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MINISTRY OF HEALTH, COMMUNITY DEVELOPMENT, GENDER, ELDERLY AND CHILDREN

Cholera Information Management Action Plan for Tanzania
2019 – 2021

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EXECUTIVE SUMMARY

Cholera is contracted by consuming food or water contaminated with the bacteria responsible for the disease (toxigenic *Vibrio cholerae)* or by direct inter-human exposure, such as contact with hands contaminated with faeces from a cholera patient. It is a major public health issue; WHO estimates that, each year, there are 1.3 million to 4.0 million cases of cholera, and 21,000 to 143,000 deaths worldwide due to cholera, mostly in the developing world. In East and Southern Africa Region (ESAR), at least half of the countries are affected by the disease. For instance, in 2017 (January to 15th December 2017), more than 109,442 cholera cases and 1708 cholera deaths were reported in 12 out of the 21 countries of ESAR[1]. Since the beginning of 2018, 10 out of 21 countries in Eastern and Southern Africa region saw a surge in the number of cases reported; with more than 28,553 cholera / AWD cases and 388 deaths (Case Fatality Rate: 1.4%) having been reported, as of 17th September 2018[2].

The current outbreak is unusual because of its long duration and vast geographical spread. Up-to-date twenty five out of twenty six regions reported cholera cases since the outbreak started in August, 2015[3]. Cumulatively since the outbreak, a total of 32,558 cases and 540 deaths (CFR 1.7%) have been reported since August 2015 up to 19th September, 2018[4]. This includes 12,118 cases and 193 deaths reported in 2015 from the following regions (Dar es Salaam, Mwanza, Kagera, Singida and Morogoro), 11,360 cases and 172 deaths reported in 2016 from the following regions (Dar es Salaam, Mwanza, Kagera, Singida, Morogoro, Dodoma, Lindi, Mtwara, Iringa, Mara, Shinyanga, Manyara, Tanga, Geita, Arusha, Kilimanjaro, Rukwa, Katavi, Pwani, Simiyu, Tabora, Songwe, Mbeya and Kigoma), 4,636 cases and 95 deaths reported in 2017 from the following regions (repeated cases in most regions but Njombe and Ruvuma had new cases that were contained within the shortest possible time), and 4,444 cases and 80 deaths reported in 2018 from the following regions (Dodoma, Rukwa, Ruvuma, Iringa, Morogoro, Kigoma, Songwe, Kilimanjaro, Arusha and Manyara). Only 37% of households in rural area in Tanzania have access to basic drinking water source, likewise access to basic sanitation services in rural areas is only 17%[5]. Results from a water quality survey revealed that the source of the outbreak is contaminated water from shallow wells, deep wells and tap water. *V. cholerae* was isolated from all these sources. Poor hygienic practices and lack of sanitation facilities in poor households is also a risk factor associated to the outbreak. Poor communities living in slums are disproportionally affected largely because of poor access to safe water and sanitation. Women and children

[1] Cholera Bulletin for Eastern and Southern Africa Region, as of 15th December 2017

[2] Cholera Bulletin for Eastern and Southern Africa Region, as of 17th September 2018

[3] Tanzania After Action Review Report, 16th to 18th August 2017

[4] Tanzania Cholera situational report, as of 19th September 2018

[5] JMP, 2017 report

are more vulnerable due to patterns of water collection, handling, storage and drinking practices at home.

Lack of information is one of the greatest barriers to public health action to prevent and control disease outbreaks, including cholera. Disease control and prevention programs have been successful when resources were dedicated to detecting a targeted disease, obtaining laboratory confirmation of the disease, and using thresholds to initiate action. Accordingly, the World Health Organization (WHO) Regional Office for Africa (AFRO) proposed an Integrated Disease Surveillance and Response (IDSR) approach for improving public health surveillance and response in the African Region linking community, health facility, district and national levels. IDSR promotes rational use of resources by integrating and streamlining common surveillance activities. This is because surveillance activities for different diseases involve similar functions (detection, reporting, analysis and interpretation, feedback, action) and often use the same structures, processes and personnel. In terms of cholera, an effective information management system enables early detection of cholera outbreak, estimation of cholera morbidity and mortality and assessment of the size, extent and spread of the outbreak. It also helps to allocate resources including personnel and supplies effectively. Lastly, a well-planned information management system enables effective assessment of the performance of control measures and planning for additional epidemiologic investigation.

In recognition of this important role of information management in cholera preparedness and response, the Government of the United Republic of Tanzania embarked on a process to develop strategies for strengthening information management activities in cholera preparedness and response with the objective of; identifying gaps in information management faced during cholera preparedness and response, developing information management strategies and interventions to fill the gaps, and subsequently leading to enhanced capacities in information management during cholera preparedness and response. To assess the functionality of information management systems in cholera preparedness and response, a review of the IDSR guidelines was conducted and highlighted the Information Management capacities needed to strengthen response capacity of the system. From the review, an assessment checklist was developed bearing important ingredients of the functionality of the system at all levels of health service delivery. The checklist was then administered to IDSR focal points. A draft report of existing information management gaps in cholera preparedness and response was developed, which was followed by a participatory process to finalize the development of this action plan involving different stakeholders from WASH and Health sectors.

Key Findings;

The ongoing cholera outbreak has had some gaps and challenges in data collection. For instance, the existence of multiple information systems within the Ministry of Health calls for an urgent need to develop a system that integrates risk information, information on available resources for cholera preparedness and response, and surveillance data for easy retrieval, in-depth analysis and sharing of information for informed decision making. In addition, inadequate cholera treatment guidelines at subnational level and lack of training contribute to not adhering to the guidelines and misdiagnosis of some cholera cases. Competencies in data analysis and outbreak investigation are very limited at the regional, district and health facility levels. Data analysis was not being done at the lower levels of the health system. The main trend that was common to all sub-national levels was analysis of timeliness and completeness of data by health facility. Surveillance performance of health facilities, districts and regions is measured using these two indicators. This focus on timeliness and completeness has skewed attention from the more important functions of the IDSR that is informing the WASH and Health sector for local action through epidemiological analysis. One of the limitations frequently mentioned that affected data analysis was inadequate funds to organize trainings on data analysis and outbreak investigation at health facility and district levels.

Despite having a line list that collects very comprehensive information on the cholera outbreak at every district, analysis of the line list was not holistic due to lack of an electronic system which can update and synchronizing all line list across the country centrally at the national level. This leads to the limited in-depth analysis on interaction between cases and risk factors. Gaps in communication and reporting include lack of dissemination of cholera related information to the community, coupled with lack of appropriate means of sharing information between different administrative levels and inadequate community knowledge in understanding information provided. Despite the fact that the government through MoHCDGEC has monitoring and evaluation systems, the tools available are not adequately geared toward provisional of comprehensive information regarding cholera prevention and control owing to the fact that addressing cholera outbreaks is a multi-sectorial issue while most of the tools are very specific to each sector. Hence there is a need to have a standardized monitoring and evaluation tools which should be used by all sectors involved in cholera preparedness and response.

The degree to which information management will be leveraged to contribute to improved cholera prevention, preparedness and response will depend on how well the Government of the United Republic of Tanzania and other stakeholders will address key issues as identified in the following five areas: Data collection, Analysis and interpretation, Reporting, Communication and dissemination, and Monitoring and evaluation.

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ABBREVIATIONS

AFRO	Regional Office for Africa
CBS	Community Based Surveillance
CDC	Centers for Disease Control and Prevention
CFR	Case Fatality Rate
CHWs	Community Health Workers
CTC	Cholera Treatment Centre or Camp
DHIS	District Health Information System
DHS	District Health System
DPS	Director of Preventive Services
DSA	Daily Subsistence Allowance
GIS	Geographic Information System
GIZ	German Society for International Cooperation
HCWs	Health Care Workers
HFs	Health Facilities
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulations
IM	Information Management
LGAs	Local Government Authorities
M&E	Monitoring and Evaluation
MoHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
MoWI	Ministry of Water and Irrigation
NGO	Non-Governmental Organizations
NHLQATC	National Health Laboratory, Quality Assurance and Training Centre
NSMIS	National Sanitation Management Information Management System
OCV	Oral Cholera Vaccine
PHC	Primary Healthcare Committee
PHEOC	Public Health Emergency Operation Center
POLARG	President's Office – Regional Administration and Local Government
SCD	Standard Case Definition
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VRAM	Vulnerability and Risk Assessment Management
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

CHAPTER 1

1.1 Introduction

Cholera is contracted by consuming food or water contaminated with the bacteria responsible for the disease (toxigenic *Vibrio cholerae)* or by direct inter-human exposure, such as contact with hands contaminated with faeces from a cholera patient. It is a major public health issue; WHO estimates that, each year, there are 1.3 million to 4.0 million cases of cholera, and 21,000 to 143,000 deaths worldwide due to cholera, mostly in the developing world. In East and Southern Africa Region (ESAR), at least half of the countries are affected by the disease. For instance, in 2017 (January to 15th December 2017), more than 109,442 cholera cases and 1708 cholera deaths were reported in 12 out of the 21 countries of ESAR[6]. Since the beginning of 2018, 10 out of 21 countries in Eastern and Southern Africa region saw a surge in the number of cases reported; with more than 28,553 cholera / AWD cases and 388 deaths (Case Fatality Rate: 1.4%) having been reported, as of 17th September 2018[7].

The current outbreak is unusual because of its long duration and vast geographical spread. Up-to-date twenty five out of twenty six regions reported cholera cases since the outbreak started in August, 2015[8]. Cumulatively since the outbreak, a total of 32,558 cases and 540 deaths (CFR 1.7%) have been reported since August 2015 up to 19th September, 2018. This includes 12,118 cases and 193 deaths reported in 2015 from the following regions (Dar es Salaam, Mwanza, Kagera, Singida and Morogoro), 11,360 cases and 172 deaths reported in 2016 from the following regions (Dar es Salaam, Mwanza, Kagera, Singida, Morogoro, Dodoma, Lindi, Mtwara, Iringa, Mara, Shinyanga, Manyara, Tanga, Geita, Arusha, Kilimanjaro, Rukwa, Katavi, Pwani, Simiyu, Tabora, Songwe, Mbeya and Kigoma), 4,636 cases and 95 deaths reported in 2017 from the following regions (repeated cases in most regions but Njombe and Ruvuma had new cases that were contained within the shortest possible time), and 4,444 cases and 80 deaths reported in 2018 from the following regions (Dodoma, Rukwa, Ruvuma, Iringa, Morogoro, Kigoma, Songwe, Kilimanjaro, Arusha and Manyara). Only 37% of households in rural area in Tanzania have access to basic drinking water source, likewise access to basic sanitation services in rural areas is only 17%[9]. Results from a water quality survey revealed that the source of the outbreak is contaminated water from shallow wells, deep wells and tap water. *V. cholerae* was isolated from all these sources. Poor hygienic practices and lack of sanitation facilities in poor households is also a risk factor associated to the outbreak. Poor communities living in slums are disproportionally affected largely because of poor access to safe water and sanitation. Women and children

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are more vulnerable due to patterns of water collection, handling, storage and drinking practices at home.

Lack of information is one of the greatest barriers to public health action to prevent and control disease outbreaks, including cholera. Disease control and prevention programs have been successful when resources were dedicated to detecting a targeted disease, obtaining laboratory confirmation of the disease, and using thresholds to initiate action. Accordingly, the World Health Organization (WHO) Regional Office for Africa (AFRO) proposed an Integrated Disease Surveillance and Response (IDSR) approach for improving public health surveillance and response in the African Region linking community, health facility, district and national levels. IDSR promotes rational use of resources by integrating and streamlining common surveillance activities. This is because surveillance activities for different diseases involve similar functions (detection, reporting, analysis and interpretation, feedback, action) and often use the same structures, processes and personnel. In terms of cholera, an effective information management system enables early detection of cholera outbreak, estimation of cholera morbidity and mortality and assessment of the size, extent and spread of the outbreak. It also helps to allocate resources including personnel and supplies effectively. Lastly, a well-planned information management system enables effective assessment of the performance of control measures and planning for additional epidemiologic investigation.

To assess the functionality of information management systems in cholera preparedness and response, the Government of the United Republic of Tanzania embarked on a process to develop strategies for strengthening information management activities in cholera preparedness and response, with the following objectives;

- To identify gaps in information management faced during cholera preparedness and response
- To develop information management strategies and interventions to fill the gaps
- To develop information management capacity in outbreak response in priority countries

1.2 Methodology for Developing the Action Plan

A review of the IDSR (Integrated Disease Surveillance and Response) guidelines was conducted and highlighted the Information Management capacities needed to strengthen cholera preparedness and response. From the review, an assessment checklist was developed bearing the following aspects in table 1 that are important ingredients of the functionality of the system at all levels of health

service delivery. The checklist was administered to key informants (IDSR focal points) at the National level in March 2018.

Table 1: Checklist for assessing existing Information Management (IM) Systems

IM Activity	Assessment Indicators / Question
Data Collection	Proportion of weekly IDSR reports submitted from the province to the national level on time in the last 3 months
	Proportion of health facilities submitting surveillance reports on time to the district
	Proportion of investigated outbreaks with laboratory results
	Number of cholera epidemics that were detected at the national level and that were missed by the district level
	Proportion of health facilities with Standard Case definitions for priority diseases
	Proportion of community level structures aware of the key signs or symptoms for use in case definitions for diseases of public health importance
	Proportion of districts with information on cholera hotspots, risk factors and transmission pathways; available and regularly updated at least annually
	Proportion of districts with information on description of the cholera hotspot areas, including; a) The size of key target populations in the district such as children less than 5 years of age, school-aged children, elderly, women of childbearing age, people living in refugee settlements, internal displaced persons settlement, youth out of school etc. b) Major public health activities in the area including public, private, and nongovernmental organization (NGO), immunization activities for OCV, clean water projects, feeding centers for undernourished children, information related to risk factors etc
	Proportion of districts with an updated list of reporting sites (includes; health facilities and Points of Entry) for reporting surveillance data or events to the district level
	Proportion of districts with a contact directory of health workers who provide information to the district level as well as receive information related to surveillance, outbreak and events detection; including cross-border information on disease outbreaks like cholera
	Proportion of health facilities with a contact directory of community health workers, village leaders and public safety officials who provide information to the health facility as well as receive information related to surveillance, outbreak and events detection; including cross-border information on disease outbreaks like cholera
	Percentage of reporting sites with an adequate supply of data collection forms, reporting tools and technical guidelines on cholera
	Are the data collection and reporting tools for cholera adequate in content as per the IDSR guidelines? (Look at examples provided by each country)
	Proportion of districts with adequate capacity for cholera data collection and reporting, including risk assessment and mapping
	Proportion of districts with adequate capacity for local laboratory surveillance and response

	Does the country have a standard checklist for assessing the level of cholera preparedness at the beginning of each epidemic season?
Storage	Is there a database? From what level is it generated? Type of database?
Analysis and interpretation	● Is surveillance data normally analyzed by time, place and person? In-depth analysis looking at the interaction between cases, where they are coming from and when they were affected ● Including analysis tables for risk factors ● IDSR indicators of completeness and timeliness of reporting? ● Does it include an analysis of impact e.g. CFR, Incidence rate, Attack rate.
	Proportion of districts in which a current trend analysis (line graph) is available for selected priority diseases
	Proportion of districts with public health risks for cholera regularly assessed and mapped, especially in hotspot areas
	Proportion of districts which conduct regular mapping of resources for responding to a cholera outbreak
	Proportion of districts which plot the distribution of cases and deaths on a map to analyze the distribution by geographic location
Reporting	Proportion of cholera cases reported with case-based forms or line lists (variables name, sex, village, occupation, date of onset, date seen at facility, name of facility, treatment, specimen taken, result, outcome, identified risk factors, received OCV, co-morbidity (SAM, hypertension, diabetes, pregnant women) In depth analysis of line list
	Proportion of suspected outbreaks of cholera notified to the national level within 2 days (48 hours)
	Proportion of reports of investigated outbreaks that includes analyzed case-based data. Case-based data plays a critical role in determining risk factors and the means of disease transmission or exposure to health risks
	Proportion of districts which report laboratory data for cholera
	Is IDSR weekly/monthly summary reporting conducted?
Communication and Dissemination of information	During a cholera outbreak, does the country or affected districts prepare and issue a weekly 'outbreak or event response report', public health bulletins? What are the contents compared to the recommended format as per the IDSR guidelines?
	How often do you report information to the community?
Monitoring and Evaluation	Does the country have a monitoring system and tools for trucking cholera preparedness and response interventions? ● Existence of rumours log book for epidemic prone disease ● After action review (evaluation of outbreak response) conducted and document ● Monitoring of suspected outbreaks e.g. sudden increase in diarrhea cases among > over 5 or deaths due to diarrhea among adults

CHAPTER 2:

GAP ANALYSIS OF CHOLERA INFORMATION MANAGEMENT SYSTEMS

2.0. Introduction

The section identifies the gaps within cholera information management cycle: Data collection, analysis and interpretation, reporting, communication and dissemination, and Monitoring and evaluation. A logical link between the gaps, underlying causes (bottlenecks), strategies and activities was also established.

2.1. Data collection

The health information system in Tanzania consists of many different data systems, most of which can be divided into health institution-based data and population-based data. Health institution-based data covers administrative and facility-based data, including patient and facility records, facility surveys, infrastructure, supplies, human and financial resources and disease surveillance. Population-based data includes population censuses, vital statistics, household surveys and demographic and diseases surveillance.

To capture information of diseases, Tanzania uses Integrated Disease Surveillance and Response (IDSR) system to report and notify notifiable diseases, diseases targeted for eradication and other diseases of public health importance. Currently, 24 out of 26 regions in Tanzania Mainland are using electronic form of IDSR which expedite early reporting of diseases. The eIDSR system primarily collects data from the health facility level and feed it into the eIDSR digital system on an immediate or weekly basis, according to IDSR standards. The data entered into the eIDSR system goes automatically into the District Health Information System (DHIS 2). During an outbreak of cholera, Cholera standard line list is used to collect standard epidemiological, laboratory and a few risk factor information from the Cholera CTC. In order to get a quick situation update of cholera in affected areas, part of the information from line list is daily reported to the higher level via mobile phone. The other sources of cholera data during an outbreak include death reporting forms and case based investigation forms which can be obtained from the facility level.

The NSMIS is a system that captures information on Water, Sanitation and Hygiene information; Food and water safety; Port health; Occupational health & safety; Human resource; housing conditions and School WaSH indicators. The system was started in 2014 and has been established in all the regions and districts in Tanzania. NSMIS primarily, collects its information right from the household level, records and then reports it to the district, regional and national level in that order. Ideally, the system uses paper based form at the household level while at the district, regional and national levels web based technology is used. The information is usually fed into the system every quarter i.e. after every three months. NSMIS is also automatically connected to the DHIS2 system.

There are also a multiple electronic data management systems for collection of laboratory information. These systems collect patient's information and laboratory test results. DISA is a system that has been established at National Health Laboratory, Quality Assurance and Training Centre (NHLQATC) and Zonal Laboratories while LABSNET information system is available at Zonal laboratories only. The table 1 below displays some of the existing gaps and bottlenecks in collection of cholera related information from the sources mentioned above.

Table 2: Existing gaps and bottlenecks in collection of cholera related information

Gap	Underlying Causes	Strategies	Activities	Category of Activity
Under reporting of cholera cases and deaths	Inadequate understanding of health workers on cholera Standard Case Definition (SCD)	Capacity building of health care workers and community health workers through Training and mentorship on cholera standard case definition	-Identify and train healthcare workers including CHW -Develop, Print and display SCD for cholera	Preparedness & Response
	Limited access to infrastructure such telecommunication facilities, internet and computers	Improve infrastructures for information management at the national and lower levels of the health system including Computers, Internet access and Mobile smartphone	-Installation, repair and maintenance of telecommunication infrastructures	Preparedness
	Inadequate case search and investigation	Improve capacity of HCWs and CHWs on case search and investigation	-Map and update a data base of potential HCWs and CHWs targeted for case search and reporting -Develop and update tools for case search and reporting -Conduct training and mentorship on case search and reporting -Print and distribute tools for case search and reporting -Conduct active case search and reporting	Preparedness & Response
	Political pressure causes fear of reporting	Engagement and Advocacy on International Health Regulations (IHR) targeting politicians at all level	-Map out potential leaders and politicians targeted for engagement -Conduct orientation on IHR to political leaders and other influential peoples	Preparedness & Response
	Inadequate resources (Human ,funds)	Recruitment and Temporary hiring of IDSR focal points	-Mapping of existing IDSR focal points country wide -Estimate the gaps in IDSR focal points by region -Government recruitment through Civil servantcommission to fill the gaps in IDSR focal points	Preparedness

			-Temporary or emergency recruitment/ surge support to most affected areas	
Unreliable data to inform response	Inadequate understanding of data collection tools especially at the community level	Capacity building of CHWs on data collection tools	-Update and develop reporting tools for community based reporting of cholera outbreaks -Conduct training of CHWs on use of the tools to collect cholera related information	Preparedness
	Delayed submission of report or notifications of outbreaks	Improve timely reporting and notification of outbreaks	-Complete rolling out of eIDSR to all regions -Orientation on eIDSR reporting structure	Preparedness
	Limited use of standardized line list by some of the regions/districts	Improve accessibility and utilization of standardized line list at all level	-Review and disseminate the existing surveillance tools -Conduct mentorship and training on use of standardized tools, targeting;	Preparedness & Response
	Limited feedback on data collected through use of line list at all level	Improve data use for action using the line list at all levels	-Regular mapping of stakeholders for information sharing at all level -Determine the information needs for various stakeholders and design cholera related reports/ bulletins accordingly -Share cholera reports on daily, weekly, monthly and quarterly basis at all level -Develop policy briefs and publications such as bulletins with information on cholera epidemiological data as well as the risk factors	Response
Weak community based surveillance system	Inadequate involvement of community in reporting cases	Improve community engagement	-Map community structures that are potential for community reporting -Update existing tools for community reporting -Conduct advocacy and mentorships to identified community structures	Preparedness & Response
	Limited coverage of the CBS (community Based Surveillance) in all regions	Increase coverage of community Based reporting in all sub national levels	-Identify and map the subnational levels potential for community reporting -Conduct training and mentorships at all level on community based reporting of cholera cases and deaths and Standard case definitions -Roll out CBS in all regions	Preparedness
	Weak linkage of community based	Strengthen the CBS and IDSR at facility level	-Develop and update CBS tools for cholera reporting - Link community based surveillance to IDSR	Preparedness

	information with the IDSR			
Weak linkage between different cholera data sets (NHMIS, IDSR, DHIS2 , Laboratory Information System)	Weak integration of different cholera information systems (Silos operation)	Improves data access and sharing across the cholera spectrum/departments with PHEOC	-Map and update potential sources of cholera data -Map stakeholders for cholera data and determine their information needs -Facilitate a consultative meeting with different stakeholders to design suitable strategies/ approaches to integrate cholera related information from various sources -Integrate cholera related information in bulletins, sitreps and other reports where possible -Provide access to cholera related reports (sitreps, bulletins and others) to PHEOC, NSMIS and other stakeholders -Conduct regular meeting at all levels to disseminate cholera related information	Preparedness & Response
	DHIS2 not able to accommodating all information from all systems	Develop and link various information products on disease outbreaks to DHIS2. This information products include; Cholera Dash Board, public health bulletins, sitreps and cholera database	-Convene a stakeholders meeting to determine the types of information products on disease outbreaks that should be displayed in the DHIS2 -Regularly develop and upload in DHIS2 agreed information products on disease outbreaks, including cholera	

2.2 Analysis, Interpretation and Reporting

The aim of information systems is to guide action. Of all the health system levels, only the National level had most evidence of analysis and utilization of data. Presence of Public Health Emergency Operation Center (PHEOC) at the national level coupled with data demand from stakeholders and routine supervision and mentorship during deployment of Rapid Response Teams, enabled generation of cholera epidemiological data to be analyzed and shared widely. At the national level, surveillance data is normally analyzed by time and place and not by person given the nature of data collection which is in aggregated form.

Competencies in data analysis and outbreak investigation are very limited at the regional, district and health facility levels. Data analysis was not being done at the lower levels of the health system. The main trend that was common to all sub-national levels was analysis of timeliness and completeness of data by health facility. Surveillance performance of health facilities, districts and regions is measured using these two indicators. This focus on

timeliness and completeness has skewed attention from the more important functions of the IDSR that is informing the WASH and Health sector for local action through epidemiological analysis. One of the limitations frequently mentioned that affected data analysis was inadequate funds to organize trainings on data analysis and outbreak investigation at health facility and district levels. Despite having a line list that collects very comprehensive information on the cholera outbreak at every district, analysis of the line list was not holistic due to lack of an electronic system which can update and synchronize all line lists across the country centrally at the national level. This lead to the limited in-depth analysis on interaction between cases and risk factors. Availability of computers improves compilation, analysis and submission of data from the districts to the national level. Several factors that influenced analysis of data included: Limited synchronized electronic systems and analysis soft-wares particularly in GIS, Training, Supervision, Demand for analyzed data from the government and partners, Work load and Motivation. The table 2 below highlights some of the gaps and underlying causes in data analysis and interpretation.

Table 3: Gaps and underlying causes in data analysis and interpretation

Gap	Underlying Causes	Strategies	Activities	Category of Activity
Limited capacity in surveillance, outbreak investigation, data analysis, interpretation and reporting at lower levels of Healthcare delivery systems	Limited number of staff trained in surveillance, outbreak investigation, data analysis, interpretation and reporting especially at sub-national level	Improve capacity of IDSR focal points on surveillance, outbreak investigation, data analysis, interpretation and reporting, including in-depth analysis of cholera related information to link epidemiological data, risk factors and resource mapping to include LGAs to village/mtaa levels	- Develop training package on data analysis, interpretation and reporting using existing National guidelines - Pretest the training package - Identify and train IDSR focal points on surveillance, outbreak investigation, data analysis, interpretation and reporting, including in-depth analysis of cholera related information to link epidemiological data, risk factors and resource mapping - Train staff and extension workers on use of innovative data analysis tools including ArcGiS - Revive technical committees at the District level - Conduct supportive supervisions	Prevention
	High turn-over of IDSR focal points who also manage cholera related information	Retrain qualified IDSR focal points through organized training programs and other forms of motivation	- Orient staff for operationalization of Information management on cholera - Develop guideline for different forms of motivational package for cholera data management staff including certification, monetary, recognition, exemptions in community works, and others - Provide motivation to cholera data management staff based on the Motivation Guideline - Monitor the performance through OPRAS	Prevention
	Weak administration system to recognize and	Prepare advocacy programmes to leaders on	- Develop advocacy plan and themes - Conduct advocacy to leaders - Monitor the performance of advocacy	Prevention and response

	appreciate the available skills in workplace	information delivery		
	Limited access to NSMIS which contains information on cholera risk factors. For instance NSMIS is not fully articulated to DHIS2	Improve information sharing between various systems that generate cholera related information Integrate NSMIS and DHIS2	- Harmonize existing indicators to bridge linkage gaps - Link NSMIS to DHIS2 for easy access	Prevention
	Inadequate trained staff to manage the DHIS2 system	- Improve capacity at the district level to manage DHIS2	- Prepare training programmes to staff - Design and develop training tools - Train staff in DHIS2 management - Conduct supportive supervisions	Prevention
Lack of comprehensive analysis of cholera related information to inform WASH and Health sector for local action. Surveillance data is normally analyzed by time and place and does not include analysis of risk factors and mapping of available resources for cholera preparedness and response	Inadequate collaboration between Cholera related Sectors	Strengthen sector-wide and partners collaboration	- Conduct advocacy to managers/departmental heads on cholera prevention and control - Establish and maintain a Technical Working Group (TWG) for cholera information management involving various information system (IDSR, NSMIS, administrative data on health facilities) and others - Develop the terms of reference for this working group which would include; joint analysis of public health data on cholera, coordinated development of cholera sitreps, bulletins and other information products related to cholera - Regularly undertake comprehensive analysis of cholera related information including; surveillance data, risk factors and mapping of available resources to highlight gaps in cholera preparedness and response - Monitor and evaluate the activities of the cholera technical working group; and draft lessons learnt - Regularly conduct an In-depth analysis of the linelist and case-based investigation form to look at the interaction between cases, where they are coming from and when they were affected and the main risk factors	Prevention

	Lack of formal sharing of information between disaster management of PMO, government ministries/departments and partners working on cholera elimination	Develop and disseminate Guidelines for information sharing; to relevant stakeholders including the private health sector	- Prepare IM Guidelines - Disseminate the Guidelines to relevant stakeholders including the private health sector - Train staff on the use of Guidelines - Monitor compliance on use of IM Guidelines	Prevention
	Lack of Vulnerability Risk Assessment and Mapping (VRAM) at LGA level	Establish a functional VRAM to each LGA	- Prepare training tools for VRAM - Disseminate the tools - Conducting VRAM in 184 councils - Report on VRAM - Overlay VRAM information with cholera epidemiological data to inform decisions on priority public health actions disaggregated by LGA	Prevention
	Inadequate mapping of available resources to responding to a cholera outbreak at the regional and district levels	Strengthen resources mapping in regions and districts and conduct a gap analysis to prioritize regions with the greatest need	- Develop standardized tools for mapping existing resources for cholera preparedness and response for WASH and Health sectors - Disseminate resource mapping tools to relevant stakeholders at all levels of the health system - Orient staff and partners on the use of this tools - Map available resources for cholera preparedness and response, in regions and dstricts (WASH and Health) using standardized tools - Conduct a gap analysis to prioritize regions with the greatest need for cholera supplies (WASH and Health) - Disseminate resource mapping information to all levels to inform public health action - Conduct mapping of partners involved in cholera preparedness and response (by district and by region); and overlay with epidemiological data to ensure equitable distribution of implementing partners in affected areas	Response
	Weak linkage between meteorological and cholera historical data to predict the	Link meteorological data to cholera historical data	- Periodically conduct cross-analysis of meteorological data to cholera historical data to predict the cholera epidemic trends	Preparedness

	cholera epidemic trends			
	Weak linkage between surveillance data and NSMIS	Link surveillance data to NSMIS	- Conduct quarterly analysis of surveillance data and NSMIS to prioritize response interventions by place and time	Response

2.3. Communication and Dissemination of Cholera Related Information

Communication on cholera outbreak prevention and control requires use of various strategies so that target audiences can understand the evidence better. Dissemination of information on cholera outbreak should be active and target on distribution of relevant information or interventions via determined channels using planned strategies to a specific public health or clinical practice. Though the Integrated Disease Surveillance and Response (IDSR) Guidelines provides different ways on how to collect and process data on cholera, develop report and how to provide feedback to stakeholders at different levels as identified by the health system, the community (local people) has not been identified as one of the important levels for receiving feedback. Moreover, despite the identified ways to provide feedback or communicate information on cholera to stakeholders, information to the community is still limited, which may be attributed to non-effective means of information sharing between different administrative levels, inadequate community knowledge in understanding information provided and lack of comprehensive cholera related information to support prioritization of evidence-based decisions on interventions.

Inadequate information, knowledge and understanding at any level affect development of evidence-based interventions and integration of the same into routine practice in preventing and controlling cholera outbreaks. In order to address the existing gaps, the MoHCDGEC should review and revise the current format of the cholera sitrep and public health bulletin to include more information; develop and link various information products on disease outbreaks to DHIS2; enhancing health workers' and community health workers knowledge and skills on different ways to communicate and disseminate cholera related information to different audiences for improved prevention and control; strengthening local community knowledge on cholera prevention and control; and enhance ability of community in integrating Cholera prevention and control intervention in daily practices. The table 3 below highlights some of the gaps and underlying causes in communication and dissemination of cholera related information

Table 4: Gaps and underlying causes in communication and dissemination of cholera related information

Gap	Underlying Causes	Strategies	Activities	Category of Activity
Lack of comprehensive cholera related	Cholera sitreps, public health	Review and revise the current format of the cholera sitrep and	- Convene a stakeholders meeting to define their information management	Preparedness and response

information to support prioritization of evidence-based decisions on interventions	bulletins and other related information products, lack comprehensive information to support prioritization of evidence based interventions during preparedness and response	public health bulletin to include the following pieces of information; ● Risk factors and cholera hot spots ● Mapping of available resources (WASH and Health) for cholera response ● Current priorities in cholera response disaggregated by affected area/region/district ● Response interventions already implemented disaggregated by affected region/ district/ area ● Challenges faced during response indicating the areas which are reporting those challenges	needs during cholera preparedness and response - Formation of a Technical Working Group on Cholera Information Management with participation drawn from all systems that generate cholera related information (including; IDSR, NSMIS, administrative data on available resources for preparedness and response, Weather forecasting, Laboratory Information System and others) -Joint review and revision of the current format of the cholera sitrep and public health bulletin, including a review of existing cholera data collection tools (Investigation form & Line list); by the Cholera Information Management Technical Working Group; to include among others the following pieces of information; ● Risk factors and cholera hot spots ● Mapping of available resources (WASH and Health) for cholera response ● Current priorities in cholera response disaggregated by affected area/region/district ● Response interventions already implemented disaggregated by affected region/ district/ area ● Challenges faced during response indicating the areas which are reporting those challenges - Regularly develop and disseminate the revised format of the cholera sitrep and public health bulletin to relevant stakeholders, for informed decision making on priority interventions and areas for response	
	Limited information on disease outbreaks, including cholera,	Develop and link various information products on disease outbreaks to DHIS2. This information products include;	- Convene a stakeholders meeting to determine the types of information products on disease outbreaks that should be displayed in the DHIS2	Preparedness and Prevention

	communicated through DHIS2	Cholera Dash Board, public health bulletins, sitreps and cholera database	- Regularly develop and upload in DHIS2 agreed information products on disease outbreaks, including cholera	
	Inadequate capacities of health workers (including community health workers) at different levels on communication of cholera related information for improved prevention and control	Enhancing health workers' and community health workers knowledge and skills on different ways to communicate and disseminate cholera related information to different audiences for improved prevention and control	- Train health workers (including community health workers) at different levels on different ways to communicate and disseminate cholera related information to different audiences for improved prevention and control. - Develop simple training tools that will be used by health workers based on their administrative level - Provide incentives to health workers for outcomes achieved after training	Preparedness and response
Poor feedback to the community	Inadequate mechanisms available for information sharing at different administrative levels	Identify effective media for dissemination of cholera prevention and control information to different stakeholders	- Provide effective media for information sharing to local communities	Preparedness, Prevention and Response
Inadequate local community knowledge in implementing cholera prevention and control interventions	Lack of effective media for information sharing to local communities	Strengthening local community knowledge on cholera prevention and control.	- Sensitize Primary Healthcare Committee (PHC), local leaders, influential leaders and community on cholera prevention and control. - Prepare simple communication tools which can be used by community leaders and community health workers to train or disseminate information to the community	Preparedness, Prevention and Response
	Existence of community beliefs and taboos that affect implementation of cholera prevention and control interventions	Enhance ability of community in integrating Cholera prevention and control intervention in daily practices	- Document beliefs and taboos that hinders implementation of cholera prevention and control interventions - Develop simple behavior change manual that should be used in sensitization - Sensitize community on behavior change through community traditional leaders - Assess performance to continually identify gaps.	Prevention and Control

2.4 Monitoring and Evaluation

Tanzania has tools and Information Management Systems [including Laboratory Information System, National Sanitation Management Information System (NSMIS) and District Health Information System (DHIS)] which assist the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) to monitor health issues and enrich evidence – based information to facilitate the development of guidelines, strategies and management plans. The IDSR stipulates how monitoring should be conducted whereby the frequency of update is based on the episodes, which include daily during outbreak, and weekly at the very least. In addition, for weekly update a text should be added explaining the status of outbreak and response, recommendations for further action and response, or assistance by the district and higher levels that are needed. Apart from monitoring, evaluation is also conducted to evaluate the performance of surveillance system and public health status. Despite the fact that the government through MoHCDGEC has monitoring and evaluation systems, the tools available are not adequately geared towards provision of comprehensive information regarding cholera prevention and control owing to the fact that addressing cholera outbreaks is a mult-sectoral issue while most of the tools are very specific to each sector. Hence there is a need to develop standardized monitoring and evaluation tools which should be used by all sectors involved in cholera prevention, preparedness and response. Table 4 below presents gaps and underlying causes in monitoring and evaluation of cholera related information

Table 5: Gaps and underlying causes in monitoring and evaluation of cholera related information

Gap	Underlying Causes	Strategies	Activities	Category of Activity
Lack of standard M&E tools for cholera prevention and control	Lack of multi-sectoral collaboration in development and use of standardized M&E tools for cholera preparedness and response	Develop and standardized comprehensive M&E tools to track cholera preparedness and response interventions; involving WASH and Health Sectors	- Convene a Technical Working Group comprising of stakeholders from the WASH and Health sectors - Define indicators for trucking cholera preparedness and response interventions in WASH and Health sectors - Define the indicators (WASH and Health) by specifying the numerators and denominators - Develop standardized M&E tools to collect information on identified numerators and denominators for each indicator identified - Pretest the M&E tools developed - Roll out the use of the standardized tools nation-wide for trucking cholera preparedness and response by WASH and Health sectors	Prevention, preparedness and Response

Inadequate multi-sectorial collaboration and response to cholera	Poor coordination mechanism among sector ministries responsible for cholera prevention interventions	Establish collaboration framework among sectoral ministries and other stakeholders	- Identify stakeholders for cholera prevention and control - Develop framework identifying roles and responsibilities of each stakeholder - Evaluate performance of each stakeholder in addressing cholera outbreaks	Preparedness and Response

CHAPTER 3

STRATEGIC FRAMEWORK

3.0 Introduction

This section addresses strategic issues including the Goal, Objectives, Strategies and Activities for strengthening Information management within cholera preparedness and response. The strategies were developed based on the existing bottlenecks within cholera information management cycle.

3.1. Overall Goal

Enhance information management for effective cholera preparedness and response between 2019 and 2021

3.2 Objectives

1. Improve data quality and reporting on cholera
2. Enhance involvement of community in Cholera information reporting
3. Improve linkage between cholera data sets (NHMIS, IDSR, DHIS2 , Laboratory Information System)
4. Enhance comprehensive analysis of cholera related information to inform WASH and Health sector action
5. Promote dissemination of comprehensive cholera related information to support prioritization of evidence based interventions
6. Establish multi-sectorial monitoring and evaluation system for cholera prevention and control

Objective 1: Improve data quality and reporting on cholera

Strategy 1: Capacity building of health care works and community health care workers on cholera standard case definition

Activities:

1.1 Identify and train health care workers including CHW
1.2 Develop, Print and display SCD for cholera.

Strategy 2: Improve infrastructures for information management at the national and lower levels of the health system

Activities:

2.1 Installation, repair and maintenance of telecommunication infrastructures including; relevant software's, computers, internet access and mobile smartphone

Strategy 3: Improve capacity of HCWs and CHWs on case search and investigation

Activities:

3.1 Map and update a data base for potential HCWs and CHWs targeted for case search and reporting
3.2 Develop and update tools for case search and reporting
3.3 Conduct training and mentorship on case search and reporting
3.4 Printing and distribute tools for case search and reporting
3.5 Conduct active case search and reporting

Strategy 4: Engagement and Advocacy on International Health Regulations (IHR) targeting politicians at all level

Activities:

4.1 Map out potential leaders and politicians targeted for engagement
4.2 Conduct orientation on IHR to political leaders and other influential peoples

Strategy 5: - Recruitment and Temporary hiring of IDSR focal points

Activities:

5.1 Mapping of existing IDSR focal points country wide
5.2 Estimate the gaps in IDSR focal points by region
5.3 Government recruitment through Civil servant Commission to fill the gaps in IDSR focal points
5.4 Temporary or emergency recruitment/ surge support to most affected areas

Strategy 6: Capacity building of CHWs on cholera data collection tools for community based surveillance activities

Activities:

6.1 Update and develop reporting tools for community based reporting of cholera outbreaks
6.2 Conduct training of CHWs on use of the tools to collect cholera related information

Strategy 7: Improve timely reporting and notification of outbreaks
Activities:

7.1 Complete rolling out of eIDSR to all regions
7.2 Orientation on eIDSR reporting structure

Strategy 8: Improve accessibility and utilization of standardized line list at all levels

Activities:
8.1 Review and disseminate the existing surveillance tools
8.2 Conduct mentorship and training on use of standardized tools

Strategy 9: Improve data use for action

Activities:
9.1 Regular mapping of stakeholders for information sharing at all level
9.2 Determine the information needs for various stakeholders and design cholera related reports/ bulletins accordingly
9.3 Share cholera reports on daily, weekly, monthly and quarterly basis at all level
9.4 Develop policy briefs and publications such as bulletins with information on cholera epidemiological data as well as the risk factors

Objective 2: Enhance involvement of community in Cholera information reporting

Strategy 1: Improve community engagement in reporting

Activities:

1.1 Map community structures that are potential for community reporting
1.2 Update existing tools for community reporting
1.3 Conduct advocacy and mentorships to identified community structures

Strategy 2: Increase coverage of community Based reporting to all sub national levels

Activities:

2.1 Identify and map the subnational levels potential for community reporting
2.2 Conduct training and mentorships at all level on community based reporting of cholera cases and deaths and Standard case definitions
2.3 Roll out CBS in all regions

Strategy 3: Link CBS to IDSR at facility level

Activities:

3.1 Develop and update CBS tools for cholera reporting
3.2 Conduct mentorship and training on community based surveillance targeting community structures

Objective 3: Improve linkage between cholera data sets (NHMIS, IDSR, DHIS2, Laboratory Information System)

Strategy 1: Improve data access and sharing across the cholera Spectrum/departments with PHEOC

Activities:

1.1 Map and update potential sources of cholera data
1.2 Map stakeholders for cholera data and determine their information needs
1.3 Facilitate a consultative meeting with different stakeholders to design suitable strategies/approaches to integrate cholera related information from various sources
1.4 Integrate cholera related information in bulletins, sitreps and other reports where possible
1.5 Provide access to cholera related reports (sitreps, bulletins and others) to PHEOC, NSMIS and other stakeholders
1.6 Conduct regular meeting at all level

Strategy 2: Develop and link various information products on disease outbreaks to DHIS2

Activities:

2.1 Convene a stakeholders meeting to determine the types of information products on disease outbreaks that should be displayed in the DHIS2

2.2 Regularly develop and upload in DHIS2 agreed information products on disease outbreaks, including cholera

Objective 4: Enhance comprehensive analysis of cholera related information to inform WASH and Health sector action

Strategy 1: Improve capacity of IDSR focal points on surveillance, outbreak investigation, data analysis, interpretation and reporting

Activities

1.1 Develop training package on data analysis, interpretation and reporting using existing National guidelines

1.2 Pretest the training package

1.3 Identify and train IDSR focal points on surveillance, outbreak investigation, data analysis, interpretation and reporting, including in-depth analysis of cholera related information to link epidemiological data, risk factors and resource mapping

1.4 Train staff and extension workers on use of innovative data analysis tools including ArcGiS

1.5 Revive technical committees at the District level

1.6 Conduct supportive supervisions

Strategy 2: Retrain qualified IDSR focal points through organized training programs and other forms of motivation

Activities

2.1 Orient staff for operationalization of Information management on cholera

2.2 Develop guideline for different forms of motivational package for cholera data management staff including certification, monetary, recognition, exemptions in community works, and others

2.3 Provide motivation to cholera data management staff based on the Motivation Guideline

2.4 Monitor the performance through OPRAS

Strategy 3: Prepare and implement advocacy programmes on information delivery targeting leaders

Activities

3.1 Develop advocacy plan and themes

3.2 Conduct advocacy to leaders
3.3 Monitor the performance of advocacy

Strategy 4: Improve information sharing between various systems that generate cholera related information

Activities
4.1 Harmonize existing indicators to bridge linkage gaps
4.2 Link NSMIS to DHIS2 for easy access

Strategy 5: Strengthen capacity at the district level to manage DHIS2

Activities
5.1 Prepare training programmes to staff
5.2 Design and develop training tools
5.3 Train staff in DHIS2 management
5.4 Conduct supportive supervisions

Strategy 6: Strengthen sector-wide and partner's collaboration for comprehensive analysis of cholera related information to inform WASH and Health sector action

Activities
6.1 Conduct advocacy to managers/departmental heads on cholera prevention and control
6.2 Establish and maintain a Technical Working Group (TWG) for cholera information management involving various information system (IDSR, NSMIS, administrative data on health facilities) and others
6.3 Develop the terms of reference for this working group which would include; joint analysis of public health data on cholera, coordinated development of cholera sitreps, bulletins and other information products related to cholera
6.4 Regularly undertake comprehensive analysis of cholera related information including; surveillance data, risk factors and mapping of available resources to highlight gaps in cholera preparedness and response
6.5 Monitor and evaluate the activities of the cholera technical working group; and draft lessons learnt
6.6 Regularly conduct an In-depth analysis of the line list and case-based investigation form to look at the interaction between cases, where they are coming from and when they were affected and the main risk factors

Strategy 7: Develop and disseminate Guidelines for information sharing; to relevant stakeholders including the private health sector

Activities:

7.1 Prepare IM Guidelines
7.2 Disseminate the Guidelines to relevant stakeholders including the private health sector
7.3 Train staff on the use of Guidelines
7.4 Monitor compliance on use of IM Guidelines

Strategy 8: Establish a functional VRAM to each LGA established

Activities:

8.1 Prepare training tools for VRAM
8.2 Disseminate the tools
8.3 Conducting VRAM in 184 councils
8.4 Report on VRAM
8.5 Overlay VRAM information with cholera epidemiological data to inform decisions on priority public health actions disaggregated by LGA

Strategy 9: Strengthen resources mapping to responding to a cholera outbreak in regions and districts and conduct a gap analysis to prioritize regions with the greatest need

Activities

9.1 Develop standardized tools for mapping existing resources for cholera preparedness and response for WASH and Health sectors
9.2 Disseminate resource mapping tools to relevant stakeholders at all levels of the health system
9.3 Orient staff and partners on the use of this tools
9.4 Map available resources for cholera preparedness and response, in regions and districts (WASH and Health) using standardized tools
9.5 Conduct a gap analysis to prioritize regions with the greatest need for cholera supplies (WASH and Health)
9.6 Disseminate resource mapping information to all levels to inform public health action
9.7 Conduct mapping of partners involved in cholera preparedness and response (by district and by region); and overlay with epidemiological data to ensure equitable distribution of implementing partners in affected areas

Strategy 10: Establish linkage between cholera surveillance data and other cholera related information

Activity:

10.1 Periodically conduct cross-analysis of meteorological data to cholera historical data to predict the cholera epidemic
10.2 Conduct quarterly analysis of surveillance data and NSMIS to prioritize response interventions by place and time

Objective 5: Promote dissemination of comprehensive cholera related information to support prioritization of evidence based interventions.

Strategy 1: **Review current format of the cholera sitrep and public health bulletin**

Activities:

1.1 Convene a stakeholders meeting to define their information management needs during cholera preparedness and response
1.2 Formation of a Technical Working Group on Cholera Information Management with participation drawn from all systems that generate cholera related information (including; IDSR, NSMIS, administrative data on available resources for preparedness and response, Weather forecasting, Laboratory Information System and others)
1.3 Joint review and revision of the current format of the cholera sitrep and public health bulletin, including a review of existing cholera data collection tools (Investigation form & Line list); by the Cholera Information Management Technical Working Group; to include among others the following pieces of information;
- ➢ Risk factors and cholera hot spots
- ➢ Mapping of available resources (WASH and Health) for cholera response
- ➢ Current priorities in cholera response disaggregated by affected area/region/district
- ➢ Response interventions already implemented disaggregated by affected region/ district/ area
- ➢ Challenges faced during response indicating the areas which are reporting those challenges

1.4 Regularly develop and disseminate the revised format of the cholera sitrep and public health bulletin to relevant stakeholders, for informed decision making on priority interventions and areas for response

Strategy 2: Link information on cholera outbreaks to DHIS2

Activities:

2.1 Convene a stakeholders meeting to determine the types of information products on disease outbreaks that should be displayed in the DHIS2
2.2 Regularly develop and upload in DHIS2 agreed information products on disease outbreaks, including cholera

Strategy 3: Enhance health workers and community health workers knowledge and skills on different ways to communicate and disseminate cholera related information to different audiences for cholera prevention and control

Activities:

3.1 Train health workers (including community health workers) at different levels on different ways to communicate and disseminate cholera related information to different audiences for improved prevention and control.
3.2 Develop simple training tools that will be used by health workers based on their administrative level
3.3 Provide incentives to health workers for outcomes achieved after training

Strategy 4: Identify effective media for dissemination of cholera prevention and control information to different stakeholers

Activities:

4.1 Provide effective media for information sharing to local communities

Strategy 5: Strengthen local community Knowledge on cholera prevention and Control

5.1 Sensitize Primary Healthcare Committee (PHC), local leaders, influential leaders and community on cholera prevention and control.
5.2 Prepare simple communication tools which can be used by community leaders and community health workers to train or disseminate information to the community

Strategy 6: Enhance ability of communities in integrating Cholera prevention and control interventions in daily practices

Activities:

6.1 Document beliefs and taboos that hinders implementation of cholera prevention and control interventions
6.2 Develop simple behavior change manual that should be used in sensitization
6.3 Sensitize community on behavior change through community traditional leaders
6.4 Assess performance to continually identify gaps

Objective 6: Establish multi-sectorial monitoring and evaluation system for cholera Prevention and Control

Strategy 1: Standardize comprehensive M&E tools to track cholera preparedness and response interventions; involving WASH and Health Sectors

Activities:

1.1 Convene a Technical Working Group comprising of stakeholders from the WASH and Health sectors
1.2 Define indicators for trucking cholera preparedness and response interventions in WASH and Health sectors
1.3 Describe the indicators (WASH and Health) by specifying the numerators and denominators
1.4 Develop standardized M&E tools to collect information on identified numerators and denominators for each indicator identified
1.5 Pretest the M&E tools developed
1.6 Roll out the use of the standardized tools nation-wide for trucking cholera preparedness and response by WASH and Health sectors

Strategy 2: Establish collaboration framework among sectoral ministries and other stakeholders for cholera preparedness and response

Activities:

2.1 Identify stakeholders for cholera prevention and control
2.2 Develop framework identifying roles and responsibilities of each stakeholder
2.3 Evaluate performance of each stakeholder in addressing cholera outbreaks

CHAPTER 4

STRATEGY IMPLEMENTATION

4.0 Introduction

This section presents the implementation plan. Overall coordination and implementation of the this action plan for cholera information management will be carried out in a participatory manner involving relevant departments within Government and partners involved in cholera prevention, preparedness and response; at all levels of the health system

Overall Goal: Enhance information management for effective cholera preparedness and response between 2019 and 2021

4.1 Data Collection

Table 6: Implementation Plan for Data Collection

Narrative Summary	Timeframe			Resources required	Responsibility
	2019	2020	2021		
Outcome # 1: Improved data quality and reporting on cholera					
Output 1 : Capacity of health care works and community health care workers on cholera standard case definition strengthened				Per-diems, Stationaries, Conference package, Air tickets, Bus fair and fuel	Epidemiology or Surveillance Teams
Activities					
1.1 Identify and train health care workers including CHW				Per-diems, Stationaries, Conference package, Air tickets and fuel	Epidemiology or Surveillance Teams
1.2 Develop, Print and display SCD for cholera.				Procurement	
Output 2: Infrastructures for information management at the national and lower levels of the health system improved				Per-diems, conference package, Air tickets, Bus fare, Fuels and stationeries	Coordination

Activities					
2.1 Installation, repair and maintenance of telecommunication infrastructures including; relevant software's, computers, internet access and mobile smartphone				Government Procurement	Coordination
Output 3: Capacity of HCWs and CHWs on case search and investigation strengthened				Per-diems	Coordination
Activities					
3.1 Map and update a data base for potential HCWs and CHWs targeted for case search and reporting				NA	Coordination
3.2 Develop and update tools for case search and reporting				Per-diems, conference package, Bus fare, Fuels and Stationaries	Per-diems, conference package, Bus fare, Fuels and Stationaries
3.3 Conduct training and mentorship on case search and reporting				Per-diems, conference package, Bus fare, Fuels and Stationaries	Surveillance & WASH
3.4 Printing and distribute tools for case search and reporting				Government Procurement	Coordination
3.5 Conduct active case search and reporting				Per-diems, Stationaries, Bus fare and Fuels	Coordination
Output 4: International Health Regulations (IHR) advocated				Per-diems, conference package, Bus fare, Fuels and Stationaries	
Activities					
4.1 Map out potential leaders and politicians targeted for engagement				Per-diems, conference package, Bus fare, Fuels and Stationaries	Coordination
4.2 Conduct orientation on IHR to political leaders and other influential peoples				Per-diems, conference package, Bus fare, Fuels and Stationaries	Surveillance & WASH
Output 5: IDSR focal points recruited				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams

Activities					
5.1 Mapping of existing IDSR focal points country wide				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
5.2 Estimate the gaps in IDSR focal points by region				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
5.3 Government recruitment through Civil servant Commission to fill the gaps in IDSR focal points				NA	MoHCDGEC UTUMISHI
5.4 Temporary or emergency recruitment/ surge support to most affected areas				NA	MoHCDGEC UTUMISHI
Output 6: Capacity building of CHWs on data collection tools strengthened				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Activities					
6.1 Update and develop reporting tools for community based reporting of cholera outbreaks				Stationaries	Epidemiology or Surveillance Teams
6.2 Conduct training of CHWs on use of the tools to collect cholera related information				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Output 7: Outbreaks reported and notified timely					
Activities					
7.2 Complete rolling out of eIDSR to all regions				NA	Epidemiology or Surveillance Teams
7.3 Orientation of eIDSR reporting structure				NA	Epidemiology or Surveillance Teams
Output 8: Cholera line list standardized and utilized at all levels					
Activities					
8.1 Review and disseminate the existing surveillance tools				NA	Coordination
8.2 Conduct mentorship and training on use of standardized tools, targeting;				Per-diems, Conference package,	Surveillance

				Stationaries, Bus fare and Fuels	
Output 9: Data use for action using the line list at all levels improved				Procurement	
Activities					
9.1 Regular mapping of stakeholders for information sharing at all level				Per-diems, Stationaries, Bus fare and Fuels	Coordination
9.2 Determine the information needs for various stakeholders and design cholera related reports/ bulletins accordingly				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
9.3 Share cholera reports on daily, weekly, monthly and quarterly basis at all level				ICT equipment	Epidemiology or Surveillance Teams
9.4 Develop policy briefs and publications such as bulletins with information on cholera epidemiological data as well as the risk factors				ICT equipment, Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Outcome 2: Enhanced involvement of community in Cholera information reporting					
Output 1: Community engagement in reporting improved					
Activities					
1.1 Map community structures that are potential for community reporting				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
1.2 Update existing tools for community reporting				NA	Epidemiology or Surveillance Teams
1.3 Conduct advocacy and mentorships to identified community structures				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Output 2: Increased coverage of community Based reporting to all sub national levels				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Activities					
2.1 Identify and map the subnational levels potential for community reporting				Per-diems, conference package,	Epidemiology or Surveillance Teams

				Bus fare, Fuels and Stationaries	
2.2 Conduct training and mentorships at all level on community based reporting of cholera cases and deaths and Standard case definitions				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
2.3 Roll out CBS in all regions				NA	Coordinator
Output 3: Strengthen linkage between CBS and IDSR at facility level					
Activities					
3.1 Develop and update CBS tools for cholera reporting				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
3.2 Conduct mentorship and training on community based surveillance targeting community structures				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Outcome 3: Improved linkage between cholera related data sets (NHMIS, IDSR, DHIS2 , Laboratory Information System)					
Output 1: Data access and sharing across the cholera spectrum or departments with PHEOC improved				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Activities					
1.1 Map and update potential sources of cholera data				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
1.2 Map stakeholders for cholera data and determine their information needs				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
1.3 Facilitate a consultative meeting with different stakeholders to design suitable strategies/approaches to integrate cholera related information from various sources				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams

1.4	Integrate cholera related information in bulletins, sitreps and other reports where possible				NA	Epidemiology or Surveillance Teams
1.5	Provide access to cholera related reports (sitreps, bulletins and others) to PHEOC, NSMIS and other stakeholders				NA	Epidemiology or Surveillance Department
1.6	Conduct regular meetings at all levels				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Output 2: Information products on disease outbreaks developed and linked to DHIS2					Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
Activities						
2.1	Convene a stakeholders meeting to determine the types of information products on disease outbreaks that should be displayed in the DHIS2				Per-diems, conference package, Bus fare, Fuels and Stationaries	Epidemiology or Surveillance Teams
2.2	Regularly develop and upload in DHIS2 agreed information products on disease outbreaks, including cholera				NA	Coordinator

4.2. Analysis, Interpretation and Reporting

Table 7: Implementation Plan for analysis, interpretation and reporting

Narrative Summary	Time frame			Resources required	Responsibility
	2019	2020	2021		
Outcome 4: Enhanced comprehensive analysis of cholera related information to inform WASH and Health sector action					
Output 1: Capacity of IDSR focal points on surveillance, outbreak investigation, data analysis, interpretation and reporting strengthened				Time, Personnel Finance	MoH and Partners
Activities					
1.1 Develop training package on data analysis, interpretation and reporting using existing National guidelines				Time, Personnel Finance	MoH and Partners

1.2 Pretest the training package				Time, Personnel, Finance	MoH and Partners
1.3 Identify and train IDSR focal points on surveillance, outbreak investigation, data analysis, interpretation and reporting, including in-depth analysis of cholera related information to link epidemiological data, risk factors and resource mapping				Time, Personnel, Finance and training materials	MoH and Partners
1.4 Train staff and extension workers on use of innovative data analysis tools including ArcGiS				Time, Personnel, Finance and training materials	MoH and Partners
1.5 Revive technical committees at the District level				Time, Personnel, Finance	MoH and Partners
1.6 Conduct supportive supervisions				Time, Personnel, Finance and training materials	MoH and Partners
Output 2: Qualified IDSR focal points retained through organized training programs and other forms of motivation				Time, Personnel, Finance and supervision tools	MoH and Partners
Activities					
2.1 Orient staff for operationalization of Information management on cholera				Time, Personnel, Finance and training materials	MoH and Partners
2.2 Develop guideline for different forms of motivational package for cholera data management staff including certification, monetary, recognition, exemptions in community works, and others				Time, Personnel, Finance	MoH and Partners
2.3 Provide motivation to cholera data management staff based on the Motivation Guideline				Time, Personnel, Finance	MoH and Partners
2.4 Monitor the performance through OPRAS				Time, Personnel, Finance	MoH and Partners
Output 3: Advocacy programmes targeting leaders on information delivery prepared and implemented				Time, Personnel, Finance and orientation materials	MoH, PO-RALG and Partners
Activities					
3.1 Develop advocacy plan and themes				Time, Personnel, Finance and orientation materials	MoH, PO-RALG and Partners
3.2 Conduct advocacy to leaders					
3.3 Monitor the performance of advocacy programmes				Time, Personnel, Finance and Check list	MoH and PO-RALG
Output 4: Improved information sharing between various systems which generate cholera related information					
Activities					
4.1 Harmonize existing indicators to bridge linkage gaps				Time, Personnel, Finance and Check list	MoH and Partners

4.2 Link NSMIS to DHIS2 for easy access				Time, Personnel, Finance and Check list	MoH and Partners
Output 5: Capacity at the district level to manage DHIS2 strengthened				Time, Personnel, Finance and DHIS2 Training materials	MoH, PO-RALG and Partners
Activities					
5.1 Conduct supportive supervisions					
5.2 Design and develop training tools				Time, Personnel, Finance	MoH, PO-RALG and Partners
5.3 Train staff in DHIS2 management				Time, Personnel, Finance and DHIS2 Training materials	MoH, PO-RALG and Partners
5.4 Conduct supportive supervisions				Time, Personnel, Finance and Supervision tools	MoH, PO-RALG and Partners
Output 6: Strengthened sector-wide and partner's collaboration for comprehensive analysis of cholera related information to inform WASH and Health sector action				Time, Personnel, Finance	MoH and PO-RALG
Activities					
6.1 Conduct advocacy to managers/departmental heads on cholera prevention and control				Time, Personnel, Finance	MoH and PO-RALG
6.2 Establish and maintain a Technical Working Group (TWG) for cholera information management involving various information system (IDSR, NSMIS, administrative data on health facilities) and others				Time, Personnel, Finance	MoH and PO-RALG
6.3 Develop the terms of reference for this working group which would include; joint analysis of public health data on cholera, coordinated development of cholera sitreps, bulletins and other information products related to cholera				Time, Personnel, Finance	MoH and PO-RALG
6.4 Regularly undertake comprehensive analysis of cholera related information including; surveillance data, risk factors and mapping of available resources to highlight gaps in cholera preparedness and response				Time, Personnel, Finance	MoH and PO-RALG
6.5 Monitor and evaluate the activities of the cholera technical working group; and draft lessons learnt				Time, Personnel, Finance and M&E tools	MoH, PO-RALG and Partners
6.6 Regularly conduct an In-depth analysis of the line list and case-based investigation form to look at the interaction between cases, where they are coming from and when they were affected and the main risk factors				Time, Personnel, Finance and Supervision tools	MoH, PO-RALG and Partners

Output 7: Guidelines for cholera related information sharing to relevant stakeholders including the private health sector developed, disseminated and operational				Time, Personnel, Finance and Training Materials	MoH, PO-RALG and Partners
Activities					
7.1 Prepare IM Guidelines				Time, Personnel, Finance	MoH, PO-RALG and Partners
7.2 Disseminate the Guidelines				Time, Personnel, Finance	MoH, PO-RALG and Partners
7.3 Train staff on the use of Guidelines				Time, Personnel, Finance and Training Materials	MoH, PO-RALG and Partners
7.4 Monitor on the use of Guidelines				Time, Personnel,	MoH
Output 8: Functional VRAM to each LGA established					
Activities					
8.1 Prepare training tools for VRAM				Time, Personnel, Finance	MoH, PO-RALG and Partners
8.2 Disseminate the tools				Time, Personnel, Finance	MoH, PO-RALG and Partners
8.3 Conducting VRAM in 184 councils				Time, Personnel, Finance	MoH, PO-RALG and Partners
8.4 Report on VRAM				Time, Personnel, Finance	MoH, PO-RALG and Partners
8.5 Overlay VRAM information with cholera epidemiological data to inform decisions on priority public health actions disaggregated by LGA				Time, Personnel, Finance	MoH, PO-RALG and Partners
Output 9: Strengthened resource mapping for cholera preparedness and response				Time, Personnel, Finance	MoH, PO-RALG and Partners
Activities					
9.1Develop standardized tools for mapping existing resources for cholera preparedness and response for WASH and Health sectors				Time, Personnel, Finance	MoH, PO-RALG and Partners
9.2 Disseminate resource mapping tools to relevant stakeholders at all levels of the health system				Time, Personnel, Finance	MoH, PO-RALG and Partners
9.3 Orient staff and partners on the use of this tools				Time, Personnel, Finance	MoH, PO-RALG and Partners
9.4 Map available resources for cholera preparedness and response, in regions and districts (WASH and Health) using standardized tools				Time, Personnel, Finance	MoH, PO-RALG and Partners

9.5 Conduct a gap analysis to prioritize regions with the greatest need for cholera supplies (WASH and Health)				Time, Personnel, Finance	MoH, PO-RALG and Partners
9.6 Disseminate resource mapping information to all levels to inform public health action of implementing partners in affected areas				Time, Personnel, Finance	MoH, PO-RALG and Partners
9.7 Conduct mapping of partners involved in cholera preparedness and response (by district and by region); and overlay with epidemiological data to ensure equitable distribution				Time, Personnel, Finance	MoH, PO-RALG and Partners
Output 10: Established linkage between cholera surveillance data and other cholera related information				Time, Personnel, Finance	MoH, PO-RALG and Partners
Activity					
10.1 Periodically conduct cross-analysis of meteorological data to cholera historical data to predict the cholera epidemic				Time, Personnel, Finance	MoH, PO-RALG and Partners
10.2 Conduct quarterly analysis of surveillance data and NSMIS to prioritize response interventions by place and time				Time, Personnel, Finance	MoH, PO-RALG and Partners

4.3. Communication and Dissemination of Cholera Related Information

Table 8: Implementation Plan for communication and dissemination of cholera related information

Narrative Summary	**Timeframe**			**Resources required**	**Responsible Organization(s)**
	2019	**2020**	**2021**		
Outcome 5: Comprehensive cholera related information disseminated to support prioritization of evidence based interventions					
Output 1: Current format of the cholera sitrep and public health bulletin reviewed				Consultant Information Communication Technology (ICT) equipment	MoHCDGEC [Director of Preventive Services (DPS), Director of Information Communication Technology (DICT)]
Activities					
1.1 Convene a stakeholders meeting to define their information management needs during cholera preparedness and response				Stationaries, Venues, Transport, DSA, Meals	MoHCDGEC (DPS,DICT) Presidents' Office Regional

					Administration and Local Government (PORALG)- [District Health Services (DHS)]
1.2 Formation of a Technical Working Group on Cholera Information Management with participation drawn from all systems that generate cholera related information (including; IDSR, NSMIS, administrative data on available resources for preparedness and response, Weather forecasting, Laboratory Information System and others)				Stationaries, Venues, Transport, DSA, Meals	MoHCDGEC (DPS,DICT) PORALG (DHS)
1.3 Joint review and revision of the current format of the cholera sitrep and public health bulletin, including a review of existing cholera data collection tools (Investigation form & Line list); by the Cholera Information Management Technical Working Group; to include among others the following pieces of information; ● Risk factors and cholera hot spots ● Mapping of available resources (WASH and Health) for cholera response ● Current priorities in cholera response disaggregated by affected area/region/district ● Response interventions already implemented disaggregated by affected region/ district/ area ● Challenges faced during response indicating the areas which are reporting those challenges				Stationaries, Venues, Transport, DSA, Meals, Government documents,	MoHCDGEC (DICT) PORALG (DICT)
1.4 Regularly develop and disseminate the revised format of the cholera sitrep and public health bulletin to relevant stakeholders, for informed decision making on priority interventions and areas for response				Stationaries, ICT equipment, transport	MoHCDGEC (DPS,DICT)
Output 2: Cholera related Information integrated into DHIS2				Stationaries, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS) LGAs
Activities					
2.1Convene a stakeholders meeting to determine the types of information				Stationaries, Venues,	PORALG (DHS) MoHCDGEC (DPS)

products on disease outbreaks that should be displayed in the DHIS2				Transport, DSA, Meals	
2.2Regularly develop and upload in DHIS2 agreed information products on disease outbreaks, including cholera				Stationaries, ICT equipment	MoHCDGEC (DPS,DICT))
Output 3: Health workers and community health workers knowledge and skills on different ways to communicate and disseminate cholera related information to different audiences for cholera prevention and control enhanced				Stationaries, training manuals, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS) LGA
Activities					
3.1 Train health workers (including community health workers) at different levels on different ways to communicate and disseminate cholera related information to different audiences for improved prevention and control.				Stationaries, training manuals, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS) LGA
3.2 Develop simple training tools that will be used by health workers based on their administrative level				Stationaries, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS) LGA
3.3 Provide incentives to health workers for outcomes achieved after training				Funds	PORALG (DHS) MoHCDGEC (DPS)
Output 4: Effective media for dissemination of cholera prevention and control information to different stakeholders identified and improved				Media	MoHCDGEC (DPS)
Activity					
4.1 Provide effective media for information sharing to local communities				Media	MoHCDGEC (DPS)
Output 5: Local community Knowledge on cholera prevention and Control strengthened.				Stationaries, Venues, Transport, DSA, Meals	MoHCDGEC (DPS) PORALG (DHS)
Activities					
5.1 Sensitize Primary Healthcare Committee (PHC), local leaders, influential leaders and community on cholera prevention and control.				Stationaries, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS)
5.2 Prepare simple communication tools which can be used by community leaders and community health workers to train or disseminate information to the community				Stationaries, Venues, Transport, DSA, Meals	MoHCDGEC (DPS) PORALG (DHS)
Output 6:Enhanced ability of communities in integrating Cholera				Stationaries, Venues,	PORALG (DHS)

prevention and control intervention in daily practices				Transport, DSA, Meals	MoHCDGEC (DPS) LGA
Activities					
6.1 Document beliefs and taboos that hinders implementation of cholera prevention and control interventions				Stationaries, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS) LGA
6.2 Develop simple behavior change manual that should be used in sensitization				Stationaries, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS) LGA
6.3 Sensitize community on behavior change through community traditional leaders				Stationaries, training manuals, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS) LGA
6.4 Assess performance to continually identify gaps				Stationaries, Venues, Transport, DSA, Meals	PORALG (DHS) MoHCDGEC (DPS

4.4. Monitoring and Evaluation

Table 9: Implementation Plan for monitoring and evaluation activities in cholera preparedness and response

Narrative Summary	**Time frame**			**Resources Required**	**Responsible Organization**
	2019	**2020**	**2021**		
Outcome 6: Established multi-sectorial monitoring and evaluation system for cholera Prevention and Control					
Output 1: Standardized comprehensive M&E tools to track cholera preparedness and response interventions; involving WASH and Health Sectors				Government documents, Stationaries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health) PORALG (DHS) MoHCDGEC (DPS)
Activities					
1.1 Convene a Technical Working Group comprising of stakeholders from the WASH and Health sectors				Stationaries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health)

					PORALG (DHS) MoHCDGEC (DPS)
1.2 Define indicators for trucking cholera preparedness and response interventions in WASH and Health sectors				Government documents, Stationaries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health) PORALG (DHS) MoHCDGEC (DPS)
1.3 Define the indicators (WASH and Health) by specifying the numerators and denominators				Government documents, Stationeries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health) PORALG (DHS) MoHCDGEC (DPS)
1.4 Develop standardized M&E tools to collect information on identified numerators and denominators for each indicator identified				Government documents, Stationeries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health) PORALG (DHS) MoHCDGEC (DPS)
1.5 Pretest the M&E tools developed				Stationeries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health) PORALG (DHS) MoHCDGEC (DPS)
1.6 Roll out the use of the standardized tools nation-wide for trucking cholera preparedness and response by WASH and Health sectors				Stationeries	PRIME MINISTER OFFICE (One health) PORALG (DHS) MoHCDGEC (DPS)
Output 2: Collaboration framework for cholera preparedness and response established among sectoral ministries and other stakeholders				Government documents, Stationeries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health) PORALG (DHS) MoHCDGEC (DPS)
Activities					
2.1:Identify stakeholders for cholera prevention and control				Stationaries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health) PORALG (DHS)

					MoHCDGEC (DPS)
2.2: Develop framework identifying roles and responsibilities of each stakeholder				Government documents, Stationeries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health) PORALG (DHS) MoHCDGEC (DPS)
2.3: Evaluate performance of each stakeholder in addressing cholera outbreaks				Government documents, Stationeries, Venues, Transport, DSA, Meals	PRIME MINISTER OFFICE (One health)

CHAPTER 5:

MONITORING PLAN

This section presents the monitoring plan for the cholera information management capacity building plan. This will be accomplished through various methods, including but not limited to; regular review of reports produced, field visits, and meetings to review progress. A final evaluation exercise will also be conducted to assess the extent to which the objectives will have been achieved.

Table 10: Monitoring plan

IMPLEMENTATION MONITORING PLAN					
Outcome 1: Improved data quality and reporting on cholera					
Output	**Indicator**	**Source of data**	**Method of data collection**	**Monitoring frequency**	**Responsible**
Output 1 : Strengthened capacity of health care workers and community health workers on cholera standard case definition	- Proportion of community level structures aware of the key signs or symptoms for use in case definitions for diseases of public health importance - Proportion of health workers using standard case definitions to classify cholera cases - Proportion of health facilities with Standard Case definitions for priority diseases	MoHCDGEC (Surveillance and Epidemiology Unit)	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Output 2: Infrastructures for information management at the national and lower levels of the	- Number of telecommunication infrastructure Installed, repaired and maintained	Government Procurement	Checklist Procurement report	Quarterly	MoHCDGEC (Procurement Department)

health system improved					
Output 3: Capacity of HCWs and CHWs on case search and investigation strengthened	- Number of health workers trained, who are actively involved in case search and investigation - Proportion of districts with adequate capacity for case search and investigation	MoHCDGEC (Surveillance and Epidemiology Unit) Training workshop report	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Output 4: International Health Regulations (IHR) advocated	- Number and % of leaders mapped and oriented on IHR	MoHCDGEC (Surveillance and Epidemiology Unit)- Advocacy report	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Output 5: IDSR focal points recruited	- Number of staff recruited to support data collection and processing - Proportion of districts with an adequate number of IDSR focal points	Civil servant Commission	Checklist	Annually	Civil servant Commission
Output 6: Capacity building of CHWs on data collection tools strengthened	- Number of CHWs trained, who are actively involved in collection of cholera related data at the community level - Coverage of Community Based Surveillance by region - Proportion of CHWs submitting surveillance reports on time to the health facility	MoHCDGEC (Surveillance and Epidemiology Unit)- Ministry surveillance reports	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Output 7: Outbreaks reported and notified timely	- Proportion of health facilities submitting surveillance reports on time to the district - Number of trainings conducted on IDSR	MoHCDGEC (Surveillance and Epidemiology Unit)-	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)

		Ministry surveillance reports			
Output 8: Cholera line list standardized and utilized at all levels	- Percentage of reporting sites with an adequate supply of standardized data collection forms, reporting tools and technical guidelines on cholera - Adequacy of the contents of the line list as per the IDSR guidelines - Number and % of HCWs trained on standard line list -	MoHCDGEC (Surveillance and Epidemiology Unit) Ministry surveillance reports	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Output 9: Data use for action using the line list at all levels improved	- Number of regular cholera reports developed and disseminated - Number of policy briefs and bulletins disseminated - Improved CFR and Cholera AR	MoHCDGEC (Surveillance and Epidemiology Unit) Ministry surveillance reports	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Outcome 2: Enhanced involvement of community in Cholera information reporting					
Output 1: Community engagement in reporting improved	- Reduction in the number of community deaths due to cholera - Proportion of CHWs submitting surveillance reports on time to the health facility	MoHCDGEC (Surveillance and Epidemiology Unit) Ministry surveillance and advocacy reports	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Outputs 2: Increased coverage of community Based reporting to all	- Percent coverage of community based reporting by district/region - Number of CHWs trained and actively involved in CBS	MoHCDGEC (Surveillance and Epidemiology Unit)	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)

sub national levels		Ministry surveillance reports			
Output 3: Strengthen linkage between CBS and IDSR at facility level	- Number and % of cholera cases and deaths reported or referred through community structures	MoHCDGEC (Surveillance and Epidemiology Unit) Ministry surveillance reports	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Outcome 3: Improved linkage between cholera related data sets (NHMIS, IDSR, DHIS2 , Laboratory Information System)					
Output 1: Data access and sharing across the cholera spectrum or departments with PHEOC improved	- % of data accessed and gathered by the PHEOC from cholera related information sub systems - Comprehensive cholera related reports (sitreps, bulletins and others) containing information on surveillance, risk factors, resource mapping, priorities and challenges among others - Number of report submitted to the PHEOC - Number of meetings held to share and disseminate cholera related information	MoHCDGEC (Surveillance and Epidemiology Unit) Ministry surveillance reports	Checklist Meta data analysis	Quarterly	MoHCDGEC (Surveillance and Epidemiology Unit)
Output 2: Information products on disease outbreaks developed and linked to DHIS2	- Reviewed DHIS2 to integrate more information on disease outbreaks	MoHCDGEC	Meta data analysis (Extracted data and developed report from DHIS2	Quarterly	MoHCDGEC (DICT)

Outcome 4: Enhanced comprehensive analysis of cholera related information to inform WASH and Health sector action					
Output 1: Capacity of IDSR focal points on surveillance, outbreak investigation, data analysis, interpretation and reporting strengthened	- Number of IDSR focal points trained, who are actively involved in surveillance, outbreak investigation, data analysis, interpretation and reporting - Proportion of districts with adequate capacity for surveillance, outbreak investigation, data analysis, interpretation and reporting - Number of training tools developed - - - Number of supportive supervision conducted	Quarter and annual IM program reports Training workshop reports	Reviewing the quarter and annual IM program reports Reviewing the workshop reports	Quarterly	M&E IM Program Officer
Output 2: Qualified IDSR focal points retained through organized training programs and other forms of motivation	- Number of IDSR focal points trained on cholera Information management - Existence of guidelines on different forms of motivational package - Number of staff motivated according to Motivation Guidelines	Quarter and annual IM program reports Training workshop reports Annual staff performance report Human Resource Office	Reviewing the quarter and annual IM program reports Reviewing the workshop reports Review of Filled Staff OPRAS	Quarterly	- M&E IM Program Officer - Human Resource Officer
Output 3: Advocacy programmes targeting leaders on information delivery prepared and implemented	- Type and number of advocacy products developed and shared - Number of advocacy meeting conducted - List of participants in advocacy meetings	Meeting reports	Reviewing the meeting report	Quarterly	M&E IM Program Officer

Output 4: Improved information sharing between various systems which generate cholera related information	- % of data accessed and gathered by the PHEOC from cholera related information sub systems - Comprehensive cholera related reports (sitreps, bulletins and others) containing information on surveillance, risk factors, resource mapping, priorities and challenges among others - NSMIS linked to DHIS2	Meeting report	Reviewing the meeting report	Quarterly	M&E IM Program Officer
Output 5: Capacity at the district level to manage DHIS2 strengthened	- Number of training tools developed - Number of staff trained and actively involved in management of DHIS2 - Proportion of districts with adequate capacity to manage DHIS2 - Number of supportive supervision conducted	Meeting report Training Workshop report Supportive Supervision field report	Reviewing meeting report Reviewing training workshop report Counting number of reports	Quarterly	M&E IM Program Officer
Output 6: Strengthened sector-wide and partner's collaboration for comprehensive analysis of cholera related information to inform WASH and Health sector action	- Number of advocacy meeting conducted to PM/Directors - Existence of Technical Working Group (TWG) for cholera information management involving various information system - Existence of terms of reference for TWG - Evaluation report of TWG activities conducted	Meeting report TWG performance report	Counting advocacy meeting reports Checklist for evaluation	Quarterly	M&E IM Program Officer
Output 7: Guidelines for cholera related information	- Existence information sharing guidelines - - Number pf partners / cholera related information systems sharing	Meeting report	-Counting meeting reports	Quarterly	M&E IM Program Officer

sharing to relevant stakeholders including the private health sector developed, disseminated and in operational	information with PHEOC Number of meetings held to disseminate information sharing guidelines	Training Workshop report	-Observation of the availability of IM guideline Counting Dissemination meeting reports Reviewing training workshop report		
Output 8: Functional VRAM to each LGA established	- Number of training tools on VRAM developed - Percentage of councils covered in the VRAM - Number of dissemination meetings conducted	Training Workshop report Meeting report VRAM Report	Reviewing training workshop report Counting Dissemination meeting reports Reviewing the VRAM Report	Quarterly/ Bi-annually	M&E IM Program Officer
Output 9: Strengthened resource mapping for cholera preparedness and response	- Existence of standardized resource mapping tools - 4W (Who does What Where When) analysis and mapping for cholera affected areas - Gap analysis of cholera preparedness and response - Number of staff and partners oriented on the use of standardized resource mapping tools	MoHCDGES quarterly report	Reviewing quarterly report	Quarterly	M&E IM Program Officer

	- Number of mapping reports disseminated report to all levels - Number of partners involved in cholera preparedness and response				
Output 10: Established linkage between cholera surveillance data and other cholera related information	- Quarterly surveillance report including meteorological data/information - Regular public health bulletins with information on surveillance and NSMIS	Quarterly surveillance report	Reviewing quarterly report	Quarterly	M&E IM Program Officer
Outcome 5: Comprehensive cholera related information disseminated to support prioritization of evidence based interventions					
Output 1: Current format of the cholera sitrep and public health bulletin reviewed	- Comprehensive public health bulletin and cholera sitrep with information to support prioritization of evidence based interventions during preparedness and response including on; surveillance, risk factors, resource mapping, response interventions, priorities, and challenges faced during response	Meeting report Sitrep and public health bulletin	Checklist Metadata analysis	Quarterly	MoHCDGEC
Output 2: Cholera related Information integrated into DHIS2	- Number of stakeholders attended meeting - Updated DHIS2 to integrate information on disease outbreaks	PORALG (DHS) DHIS2 / NHMIS	Checklist, Interview – questionnaire	Quarterly	MoHCDGEC
Output 3: Enhanced Health workers and community health workers knowledge and skills on different ways to communicate and	-Number of training conducted - Number of health workers and community health workers trained -Training manual used in place -Number of health workers demonstrating high level of knowledge regarding data (Cholera) interpretation, communication and dissemination	PORALG MoHCDGEC Health Facilities, CHMTs, RHMTs and at Ministry	Checklist, Interview questionnaire Meta data analysis	Quarterly	PORALG MoHCDGEC

disseminate cholera related information to different audiences for cholera prevention and control	-Simple training tools in place -Number of health workers use simple training manual in training -Presence of motivation/incentive guideline -Number of health workers provided with incentive				
Output 4: Effective media for dissemination of cholera prevention and control information to different stakeholers identified and improved	- Number of media used for information sharing and sensitization	Health Facilities, CHMTs, RHMTs and at Ministry MoHCDGEC PORALG (DHS) MoHCDGEC (DPS)	Evaluation checklist Checklist, Interview – questionnaire Checklist Meta data analysis Questionnaire	Quarterly	MoHCDGEC PORALG
Output 5: Local community Knowledge on cholera prevention and Control strengthened.	-A decline in Cholera trends -Number of media used for sensitization -Number of Healthcare Committee (PHC), local leaders, influential leaders and community sensitized - Number of simple communication tools in place - Number of individuals trained using simple communication tools	Health Facilities, CHMTs, RHMTs and at Ministry PORALG MoHCDGEC PORALG (DHS) MoHCDGEC (DPS)	Evaluation checklist Checklist, Interview – questionnaire Checklist Meta data analysis Questionnaire	Quarterly	MoHCDGEC PORALG
Output 6: Enhanced ability of communities to integrate Cholera	Research report indicating beliefs and taboos Behavior change manual in place	PORALG (DHS) MoHCDGEC (DPS)	Checklist Meta data analysis	Annually / Quarterly	PORALG (DHS and LGAs)

prevention and control interventions in daily practices	Number of media used for sensitization Number of Healthcare Committee (PHC), local leaders, influential leaders and community sensitized A decline in cholera trends		Questionnaire Research report indicating beliefs and taboos Government documents Trend analysis		MoHCDGEC (DPS)
Outcome 6: Established multi-sectorial monitoring and evaluation system for cholera Prevention and Control					
Output	**Indicator**	**Source of data**	**Method of data collection**	**Monitoring frequency**	**Responsible**
Output 1: Standardized comprehensive M&E tools to track cholera preparedness and response interventions; involving WASH and Health Sectors	- **Standardized comprehensive M&E tools** - List of participants attended TWG meeting - Number of Meeting Conducted - List of indicators for trucking cholera preparedness and response interventions in WASH and Health sectors -	Prime Ministers' Office MoHCDGEC	Checklist, Interview – questionnaire Desk review Meta data analysis	Quarterly	Prime Ministers' Officer (One Health) PORALG MoHCDGEC
Output 2: Collaboration framework for cholera preparedness and response established among sectoral ministries and other stakeholders	- Number of stakeholders identified - Comprehensive list of stakeholders - Framework in place - Evaluation document showing performance of each stakeholder in addressing cholera issues.	MoHCDGEC (DPS) Prime minister PORALG	Checklist, Interview – questionnaire Meta data analysis	Quarterly	Prime ministers' office (One Health) PORALG MoHCDGEC

Annex

Annex 1: List of Participants

S/N	NAME	TITLE	ORGANIZATION
1.	STEPHEN KIBERITI	HEAD WES	MOHCDGEC
2.	YUSUPH SEIF	EHO	MOHCDGEC
3.	FADHIL KILAMILE	EHO	MOHCDGEC
4.	DR. FARAJA MSEMWA	PMO	MOHCDGEC
5.	DR. ALLY NYANGA	PM-EOC	MOHCDGEC
6.	SOLOMON MUSHI	EPIDEM	MOHCDGEC
7.	DR. GEORGE COSMAS	EPIDEM	MOHCDGEC
8.	SILVANUS ILOMO	ICTO	MOHCDGEC
9.	ENOCK MHEHE	M&E O	MOHCDGEC
10	KHADIJA KAGOTO	M&E O	MOHCDGEC
11	SALVATA SILAYO	EHO	MOHCDGEC
12	PETER MABWE	EHO	MOHCDGEC
13	SELEMAN YONDU	EHO	PO-RALG
14	MARTHA MARIKI	EHO	PO-RALG
15	VERONICA JENGE	W.ENG	MOWI
16	JUSTINE MWOMBEKI	PO	MOEST
17	MAUREEN KHAMBIRA	CONSULTANT	UNICEF
18		RHO	DAR ES SALAAM
19		MHO	ILALA
20		MHO	KIGAMBONI
21		MHO	KINONDONI
22		MHO	TEMEKE
23		MHO	UBUNGO
24	DR. GLORIA SAKWARI	LECTURER	MUHAS

25	DR. NYANGI CHACHA	RAPPORTEUER-ARU	ARU-DSM
26	TOYI MIDABA	EHO	MOHCDGEC
27	GORDIAN NDIBALEMA	EHO	MOHCDGEC
28	MARY MLOGE	PS	MOHCDGEC
29		Representative	WATER AID
30		Representative	WATER AID
31		Representative	USAID
32	Titus Rowland	Representative	UNICEF
33	AMINA KINGO	EPIDEM	MOHCDGEC
34		Representative	CDC
35		Representative	INNOVEX
36		Representative	GIZ