

WASH strategic framework for cholera risk reduction and response during the rainy season in North East Nigeria

1. Objective and strategy

- This WASH strategic framework aims to guide the WASH actors to optimize their readiness for cholera risk reduction and control during the rainy season. The document intends to complement the various existing Health and WASH plans to better protect from cholera and other acute diarrheal diseases all conflict-affected population in North-East Nigeria, in particular IDPs, host communities and returnees.
- The framework is based on the integrated and proactive “shield and sword” concept, promoted since 2011 in the four countries of the Lake Chad Basin by the West and Central Africa Regional Cholera Platform, which has contributed to elaborate in 2014 then to update in March 2016 the cholera prevention, preparedness and response plans of the three affected states of Adamawa, Borno and Yobe.
- In this specific conflict context limiting the presence of the humanitarian operators on the field, the suggested strategy focuses on a restrictive number of high impact WASH interventions for cholera prevention and control:
 - Raising the shield of the prevention for cholera risk reduction during the rainy season in the biggest humanitarian hotspots, targeting their own most at risk cholera transmission contexts;
 - Using the sword of a rapid and targeted response to cut the spread of outbreaks as soon as the first suspected cases appear, supported by a proactive surveillance and real-time investigations.

2. Cholera bases

- *Vibrio cholera* can kill within hours if not treated by rehydration facing acute water diarrhea and/or vomiting.
- The principal mode of transmission this fecal-oral disease remains the ingestion of contaminated water or food.
- The incubation period (from intake of the bacteria through the mouth until arrival of symptoms) is very short of a few hours to five days can trigger explosive outbreaks.
- Rapid investigations on the cholera cases (looking for common denominators on what happens during the short incubation period) at health facilities and/or at household level) can help to adjust continually a better targeted integrated response.
- Different cholera transmission contexts can be identified to better drive the WASH response (such by GIS in urban context): water-borne, funeral rituals, health facilities, gatherings or public places, inside social and livelihood groups, household transmission.
- *Vibrio cholera* is destroyed by chlorine for drinking water (free residual chlorine > 0.5 mg/l), soap or other disinfectants (e.g. 0.05% chlorinated water for handwashing), with heat (temperature > 65 degrees Celsius), sun rays (e.g. Sodis), weak ph.
- Oral cholera vaccine (OCV) campaigns (2 doses) when well targeted and prepared in term of risk communication and community engagement, can be considered as a relevant additional tool for cholera prevention or response, in complementarity and straight coordination with the WASH sector interventions.

3. Cholera mapping, seasonality and risk factors in Nigeria

- The current cholera pandemic started in 1961, reaching West Africa and Nigeria late 1970.
- In Nigeria, the cholera hotspots are mainly located in the northern states. The last major cholera outbreak occurred around 2010 with 41,787 cases including 1,716 deaths (CFR 4.1%) from 222 LGAs in 18 States of the country. This outbreak affected then the other 3 neighboring countries of the Lake Chad Basin (Niger, Chad and Cameroon).
- In the country, the reported cases are observed at the end of the dry season (February and May), increasing during the rainy season (June to October) followed by a sharp decrease from mid-November.
- Not without link with the restriction of population’s movements in and with the conflict-affected area of North-East Nigeria in lake Chad Basin, the trend of the reported cholera cases has strongly decreased these two last years in the overall country, with 5,301 cases in 2015 and 768 cases in 2016, e.g. compared to 35,996 in 2014.
- However in the North-East, the concentration of the population in camps or settlements, their probable loose of immunization, as well namely so far the unmet WASH standards, clearly opens the door to some potential explosive outbreaks. The first confirmed cases of cholera appeared in the IDP camps in Maiduguri in Sept. 2015 over a three-week period, then the disease spread to the city’s other IDP sites. In 2016, undeclared but strongly suspected cases of cholera were detected in Borno state around Rann in Kala Balge LGA at the border of Far North Cameroun.
- Regarding the risk factors in the North-East, livelihood groups and practices at risk to be considered in the strategies for cholera prevention and control can be summarize as per as below:
 - Funeral rituals, patients care and home visits;
 - Informal trade, migrant fishermen, nomadic groups, arrival of new IDPs and returnees;
 - Cross-border markets around the shores of Lake Chad.

Figure 2. Cumulative incidence of cholera by state in Nigeria, 2004–2014³

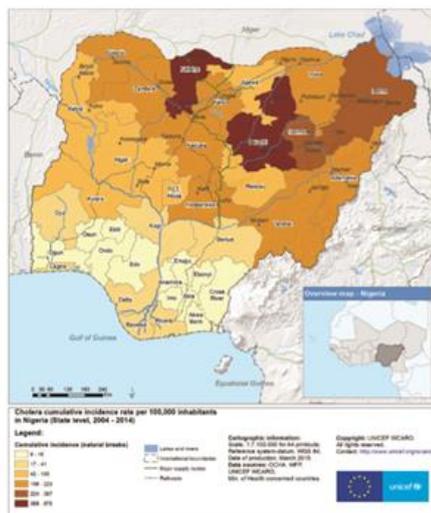
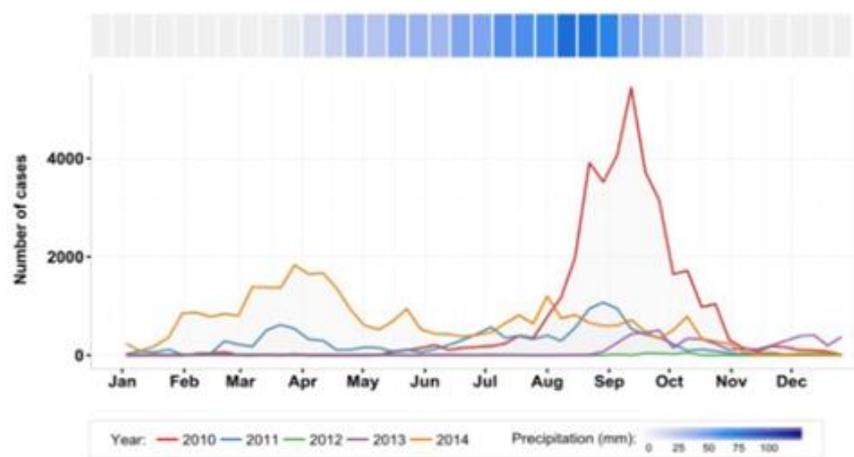


Figure 3. Weekly number of cholera cases and median of estimated ten-day precipitation in Nigeria, 2010–2014^{3,4}



4. WASH sector framework for cholera risk reduction and control

The table below can be used as a checklist or a dashboard. It doesn't pretend to be exhaustive, but emphasizes key issues for the WASH actors and that can be consolidated by the WASH Sector Coordinator.

WASH cholera framework	State	...
	LGA	...
	Hotspot/Town	...
	IDPs camp/set	...
	Date:
1) COORDINATION		
SECTORAL & INTERSECTORAL COORDINATION:	(Yes/No)	Remarks
WASH Cholera coordination focal point(s) endorsed?		
Frequent (daily-weekly) epidemiology intersector meeting?		
2) WASH PREVENTION FOR CHOLERA RISK REDUCTION		
TARGETING:	(Yes/No)	Remarks
Potential cholera transmission contexts identified?		
WATER-BORN:	(Yes/No)	Remarks
Free Residual Chlorine in water supply network or bucket chlorination?		
Bucket chlorination at hand pump?		
Bucket chlorination at filling point for water vendors?		
FUNERAL RITUALS:	(Yes/No)	Remarks
Religious leaders sensitized on WASH facilities around the ritual?		
HEALTH FACILITIES:	(Yes/No)	Remarks
WASH standards improved at HF and prepared for CTCs/UTCs?		
GATHERINGS OR PUBLIC PLACES:	(Yes/No)	Remarks
Handwashing systems (0.05% chlorine) set up? Bucket chlorination? ...		
INSIDE SOCIAL AND LIVELIHOOD GROUPS:	(Yes/No)	Remarks
Social leaders sensitized on WASH facilities vis-à-vis high risk practices?		
HOUSEHOLD TRANSMISSION:	(Yes/No)	Remarks
Traditional healers aware to recommend to go quickly to HF/CTC/UTC?		
MONITORING/ACCOUNTABILITY:	(Yes/No)	Remarks
Mechanism set up for regular water Free Residual Chlorine test?		
Mechanism set up for regular feedback from the targeted persons?		
3) READINESS TO CHOLERA OUTBREAK		
ALERT & INVESTIGATION:	(Yes/No)	Remarks
Rapid Diagnostic Test (RDT) available?		
Key Health-epidemiology contacts (phones, mail etc.) known?		
Investigation form available?		
CONTINGENCY STOCK:	(Yes/No)	Remarks
HTH available?		
Aquatabs available?		
Pool tester or (at least) DPD1 available?		
Handwashing systems (0.05% chlorine) ready to be set up?		
Tents and plastic tarpaulin (for CTC latrines) available?		
RAPID RESPONSE TEAM:	(Yes/No)	Remarks
Cholera response team identified (WASH or joint Health/WASH)?		
Cholera response team trained and available on real-time?		
4) WASH RESPONSE TO CHOLERA OUTBREAK		
TARGETING:	(Yes/No)	Remarks
Cholera transmission contexts regularly identified and received?		
WATER-BORN:	(Yes/No)	Remarks

Free Residual Chlorine at point of use?		
FUNERAL RITUALS:	(Yes/No)	Remarks
Culturally appropriated WASH facilities provided during the event?		
HEALTH FACILITIES:	(Yes/No)	Remarks
HF & CTCs/UTCs are compliant with WASH standards & cases isolation?		
GATHERINGS OR PUBLIC PLACES:	(Yes/No)	Remarks
Handwashing systems (0.05% chlorine) set up? Bucket chlorination? ...		
INSIDE SOCIAL AND LIVELIHOOD GROUPS:	(Yes/No)	Remarks
Culturally appropriated WASH facilities targeting high risk practices?		
HOUSEHOLD TRANSMISSION:	(Yes/No)	Remarks
Culturally appropriated rapid disinfection and WASH facilities?		
MONITORING/ACCOUNTABILITY:	(Yes/No)	Remarks
Mechanism set up for regular “Health/Epi-WASH-C4D” triangulation?		
Mechanism set up for regular feedback from the targeted persons?		

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ANNEXE

WASH RESPONSE BY CHOLERA TRANSMISSION CONTEXT

Context n° 1 – Funeral rites following a cholera-related death

Transmission context	Micro transmission	WASH response	Monitoring indicator	Cross-border interventions
Case 1 – Washing and burial of the body <i>Hospital and community deaths</i>	Excreta and vomit	“Compliance with hygiene requirements and traditions” - The procedure must be supervised by health, religious and traditional authorities - Limit the number of family members involved in the washing and burial of the body(max. 3) - Washing and burial of the body by 1 or 2 members of the family and by a trained health worker with a solution containing 2% of HTH - Burial of the body in the nearest graveyard of the religious group to which the deceased person belong under the supervision of a trained health worker - Disinfect the people in charge of washing and burying the body	"0" patient infected three days after funeral rites	Exchanges of information between health and administrative authorities of the two countries on body management conditions in case of death Religious and traditional authorities share information on cross-border risks related to funeral rites (ceremonies, transportation of the body) and their location.
	Clothes of the deceased	Propose three alternatives to the family of the deceased: 1 – Incinerating the clothes 2 – Burying the deceased with their clothes 3 – Soaking them for 2h in a 0.2% HTH solution and cleaning with soap		
	Equipment used for washing and burial	2% HTH disinfection carried out by a trained health worker		
	Excreta and vomit on the floor	Massive spraying with a solution containing 2% HTH and collection of excrements on the floor carried out by trained health worker		
Case 2 – Mortuary places/Funerals <i>Hospital and Community deaths</i>	Greetings Water Common meals Kettles and cups Mats	Option 1: Health authorities mobilize administrative, traditional and religious authorities per community in order to prohibit mortuary places/funerals following cholera-related deaths Option 2: If the ban on ceremonies is an obstacle to the management of deaths, awareness-raising activities, distribution of hygiene kits and installation of hand-washing stations are implemented during ceremonies,		

Context n°2 – Transmission link with a Cholera Treatment Center

Transmission context	Micro transmission	WASH response	Monitoring indicators
Case 1- Caretaker	<p>Sharing food and dishes with the patient</p> <p>Consumption of contaminated food and water</p> <p>Buckets containing the excreta and vomit of the patient</p> <p>Washing the clothes of the patient</p>	<p>- Adopt isolation measures: superstructures and <i>Lazaret kit</i> to control entry and exit from the place and compliance with hygiene requirements</p> <p>- Inform the hygienist of their responsibilities including regular emptying of the buckets and clothe washing procedures for caretakers</p> <p>- Control measures to put in place:</p> <ul style="list-style-type: none"> · One caretaker per patient · Limitation of caretakers' entry and exit of the health centre · Raising the awareness of caretakers on transmission modes within a CTU/CTC and provision of health kits to each caretaker before entry 	"0" caretaker contaminated
Case 2- Visiting the CTU/CTC	<p>Greetings</p> <p>Food, clothing and utensils of the patient</p> <p>consumption of water and contaminated food</p>	<p>- Implementation of isolation measures: superstructures to control entries and exits</p> <p>- Implementation of control measures: Visit to the CTU/CTC strictly forbidden</p> <ul style="list-style-type: none"> · Food for the patient must be kept outside the CTU/CTC · Greetings patients and caretaker from afar · Recruiting a respected hygienist from the community · Disinfect the hands and soles of guests and any object that enters and exits the CTU/CTC. 	"0" patient contaminated after visits to the CTU/CTC
Case 3 – Location of the CTU/CTC	<p>Proximity of CTU/CTC and clinic</p> <p>Sharing water point between caretakers and resident population</p> <p>Playing games around the CTU/CTC</p>	<p>- Build the CTU/CTC away from gathering places (markets, schools, etc.).</p> <p>- Build a separate entrance and exit gate between the CTU/CTC and clinic</p> <p>- Specific signpost showing the location of the CTU/CTC</p> <p>- Nearby water sources</p> <ul style="list-style-type: none"> · Drawing water during periods other than when the populations are at the water source (60l per patient) · Disinfecting the crank and the bucket prior to use by the population <p>- Distant water source: mobilising authorities for the supply of water to the CTU/CTC, with ACF subsidizing transportation where needed</p> <p>- Responsibility of the Hygienist: ban games around the CTU/CTC</p>	"0" patient contaminated following a consultation or visit of the nearby health clinic to the CTU/CTC
Case 4 –Diagnosis problems	<p>Contamination due to improper diagnosis</p> <p>Undetected cases</p>	<p>Mandatory observation of a suspected case of cholera upon admission to the facility</p> <p>Training Health centre agents (seniors staffs) in clinical diagnosis and use of RDTs for suspected cases</p>	
Case 5 – Attendant	<p>Contact with excreta and vomit of the patient</p>	<p>Disinfect the attendant hands and feet</p> <p>Disinfecting means of transportation with an 0.2% solution</p>	
Case 6 – Contamination after referral	<p>Contact with objects belonging to the patient and caretakers</p>	<p>Disinfection of patient and caretaker and any object belonging to them before referring them following another pathology</p>	"0" patient contaminated following referral
Case 7 – Medial staffs and the hygiene agent	<p>Handling excreta and vomit</p> <p>Clothes/white coats/soles/ materials</p>	<p>Awareness-raising for disinfection at the end of service, CTU/CTC materials not to be carried home, working clothes/ white coats mandatory</p> <p>Disinfection during lunch break if going out of the CTU/CTC</p>	"0" medical staffs and hygienist contaminated

Context n°3 – Household transmission

Transmission context	Micro transmission	WASH response	Monitoring indicators	Cross-border interventions
Case 1 - Contamination within the affected household and the members of the compound	Patient's clothing and bedding Excreta of the patient Patient's dishes kettles water Common meals	<p style="text-align: center;">"Household visits"</p> <ul style="list-style-type: none"> - IEC and distribution of hygiene kits in all the households of the compound affected - Soaking patient's clothes and bedding for 2 hours with an 0.2% HTH solution - Washing the dishes, kettles and utensils with an 0.2% HTH solution - Disinfection of excreta with a 2% HTH solution and cleaning up with <i>DOL</i> - Chlorination of water storage containers with an appropriate disinfectant - Washing of the water drawing bucket with a 0.2% HTH solution - Implementation of the active case finding by the authorities for early referral 	100 % of homes are visited within 12h 70% of households consume drinking water containing at least 0.5 mg/l FRC "0" patient infected in the compound of a patient within 3 days after disinfection	Household cross-border visits from the host structure
Case 2 – household visit to a patient or a convalescent	Greeting water Common meals	<ul style="list-style-type: none"> - Raising awareness during household disinfection on risks related to neighbours and family members' visits before admission and after discharge of the patient if basic hygiene requirements are not respected (after assessing risks of stigma and their impacts). - raising the awareness of religious and traditional authorities on IEC during sermons using town criers around the risks associated with household visits (after assessing risks of stigma and their impacts). - Medical staffs raising the awareness of patients and caretakers on the potential transmission risks of convalescents prior to their discharge 	"0" patient contaminated due to household visits	

Context n°4 – Gathering places

Transmission context	Micro transmission	Wash response	Monitoring Indicators	Cross-border interventions
Case 1 – Markets/ street restaurants	Greetings Money exchange Uncooked food Uncovered food Water Common meals Kettles and cups Public latrines	<ul style="list-style-type: none"> - Mobilising administrative and traditional authorities for the temporary closure of strategic markets in case of outbreaks - Administrative authorities control the hygiene of food sold in street restaurants and cheap restaurant - Installation of hand-washing stations in markets and cheap restaurant if maintenance is provided - Organisation of town criers - Advisory office where practical demonstration is performed, and the use of disinfectant water, the production of ORS and handwashing are taught - Distribution of hygiene kits in cheap restaurants 	<p>“0” patient contaminated after visiting a market</p> <p>Closing markets during outbreaks (min 2 weeks)</p>	<p>Exchange of information between the administrative authorities of both countries about the closing of cross-border markets</p> <p>Religious and traditional authorities must communicate the names of cross-border markets affected by the epidemic</p>
Case 2 - Traditional and religious ceremonies	Greetings water Common meals Kettles and cups Mats	<ul style="list-style-type: none"> - Mobilising administrative and traditional authorities for the suspension of ceremonies - Mobilising religious leaders during sermons to raise awareness about the suspension of ceremonies 	"0" patient infected after attending traditional and religious ceremonies	Exchange of information between the administrative authorities of the two countries about the suspension of ceremonies
Case 3 – Schools	Games Uncovered food water Kettles and cups Public latrines	<ul style="list-style-type: none"> - Sketches, hand-washing games and films screening - Hand-washing facilities put in place in schools if maintenance is provided by the management team - Distribution of hygiene kits in schools - Control of food sold in schools carried out by the management team - Mobilisation of the administrative authorities for the closing of schools during cholera outbreaks 		
Case 4– Places of worship	Greetings water Common meals Kettles and cups Public latrines	<ul style="list-style-type: none"> - Hand-washing facilities installed in worship places where maintenance is provided - Provision of training and materials for disinfection of mats, equipment ablutions and latrines in places of worship - Distribution of hygiene kits in worship places - Religious authorities raising awareness on the risks during sermons 		
Case 5 - Bus station / Ports / docksides	Greetings Travel to or from a contaminated area	<ul style="list-style-type: none"> - Hand-washing points in bus stations if maintenance is provided - Mass IEC in bus stations/ports and ferries - IEC for travellers entering and leaving the city with leaflet distribution in travel agencies 		

Context n°5 – Waterborne transmission at source

Transmission context	Micro Transmission	WASH response	Monitoring indicators
Case 1 – surface water	Defecation in or near surface water (<i>ponds, rivers, lakes</i>) Washing of the patient's clothes in surface waters (<i>ponds, rivers, lakes</i>) Children's games (<i>fishing in gutters, doll's tea party, swimming</i>)	<ul style="list-style-type: none"> - Household disinfection: <ul style="list-style-type: none"> · Outreach IEC and distribution of water disinfectant. The type of product will depend on the turbidity and product acceptance by the population · Develop a water disinfectant supply chain in rural areas (chlorine, Water Gard, Aquatab...) · Develop a social marketing programme around the disinfection of water in households (PSI type) · Promote the use of natural water disinfectants - Disinfection at source <ul style="list-style-type: none"> · Chlorination of buckets, to be promoted in case of water shortage and redirecting people towards surface water or in case of poor community acceptance of household chlorination - Mobilization of administrative and traditional authorities to prohibit the consumption of surface water for domestic and recreational use - Traditional authorities must patrol around to ensure the enforcement of the prohibition of the consumption and use (washing dishes, washing clothes) of surface water - Take samples of water for vibrio cholera tests 	70% of households consume drinking water containing minimum 0.5 mg/l of FRC
Case 2 – Open wells	Open air defecation and runoff into open wells	<ul style="list-style-type: none"> - Household disinfection: <ul style="list-style-type: none"> · Outreach IEC and distribution of water disinfectant. The type of product will depend on the turbidity and product acceptance by the population -Disinfection at source <ul style="list-style-type: none"> · Chlorination buckets, to be promoted in case of water shortage and redirecting people towards surface water or in case of low community acceptance of household chlorination - Take samples of water vibrio cholera tests 	Daily measurement of FRC: minimum 0,5 mg/l
Case 3 – Water networks	Contamination of water networks Water vendors	<ul style="list-style-type: none"> - Disinfection at source <ul style="list-style-type: none"> · Chlorination of the mini drinking water supply facility and water networks: maintaining between 0.5 and 1 mg/l FRC at network exit; · Chlorination of private wells through the mobilization of traditional authorities · Sampling water for vibrio cholerae tests 	Daily measurements of FRC at network exit : minimum of 0.5 mg / l

Context n°6 – Transmission within a social professional group- Examples

Transmission contexts	Micro transmission	WASH Response	Monitoring indicator	Transmission contexts
Case 1- Collective and seasonal fishing	<p>Handling dried, smoked fish and intestines</p> <p>Consumption of undercooked shellfish</p> <p>Common meals</p> <p>Water-borne contamination in the vicinity of surface waters</p> <p>Adverse hygiene conditions in seasonal camps</p>	<ul style="list-style-type: none"> - Getting information from administrative and traditional authorities on fishing dates - Facilitating the referral of patients to the care centre - Adapt awareness messages to high-risk practices (handling and consumption of seafood) - on-site awareness-raising and distribution of improved hygiene kit (adding a kettle, a cup and a closed container of 20L) 	70% of households consume drinking water containing minimum 0.5 mg/L of FRC	<p>Exchange of information between health and administrative authorities on fisheries development patterns</p> <p>Concerted action on both sides of the border</p>
Case 2- Nomadism	<p>Visiting market</p> <p>Poor hygiene condition in the camps</p> <p>Common meals</p> <p>Water-borne contamination in the vicinity of surface waters</p>	<ul style="list-style-type: none"> - Ensuring active case finding and referral of patients if access to the health centre is difficult - Engaging traditional leaders for the postponement of traditional and religious ceremonies - Limiting markets attendance by nomadic people when sedentary of other nomadic groups are affected - Limiting the spread of settlements in agreement with the traditional leaders when the community is affected - on-site awareness-raising and distribution of improved hygiene kit (adding a kettle, a cup and a closed container of 20L) 	70% of households consume drinking water containing minimum 0.5 mg/L of FRC	<p>Exchange of information between health and administrative authorities on nomadism development patterns</p> <p>Concerted action on both sides of the border</p>
Case 3- Gold mines and quarries	<p>Poor hygiene conditions on sites</p> <p>Common meals</p> <p>On-site vendors</p>	<ul style="list-style-type: none"> - Mobilisation of administrative authorities by health authorities for the closing of mines in case of outbreaks - on-site awareness-raising and distribution of improved hygiene kit (adding a kettle, a cup and a closed container of 20L) - Handwashing stations in cheap restaurants if maintenance is provided by the managers - Awareness-raising on food hygiene and distribution of hygiene kits to vendors. 	70% of households consume drinking water containing minimum 0.5 mg/L of FRC	