



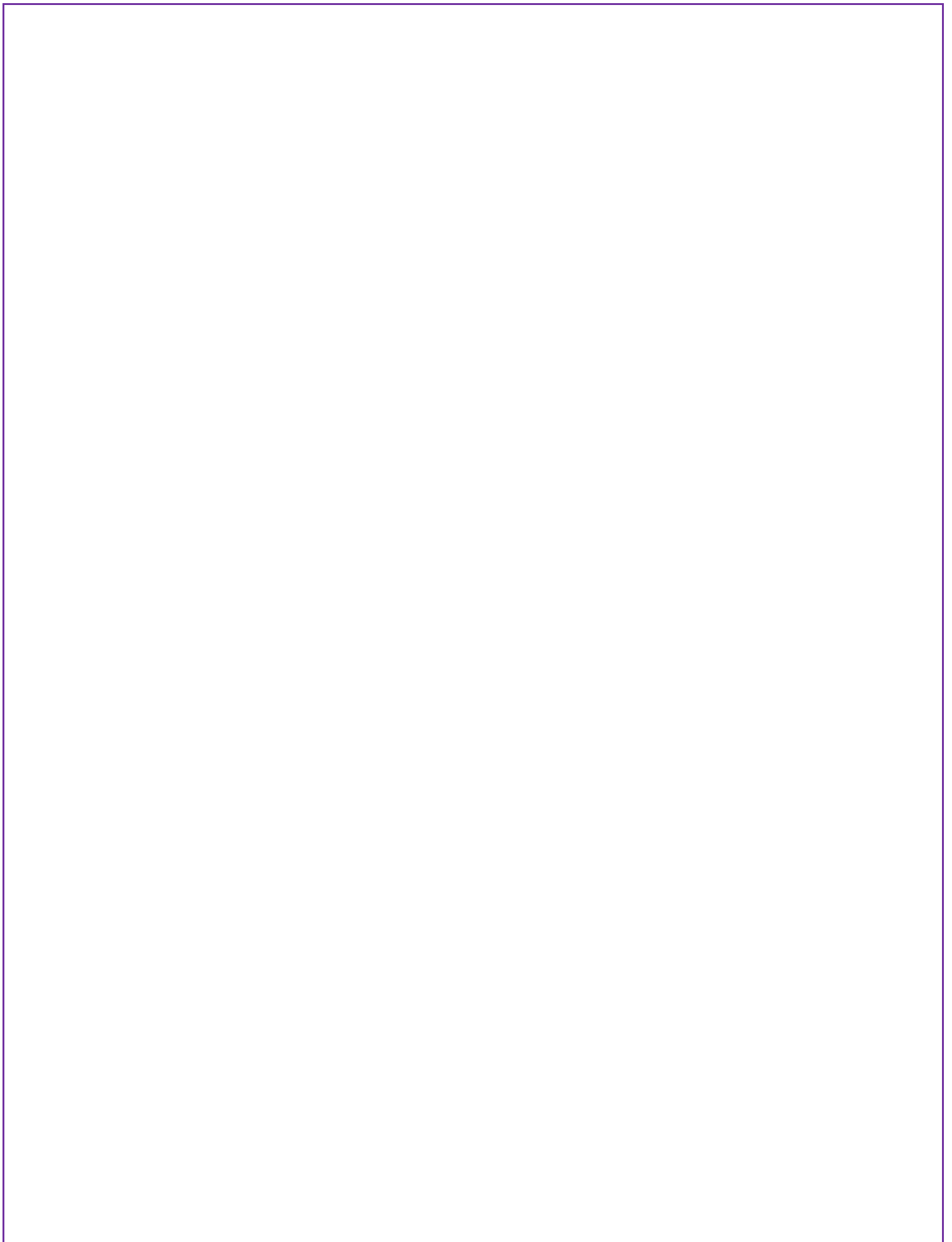
REPUBLIC OF UGANDA

**NATIONAL INTEGRATED  
COMPREHENSIVE CHOLERA  
PREVENTION  
AND CONTROL PLAN,  
FISCAL YEARS (2017/18-2021/22)**

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## ACRONYMNS AND ABBREVIATIONS

|            |   |
|------------|---|
| AFENET     | African Field Epidemiology Network  |
| AWD        | Acute Watery Diarrhoea  |
| CAO        | Chief Accounting Officer  |
| CDD        | Control of Diarrheal Diseases   |
| CHEWS      | Community Health Extension Workers  |
| CME        | Continuous Medical Education  |
| DHT        | District Health Team  |
| EAC        | East African Community  |
| EOC        | Emergency Operations Center   |
| ESD        | Epidemiological Surveillance Division   |
| GAVI       | Global Alliance for Vaccines and Initiative   |
| GDP        | Gross Domestic Product  |
| GGE        | General Government Expenditure  |
| HSSIP      | Health Sector Strategic Implementation Plan   |
| IDSR       | Integrated Disease Surveillance and Response  |
| IEC        | Information, Education and Communication  |
| IPs        | Implementing Partners   |
| KCCA       | Kampala Capital City Authority  |
| LC         | Local Council   |
| LG         | Local Government  |
| M&E        | Monitoring and Evaluation   |
| MOES       | Ministry of Education and Sports  |
| MOH        | Ministry of Health  |
| MPs        | Members of Parliament   |
| MSF        | Médecins Sans Frontières  |
| MUSPH      | Makerere Schools of Public Health   |
| MWE        | Ministry of Water and Sanitation  |
| NCPC       | National Cholera Prevention Committee   |
| NDP        | National Development Plan   |
| NGO        | Non-Government Organisation   |
| NICCP17-22 | National Integrated Comprehensive Cholera Prevention and Control Plan for Financial Year 2017/18 to 21/22 |
| NHP        | National Health Policy  |

|         |  |
|---------|--|
| NMS     | National Medical Stores                                |
| OCV     | Oral Cholera Vaccine                                   |
| OOP     | Out of Pocket  |
| OPM     | Office of Prime Minister                               |
| ORT     | Oral Rehydration Therapy                               |
| PS      | Permanent Secretary                                    |
| RDC     | Resident District Commissioner                         |
| RDTs    | Rapid Diagnostic Tests                                 |
| SITREP  | Situational Report                                     |
| THE     | Total Health Expenditure                               |
| UBOS    | Uganda Bureau of Statistics                            |
| UN      | United Nations   |
| UNEPI   | Uganda National Expanded Programme for<br>Immunisation |
| UNHCR   | United Nations High Commission for Refugees            |
| UNHLS   | Uganda National Health Laboratories Services           |
| UNICEF  | United Nations Children's Fund                         |
| UPDF    | Uganda People's Defense Forces                         |
| URCS    | Uganda Red Cross Society                               |
| UWASNET | Uganda Water and Sanitation NGO Network                |
| WASH    | Water and Sanitation Hygiene                           |
| WHO     | World Health Organisation                              |

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Special thanks go to UNICEF for providing technical and financial assistance right from the initial stages of drafting the document and World Health Organisation for technical guidance.

The process of development of this plan was labour intensive involving working extra hours. The Ministry of Health is grateful to the following individuals for their commitment in accomplishing this task:

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## FOREWORD

Cholera a preventable diarrheal disease has continued to cause morbidity and mortality in Uganda annually. During the last two decades reported cholera cases and disease distribution has declined leaving vulnerable groups in approximately 10% of the country population. The decline has been due to sustained improvement in social services particularly increased knowledge on prevention of cholera, access to safe water, sanitation and medical services.

Cholera prevention and control is a multi-sectoral effort since factors responsible for cholera propagation cut across several sectors. Major sectors/ ministries in prevention and control are; Ministry of Health, Ministry of Water and Environment, Ministry of Local Government, Office of the Prime Minister, Ministry of Education and Sports, Ministry of Finance Planning and Development, Ministry of Urban Development, etc. The Ministry of Health is the Lead government sector in prevention and control of cholera outbreaks.

Reduction in morbidity and mortality was not uniform across the country. Some districts especially those along the major lakes, country borders and floods and landslides prone districts have reported more cholera cases than those located elsewhere.

Factors responsible for propagation of cholera are inadequate access to safe water, poor sanitation and hygiene, ignorance and poverty. In most of the cholera affected communities access to safe water and latrine coverage are less than 50%. To address these factors, the MoH and stakeholders have implemented the following interventions coordinated at the central and district levels by the national and district cholera task forces respectively.



Health education and community mobilisation, disease surveillance, case management and promotion of WASH

During the period 2011– 2015, majority, 58% of the reported cholera cases were from the fishing community who make up 5-10 % of Ugandan population (Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), 2011). The other vulnerable groups were the communities along the country international border, flood and landslide prone areas, rice plantation farmers, slum dwellers, prisons and mental health institutions.

According to the National Development Plan Vision 20-40, Uganda will move to middle income status within few years which should come with elimination of diseases of poverty such as cholera.

In order to consolidate the gains in prevention and control of cholera and move towards elimination, a 5 year strategic plan, (NICCP17-22) has been developed. This plan will coordinate resource mobilization and implementation of priority targeted cholera prevention and control interventions at all levels (national, district and community).

Major area of focus for plan will be: social mobilization and community empowerment (health promotion & education for disease prevention), promotion of access to safe water, good sanitation and hygiene, surveillance and laboratory confirmation of outbreaks, prompt case management and infection control, complementary use of OCV and coordination & stewardship for the actors.

Since communities with recurrent cholera outbreaks are well defined, implementation NICCP17-22 will allow for more targeted interventions to be carried out accelerating reduction in cholera

morbidity and mortality. In addition to the historical interventions, cholera endemic communities such as the fishermen will receive complementary vaccination with Oral Cholera Vaccine (OCV).

Finally, I am grateful to all sectors, agencies and individuals who participated in development the plan and financing of the processes that produced the NICCP17-22.

**Dr. Diana Atwine**

**Permanent Secretary, Ministry of Health**

# EXECUTIVE SUMMARY

## **a) Introduction**

Cholera remains a major public health problems leading to many cases and deaths annually in Uganda. In addition to cholera, the country is faced with frequent outbreaks of emerging diseases and high burden of other endemic conditions all of which require resources to prevent and control.

On the other hand, Uganda like other developing countries is resource constrained, has inadequate health development budget, limited access to life saving technologies implying that efficient use of the available resources is paramount.

Cholera is not only a health problem but is also a direct consequence of poor sanitation, poor quality and inadequate water supply, poor sanitation, various environmental, climatic and socio-economic situations.

The country has continued to report cholera cases annually with the districts of Nebbi, Hoima, Buliisa and Mbale contributing 60% of all the cases reported between 2011-2016.

Within Uganda, some communities are more affected than others. For instance during the period 2011-2015, 58% of the cholera cases occurred among the fishing communities, who constitute less than 5-10% of the population (Bwire et al., 2017). Other cholera high risk populations are peri-urban slum dwellers, landslide and flood prone communities, migratory plantation farmers, street children and boarder communities.

One of the key factors responsible for cholera outbreaks is poor sanitation which costs Uganda 389 billion shillings annually. It should be noted that one prolonged episode of cholera costs the country about 6 billion shillings in addition to affecting other

revenue sectors like tourism and trade (World Bank Water and Sanitation Program, 2012).

Uganda's expenditure on health was US\$ 53 per capita in 2011/12 which is low compared to the World Health Organisation (WHO) recommended minimum level of US\$ 60. In addition, the Total Health Expenditure (THE) as % of GDP is as low as 1.3%, against the target of 4%. The primary sources of health care financing are households (37%), donors (45%) and government (15%), while the private insurance constitutes a small proportion of Total Health Expenditure.

In regards to cholera prevention and control the country has made tremendous gains in the last two decades. The number of reported cases, deaths and affected districts has reduced markedly. In 1998 during El Nino period, 43/45 (96%) districts reported cholera cases and deaths in 2016 a year with El Nino 25/112 (22%) districts reported cases and deaths.

The achievement were a combined efforts of various stakeholders namely the Ministry of Health (Lead Ministry), Ministry of Water and Environment, Ministry of Education and Sports, Ministry of Local Government, Office of the Prime Minister, Ministry of Finance Planning and Economic Development, Ministry of Urban Development, Ministry of Gender, Ministry of information, Development Partners, among others.

The strategies which contributed to these gains were increased access to safe water, improved sanitation and hygiene, health education of communities using mass media including Fm radios and facilitated by Universal Primary and Secondary Education, improved early warning system, increased access to medical care and prevailing peace in the country.

However, there were also challenges noted such as inadequate implementation of Public Health Act especially sanitation and hygiene at local levels, inadequate resources (Human, Finance and Infrastructure), weak coordination of key stakeholders and adverse weather conditions resulting from global warming.

To address these challenges and to consolidate the gains, the Ministry of Health and stakeholders developed a five year plan, NICCP17-22.

### **b) The Goal and objectives of NICCP17-22**

This plan is designed to contribute to the realization of the Vision and aspirations of the National Development Plan II (NDP II 2015/16-2019/20), Health Sector Development plan (HSDP 2015/16-2019/20) and the National Health Policy II (NHP II 2009/10-2019/20) and to the overall national Vision 2040. The plan is also in line with the overall EAC strategy that allows for free movement of people while protecting their health across borders. The plan has the following goal and objectives;

#### **Goal**

To reduce the incidence and mortality due to cholera by 50% by 2021

**Objectives:**

1. To raise awareness, promote attitude and practices for cholera prevention with special focus to cholera prone districts
2. To increase access to safe water, sanitation and hygiene in cholera prone districts to national average in the base year
3. To build and sustain a sensitive and efficient surveillance system at all levels which is able to predict, detect and respond to cholera out breaks
4. To improve the quality of health care so as to prevent, complications and reduce mortality by 50%
5. To protect vulnerable groups through implementation of targeted interventions including complementary use of OCV for cholera hotspots and endemic communities.
6. To enhance effective multi-sector co-ordination through local and national structures and resources

These multi-sectoral plan will be implemented for a period of 5 years, 2017/18-2021/22 with the Ministry of Health as Lead Ministry sector but with the other ministries coordinating implementation of interventions in their relevant fields.

The plan has short and long term interventions. The short term activities such as complementary use of OCV for cholera hotspots and endemic communities will run up to the second year while the long term activities like WASH, Surveillance, Case management, Health Education and Promotion will run through to the fifth year.

### **c) Guiding principles for implementation of NICCP17-22**

The following guiding principles will be observed:

- Multi-sectoral and integrated approach to ensure efficient use of limited resources.
- Community and stakeholder engagement to ensure ownership and sustainability
- Service equity with focus on those with the highest need
- Continuous improvement
- Gender sensitivity and responsiveness approach.

To ensure maximum impact amidst limited resources priority intervention will be targeted to high risk districts and vulnerable populations.

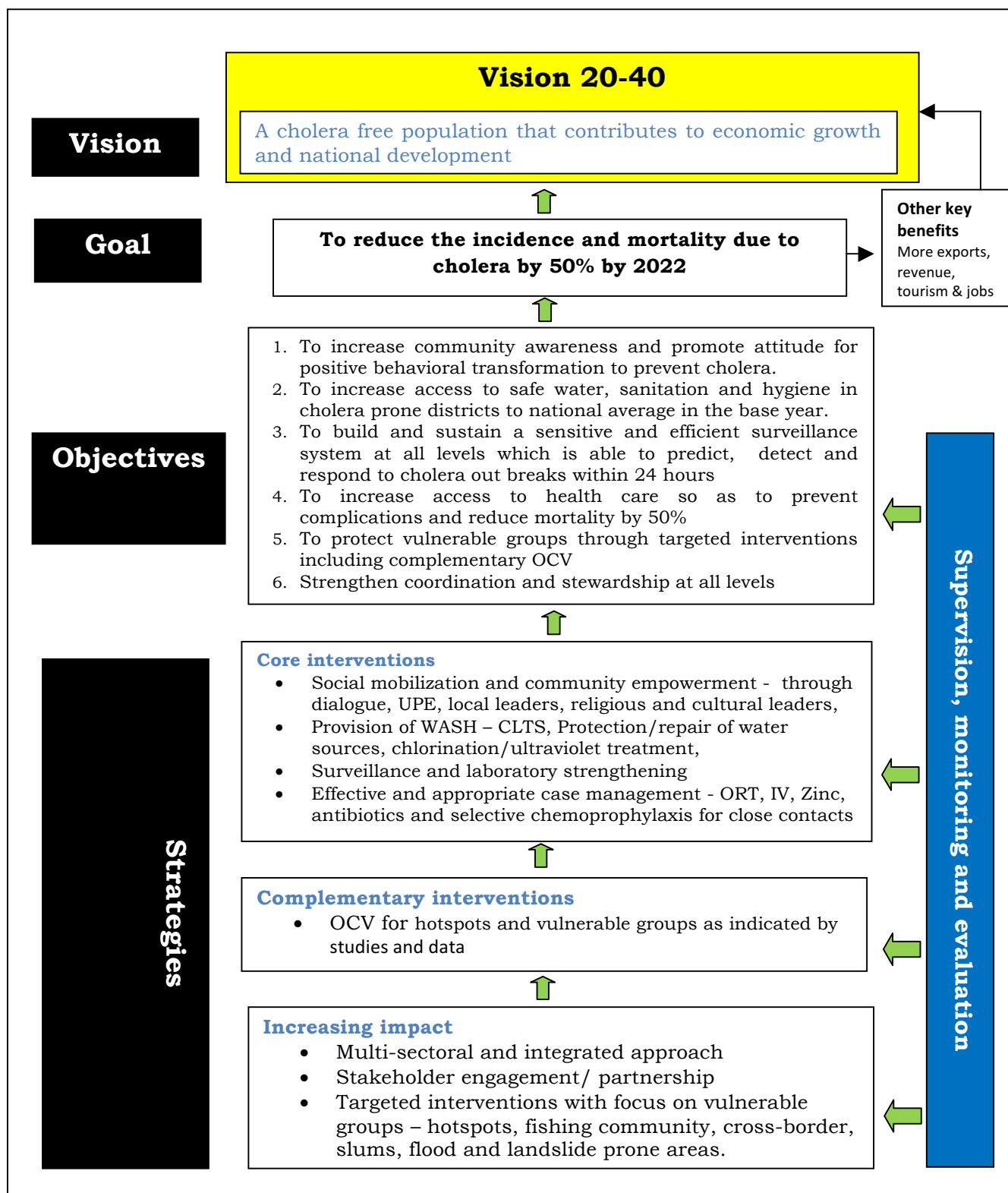
### **d) Implementation arrangement and total budget for NICCP17-22**

The plan has seven thematic implementation areas namely; coordination and stewardship; surveillance and laboratory strengthening; case management; water, sanitation and hygiene; social mobilization and community empowerment; complementary use of OCV and supervision, monitoring, evaluation and research.

The total budget for the plan is Uganda Shillings 29,050,000,000 equivalent to USD 8.3 millions. This budget is distributed across the five years. Over 80% of the budget is for preventive interventions focusing on specific groups and communities at high risk of cholera to achieve the best result.

Supervision, monitoring, evaluation and research will be done continuously to ensure that gaps are identified and corrected early. New better approaches to disease preventions will be explored and rolled out. The summary of NICCP17-22 is shown in figure 1.

**Figure 1: Framework for NICCP17-22**





## **Wider benefit of NICCP17-22**

Reporting of cholera is associated with trade and tourism barriers. Reduction of cholera will come with increased trade for Ugandan commodities and the number of tourist visiting the country. More employment will be created resulting better revenue collection and ultimately growth in GDP. The combined results of these will provide more impetus towards middle income status for Uganda and better quality of life for population.

In addition to economic gains, cholera interventions will also reduce the other diarrheal diseases and national disease burden as a whole.

# Chapter 1: Introduction

## 1.0 Background

Uganda has 115 districts and one city (the capital city of Kampala) as at January, 2017. The districts are subdivided into 181 counties and 22 municipalities and 174 town councils which are further subdivided into 1,382 sub counties, 7,138 parishes and 66,036 villages (Census, 2014). For ease of follow up, the country is further divided into 10 regions based on UBOS statistical regions used during Uganda Demographic and Health Surveys. These regions included Kampala, Central 1, Central 2, East Central, Eastern, Karamoja, North, West Nile, Western, and South Western.

Demographically, Uganda had a projected population of 36.4 million persons in 2016 (UBOS, 2016) with an average annual growth rate of 3.03%, the population is expected to peak at 42.4 million people by 2020 and is expected to rise to 102 million by 2050, the 2016 projections indicate.

The average household size is 4.7 persons, with a Sex Ratio of 94.5 males per 100 females. An estimated 72% of the population lives in rural areas as compared to 28% in urban centers. 49% of Uganda's population is under the age of 15 and with 18.5% of the total population being under-five. Those aged 65 years represented 2.3% of the total population by the year 2015 and this should continue to increase as life expectancy improves.

Uganda's per capita spending on health was US\$ 53 per capita in 2011/12 which is low compared to WHO recommended minimum level of 60 US\$. In addition, the Total Health Expenditure (THE) as % of GDP is as low as 1.3%, against the target of 4%. The primary sources of health care financing are households (37%), donors (45%) and government (15%), while the private insurance constitutes a small proportion of THE. The 37% contributed by households is majorly out of pocket spending which is far above the

recommended maximum of 20% Out of Pocket (OOP) expenditure by households recommended by WHO if the households are not to be pushed into impoverishment. Development partners contribute 45%, most of it being off budget.

The General Government Expenditure (GGE) on health is \$9 per capita (NHA, 2013) compared to the HSSIP target of \$17 per capita and WHO Commission of Macro Economics on Health recommendation of \$34. The Government Public financing is still below the WHO, CME and HSSIP recommendations. The % of the total government budget allocated to the health sector reduced from 9.6% in 2009/2010 (AHSPR, 2013/14) to 8.7% in 2014/15 (National Budget 2014).

Economically, the country's gross domestic product (GDP) has steadily been increasing at a rate between 5 – 9% in the recent past. The percentage of Ugandans living below the poverty line decreased from 56.4% in 1992 to 19.7% in 2012 (The state of Uganda population report 2014). However, poverty remains deep-rooted in rural areas, where most of the population lives. The economy is transitioning from agricultural, to an industrial one, service driven economy with key drivers of the economic growth shifting towards more industrialized activities. Development Aid has played a key role in stabilizing and improving the economy over the past 30 years. In addition, Diaspora remittances increasingly contribute to the country's economy. The per capita income at 2002 constant price grew from UGX 680,996 in 2012/13 to UGX 688,324 in 2013/14, a growth of 1.1% (UBOS, 2014).

## **1.1 Rationale**

### **1.1.1 Emerging infectious disease outbreaks and epidemics**

The world and Uganda in particular is faced with emerging infectious disease outbreaks and epidemics. Uganda, like many developing countries has inadequate funding, limited access to life-saving technologies, continuing unnecessary deaths from epidemics and preventable diseases. In order to address these challenges, the national strategic focus will be ensuring access to information, partnerships, and capacity building efforts, strengthening health systems, innovations to foster efficiency while focusing on the poor, vulnerable and at risk communities.

In partnership with other nations, international organizations-public and private stakeholders, Uganda will seek to accelerate progress towards a world safe and secure from infectious disease threats and to promote global health security as a National and international priority. The focus is on; promoting and scaling up access to and use of safe water and safe sanitation, (*see current status in table below*): Other strategies will be: forecasting, preventing epidemics, disease preparedness, and prompt detection and response to outbreaks. This will be reinforced with robust systems strengthening and monitoring and evaluation mechanisms.

### **1.1.2 Commitment to national, regional and international, frameworks**

The NICCP17-22 is designed to contribute to the realization of the vision and aspirations of the National Development Plan II (NDP II 2015/16-2019/20), Health Sector Development plan (HSDP 2015/16-2019/20) and the National Health Policy II (NHP II 2009/10-2019/20).

As part of the overall health sector planning framework, NICCP17-22 provides the strategic focus of the sector in the medium term, highlighting how it will contribute, within the constitutional and legal framework, and to the overall Vision 2040.

The NICCP17-22 is also in line with the overall East African Community (EAC) strategy that allows for free movement of people while protecting their health across borders.

Finally, NICCP 17-22 fulfills the WHO requirement that will guide countries to progressively implement priority intervention for cholera prevention, control and elimination.

### **1.3 Status of Sanitation, Water and Hygiene coverage**

Cholera is not only a health problem. It is the direct consequence of poor sanitation and poor quality and inadequate water supply, themselves linked to various environmental, climatic and socio-economic situations. Access to clean water and sanitation is a human right but cannot be achieved within the health sector only, or solely by technical measures, or at national level alone. It must involve many partners in a coordinated, parallel and sequential, synergistic approach with short- medium- and long-term objectives.

Poor sanitation costs Uganda 389 billion shillings annually and one prolonged episode of cholera cost the country about 6 billion shillings aside from affecting other revenue sectors like tourism and trade (World Bank Water and Sanitation Program, 2012). Access to

safe water, sanitation and hygiene still needs improvement with rural settings having lower coverages than urban areas (Table 1).

**Table 1: Sanitation and hygiene access in Uganda**

| Item                 | Rural | Urban |
|----------------------|-------|-------|
| Access to safe water | 67%   | 71%   |
| Latrine coverage     | 79%   | 84%   |
| Hand washing         | 36%   | 34%   |

**Source:** *MWE, sector performance report, 2016*

## **Chapter 2:    Epidemiology of cholera in Uganda**

### **2.1 What is cholera?**

Cholera is an infection of the small intestine by some strains of the bacterium *Vibrio cholerae*. Symptoms may range from none, to mild, to severe. The classic symptom is large amounts of watery diarrhea that lasts a few days. Vomiting and muscle cramps may also occur.

Diarrhea can be so severe that it leads within hours to severe dehydration and electrolyte imbalance and deaths. Symptoms start two hours to five days after exposure.

Cholera is spread mostly by unsafe water and unsafe food that has been contaminated with human feces containing the bacteria. Humans are the only animal affected.

Risk factors for the disease include poor sanitation, not enough clean drinking water, and poverty. There are concerns that rising sea levels will increase rates of disease.

Cholera can be diagnosed by a stool test. Prevention involves improved sanitation and access to clean water. Cholera vaccines that are given by mouth provide short-time protection for about 3-5 years and are costly compared to other interventions.

The primary treatment is rehydration (oral or intravenous) therapy for all persons and zinc supplementation for in children. Antibiotics are also beneficial for preventing spread and shortening the duration of the illness.

Testing to see which antibiotic the cholera organisms are susceptible should be done to guide the choice of antibiotics.

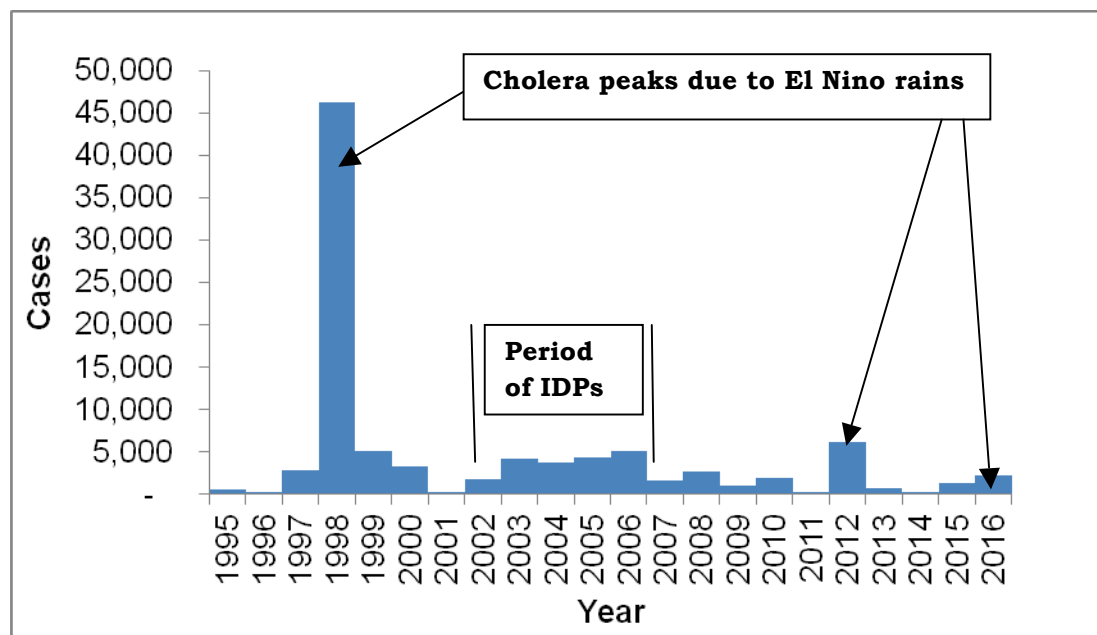
## 2.2 Cholera epidemics in Uganda

### 2.2.1 History of cholera in Uganda

First cholera outbreak was in 1971 in Kampala city. By then only few cases were recorded. That was the time that cholera reached Africa. During subsequent years small cholera outbreaks lasting few days to weeks were intermittently recorded and reported to WHO.

In 1990s the outbreaks become more frequent and peaked in 1998 following El Nino rainfalls. There after cholera was reported annually in several districts. Peaks occurred in El Nino year 1998, 2012, 2016 (Figure 3).

**Figure 2, Cholera cases in Uganda 1995-2016**



**Source:** HMIS, 2000-2016



## 2.2.2 Progress made over time to control cholera in Uganda

In early 2000s the internally displaced persons in Western Uganda and Northern Uganda provided good ground for propagation of infection. However with restoration of peace in all regions of Uganda in 2006, the last decade registered good progress in provision of social services namely improvement in safe water and sanitation coverage, closure of IDPs camps in Northern Uganda, increased enrolment in Universal Primary Education and Universal Secondary Education, increased access to health care and above all reduction in poverty levels. The districts affected with cholera have reduced markedly from 43/45 (96%) in 1998 El Nino to about 25/112 (22%) in 2016 El Nino period.

Eighteen (18) districts were responsible for 90% of all reported cholera cases in the country. The five districts of Nebbi, Hoima, Bulisa, Kasese and Mbale accounted for 60% of the cases (Table 2).

**Table 2: Top cholera affected districts in Uganda, 2011-2016**

| District      | Cases | Deaths | Percentage by district | Cumulative Percentage |
|---------------|-------|--------|------------------------|-----------------------|
| 1. Nebbi      | 2320  | 49     | 21%                    | 21%                   |
| 2. Hoima      | 1731  | 39     | 16%                    | 36%                   |
| 3. Bulisa     | 1205  | 13     | 11%                    | 47%                   |
| 4. Kasese     | 852   | 18     | 8%                     | 55%                   |
| 5. Mbale      | 530   | 31     | 5%                     | 60%                   |
| 6. Bundibugyo | 458   | 11     | 4%                     | 64%                   |
| 7. Kibaale    | 386   | 4      | 3%                     | 67%                   |
| 8. Namayingo  | 373   | 6      | 3%                     | 71%                   |
| 9. Kampala    | 324   | 7      | 3%                     | 74%                   |
| 10. Bulambuli | 284   | 4      | 3%                     | 76%                   |
| 11. Butaleja  | 281   | 5      | 3%                     | 79%                   |
| 12. Arua      | 255   | 10     | 2%                     | 81%                   |
| 13. Busia     | 250   | 5      | 2%                     | 83%                   |
| 14. Bududa    | 216   | 7      | 2%                     | 85%                   |
| 15. Sironko   | 184   | 8      | 2%                     | 87%                   |
| 16. Ntoroko   | 183   | 4      | 2%                     | 89%                   |
| 17. Rukungiri | 160   | 1      | 1%                     | 90%                   |

**Source:** HMIS, 2011-2016

In all the cholera reporting districts the common risk factors include: inadequate access to safe water, poverty, migratory living habits, and poor sanitation practices due to proximity to large water bodies making construction of pit latrines difficult and low literacy levels.

Targeting these communities with a comprehensive package of cholera control interventions; including the complementary use of Oral Cholera Vaccine (OCV) on these vulnerable groups located along the country border cross points, flood prone/landslide areas (Mt. Elgon region, Kasese, Butaleja), peri-urban slums, could lead to reduction of cholera incidence by at least 50% or more.

Poor sanitation costs Uganda 389 billion shillings annually and one prolonged episode of cholera cost the country about 6 billion shillings aside from affecting other revenue sectors like tourism and trade (World Bank Water and Sanitation Program, 2012)

### **2.2.3 Vulnerable groups for cholera**

Studies and surveillance data for recent past show that some communities are more affected than others.

Categorization based on the settlement patterns, major livelihood activity of the cholera affected populations and their location show higher risk of cholera outbreaks than others table 3.

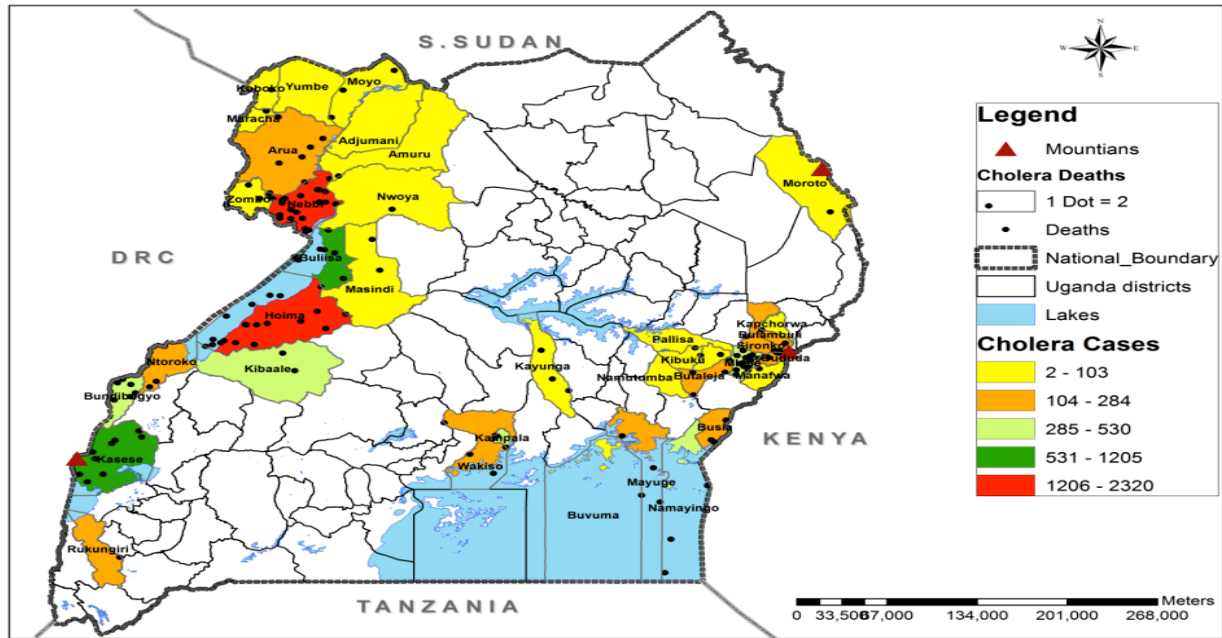
## Vulnerable groups for Cholera in Uganda 2011-2016

| Year | Reported cases                             | Affected districts  | Sub county   | Vulnerable group   |
|------|--|---|--|--|
| 2011 | 229  | Rukungiri and Kasese  | Rwenshama<br>Kayanzi   | Fishing community were the majority (n=192, 84%), others were the migratory cotton farmers of Kasese.  |
| 2012 | 6226                                       | Kasese, Bulisa, Nebbi, Hoima, Mbale, Arua, Zombo, Bududa, Butaleja, Sironko and Manafwa | Wanseko, Panyimur, Kaiso-Tonya and Namatala  | Fishing community (n= 3,579, 57.5%), border community (approx. 25%) peri-urban slum dwellers including street children, landslide and flood prone communities.                               |
| 2013 | 751  | Hoima, Nebbi, Ntoroko, Moyo   | Buseruka, Panyinur, Obongi   | Fishing community (n=535, 71.3%,) others were; border community, traders   |
| 2014 | 322  | Moyo, Hoima, Namayingo, Adjumani and Arua   | Obongi, Buseruka, Mutumba and Rhino Camp   | Fishing community (n=262, 81%,) and border community   |
| 2015 | 1270 (29)                                  | Kasese, Arua, Hoima, Busia, Maracha, Kampala, Wakiso and Mbale                          | Mpwendwe Lhuhubiriha TC, Bwera, Katwe TC-lake Edward, slums in municipalities of Mbale (Namatala, Namanyonyi), Buseruka, Kyangwale, Kisenyi, Kanyogoga and Zinga Islands | All affected district were border district. Most affected group within these districts were; fishing community (n=491, 39%,) Peri-urban slums, mental institutions/prisons, street children. |
| 2016 | 1156 (25)<br>(4 <sup>th</sup> /5/<br>2016) | Mbale Sironko, Bulambuli Kapchorwa, Butaleja, Namayingo Hoima, Bulisa                   | Sironko TC, Muyembe, Mazimasa, Kachonga, Namatala, Mutumba, Kyangwale and Kigoro bya   | Flood / landslide prone communities (n=781, 68%,), Fishing community (n=238, 21%,) and peri-urban slums  |

**Source:** HMIS 2016

Though the fishing communities constitute less than 10% of the total Uganda population, available data shows that they bear approximately 60% of the disease. Buseruka and Panyimur are some of the identified cholera hotspots. Most cholera affected districts are located along the country border as in Figure 3.

**Figure 3: Map of Uganda showing reported cholera**



**Source:** HMIS, 2011-2016

## Chapter 3: NICCP17-20; Vision, Mission, Goal and Guiding Principles

### **3.1 Vision**

A population free of cholera and other diarrheal diseases that contributes to economic growth and national development

### **3.2 Mission**

To accelerate elimination of cholera through promotion of multi sectoral, cost effective, efficient and equitable cholera prevention and control interventions for national growth and development.

### **3.3 Goal**

To reduce the incidence and mortality due to cholera by 50% by 2021

### **3.4 Objectives**

1. To enhance effective multi-sector co-ordination and stewardship through local & national structures and resources.
2. To improve knowledge, attitudes and practices about cholera in Uganda with special focus to cholera prone districts/communities.
3. To increase access to safe water, sanitation and hygiene in cholera prone districts to national average in the base year
4. To build and sustain a sensitive and efficient surveillance system at all levels which is able to predict, detect and respond to cholera out breaks
5. To improve the quality of health care so as to prevent new infections, complications and reduce mortality by 50%
6. To protect vulnerable groups through implementation of targeted interventions including complementary use of Oral Cholera Vaccines (OCV) for cholera hotspots and endemic communities

### 3.5 Guiding principles

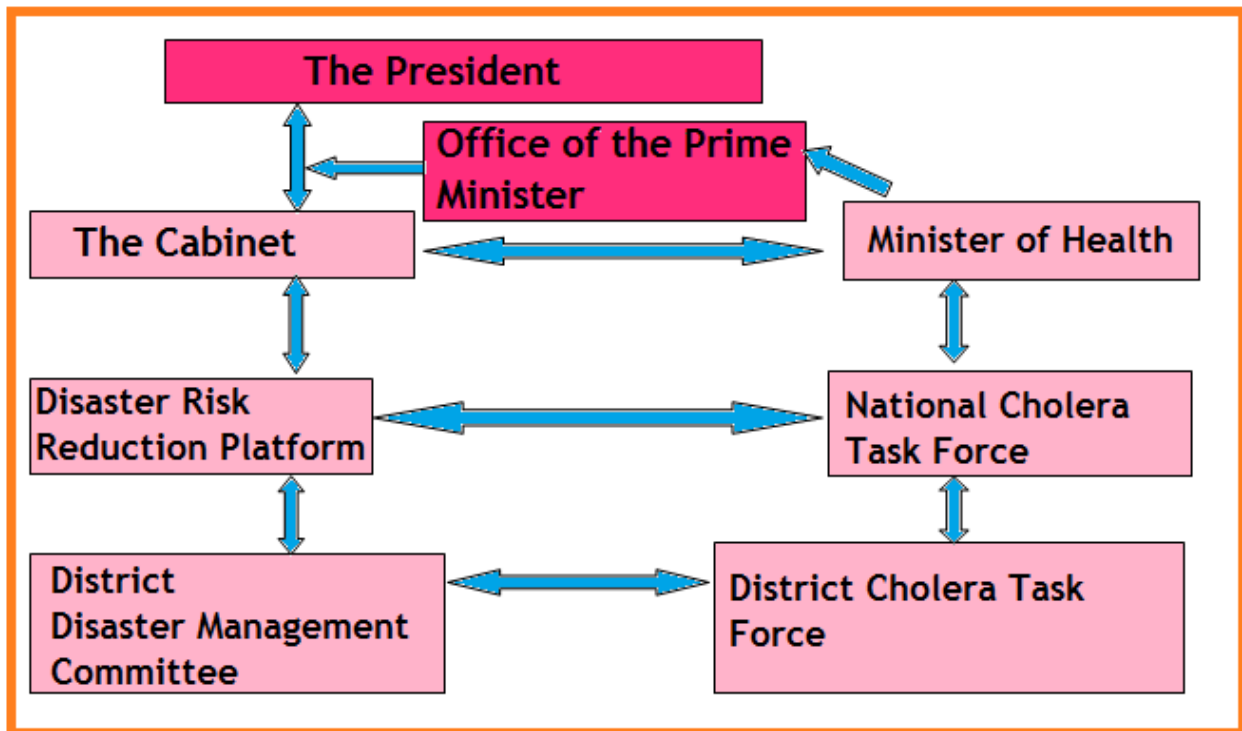
- a) **Multi-Sectorial and Integrated Approach:** Develop and maintain effective relationships among stakeholders to enhance collaborative planning and operational management of activities at all levels.
- b) **Community and Stakeholder Engagement:** Facilitate community input to understand, own and sustain the full spectrum of preventive and control activities.
- c) **Service equity:** Establish, maintain, develop and support services that are best able to meet the needs of patients/clients and their communities during and after an emergency. Ensure that special provisions are made for vulnerable people and hard-to-reach communities so that emergency responses do not create inequalities.
- d) **Continuous improvement:** Through on-going monitoring and review, in which they update capabilities, plans and arrangements, using an evidence-based approach.
- e) **Gender sensitivity and responsiveness approach:** Shall be achieved and strengthened in cholera prevention and control interventions

# Chapter 4: Priority interventions areas

## 4.1 Coordination and stewardship

Overall coordination for Disaster Preparedness and Response including Epidemics in the Country lies with the Office of the Prime Minister. However, the Ministry of Health is the Lead Ministry in Epidemic disease response. Coordination of epidemics including cholera is at two levels namely national and district levels (Figure).

Figure 4: National and district level coordination and stewardship



### **4.1.1 National Level**

There is a National Cholera Task Force (NTF) consists of National level stakeholders below:

- Ministry of Health (Lead institution)
- Office of Prime Minister
- Ministry of Water and Environment
- Ministry of Local Government
- Ministry of Education
- UN Agencies
- Institutions (Army, Prisons, Police)
- Non Governmental Organisations – Uganda Red Cross and Others
- Private Sector
- Bilateral agencies such as CDC

### **4.1.2 District Level**

At District local Government there is a Cholera Committee (DCC) consisting of all District Level Stakeholders. The DCC is chaired by the Resident District commissioner (RDC). The RDC spearheads the implementation of the prevention and control of Cholera. The key implementers at district level include among others; water department, security and education.

### **4.1.3 Roles and responsibility of each stakeholder**

Allocation of clear roles and responsibilities is key for implementation of the plan. In this plan the roles and responsibilities of stakeholders are as in table 4.



**Table 3: Roles and responsibilities of stakeholders**

| <b>Stakeholders</b>   | <b>Roles / Responsibilities</b>  |
|---|--|
| <b>Ministry of Health</b>   | The lead sector and secretariat for the cholera prevention and control   |
| <b>Office of Prime Minister (OPM)</b>   | OPM is the leader of government business. OPM receives reports from the lead sector (MOH) and share them with the cabinet. In addition, OPM is responsible for coordinating inter-ministerial meeting, coordination of provision of social services (safe water, sanitation, hygiene etc ) for refugees and internally displaced persons to prevent cholera. |
| <b>Ministry of water and Environment</b>  | Provision of safe water and sanitation in the community  |
| <b>Ministry of Education and Sports</b>   | Promotion of cholera prevention and control in schools ensuring that school have adequate latrines, hand washing facilities, water supply etc  |
| <b>UN Agencies (WHO, UNICEF, UNHCR)</b>   | For technical and financing support for the cholera prevention and control interventions   |
|   |  |
| <b>Ministry of Local Government</b>   | Provide supervision of local governments to ensure implementation of interventions, leadership and policy guide for local governments  |
| <b>Local governments (Districts, Urban Authorities, Kampala Capital City Authority (KCCA) and Municipalities)</b> | Service delivery /implementation of the interventions to reach community prevention and control plan for cholera   |
| <b>Ministry of Agricultural, Animal industry and Fisheries/ Beach Management Units</b>                            | In collaboration with local authorities ensure that landing sites have sanitary and hand washing facilities<br>Work with NEMA, LG to local beaches at appropriate distance from the lakes  |

| <b>Stakeholders</b>  | <b>Roles / Responsibilities</b>  |
|--|--|
| <b>International and local NGOs [Uganda Red Cross, AFENET, MSF, Uganda Water and Sanitation NGO network (UWASNET)]</b> | Support government in implementation of the priority interventions (WASH, Case management, surveillance and social mobilization)   |
| <b>Other Ministries (Internal Affairs, Security and Gender, Labour and Social Development)</b>                         | Coordination the implementation of the cholera prevention and control interventions in institutions under their jurisdictions e.g. prisons, police and Uganda Peoples Defense Force (UPDF) |
| <b>Ministry of Finance</b>   | Resource mobilisation and allocation to operationalise the plan  |
| <b>East African Community (EAC)</b>  | Support and coordination of cross-border cholera prevention interventions  |
| <b>Teaching institutions and academia (Makerere University, Mbarara University, etc)</b>                               | Spearhead operational research for evidence based planning and implementations   |
| <b>Bilateral and Multi-lateral donors partnerships (CDC, GAVI)</b>   | For technical and funding support for the response   |
| <b>Heads of Special Institutions e.g. schools, prisons, police, UPDF and Mental Facilities</b>                         | Implementation of cholera prevention and control interventions in the respective institutions  |

#### **4.1.4. Existing gap in coordination and stewardship**

There is weak coordination and leadership for cholera interventions in most districts reporting cholera outbreaks. Coordination meetings are irregular, poorly attended with inadequate follow up on required actions. Effective cholera prevention requires careful planning at all levels by all key sectors and to work together based on clear roles and responsibilities.

#### **4.1.5. Priority activities and indicators**

##### **a) Activities**

The following activities will be carried in all cholera prone districts to achieve 100% coverage.

1. Reactivation of the cholera task forces in 100% of districts reporting cholera outbreaks
2. Engage and equip leaders with information to spearhead cholera control and prevention efforts in all districts prone to cholera with focus to 17 most affected districts during previous year 2011-2016.
3. Develop and incorporate cholera prevention plans that have clear roles and responsibility of stakeholders into the district overall plans.

##### **b) Indicators**

- Percentage of districts with cholera task forces reactivated
- Percentage of districts with local leaders (RDC and LC-5) spearheading cholera prevention efforts
- Percentage of cholera task force meetings with participation from all relevant sectors and stakeholders
- Proportion of target districts with cholera prevention plans incorporated into the district plan.

## **4.2 Social mobilization and community empowerment**

Social mobilization is an important component for cholera prevention and control efforts that unifies stakeholder towards a common goal. It strengthens community participation and involvement which is critical in the sustainability of priority cholera preventive interventions. Target audiences require adequate information and education to raise awareness so as to appreciate the need and the benefits healthy living environment. The interventions should be rolled out in a sustainable manner leading to community ownership.

### **4.2.1 Existing gap**

Despite efforts to heighten social mobilization and information dissemination about cholera in affected districts, such messages provided by different communicators are most often not harmonized due to a number of factors including lack of cholera-specific communication strategy.

In addition, the widespread negative cultural practices and deep-rooted traditional norms arising from the diverse ethnic backgrounds in the country inhibits adoption of positive hygiene practices for cholera prevention. Furthermore, the low level of formal education and poverty among in these communities make adoption of positive cholera prevention practices a big challenge (Bwire et al., 2017) .

## **4.2.2. Priority activities and indicators**

### **a) Activities**

All sectors have a role to play in behavioral change. NICCP17-22 will prioritise the following activities which will be implemented by stakeholders – MOH, MOES, Ministry of Gender (cultural aspects) etc targeting all high risk districts with focus on 30 districts to improve knowledge and practices on cholera prevention and control to 90% by the end of NICCP17-22.

1. Development and dissemination of cholera specific prevention communication strategy
2. Promote use of appropriate targeted communication such as by Fm radio, drama, music, dissemination of repackaged cholera messages etc
3. Strengthen community participation in cholera prevention through community dialogue, model homesteads and villages.
4. Train and provide Community Health Extension Workers (CHEWS) with cholera prevention IEC materials
5. Mobilize local and cultural/traditional/ religious leader to be agents of change in their communities
6. Promote learning on cholera prevention through schools in endemic setting (sub counties)

### **b) Indicators**

1. Availability of cholera prevention communication strategy at central and district level
2. Proportion of districts with CHEWs oriented on cholera prevention
3. Proportion of population in cholera endemic sub counties with knowledge on cholera prevention
4. Proportion of districts with cultural, religious or opinion leaders promoting positive culture for cholera prevention.
5. Proportion of schools promoting cholera prevention in endemic sub counties within priority districts (eg drink boiled water to

be strong and avoid cholera – an *innovative way of communicating important messages*).

### **4.3 Increased access to safe Water, Sanitation and Hygiene (WASH)**

The core of cholera prevention is to ensure that people have access to clean water and proper sanitation. In long term each home should access piped water system and have good toilet. However, in order to control cholera and prevent outbreaks short- to medium-term measures such as protection of water sources to avoid faecal contamination, constructing latrines and distribution water purifiers and treatment agents prevent contamination in the home can greatly help to increase access to these services and avoid cholera outbreaks.

Cholera outbreaks have occurred in schools and other public institutions due to poor sanitation and hygiene.

The provision of safe water and sanitation facilities in *schools* is an important component in improving learning outcomes but good facilities need to be linked with an improvement in practices particularly hygiene and latrine maintenance to be effective and sustainable.

### **4.3.1 Current gaps in WASH**

Studies have shown that over a 50% of reported cholera cases are from fishing villages. There is low access to safe water in these communities. Most cholera affected districts have adequate water however; the water is contaminated with faecal material or gets contaminated during the process of transportation. In some scenario homesteads are located very close to the lakeshores making it difficult to construct latrines.

In addition, there is inadequate, poor prioritization of interventions, weak supervision and enforcement of bye-laws by local authorities. Latrines and hand washing facilities are missing in homes and public places.

Regarding schools, latrines and hand-washing facilities are mainly inadequate or absent. The problem is worse with cholera endemic districts where outbreaks have affected learning. When provided in some schools, there is poor maintenance of the facilities.

### **4.3.2. Priority activities, indicators and targets**

#### **a) Activities**

Participation of other sectors and local government is key if cholera prevention is to be achieved. The following activities will be carried out:

1. Procurement and installation of chlorine dispensers on all major landing sites to achieve 100% coverage.
2. Mobilize communities to construct and maintain water sources in all high risk districts to achieve the national coverage of 67% (rural) in targeted communities (subcounties).
3. Promotion of installation of solar water pumps at major landing sites in endemic districts to achieve coverage of 50% in targeted districts

4. Follow up on the local authorities to enforce sanitation and settlement bye-laws in all (100%) endemic districts
5. Promote construction and use of latrines, installation of handwashing facilities and hygiene (food, personal and environmental) in public and homesteads (Community Lead Total Sanitation)
6. Strengthen collaboration with other sectors/stakeholders namely National Environmental Management Authority (NEMA) and Beach Management Units (BMU)
7. Conduct regular water quality monitoring of all public water sources

**b) Indicators**

1. Proportion of water sources that have chlorine dispensers installed.
2. Number of new water sources installed.
3. Latrine coverage in targeted water committees
4. Proportion of schools and public places with latrines and hand-washing facilities.
5. Proportion of target districts enforcing bye-laws on sanitation and settlement.
6. Proportion of target districts with regular water quality monitoring reports.



## **4.4 Surveillance and early warning systems**

Preventing and control of cholera relies on effective surveillance systems. Surveillance is the foundation of an effective targeted prevention and control. Strengthening cholera surveillance expedites the detection of the index case and initiation of the outbreak control measures through an integrated approach. This promotes the identification of high risk areas and vulnerable populations and quick sharing of information with stakeholders for timely action.

National reporting of priority diseases and events of public health importance has greatly improved. Capacity to confirm and respond to outbreaks has been built in many districts. However, there is need to intensify support supervision and feed back to sub national levels.

### **4.4.1 Current gaps in surveillance**

Many districts lack resources for timely detection and confirmation of outbreaks leading to spread of infection before action is taken. In addition even after detection follow up of suspects is weak allowing propagation of epidemic.

Cholera outbreaks in border districts are challenging to prevent and control due to unilateral country specific measures. To address the challenge of outbreaks in border districts, cross-border surveillance and collaboration will be promoted.

#### **4.4.2 Priority activities, indicators and targets**

##### **a) Activities**

Early detection of outbreak is key in prevention of spread of the outbreaks. All efforts should be made to identify the index case and protect the contacts and immediate communities.

1. Train and equip health workers with skills to detect cholera using RDTs in all health facilities in targeted districts.
2. Ensure follow up of all detected cases by health workers to prevent spread of infection.
3. List all immediate contacts and share information with health education and community health workers for appropriate intervention.
4. Procure and distribute laboratory supplies to all districts and health facilities.
5. Support cross border cholera prevention meetings and interventions for selected districts
6. Print and distribute standard case definitions to all health facilities in cholera endemic districts
7. Promote timely reporting of all suspected outbreaks to higher level within 24 hours of detection.
8. Investigate all rumors including false notifications to higher level and clean the data

## **b) Indicators**

1. Proportion of suspected outbreaks tested with cholera RDTs
2. Percentage of rumors and false alerts investigated
3. Proportion of districts listing contacts and sharing information with CHEWs for follow up
4. Proportion of health facilities with case definitions in targeted districts
5. Proportion of cholera outbreaks reported within 24 hours of detection (RDT test) to higher level

## **4.5 Case Management and infection control**

Prevention and treatment of dehydration is the basis of cholera case management. Selective chemoprophylaxis with recommended antibiotics has a role in limiting transmission of the infection. Training of health workers is an essential element for preparedness especially in high-risk areas. All health care facilities that might manage cholera cases should have sufficient supplies that are able to cover the first few days before the arrival of more supplies.

A needs assessment and inventory of supplies should be completed before any anticipated cholera outbreak. In addition the health professionals need specific training for effective and efficient management of cholera cases and deaths.

During cholera outbreaks health workers should target aim at case fatality rate of less than 1%. It is important to isolate all suspected and confirmed cholera cases. There should be restriction of movement in and out of the cholera treatment units for the attendants and any other persons.

Appropriate disinfection of patients and their belongings, waste disposal, hygiene of the health facilities and sanitation are key in response. Protective wear should be used when handling infectious materials, buckets and dead bodies.

#### **4.5.1 Current gaps in case management and infection control**

Long distance and lack of medical supplies in affected districts leads to delayed medical care as patients arrive late for medical care. Due to this most of the dead occur in the community and are discovered late. Infections tend to spread during cholera burial due rituals and feasting that accompany the burial. In island lack of transport is an important constraint.

#### **4.5.2 Priority activities, indicators and targets**

##### **a) Activities**

Good or appropriate patient care and infection control are key component of cholera prevention and control. The health workers should be prepared to handle cholera cases before the outbreak period and should ideally target case fatality rate of less than 1%.

Selective treatment of immediate contacts prevents spread of infection as it removes the germs preventing them from multiplying and causing more infections.

1. Procurement and prepositioning of cholera supplies in endemic districts
2. Training of health workers in appropriate case patient care and infection control to achieve a target of 90% of all the health care workers at national and in priority districts (National Trainers (TOT), district, Health Facility and CHEWs).

3. Conduct on job mentoring and supervision during epidemic during outbreaks to ensure adherence to case management standards.
4. Ensure that all contacts receive health education on prevention and selective chemoprophylaxis within 3 days (72 hours) of reporting of a cholera case.
5. Identify possible cholera treatment units and equip them for case management in all cholera priority districts (focus on hotspots).
6. Set up oral rehydration points in all cholera hotspots immediately after detection of the index case.
7. Participate in burial of suspected cholera dead.

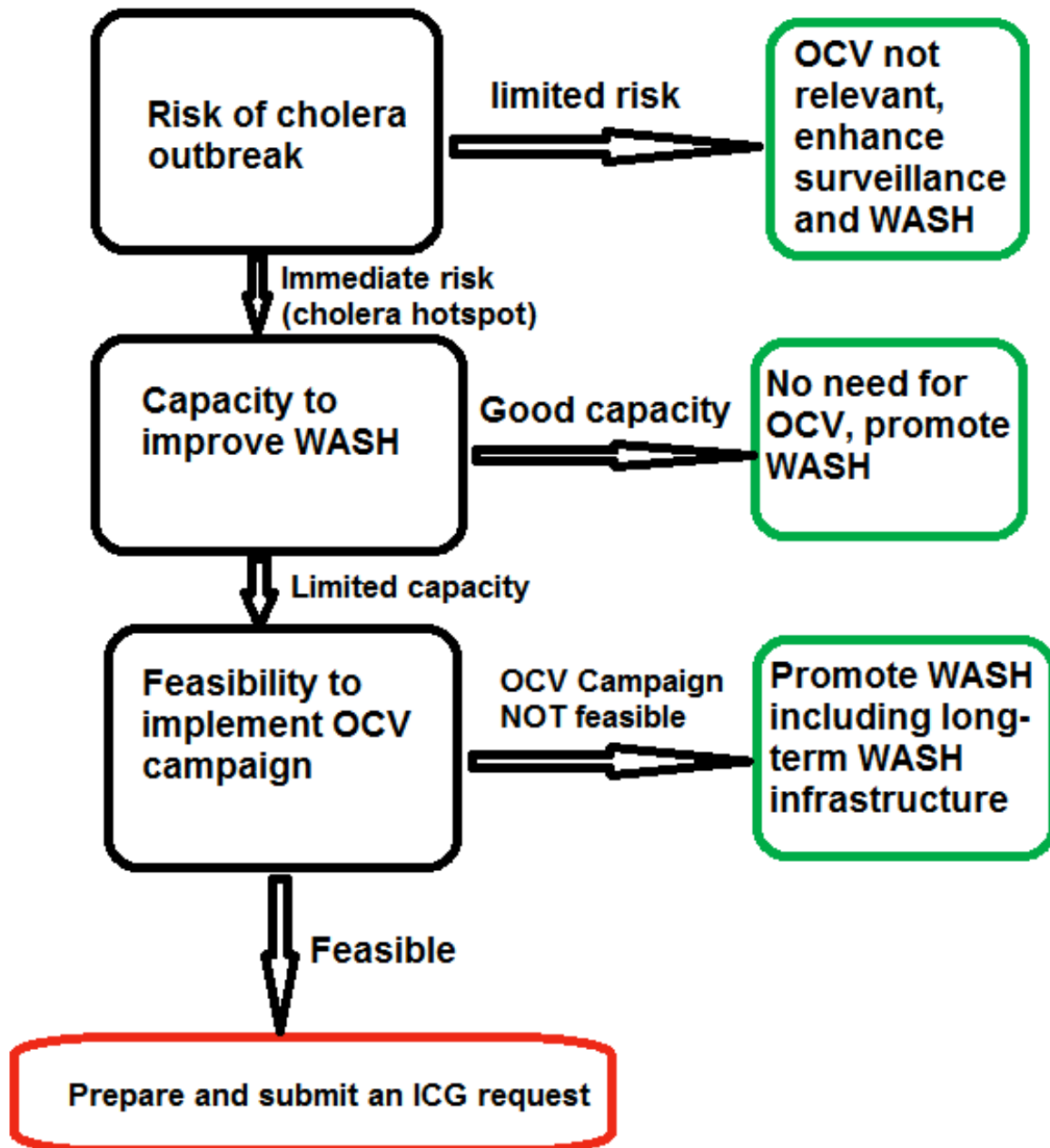
**b) Indicators**

1. Number of health workers trained on appropriate cholera case management in priority district
2. Proportion of health facilities in cholera prone subcounties with cholera medicines and supplies
3. Proportion of patients that die from cholera ( case fatality rate)
4. Number of immediate contacts that develop cholera
5. Proportion cholera dead burial supervised by health workers

## 4.6 Oral Cholera Vaccine (OCV)

Oral Cholera Vaccine (OCV) is an additional new tool for cholera control to supplement, not to replace, existing priority cholera control measures. Oral cholera vaccine use is a **short term** measure (3-5 year protection). The addition of OCV in cholera response will be assessed and recommended by the National Cholera Taskforce to achieve the maximum impact (Figure 5).

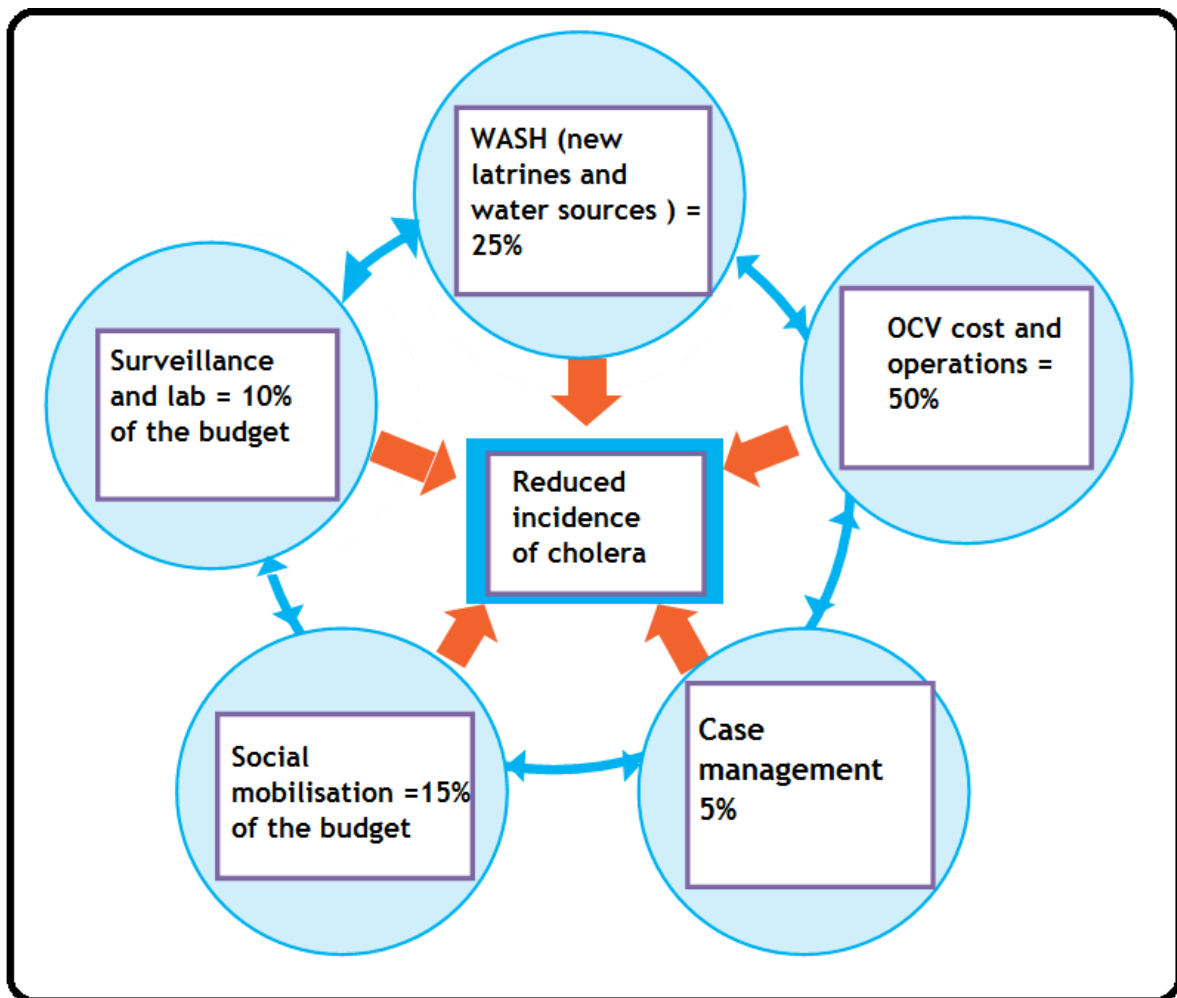
**Figure 5, Decision to implement OCV campaign**



The use of OCV is recommended in endemic setting with well-defined cholera hotspots. While OCV can be useful before or during cholera outbreak, it is preferable that risk assessments and the corresponding vaccination campaigns be carried before the outbreak has occurred for good effect.

It is important to note that the *current vaccines only offer up to 67% protection of the community and for 3-5 years*. The other 33% of the population is not protected and is susceptible to cholera. In addition unlike WASH which prevents all infections the vaccine is specific to cholera and has no effect on *rota virus, dysentery and other diarrheal diseases* which may occur together with cholera. Therefore OCV is complementary intervention to WASH and other interventions and these should be very clear and resources allocated proportionally during OCV campaign micro plan (Figure).

**Figure 6, Allocation of funds for OCV campaign implementation**





#### **4.6.1 Information on OCV**

Use of OCV is a short term measure that is very important in areas with poor access to safe water and sanitation (Mogasale, Ramani, Wee, Kim, & Chowdhury, 2016). However, when the cases are few it is not cost effective (Schaetti et al., 2012). This is so especially if feasibility of improving safe water is high.

The average cost per dose is equal to USD 1.25. The cost of delivery is also approximately USD 2.00. Two doses are required for each fully vaccinated person which is approximately USD 6.50 or Uganda shilling 23,000 per person vaccinated.

There are three WHO prequalified killed whole-cell OCVs namely; Dukoral (Valneva, Lyon, France), Shanchol (Shantha Biotechnics, Hyderabad, India), and Euvichol (EuBiologic Co, Ltd, Chuncheon, South Korea) that are currently available. The most affordable OCV are Shanchol and Euvichol which can give protection for 3-5 years (Bhattacharya et al, 2013). Dukoral is less appropriate for field use because of higher costs and the need for the buffer.

## **4.6.2 Priority activities, indicators and targets**

### **a) Activities**

To achieve maximum impact from vaccination and to ensure cost-benefit effectiveness, communities located around the lakes will be targeted. A total of 600,000 persons (mainly in fishing villages) will be vaccinated in the first 3 years of NICCP17-22.

1. Development of an integrated OCV campaign micro plan
2. Collect district specific data for submission to ICG or Global Task Force for cholera control.
3. Shipment and distribution of vaccines, water purifiers, and other supplies.
4. Training of the district teams in target districts (Hoima, Nebbi, Bulisa and Namayingo) to administer OCV to their communities.
5. Implementation of the campaign beginning with the top cholera affected districts.
6. Monitoring and supervision of the campaign
7. Coverage survey, monitoring for adverse event and documentation of the processes

### **b) Indicators**

1. Oral Cholera Vaccine vaccination coverage
2. Safe water coverage in specific sub-counties in targeted districts (Nebbi, Hoima, Bulisa and Namayingo )
3. Latrine coverage in specific sub-counties in above targeted districts.

# **Chapter 5: Supervision, monitoring, evaluation and operational research**

## **5.1 Measure to remaining on course**

### **5.1.1 Supervision**

Implementation of the NICCP17-22 will be supervised in accordance to standard cholera prevention and control guidelines with particular focus on cholera high risk communities. The National Cholera Task Force provides the overall technical guidance and will report to OPM through the relevant sector structures. Effective supervision should result in positive outcomes for the affected communities, the service providers, supervisors and the nation as a whole.

### 5.1.2 Monitoring and Evaluation

Implementation of interventions shall be monitored and evaluated regularly to further inform processes. A monitoring and evaluation framework has also been structured into the plan where each intervention can be continuously monitored using specific indicators at various intervals to inform the next stage.

A simple monitoring tool will be disseminated to priority districts facilitate their work in track progress on the set NICCP 17-22 targets are based on the following:

1. **Increase in safe water coverage** in specific cholera prone subcounties
2. **Reduction in cholera case fatality rate** (confirmed cases as opposed to suspected cases)
3. **Reduction of cholera incidence and low cholera attack Rates** for targeted sub-counties (Proportion of persons at risk that develop cholera).

Monitoring will also be used to assess the quality of services provided. **Mid-term** and **End-term evaluation** of the comprehensive plan shall be undertaken to assess how the set objectives have been achieved. It is expected that during the five year period, best practices, lessons learnt, challenges and areas of significant change will be shared and disseminated to provide benchmarks for future planning.

### 5.1.3 Operational research

Twenty first century is an era where successful interventions are guided by science. New and better method of solving issues keep coming up. The pathogens also keep evolving in the environment. Studies have to be done to guide interventions.

## **5.3 Priority activities, indicators and targets**

### **a) Activities**

1. Development of a simple district supervision and monitoring tool
2. Conduct a mini-cholera household survey for baseline, mid and end term evaluation; and to performance studies on hygiene knowledge, attitudes, practices and pathogens.
3. Conduct integrated supervision and monitoring visits to targeted districts
4. Analyze and interpret epidemiological reports and share them with stakeholders for action

### **b) Indicators**

1. Availability of a simple district supervision and monitoring tool
2. Availability of mini-survey reports
3. Stakeholders meeting report

These indicators should help to progressively assess the achievement of the set NICCP17-22 objective targets and goal.

## **Chapter 6: Implementation arrangement and the budget**

### **6.1 Implementation arrangement**

The NICCP17-22 will be implemented for a period of 5 years through the participation of various stakeholders. At national level, Ministry of Health and the relevant Ministries and departments will coordinate the implementation.

The plan is divided into the long term and short term. The short term activities will run up to the second year or intermittently for example complementary use of OCV, case management and procurement of supplies while the long term activities like WASH, Surveillance, Health Education and Promotion will run throughout to the fifth year.

The districts, Local governments, institutions will be the nucleus of implementation. Districts and Local governments will partner with local stakeholders for technical implementation, mobilizing of resources and evaluation. The private sector and CBOs shall be mobilized to fully participate in all thematic areas of the plan. Since cholera disease doesn't affect all districts evenly, resources will be prioritized to high risk districts and populations as a measure to ensure efficiency and effectiveness.

To ensure sustainability, the community will be empowered to fully participate in cholera prevention and control activities. During implementation gender consideration will be observed at all levels.

Supervision, monitoring, evaluation and operation research have been included in the plan to ensure better scientifically guided results. Mid and end term evaluation will be conducted to assess achievements based on set targets.

## **6.2 Final budget estimate for NICCP17-22**

To compute the final cost estimate, wide consultations took place that included review and reference to previous annual cholera workplans. The average annual budget estimate for previous period was estimated at USD, 1.2-2.0 millions. We used these values and added on the cost of new targeted interventions for the 30 cholera prone districts.

Furthermore, the team conducted literature review on progress and challenges encountered with implementation of similar plans elsewhere in Africa and beyond. Several plans were reviewed the following were examples: Haiti (USD, 2.2 billions), Kenya (USD, 13.2 millions), Democratic Republic of Congo, Sierra Leone (USD, 6.1 millions). Common findings with most of these plans were the failure to attract adequate funding compared to cost estimate.

Using lessons from these plans, NICCP17-22 prioritized interventions to minimize the budget but still maximize the benefits.

Therefore, the total required budget estimate for NICCP17-22 is Uganda shillings 29,050,000,000, equivalent to USD 8,300,000. These budget is spread through the five financial years (FY 2017/18 to 2021/22) to achieve set objectives and the goal (table 5).





| Intervention   | Year 1    | Year 2  | Year 3    | Year 4  | Year 5  | Total UGX (000)   | Total USD (000) | Comment   |
|--|-----------|---------|-----------|---------|---------|-------------------|-----------------|---|
| <b>OCV</b>   | 2,327,500 | 105,000 | 2,327,500 | 140,000 | 280,000 | 5,250,000         | 1,500           |   |
| <b>7. Supervision, monitoring, evaluation and operational research</b> | 50,000    | 50,000  | 100,000   | 50,000  | 100,000 | 350,000           | 100             |   |
| <b>Total</b>   |           |         |           |         |         | <b>29,050,000</b> | <b>8,300</b>    | <b>80% of the funds are meant for preventive intervention</b> |

**Note:** For more detailed costed activity estimates refer to **annex 1**.

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# **Annexes**

- 1. Detailed budget estimate for NICCP17-22**
- 2. Insert names of participants in the national stakeholder meetings**
- 3. Insert names of participants in the regional stakeholder meetings**

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