washing at key times through demonstrations of at market, schools and other public places	“ Worked well ”
Conduct house-to-house hygiene promotion – PHAST	“ Somehow worked well ” – On-going
Establishment of 2 school hygiene promotion clubs	“ Not done ”
Installation of hand washing kits	“ Worked well ”

4 RECOMMENDATIONS

4.1 Planning, management and coordination

Multiple stakeholders are involved a cholera response. In order to strengthen future preparedness planning and management, it is recommended that:

1. KRCS should work with the MoH and other stakeholders to undertake joint contingency planning
2. A joint county coordination committee should be established to oversee standards of care and treatment
3. Interventions should be focused in areas identified as being vulnerable to the next outbreak.
4. A county disease outbreak response team should be constituted with clear TORs
5. There should be continuous engagement with the MoH and CHEWS/CHVs should be involved at all stages in implementation
6. Volunteers should be regular briefed and debriefed

7. Communities should be involved in the planning and implementation of interventions.
8. The payment of allowances (who should get what, when and how) should be clearly communicated.
9. Stakeholder meetings should take place on a regular basis
10. A feedback mechanism should be established strengthen communication
11. To ease analysis and reporting, standardized tools should be used to record activities

Some areas budgeting were felt to be inadequate, it is therefore recommended that:

12. The planning and budgeting process should be reviewed to ensure that relevant teams (Ops, County, supply chain and finance) are involved, understand and agree plans and budgets
13. Plans and budgets should be shared with stakeholders to promote transparency

4.2 Training

Various training gaps were identified. It is therefore recommended that:

14. The approved MOH Cholera training curriculum should be used for all training
15. Training plans and approaches should be reviewed e.g. content, targeting (who is trained in what), skills of facilitators, training methods, consideration of people with specific needs (inc. disability) etc.
16. As cholera is a recurrent issue, volunteers should be trained as part of KRCS's overall preparedness. One option would be possibly having a small cadre of well-trained people who could be deployed in the early stages of a cholera outbreak while others are being trained up.
17. For those who have received cholera training previously, refresher training should be provided to ensure they have the knowledge and skills needed to respond.
18. Where possible, training should be decentralized to the sub-county context
19. CHVs should be trained in each sub-county

4.3 Procurement and equipment

Protective equipment was insufficient and only distributed to MoH staff. More focus needs to be given to the health and safety of all responders. It is recommended that:

20. The PPEs needed for different response types should be defined to improve planning, budgeting and procurement
21. A clear rationale should be agreed regarding the distribution of PPEs (how they are targeted/prioritised)
22. KRCS should liaise with MOH to ensure they provide PPEs for their own staff
23. PPEs should be stocked ready for deployment and stocks should be replenished when used

Some issues with regard to procurement were identified. It is therefore recommended that:

24. Procurement files are reviewed to identify where delays occurred and to determine how this can be avoided in future.
25. The procurement of cholera commodities should take due account of expiry dates

4.4 Health promotion

Awareness creation (prevention and treatment) is a key strand of the response. To strengthen future cholera responses it is recommended that:

26. Health promotion activities should be increased and monitoring undertaken to determine effectiveness
27. IEC materials should be translated into local languages and the quantity of materials needed for good coverage reviewed
28. Awareness activities should take account of people with special needs, including those living with disabilities
29. Awareness activities should target areas which are not affected by cholera but within the same locality
30. The use of mass media should be increased with more information passed via TV and local radio (note: the effectiveness and cost of different mediums of communication should be continually assessed)

4.5 Treatment

In some areas, there was inconsistent application of protocols and procedures and this may have affected the quality of care. It is therefore recommended that:

31. The application of treatment and drug guidelines should be consistently applied.
32. Lapses in application should be reviewed to determine why they occur (lack of knowledge, supervision, resources etc) and support provided to ensure they are addressed.
33. A chlorine application protocol should be defined, including specification on the quantity to be used in each water source, and training provided accordingly.

4.6 Links with longer term work

KRCS has established WASH and health programming. As such, there is potential to strengthen the links between long-term programming and cholera preparedness and response. It is therefore recommended that:

34. The link between the long term work and cholera preparedness and response should be reviewed

5 ANNEXES

5.1 Lessons learnt workshop report

Lessons Learnt Workshops were implemented in all the target counties, this was in a bid to learn from the interventions that had been done and provide key recommendations on how to improve on future interventions.

Investing on Quality of trainings to maximize on efforts

Through training of 104 KRCS Volunteers in Homa Bay and Migori Counties on Cholera preventive measures, there was a pool of capacities which could provide on job training to other volunteers on preventive measures. Thus, this ensured that at all times there was a pool of volunteers with skills on controlling/preventing cholera and ready for deployment.

The training also strengthened the volunteers' engagement in contact tracing ultimately leading to strengthened response activities through increased in Knowledge on HHS prevention and control of Cholera, hygiene promotion, community case definition and management and first aid measures by KRCS and MoH.

Even with these great training-linked achievements, there were gaps identified in Migori and Homabay Counties in that the training was seen to be brief (too short for the content) and that the MoH was not involved in the Training.

The recommendations based on the learning from the training include:-

1. Involvement of MoH
2. More time to be allocated to the training (to be done for at least 5 days). There were cases where volunteers had to learn on the job an indication that the training was not comprehensive
3. Inclusion of CHVs from the CUs in each sub county for training
4. Training should be evenly targeted
5. Qualified personnel to conduct the training
6. Use of approved MOH Cholera training Curriculum
7. Integration of the training need to fit PLWD,
8. The training to be decentralized and to fit the sub-county context
9. Volunteers to be trained prior the response (preparedness) as opposed to waiting until the response time.
10. Need for refresher training re cholera; this is to ensure that the volunteers are well equipped knowledge wise to respond.

Management of PPEs

Kenya Red Cross planned to procure PPEs (boots and gloves) in order to equip 60 volunteers and 10 supervisors with protection materials. The boots and the gloves were meant to be worn during specific times of need, that is, when attending to an affected person. Nyatike Sub-County received PPEs from the MoH (Plastic aprons to be used at the facilities).

During the review it was reported that no KRCS Volunteers received PPEs. It was also found that since PPEs were not enough the procured gumboots and gloves were only distributed to the MoH.

Some of key learning and recommendations from the way PPEs were managed include:-

1. Need to procure adequate equipment (covering all those responding, both trained volunteers, support staff and MOH) in future.
2. Need for timely procurement of the equipment. It was also noted that the equipment were done after the response which meant that they could not be used for the intended purpose.

3. All the PPE kits components need to be provided.

Debrief Sessions/Daily project implementation

Debriefs were conducted every day before and after field work. The Learning from these sessions helped in planning and knowing the status quo, defining target areas and the next steps for the interventions.

Some of the learning from the sessions included:-

Volunteer motivation and transport refund needed to be provided and should have been done in the evening.

While the Volunteers and CHVs conducted awareness raising sessions on water treatment, safe disposal of faeces, proper hand washing, case referral and handle deaths as a result of cholera, cardinal signs of cholera, food hygiene, cleanliness around the compound and water safety (chemical use), there was a challenge (Coverage and accessibility) at first which was resolved through the debriefing sessions. The solution for the challenge included use of Public Address (PA) system, door-to-door demonstrations, theatre (drama) Mass media (Mayienga FM, Ugwe FM) and distribution of IEC materials (brochure, posters, t-shirts, flyers). The project targeted places such as Households, market areas, schools and gatherings (funerals, churches, chiefs' barazas and social gathering). Through the different approaches in the targeted places, the audience were taken through the signs and symptoms for cholera, Sanitation messages, provided with IEC materials, Health education to schools, and demonstration of water treatment chemicals.

Set-backs associated with PUR were experienced in Migori County. Within this County, it was noted that the PUR which had been distributed had expired and had to be retrieved from the HHs. In addition, the IEC materials were also noted to have been inadequate (quantity and clarity).

The learning from these perspectives led to the need to:-

1. Provision of adequate IEC materials (posters, brochures, t-shirts)
2. Translation of the IEC materials to local language
3. Consideration of those living with disabilities
4. Door-to-door visits by volunteers, CHVs, Health Workers from the county
5. House-to house health education sessions were also conducted.

Other lessons/recommendations included:-

6. Need to improve on transport allowance to increase coverage since most affected areas in some areas such as Nyatike were not covered
7. The coverage in future need to include areas those were not affected but are within the same region.
8. Distribution of chlorine to carry out disinfection of water supply sources Lessons learnt
9. The need to define chlorine application protocol including specification on the quantity to be "put" in each water source

2: Core Review team:

- a. Donnelly Mwachi – Monitoring, Evaluation, Accountability and Learning Manager (British Red Cross)
- b. Gurudev Sigh – Health Delegate (IFRC Africa Zone)
- c. Geoffrey Odera – Regional Emergency Planning and reporting (IFRC)
- d. Juliet Khisa – Disaster Management Operations (IFRC)
- e. Dan Mogaka – Monitoring and Evaluation Officer (Kenya Red Cross Society)
- f. Samuel Kevin – Volunteer IT (Kenya Red Cross Society)

Given changes in staff, the final report – based on information gather by the above team - was prepared by Lydia Atiema (KRCS), Solomon Kamuti (BRC) and Karen Peachey (BRC).