



Ministry of Health



### Situational Report No.13

<b>Outbreak Name</b>	Cholera	<b>Prepared by</b>	MOH/ZNPFI/PHO/DHO/WHO
<b>Date of report</b>	2 <sup>nd</sup> April 2019	<b>Investigation start date</b>	15 <sup>th</sup> March 2019

## 1. SITUATION UPDATE / HIGHLIGHTS

- On 2<sup>nd</sup> April, 2019

1. Nsumbu Catchment area

- 0 new suspected cholera cases reported in last 24hrs and 0 death.
- 01 case currently under admission(1 trans in from Kapisha CTU)
- 2 discharge as of 18: 00hrs today
- Cumulative total of **76** cases of which **57** are suspected and **19** laboratory confirmed *Vibrio cholerae 01 Ogawa*.
- Total deaths 04 (3 community deaths & 1 facility (CFR 5.3%).

2. Kapisha Catchment area

- 0 new cases in the last 24 hours
- 0 cases currently under admission
- Cumulative total of 12 cases of which 10 are suspected and 2 laboratory confirmed *Vibrio cholerae 01 Ogawa*

**Table 1 Cholera cases and deaths by area (as of 1<sup>st</sup> April, 2019), Nsumbu, Nsama District, Northern Province**

Province	District affected	Area affected	Date of onset of index case	Population (2019 CSO)	New Cases reported on 2 /April/2019	Cumulative suspected cases	Cumulati ve confirmed cases	Cumulative Cases (suspected +confirmed)	Attack Rate (per 100,000)	Cumulative deaths	CFR (%)
Northern	Nsama	Nsumbu	15-March-19	11,305	0	57	19	76	672.3	04	5.3
Northern	Nsama	Kapisha	21-Marh-19	5,350	0	10	2	12	224.3	0	0
Northern	Nsama	Combined		16,655	0	67	21	88	528.4	4	4.5

## 2. BACKGROUND

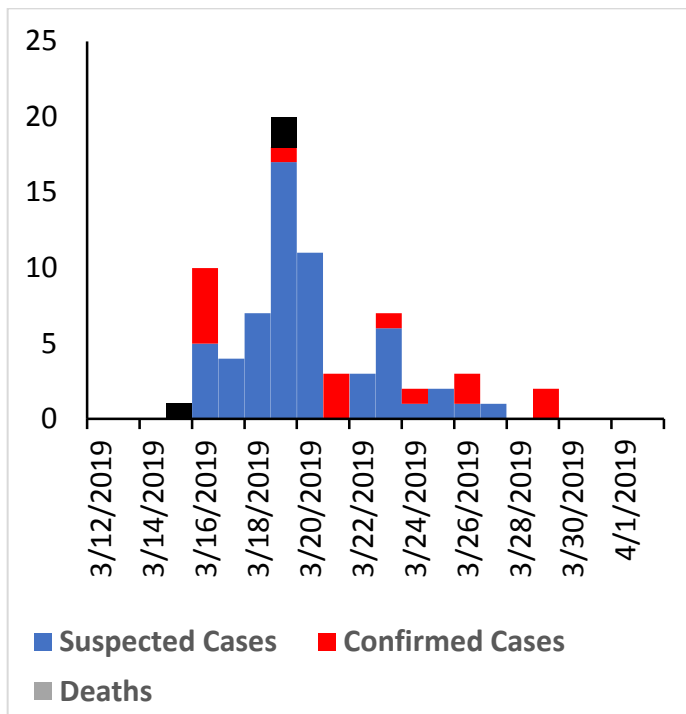
On 15th March 2019, a 9 year old girl was brought to Nsumbu Rural Health Centre presenting with acute watery diarrhea and vomiting. This nurse on duty suspected therefore admitting in an isolated area, the patient. Unfortunately, the patients left without health facility consent aided by his mother to seek attention from a local traditional healer. The traditional healer noting the condition referred them back to the health facility. The patent died in transit. . The following day, on 16<sup>th</sup> March 2019,

three (3) cases from the same household to the deceased and six (6) other cases (2 from the neighboring village to the deceased while 4 came from a village 4km away but had attended the funeral) came to the clinic presenting with watery diarrhea and vomiting. These 10 cases were admitted in isolation at the clinic of which 2 of them tested positive by RDT for *vibrio cholerae*. Laboratory results indicate that *Vibrio Cholerae 01 Ogawa* was isolated from all the 12 samples (4 stool and 8 rectal swabs) subjected to culture and sensitivity at Mporokoso District Hospital laboratory

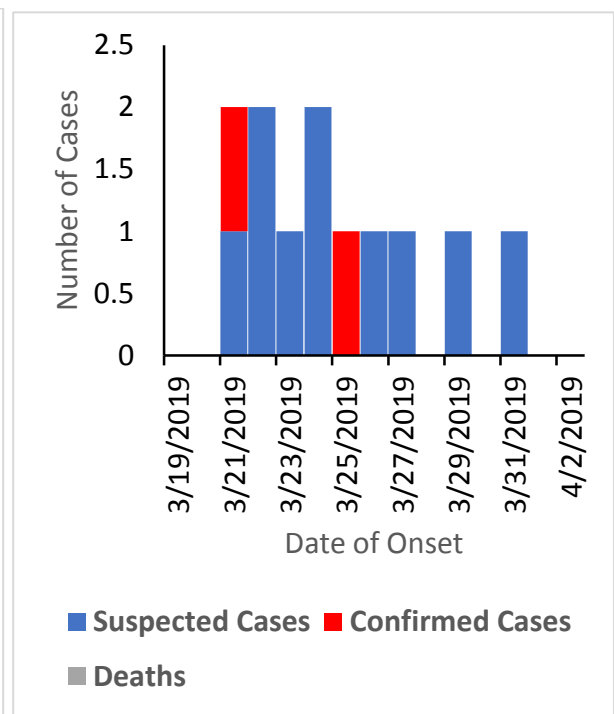
Prior to the outbreak, the area had experienced heavy rainfall causing overflow of pit latrines that led to contamination of surface water. Sources for drinking water in Nsumbu include streams, springs, scoop holes, wells or boreholes

The Kapisha RHP cholera outbreak 35km away from Nsumbu RHC was reported on 21<sup>st</sup> March 2019. *Vibrio cholerae 01 Ogawa* was isolated from 2 of the 3 stool samples taken for culture. This outbreak in Kapisha has no epidemiological link to the Nsumbu outbreak. However, the risk factors (contaminated drinking water sources, low sanitation coverage and poor personal hygiene practices) are similar.

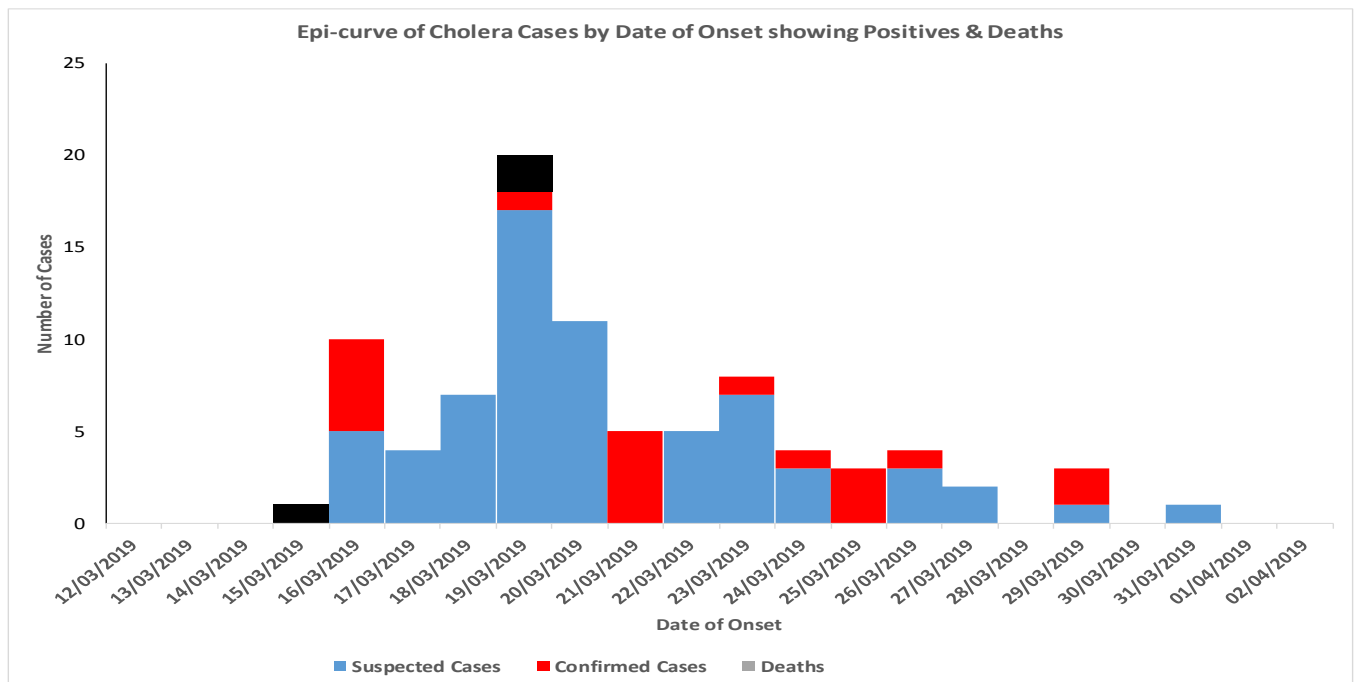
### 3. EPIDEMIOLOGY & SURVEILLANCE



(a)



(b)



(c)

Figure 1: Epi-curve by date of onset for (a) Nsumbu, (n=76); (b) Kapisha, (n=12) and (c) combined Nsama District, Zambia, 2<sup>nd</sup> April 2019. (N=88),

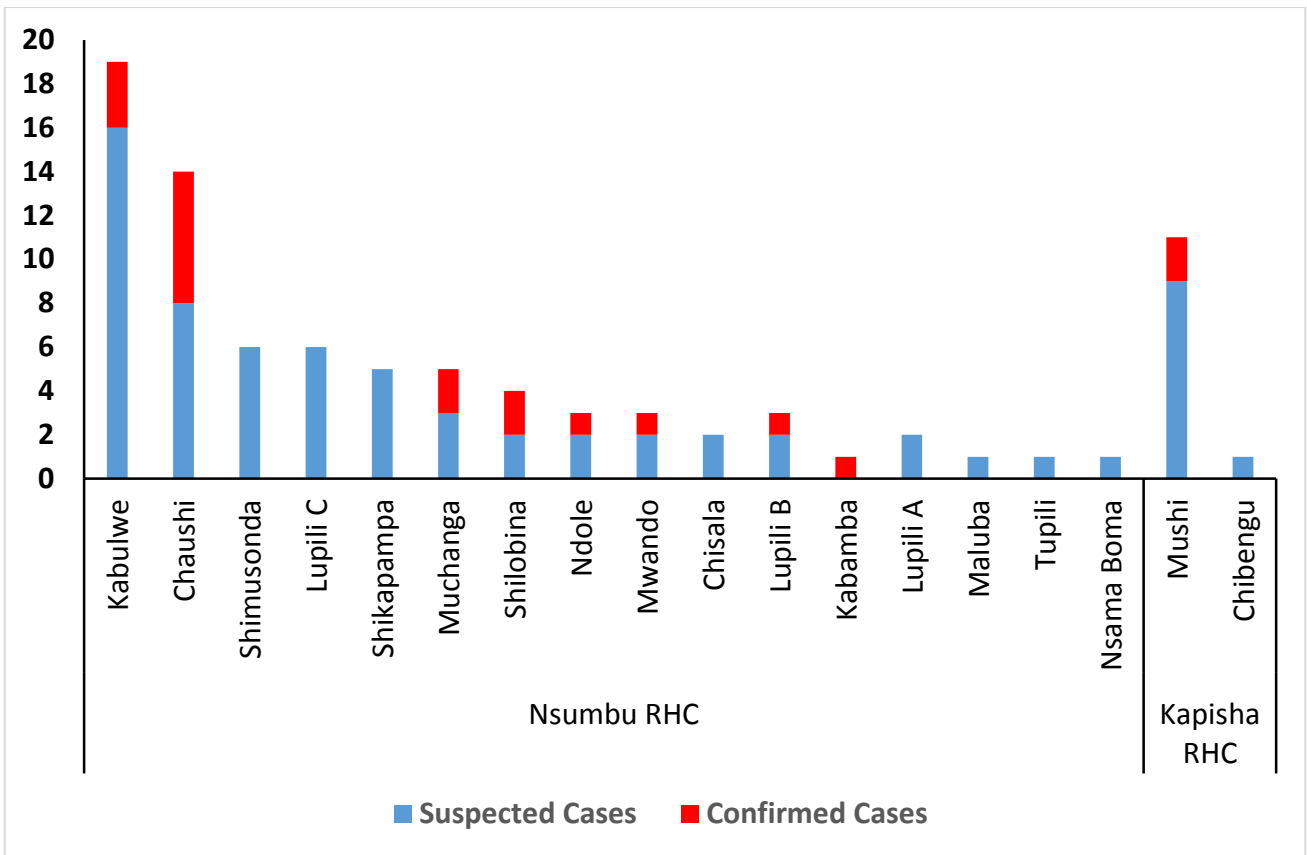


Figure 2: distribution of cases by village, Nsama District, 2<sup>nd</sup> April, 2019(N=88)

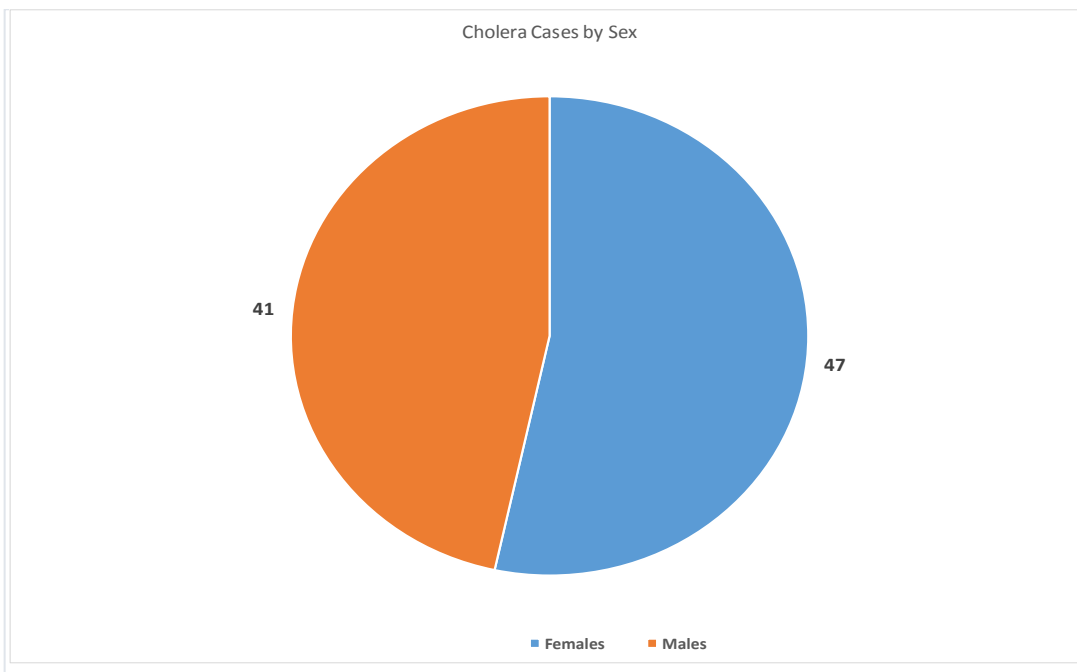


Figure 3: Distribution of cases by sex, Nsama District, 2<sup>nd</sup> April 2019 (N=88)

## 4. Key Priority Actions

### 4.1. COORDINATION

- Held two IMS at 07:15 and 17:00hrs to plan for the day's activities and progress updates respectively
- Sent a team to Kapisha for Technical support in Environmental Health Activities

### 4.2. SURVEILLANCE

- Updating and merging of the two line list for Nsumbu and Kapisha Catchment areas
- Continued with active case search in Nsumbu and Kapisha catchment areas.
- Receiving daily situational reports from Kapisha CTU
- Heightened active surveillance has continued, all facilities in Nsama have been directed to be reporting every day at 07:00hrs and 17:00hrs on diarrheal cases seen at the facilities
- All districts in the province are reporting on daily basis on diarrheal cases

### 4.3. LABORATORY

- Antibiotic susceptibility testing results for the 19 isolates from Nsumbu and 2 isolates from Kapisha show sensitive to ciprofloxacin, ampicillin, tetracycline and doxycycline; resistant to cotrimoxazole and intermediate sensitivity to chloramphenicol.
- Cumulative water samples received 89 out of which 79 were completely analyzed and 47 show fecal contamination (59.5%)
- Sampled 57 domestic water from household (Normal range 0.2—0.5mg/L residual chlorine). Above normal: 28 (49.1%), Normal: 10 (17.5%) and below normal: 19 (33.3%).

### 4.4 CASE MANAGEMENT

- Continue with patient triaging to ensure cases that do not meet the case definition are not entered in the cholera register

### 4.5 LOGISTICS

- Currently we have 6 vehicles (1 contact tracing, 1 Social mobilization, 2 outreach services-chlorine distribution, disinfection, water sampling and surveillance). One vehicle has a mechanical fault.
- Supplied fuel, liquid chlorine, granular Chlorine and other materials to Kapisha CTU to effectively respond to the outbreak.
- PHO truck delivered more supplies for the outbreak response

### 4.5 OUTBREAK INVESTIGATIONS

- Recruited more than 2 officers to help with data collection for the case control study ( 36 cases and 72 controls so far done)
- Complete data collection tomorrow.

#### 4.4 ENVIRONMENTAL HEALTH

**Table 2: Contact tracing (Nsumbu outbreak)**

<b>Date</b>	<b>New cases</b>	<b>No. of contacts traced</b>	<b>Cummulative number of Contacts traced</b>	<b>No. of chlorine bottles distributed</b>	<b>Cummulative no of Chlorine bottles distributed</b>	<b>No. of toilets disinfected</b>	<b>Cummulative No of toilets disinfected</b>	<b>No. of houses disinfected</b>	<b>Cumulati ve No. of houses disinfected</b>	<b>Population potentially protected</b>	<b>Cumulative population potentially protected</b>
22/3/19	0	11	51	100	148	99	269	99	237	594	1284
23/3/19	6	6	57	369	517	234	503	4	241	1170	2454
24/3/19	3	3	60	7	524	22	525	3	244	1220	3474
25/3/19	5	3	63	708	1232	0	525	0	244	1220	3474
26/3/19	2	2	65	1772	3004	1110	1635	2	246	9132	12606
27/3/19	0	0	65	1007	4011	322	1957	0	246	3006	15612
28/3/19	2	3	68	768	4779	498	2455	3	249	3473	19085
<b>Second round of interventions</b>											
29/3/19	2	1	69	480	480	511	511	1	1	2880	2880
30/3/19	0	0	69	884	1364	637	1148	0	1	4507	7387
31/3/19	0	1	70	674	2038	395	1543	1	2	3388	10775
1/4/19	0	0	70	672	2710	359	1902	0	2	3560	14335

**Table 3: GENERAL DISINFECTION OF TOILETS AS OF 2/04/19**

Area(Township /villages)	Estimated no. of households	Estimated no. of toilets/pit latrines	No. of pit latrines disinfected	Second round of pit latrines disinfected	Third round of pit latrines disinfected	No. of pit latrines not disinfected	Population
Chaushi	210	192	192	48	0	0	894
Lupili C	358	346	346	160	0	0	1406
Ndole	142	128	128	128	122	0	768
Shilobina	334	313	313	149	0	0	1418
Shimusonda/Kabulwe	382	303	303	303	10	0	1529
Mwando	290	222	222	40	0	0	817
Kabamba	289	231	231	81	0	0	865
Muchanga	398	357	357	357	51	0	2856
Lupili A	282	215	215	96	0	0	1279
Shikapampa	332	321	321	57	0	0	1728
Mitembo	321	264	264	124	0	0	838
Lupili B	300	233	233	76	0	0	1462
Tupili	92	29	29	0	0	0	219
<b>TOTAL</b>	<b>3730</b>	<b>3154</b>	<b>3154</b>	<b>1619</b>	<b>1266</b>	<b>0</b>	<b>16079</b>

**Table 4: HEALTH EDUCATION**

Place	Topic	Attendance		Action points
		Male	Female	
Lupili C	Diarrheal diseases Water treatment Sanitation	1575	1656	<ul style="list-style-type: none"> <li>• All households to have latrines</li> <li>• All households to practice hand washing</li> <li>• All households to drink chlorinated water</li> <li>• Water to be treated by chlorination or by boiling.</li> <li>• Emphasis on correct dosing and use of chlorine</li> </ul>
Ndole	Diarrheal diseases Sanitation Water treatment	1462	1674	
Mitembo	Diarrheal diseases Sanitation Water treatment	1815	2075	
Kabulwe	Diarrheal diseases Sanitation Water treatment	1539	1845	
Shilobina	Diarrheal diseases Sanitation Water treatment	778	714	
Shikapampa	Diarrheal diseases Sanitation Water treatment	1249	1235	
Lupili B	Diarrheal diseases Sanitation Water treatment	1734	1943	
Mwando	Diarrheal diseases Sanitation Water treatment	773	847	
Chaushi	Diarrheal diseases Sanitation Water treatment	814	949	
Kabamba	Diarrheal diseases Sanitation Water treatment	641	617	
Lupili A	Diarrheal diseases Sanitation Water treatment	432	501	
Tupili	Diarrheal diseases Sanitation Water treatment	123	96	
Muchanga	Diarrheal diseases Sanitation Water treatment	1820	2015	
Shimusonda	Diarrheal diseases Sanitation Water treatment	670	699	
<b>TOTAL</b>		<b>13149</b>	<b>14431</b>	



**Table 5: IEC MATERIAL**

<b>People Given Health Education</b>	<b>IEC material distributed</b>			
	<b>LEAFLETS</b>	<b>POSTERS</b>	<b>BILLBOARDS</b>	<b>BOOKLETS</b>
Lupili C	28	19	0	4
Kabulwe	0	30	0	3
Kapisha	0	10	0	8
Mitembo	0	0	0	12
Shikapampa	7	0	0	2
Shilobina	10	0	0	3
<b>Totals</b>	<b>45</b>	<b>59</b>	<b>0</b>	<b>32</b>



Director-ZNPHI leading team to conduct Environmental Risk Assessment and evaluation of response activities in Nsumbu



Director-ZNPHI Dr. Victor Mukonka and Response team conducting Environmental Risk Assessment in Nsumbu



Delivery of cholera supplies at Nsumbu RHC

Health promotion

## **5. CHALLENGES / GAPS**

### **5.1 WASH**

- Most drinking water sources are fecally contaminated (59.5%) with limited alternatives
- No sewerage system; most of the pit latrines are full
- Indiscriminate disposal of human excreta into the lake, streams and land
- Improper siting of pit-latrines allowing easy discharge into drinking water sources
- Lack of sanitary facilities at Nsumbu harbor and market
- No water supply for Kapisha RHC
- Most of the communities under Kapisha catchment can only be accessed by water transport

### **5.2 LABORATORY**

- Low stocks of lauryl sulphate broth
- Analysers for Urea, electrolytes and FBC

### **5.3 LOGISTICS**

- Inadequate transport (2 motor vehicles)
- Inadequate fuel (marine and land)
- Inadequate funds for the response
- Inadequate floor tents and Sisal sacks
- Lack of lime for liming the pit latrines

### **5.4 CASE MANAGEMENT**

- Inadequate linen for patients
- Inadequate numbers of toilets ( male and female)
- No food supplies for patients in the CTC and CTU
- Inadequate cholera beds and linen at Kapisha CTU
- Difficult to access the health facility by patients due to lack of a passable motorized road network under Kapisha catchment

## **6. RECOMMENDATIONS/WAYFORWARD**

- Mobilize funds to help coordinate the response
- Source for more fuel
- Evaluate the impact of chlorination of water sources
- Source for lime
- Source for floor tents for the CTC
- Vaccination of the population
- Continue with mass distribution of chlorine
- Encourage construction of toilets in the community
- Continue water quality monitoring( residual chlorine in domestic water, bacteriological & physical)
- Provide support to volunteers

# NSUMBU CHOLERA OUTBREAK INCIDENT MANAGEMENT SYSTEM

