MINISTRY OF HEALTH AND CHILD CARE

Zimbabwe Priority Areas for Multi-Sectoral Interventions (PAMIs) for Cholera Control

ANALYSIS REPORT

July 2025

Foreword

Cholera has remained a persistent public health threat in Zimbabwe since its first recorded case in 1972 along the Nyamapanda border in Mashonaland East Province. Over the years, the country has experienced multiple outbreaks of varying magnitude, with the most catastrophic occurring between August 2008 and July 2009, resulting in 98,592 cases and over 4,288 deaths. More recent outbreaks, including the 2023–2024 epidemic which affected all ten provinces and 63 districts, have underscored the evolving nature of cholera transmission. Urban centres, artisanal mining communities, and fishing camps have emerged as particularly vulnerable, highlighting the need for a more dynamic and localized approach to cholera control.

In line with its commitment to eliminate cholera, the Government of Zimbabwe developed and launched the National Cholera Elimination Strategy (2018–2028). As part of this strategy, the country had identified 16 high and medium-priority districts as cholera hotspots. However, the 2023-2024 cholera outbreak shifted the epidemiological landscape, with a substantial 58.3% of all reported cases occurring in 42 districts previously outside these identified hotspots. This widespread transmission clearly indicated that cholera risks had expanded significantly beyond the initially recognized areas, necessitating a crucial midterm review of the existing strategy and a re-evaluation of cholera hotspots.

To address these changing dynamics, Zimbabwe adopted the Priority Areas for Multi-sectoral Interventions (PAMIs) methodology, guided by the Global Task Force for Cholera Control (GTFCC). This approach enables ward-level targeting of cholera interventions, supported by updated administrative data from the 2022 population census and the 2023 delimitation exercise. The PAMIs methodology aligns with the country's decentralization agenda and empowers Ward Development Committees to lead localized cholera control efforts. This report presents the Priority Areas for Multi-sectoral Interventions and serves as a strategic tool to guide planning, resource allocation, and implementation of multi-sectoral interventions aimed at accelerating progress toward cholera control in Zimbabwe.

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Abbreviations

AST: Antimicrobial Sensitivity Test
CBS: Community Based Surveillance
CFR: Case Fatality Rate
CTU: Cholera Treatment Unit
DEHOs: District Environmental Health Officers
DHIS: District Health Information System
EBS: Event Based Surveillance
EDC: Epidemiology Disease and Control
EPI: Expanded Program on Immunisation
GIS: Geographic Information System
GTFCC: Global Task Force for Cholera Control
HMIS: Health Information Management System
IDSR: Integrated Disease Surveillance and Response
IHR; International Health Regulations
LIMS: Laboratory Information Management System
NCDs: Non- Communicable Diseases
NCP: National Cholera Plan
NFP: National Focal Point
NICD: National Institute of Communicable Diseases
NIHR: National Institute of Health Research
NMRL: National Microbiology Reference Laboratory
OCV: Oral Cholera Vaccine
PAMIs: Priority Areas for Multisectoral Interventions
PCR: Polymerase Chain Reaction
RCCE: Risk Communication and Community Engagement
WASH: Water Sanitation and Hygiene
WDC: Ward Development Committee
WGS: Whole Genomic Sequencing
WHO; World Health Organization
ZDHS: Zimbabwe Demographic Health Survey
ZEC: Zimbabwe Electoral Commission
ZIMSTAT: Zimbabwe Statistics Agency
MAI: Mean Annual Incidence

Executive Summary

The country's health profile indicates that communicable diseases, including diarrheal diseases, are among the top ten causes of disease burden and mortality. Historically, Zimbabwe has experienced recurrent cholera outbreaks, with the most severe occurring in 2008-2009, resulting in nearly 100,000 cases and over 4,000 deaths. The Government of Zimbabwe's commitment to eliminate cholera, is articulated in the National Cholera Elimination Strategy (2018-2028). In 2019, as part of this strategy, the country identified 16 high and medium priority districts as cholera hotspots. However, the 2023-2024 cholera outbreak shifted the epidemiological landscape, with a substantial 58.3% of all reported cases occurring in 42 districts previously outside these identified hotspots. This widespread transmission clearly indicated that cholera risks had expanded significantly beyond the initially recognized areas, necessitating a crucial midterm review of the existing strategy and a re-evaluation of cholera hotspots.

Given these changing dynamics, Zimbabwe sought to review the distribution of cholera transmission areas and adopted the Priority Areas for Multi-sectoral Interventions (PAMIs) methodology, guided by the Global Task Force for Cholera Control (GTFCC). This approach is designed to enhance precision in the implementation of multi-sectoral interventions and aligns with the government's decentralization objectives by utilizing the ward as the operational geographic unit. This ward-level targeting is further supported by the February 2023 delimitation exercise, which followed the 2022 population census, providing an updated and accurate administrative framework. Importantly, each ward is poised to receive dedicated resources for cholera control through its Ward Development Committee (WDC), emphasizing a localized and targeted approach.

The PAMIs identification exercise revealed that 276 wards, with a priority index of 7 or higher, encompass approximately 3.5 million people, representing 23.0% of the total population, who are at increased risk of cholera. These 276 wards will be the primary focus for enhanced multisectoral cholera control interventions. It is also imperative that wards categorized as moderate and low risk are continuously monitored and subjected to ongoing prevention activities to ensure they do not become new additions to this list in future PAMI identification processes.

This strategic realignment is crucial for optimizing resource allocation and strengthening Zimbabwe's overall cholera control efforts. These refined strategies will directly inform the review of the national cholera control plan, facilitate the development of a multi-year cholera vaccination plan, and support the preparation of an application to the GTFCC for a preventive oral cholera vaccination campaign.

Chapter 1: Background

Country profile

Zimbabwe is a landlocked country in Southern Africa, covering 390,757 square kilometres and shares borders with Zambia, Mozambique, South Africa, Botswana, and Namibia. The country is divided into 10 provinces and 65 districts, all connected by road and rail. It lies on a high inland plateau that slopes toward the Zambezi Valley in the north and toward South Africa and Mozambique in the southeast. The climate varies by altitude, with a hot rainy season from October to April and a cool dry season from May to August.

Figure 1. Map of Zimbabwe

Table 1.Socioeconomic and health status indicators for Zimbabwe

Indicator	Latest Status	Source
GDP	$12.58 billion	ZIMSTAT (202)
Population below poverty datum line	57%	ZIMSTAT (2019)
Maternal mortality ratio	363/100,000 live births	ZDHS 2023–2024
Infant mortality rate	38 deaths/1,000 live births	ZDHS 2023–2024
Under–5 mortality rate	52/1,000 live births	ZDHS 2023–2024
HIV prevalence rate (15–49-year-olds)	11.40%	ZDHS 2023–2024
Vaccination coverage (children 12–23 months with all basic vaccinations)	83%	ZDHS 2023–2024
Institutional deliveries	84%	ZDHS 2023–2024
Skilled Birth Attendance	85%	UNICEF 2024
Contraceptive Prevalence Rate	70%	ZDHS 2023–2024

Demographic Profile

Zimbabwe's population is estimated at 15,473,818, based on ZIMSTAT's medium scenario projection from the 2012 Census, with females accounting for 52% of the total. The country represents approximately 0.19% of the global population and ranks 74th worldwide. Notably, two-thirds of the population is under the age of 25. The total fertility rate stands at 3.9 children per woman, while life expectancy at birth is 60-61 years for females and 58 years for males. Urban residents make up 38% of the population, and the national population density averages 38 people per square kilometre.

Health Profile, Health System Structure and Strategy.

The top causes of disease burden are as reflected in the diagram below. Communicable diseases occupy the top three places, followed by NCDs.

HIV/AIDS and tuberculosis (%)	25.49
Diarrhea & common infectious diseases (%)	17.11
Neonatal disorders (%)	11.21
Cardiovascular diseases (%)	6.56
Cancers (%)	5.00
Nutritional deficiencies (%)	4.52
Diabetes, blood, & endocrine diseases (%)	3.62
Unintentional injuries (%)	3.48
Other NCDs (%)	3.34
Transport injuries (%)	2.82
Mental and substance use disorders (%)	2.41
Respiratory diseases (%)	2.38
Neurological disor ders (%)	2.19
Digestive diseases (%)	2.04
Musculoskeletal disorders (%)	1.91
Self-harm (%)	1.72
Malaria & neglected tropical diseases (%)	1.35
Interpersonal violence (%)	1.09
Maternal disorders (%)	1.02
Liver disease (%)	0.68
Other communicable diseases (%)	0.68
Natural disasters (%)	0.03
Conflict & terrorism (%)	0.01

The top ten causes of death are HIV, Lower respiratory tract infections, TB, Ischaemic Heart disease, Neonatal disorders, diarrheal diseases, Stroke, Malnutrition, Diabetes, Road Injuries and self-harm. Of note is that 50% of these are due to NCDs.

Zimbabwe's health care delivery is supported by five-year National Health Strategies, with the last two covering the periods 2011-2015 and 2016 to 2020. The current strategy is for the period 2021 – 2025. The Goal for the 2021-2025 National Health Strategy is to improve quality of life while the Vision is the highest possible level of health and quality of life for all citizens and permanent residents of Zimbabwe by 2030.

The health system has a four (4) tier structure, fundamentally based on the referral system, bottom to the top and top to bottom. The first and lowest level being the Primary Care Level. This level has a network of health Centres/Clinics/Rural Hospitals and Polyclinics in urban areas. In addition, there are private clinics in commercial entities such as industries or mines. The network of doctors and nurses' private facilities falls under this level as well. This level coordinates the community health work. The second level is the Secondary Care level made up of a network of District Hospitals and equivalent hospitals such as Municipal Referral hospitals, mission hospitals among others. They offer emergency, ambulatory, and inpatient services. There is one such Hospital in each district. The third level is the Tertiary level made up of a network of Provincial Hospitals, one per Province (except Harare and Bulawayo which are urban Provinces). These offer emergency, ambulatory and specialist inpatient services. The fourth level is the Quaternary level offering specialist inpatient services as well as University teaching facilities.

Table 2. Health Facilities by Category (Source: National Health Strategy 2021 – 2025)

Health Facilities		
Facility Level	Type and ownership of Health Facilities	**All facilities**
Quaternary	Government Central Hospitals	6
Tertiary	Government Provincial Hospitals	8
Secondary	Government District Hospitals	44
	Mission Hospitals	62
	Private Hospitals	32
Primary	Government Rural Hospitals	62
	Municipal Polyclinics	15
	Private Clinics	69
	Mission Clinics	25
	Local Authority Clinics	1122
	Urban Council/Municipal Clinics/FHS	96
	Government Rural Health Centre	307
TOTAL		**1848**

Previous identification of cholera hotspots in Zimbabwe

The government of Zimbabwe is dedicated to eliminating Cholera. In 2019, the MoHCC conducted a hotspot mapping exercise to serve as a basis for development of a National Cholera Elimination Plan (NCP) and Roadmap. The 2019 Global Task Force for Cholera Control (GTFCC) Tool for cholera hotspot mapping was adapted and used. By using the GTFCC tool, wards were ranked into three categories: High, Medium and Low priority.

> High Priority: High Mean Annual Incidence (MAI) and High persistence
> Medium Priority: High MAI and Low Persistence or Low MAI and High Persistence
> Low Priority: Low MAI and Low Persistence

During the period 2015 to 2019, a total of 106 wards reported at least one case. Among these, 9 wards (1 in Chegutu district and 8 in Harare district) were classified as high priority, while 18 wards (1 in Chegutu district,

4 in Mutare City, 5 in Chitungwiza City, and 8 in Harare district) were categorized as medium priority. The remainder were in Low priority category

Hotspots Selection

- MAI and Persistence were used to classify the hotspots by use of the GTFCC tool.
- Mean annual incidence: Calculated as the mean annual cases per 100,000 population across the historical period of interest.
- Percentage persistence: The number of weeks in which cholera cases were reported out of the total weeks for the period 2015 to 2019 expressed as a percentage
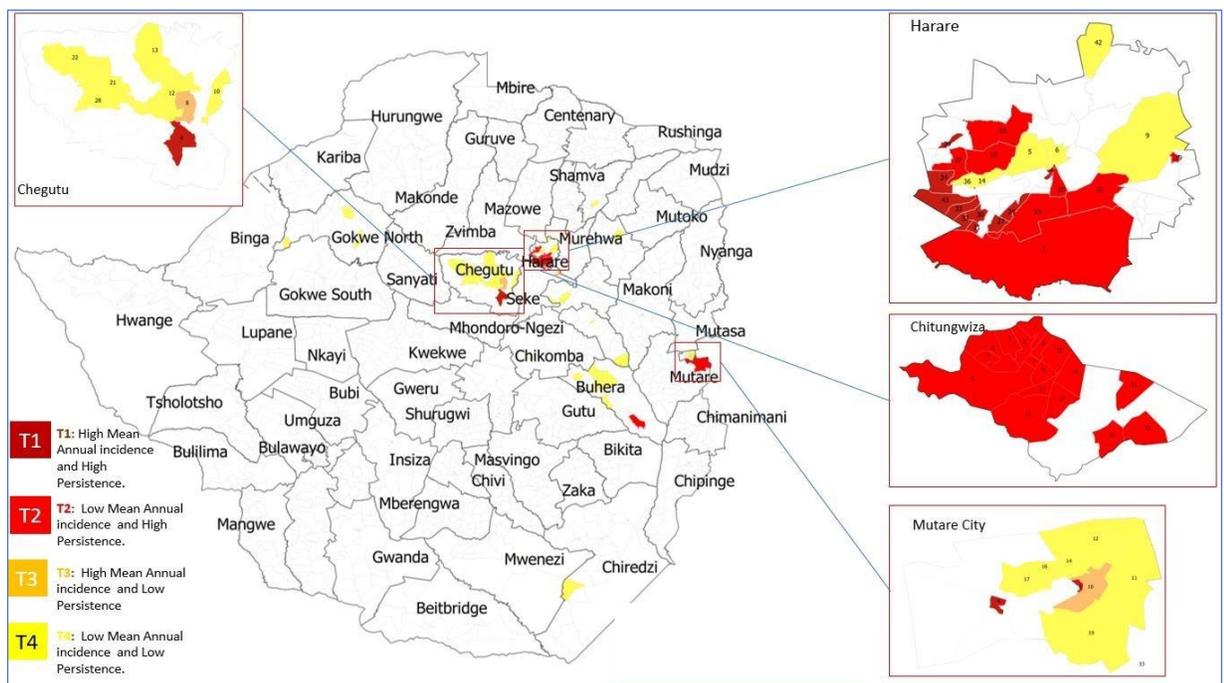
Figure 2.Map showing cholera hotspots, Zimbabwe 2019

Information on NCP status and targets

The National Cholera Elimination Strategy for Zimbabwe (2018-2030) is multi-pronged, with the following components:

- Improved WASH: Increasing access to clean water, improving sanitation, and promoting hygiene throughout the country.
- Disease surveillance: Strengthening disease surveillance systems to identify new cholera cases immediately and ensure proper and prompt case management is a core component of the cholera elimination strategy for the country.
- Treatment and care: The country establishes cholera treatment centres countrywide including upgrading the existing health facilities to improve access to critical care

- Community engagement: Risk communication and community engagement activities are a regular feature during cholera outbreaks. Activities include mass education, promotion of regular hand washing, and safe waste disposal, among others.
- Vaccination campaigns: The Ministry of Health and Child Care has targeted 2.3 million people in high-risk areas with the oral cholera vaccine, and so far, 1,4 million have been vaccinated.
- Partnerships: The MOHCC collaborates with international partners that include intergovernmental, non-governmental, community-based, and faith-based organizations. These organizations help support vaccination, provide medical supplies, and enhance response capacity.

Description of the cholera epidemiological situation in the country in recent outbreak years
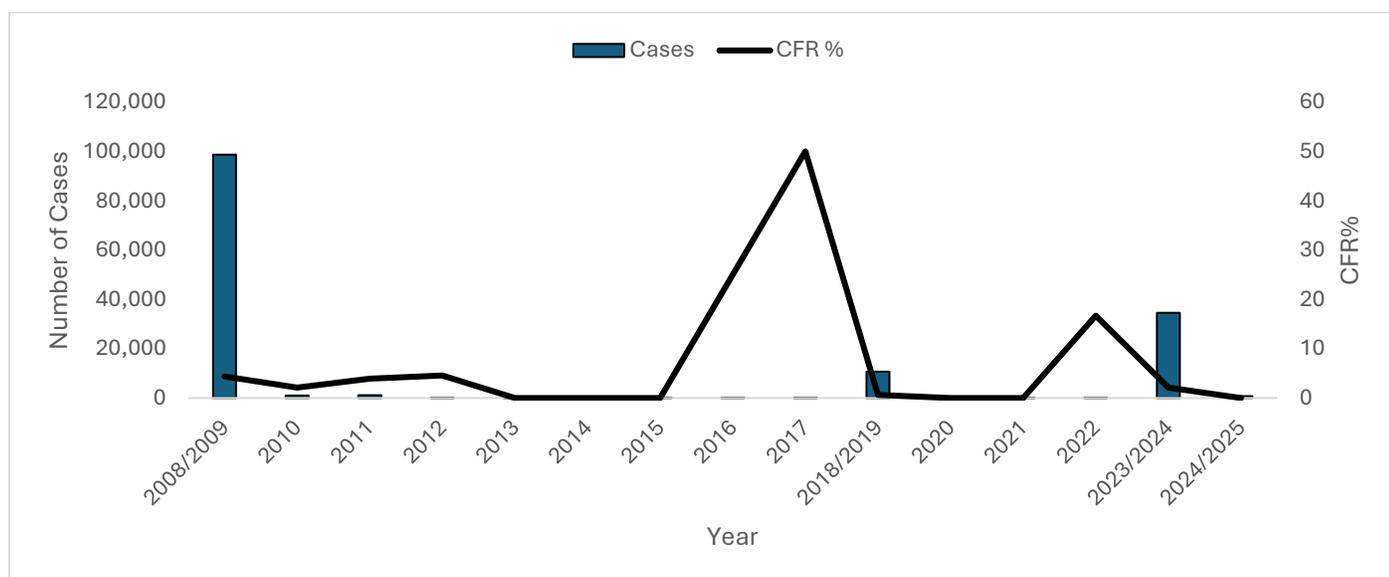
Figure 3.Zimbabwe Cholera Cases and Case Fatality 2008-2025 (Source: MOHCC Data)

Table 3.Cholera cases and deaths in Zimbabwe between August 2008 and June 2025

Year	Cases	Deaths	CFR %	Number of districts affected
2008/2009	98,592	4,288	4.35	60
2010	1,022	22	2.15	4
2011	1,140	45	3.95	4
2012	22	1	4.55	1
2013	2	0	0.00	1
2014	0	0	0.00	0
2015	42	0	0.00	6
2016	4	1	25.00	2
2017	6	3	50.00	3
2018/2019	10,726	69	0.64	23
2020	0	0	0	0
2021	1	0	0	1
2022	6	1	16.7	2
2023/2024	34,550	719	2.1	66
2024/2025	778	23	2,95	23

The first recorded case of cholera in Zimbabwe was in 1972, along the Nyamapanda border, in Mashonaland East Province with sporadic cases reported thereafter. The 1992 and 1993 outbreaks recorded 2,048 cases with a case fatality rate (CFR) of 5.1% and 5,385 cases (CFR 6.1%) respectively. No cases were recorded between 1994 and 1997. In 1998, a total of 995 cases with 44 deaths (CFR 4.4%) were reported mainly in Chipinge District, (Manicaland Province) and Chiredzi District (Masvingo Province). Since then, Zimbabwe has reported cases each year with an outbreak occurring in 1999 accounting for 5,637 cases including 385 deaths (CFR 6.8%). In 2002, a cholera outbreak was reported with Manicaland being the most affected province. Mashonaland East and Masvingo also reported cases. A total of 3,125 cases including 192 deaths (CFR 6.1%) were registered during that outbreak. Previously the disease was kept under control through intensified prevention and preparedness activities before the larger experienced outbreaks in 1999 and 2002

However, between August 2008 and July 2009, Zimbabwe faced its worst cholera outbreak, which resulted in 98, 592 cases with 4, 288 deaths, making it the largest outbreak ever recorded in the country. The cumulative CFR was 4.3%, well above the WHO recommended threshold of 1%. The large scale and severity of the outbreak was attributed to poor sanitation, limited access to healthcare, and a dilapidated public health system throughout the country. The outbreak began in Chitungwiza in August 2008, then spread throughout the country and by December 2008, cases were being reported in all the 10 provinces. The outbreak peaked in January 2009 with an average of 8,500 cases being reported per week. The outbreak was controlled by July 2009 with the help of international agencies. In the outbreak of 2018/2019, there were 10 660 cases and 66 deaths (CFR 0.64%) across 23 districts.

Cholera outbreaks in Zimbabwe typically occur during the beginning of the rainy season. The 2024/2025 outbreak started on 4th November 2024, in Gatchegatche area of Kariba while the 2023/2024 outbreak began

on 12th February 2023 in Chegutu. However, districts may report sporadic cases throughout the year. Generally, most cases are recorded in the urban areas, and in rural areas in districts with rampant artisanal mining activities and in fishing camps. The country experienced its last major outbreak from 12 February 2023 to 30th June 2024 with a total of 34 550 reported cases, with 719 deaths (CFR2.1), Although this outbreak spread in all the 10 provinces, and 63 districts, Harare Provinces which comprises of Chitungwiza City, Harare City, Ruwa District Urban Council and Epworth Urban District Urban Council recorded 12 726 cases, followed by Manicaland Province with 6 666 and the least was Bulawayo Province which recorded 49 cases.

The cholera surveillance system

Zimbabwe's cholera surveillance system is embedded within the Integrated Disease Surveillance and Response (IDSR) strategy, which enables systematic detection, reporting, verification, and response to suspected cholera cases. The system operates through a multi-tiered structure involving community, primary health facilities, district, provincial, and national levels. Suspected cholera cases are initially identified at the community or health facility level, where frontline health workers use standard case definitions to detect and report cases. Alerts are also communicated via mobile platforms and rapid communication channels to ensure timely response. All suspected cholera cases are tested using Rapid Diagnostic Tests (RDTs). Where RDT tests are reactive, stool samples (either bulk stool or rectal swabs) are sent to designated laboratories for culture confirmation, after which confirmed cases are line-listed and shared with relevant stakeholders. Immediate notification is required for any suspected cholera case, and this is done through the national Health Management Information System (HMIS) and the electronic District Health Information System (DHIS2). Data from surveillance activities is analyzed regularly at facility, district, provincial, and national levels to monitor trends, identify hotspots, and guide public health interventions. The system also incorporates event-based surveillance and community-based reporting mechanisms, which are particularly valuable in hard-to-reach or high-risk areas.

The cholera testing strategy

The Zimbabwe National Laboratory Cholera Testing Strategy outlines a structured and integrated approach to cholera diagnostics, surveillance, and case management as part of the national preparedness and response plan. Spearheaded by the Ministry of Health and Child Care (MoHCC) and aligned with Global Task Force on Cholera Control (GTFCC) guidelines, the strategy seeks to optimize the use of diagnostic resources. Its primary objective is to scale up cholera testing across all levels of the healthcare system public, private, and partner-supported—to enable timely detection, confirmation, and management of cases during all outbreak phases.

Key Components of the cholera testing strategy

A. Laboratory Network Structure

The cholera testing system follows a tiered structure, with the National Microbiology Reference Laboratory (NMRL) at the top, leading training, quality assurance, genomic sequencing, and research. Central and provincial laboratories perform culture, serotyping, and antimicrobial susceptibility testing (AST), supporting surveillance and case confirmation. District laboratories handle basic culture, provide training support, and refer complex cases to higher levels. At the primary healthcare level, clinics use rapid diagnostic tests (RDTs) and collect samples for referrals. The system is further strengthened through regional collaboration, with the National Institute for Communicable Diseases (NICD) providing external quality assurance and sequencing support.

B. Testing Strategies

The cholera testing strategy involves a phased approach tailored to the outbreak status. Before an outbreak, Rapid Diagnostic Tests (RDTs) are used for early detection, with culture or PCR used for confirmation.

During an outbreak, RDTs are performed on the first three suspected cases per site each day, with one RDT-positive sample cultured daily. Selective Antimicrobial Susceptibility Testing (AST) and Whole Genome Sequencing (WGS) are conducted for further analysis. After an outbreak, the situation is declared over if no culture-confirmed cases are reported for four consecutive weeks.

C. Laboratory Diagnostics

The cholera testing approach employs multiple methods to ensure accurate detection and monitoring. Rapid Diagnostic Tests (RDTs) are used for initial screening at peripheral sites due to their speed and ease of use. Culture remains the gold standard for confirming cholera cases. Polymerase Chain Reaction (PCR) is utilized to confirm the serotype and determine the toxigenic nature of the bacteria. Antimicrobial Susceptibility Testing (AST) helps guide appropriate treatment and monitor antimicrobial resistance patterns. Whole Genome Sequencing (WGS) is used to track the evolution and spread of cholera strains, targeting at least 1% of confirmed cases.

Justification for using the method "PAMIs for cholera control"

The 2023-2024 cholera outbreak showed very clearly that most of the affected districts were those outside the original 16 that had been hotspot mapped in 2019.
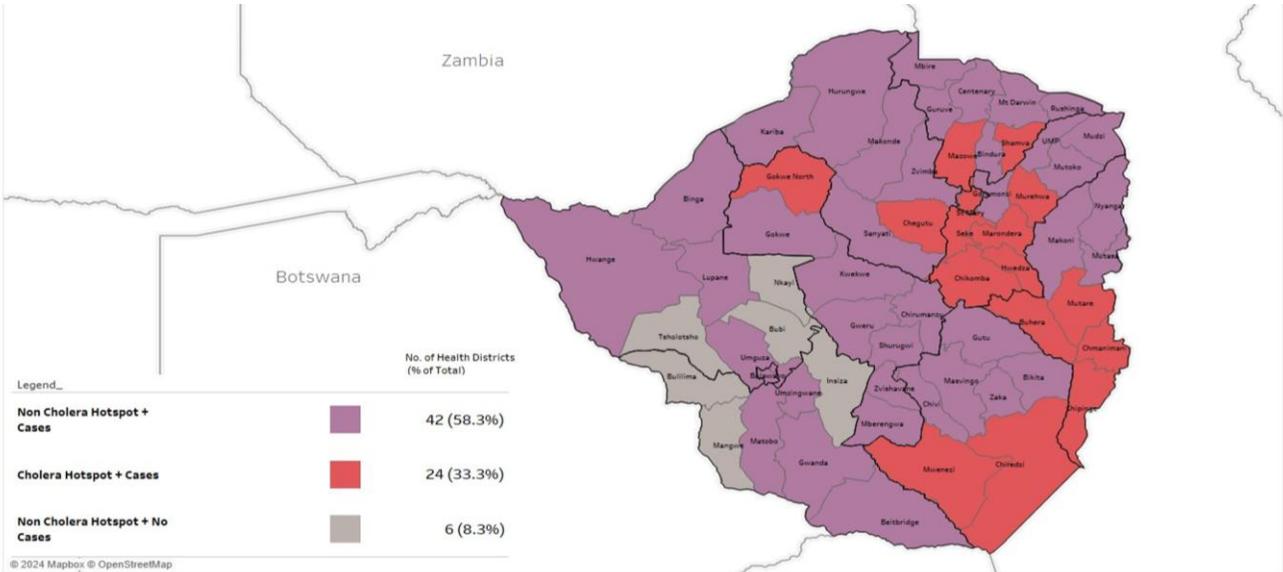
Figure 4. Distribution of Cholera Affected Areas by District in Zimbabwe (12 February 2023-28 July 2024)

From the distribution of cholera cases in 2023-2024 in Figure 5, 58.3% of all reported cases were in 42 districts that were all outside the 16 hotspot districts. This showed that the risks for cholera transmission had significantly spread beyond the traditional cholera hotspots. Zimbabwe has also been implementing the 10-year Cholera Elimination Strategy since 2019 and there was a need to carry out a midterm review. All this have necessitated the need for a review of the cholera hotspots. With the new guidance

from GFTCC on using the PAMIs, the country will use this method to determine the new priority areas where enhanced cholera control interventions need to be focused.

Chapter 2: Methods

This chapter describes the process for identifying Cholera priority areas for multi-sectoral interventions, including preparing datasets, assessing vulnerabilities, scoring epidemiologic indicators, evaluating test data representativeness, calculating a priority index, and stakeholder validation. The section is divided into three parts: datasets, priority index scoring, and stakeholder validation

Datasets

Definition and administrative level of National Cholera Plan (NCP) operational geographic units

Zimbabwe selected level 4 geographic unit (the ward) as the NCP operational geographic unit for the identification of PAMIs. This allows for precision in the implementation of multisectoral interventions but also aligns with the government's objectives of decentralization. The last delimitation exercise was conducted during February 2023 in accordance with *Sections 160 and 161* of the Constitution, which mandate that delimitation must occur once every ten years [Proclamation 1 of 2023 (SI 2023-014)]. This followed the April 2022 population census. The administrative levels of the NCP operational geographic units in this report are based on the results of the **2023 delimitation exercise.**

Each ward is allocated resources by the local authority through the Ward Development Committee (WDC) chaired by the Ward councillors. It is envisaged that through this PAMI identification process, each ward will be strongly implored to allocate resources intended specifically for cholera control interventions. The wards also fall under a constituency for representation in parliament.

Definition of the Analysis Period

The Global Task Force for Cholera Control recommends that the analysis period should involve retrospective data of five to 15 years and that any analysis period shorter than five years may be considered only when data is not available over longer periods. The priority index calculation was based on retrospective data collected over the last seven and half (7.5 years) from January 2018 to June 2025, corresponding to 390 weeks.

Priority index

Sources of Data for Calculation of Priority Index

The categories of data used in calculating the priority index are outlined in table 4, specifying the geographical units, frequency of data collection, and data sources. A multi-agency data team—comprising National and Provincial cholera response experts from the Ministry of Health and Child Care, WHO, UNICEF, Red Cross, and relevant line ministries were responsible for gathering and preparing the data.

For each NCP operational geographic unit and for each year within the analysis period, the following data were collected:

- Estimated population

- Number of reported cholera cases (both suspected and confirmed, regardless of the testing method—RDT or other laboratory techniques)

- Number of reported cholera deaths (both suspected and confirmed, regardless of the testing method)

- Number of suspected cholera cases tested

- Number of confirmed cholera cases (regardless of the testing method)

- Number of weeks with at least one reported cholera case (suspected or confirmed)

- Number of weeks with at least one suspected cholera case tested

- Information on vulnerability factors.

Table 4. Definitions of Data by NCP operational geographic units

Category	Data by NCP operational geographic units	No/Periodicity	Data Source
Administrative	List of NCP operational geographic units	1910	ZIMSTATS
	Geographic units in geospatial vector data format for geographic information system (e.g., shape file)	719	ZIMSTATS
Demography	Population	15 447 064	ZIMSTATS
Surveillance	Number of reported cholera cases (suspected and tested positive)	Daily	MOHCC
	Number of reported cholera deaths (suspected and tested positive)	Daily	MOHCC
Test for cholera	Number of reported suspected cholera cases tested for cholera (regardless of the testing method)	Daily	MOHCC
	Number of reported cases that tested positive for cholera	Daily	MOHCC
Vulnerability factors			
	Locations adjacent to cholera affected districts in neighbouring countries		MOHCC

Category	Data by NCP operational geographic units	No/Periodicity	Data Source
	Locations along major travel routes that have transportation hubs with high population density		Ministry of Transport
	Major population gatherings that take more than 3 days in areas of low water and sanitation coverage		MOHCC
	Areas with high population density/ overcrowded settings (41+ people per square kilometre)		ZIMSTAT 2022 Population Census
	High risk populations such as highly mobile artisanal miners, people who live in informal peri-urban settlements and fishing camps with low water and sanitation coverage		ZIMSTAT/MOHCC
	Hard-to-access populations which are usually inaccessible with health services especially areas cut off due to flooding, other physical barriers		MOHCC
	Population received oral cholera vaccine more than three years ago		MOHCC
	Areas at high-risk for extreme climate and weather conditions such as flooding due to cyclones or heavy rains		Ministry of Climate and Wildlife
	Complex humanitarian emergencies (In this exercise we did not consider this variable)		
	Areas with more than 30% of the population with access to unimproved water facility type (Areas with more than 30% of the population with access to unprotected water source)		MOHCC/ZIMLAC Report
	Areas with more than 50% of the population with access to unimproved sanitation facility type (areas with open defecation, pit latrines without a slab or platform, hanging latrines and bucket latrines)		MOHCC/ZIMLAC Report
	Areas with more than 50% of the population with no handwashing facility on premises		MOHCC/ZIMLAC Report

List of NCP Operational Geographic Units

The list of geographic units (wards) was taken from the Zimbabwe Electoral Commission (ZEC) Delimitation report (2023) the 2012 and 2022 ZimStat population census. Teams from the ten provinces provided the data for 1910wards across the country, to map the PAMIs.

A geographic information system (GIS) program and a data table (which contained indicators and index values) were used. These were joined with the attribute table using a common unique geographic identifier (ward identifier) that uniquely identified each geographic unit. This resulted in a map of priority index values by geographic units.

Shape files for the 1910 wards were already available for this purpose, and each ward was identified uniquely. Spatial analysis across the analysis period was performed on all the 1910 wards, with a particular focus on differences in polygon counts or geometry shapes. It was noted that there were modifications in ward names, the number of geographic units and dwellings from the 2012 population.

Population Data

Yearly population data by (wards) were obtained from the Zimbabwe Statistical Agency (ZimStat), which provides national 10 -year population projections. The National population estimates are based on extrapolation from the 2012 and 2022, Zimbabwe Population and Housing Census.

Surveillance data

For surveillance, data was gathered on:

- Suspected or confirmed cholera cases per year
- Suspected or confirmed cholera deaths per year
- Number of weeks per year with at least one suspected or confirmed cholera case by NCP operational geographic unit

Key details about the cholera surveillance system, including its framework, case definitions, data flow, and performance indicators were collected. This helped interpret epidemiologic data.

Data sources included the national cholera line list, districts historical data on cholera outbreaks that occurred between 2018 and June 2025. The country experienced widespread outbreaks in 2018, 2023,2024 and 2025 while one district Chiredzi reported cases in 2020 and 2021. Data for the period 2018 to 2025 for all NCPs was included and verified by the districts and provinces. After thorough discussions, the dataset was therefore deemed complete.

Data quality checks included comparison of number of deaths with cases to ensure deaths did not exceed the number of cases per year and NCP operational geographic unit. It was also confirmed that the number of reporting weeks was greater than zero whenever at least one suspected or tested positive cholera case (regardless of testing method) was reported for a given year.

Cholera Test Positivity Data

Data collection on the following variables was conducted for calculating cholera test positivity:

- Number of weeks with at least one suspected cholera case tested during the analysis period (2018-2025)

- Number of suspected cholera cases tested during the analysis period

- Number of suspected cholera cases that tested positive during the analysis period

- Number of years with at least one positive case.

The countries' Cholera testing strategy changed in 2023, reflecting improvements in testing capacity over time. Culture testing was only done on samples with positive RDT cases. In addition to Cholera case confirmation by culture, confirmation of cases was also done when the suspected case had a history of linkage with a confirmed case.

A data exchange workflow between laboratories and the cholera surveillance system was established. Specimens were collected from suspected cases at treatment centres or, in the event of community deaths, at the initial point of care. RDT samples were tested onsite, with results entered into patient records and case notes. Surveillance teams then recorded these test results in the case line list.

After the sample was collected at the CTU, it was sent to the nearest laboratory with culture testing capability for culture and sensitivity analysis/testing. The results were then communicated to the designated focal person, who was responsible for relaying the test results to the corresponding CTU. At that point, the results were recorded in the case line list. Data from the line list was used to calculate testing positivity rates. All testing methods were given equal consideration in calculating test positivity indicators. If multiple testing methods or samples were used for a suspected case, the case was counted only once in the indicator calculation (both numerator and denominator). Since the line list served as the data source for testing information, it was not necessary to link surveillance data with testing data.

Management of Missing Data

The data collection process was thorough and effective. A comprehensive approach was implemented during the data collection process that ensured that no data was missing. Data collection was carried out by District Health Information Officers in collaboration with District Environmental Health Officers. Provincial Health Information Officers and national-level teams reviewed the data for completeness and accuracy. Checks were made with focal points to differentiate the active reporting of zero values from missing reports. Consequently, the data used to identify the PAMIs was quite accurate, and no wards reported any missing information.

Vulnerability Factors

The country considered 11 vulnerability factors in the GTFCC indicative list in the vulnerability assessment of the NCP operational geographical units. The vulnerability factors are listed in Table 4.

Data Sources for Vulnerability Factors

Data was collected from all 63 districts and 1910 wards. Data were collected using the GTFCC 2023 data collection tool. ZimStat and Provincial Health Information Officers provided data on populations.

Method for assessing vulnerability factors

Assessment of vulnerability factors used a scoring system for assessing each vulnerability factor as per guidance from the GTFCC. A score of 1 was assigned when the vulnerability factor is present and 0 if the vulnerability factor is absent.

Priority Index Scoring

GTFCC guidance recommends that each NCP operational geographic unit is scored with a numeric priority index. Therefore, the priority index is calculated by combining four indicators: incidence, mortality, persistence, and cholera test positivity. These indicators are derived from epidemiologic and cholera testing data over the analysis period. The outcome is a data table, where indicators and population data, indicator scores, and the priority index are assigned to each NCP operational geographic unit in the country.

Calculate Weekly Testing Coverage

The weekly testing coverage indicator determines whether the representativeness of testing allows for test positivity indicators to be included in the calculation of the priority index. Depending on the value of the weekly testing coverage indicator, the positivity rate, or the number of years with cases tested positive may be included as test positivity indicators. If the representativeness of testing is determined to be insufficient, test positivity indicators are excluded altogether.

The weekly testing coverage for each NCP geographical unit was calculated using the automated Excel based tool developed by GTFCC. Step-by-step instructions as per GTFCC instructions were followed during the calculations (see Part II: User guide for the GTFCC Excel-based tool).

Assess Cholera Testing Representativeness

The assessment of the representativeness of testing used the automated GTFCC Excel tool and was based on the weekly testing coverage indicator. Table 10 below describes criteria for assessing representativeness of cholera testing and determining the Cholera test indicator to be included in the priority index. In brief, if testing coverage (For what percentage of weeks with reported suspected case(s) was at least one suspected cholera case tested?) is greater equal to or greater than 50% in at least 80% of geographical units then testing representativeness is deemed acceptable representativeness. On the other hand, if the weekly testing coverage is less than 50% but > 0% in at least 80% of NCP geographical units then the testing representativeness is deemed suboptimal representativeness. However, if weekly testing coverage is > 0% in less than 80% of NCP geographic units, the testing representativeness is deemed insufficient.

Determine Test Positivity Indicator to be Included in the Priority Index

The GTFCC recommends that the positivity indicator to be included in the priority index be determined based on Cholera test representativeness. The determination of the positivity indicator was

done using the GTFCC Excel tool that automates the determination of positivity indicator based on the test representativeness. The determination is based on the following criteria:

If the representativeness of cholera testing is **acceptable**, the positivity rate is used as the cholera test positivity indicator. The positivity rate is scored in four classes as described in table below and a positivity rate score ranging from 0 to 3 points is attributed to each NCP operational geographic If the representativeness of cholera testing is **suboptimal**, the number of years with cases tested positive is used as the test positivity indicator. The number of years with case(s) tested positive is scored in three classes and a score ranging from 0 to 2 points is attributed to each NCP operational geographic unit. The maximum score is lower than that of other indicators because it is less reliable.

If the weekly testing coverage is > 0% in less than 80% of geographic units, the representativeness of cholera testing is **insufficient** for inclusion in the priority index. Only three indicators will then be used to calculate the priority index (i.e., incidence, mortality, and persistence) and reinforcement of routine testing for cholera shall be planned in the NCP with high priority.

In our PAMI identification exercise, over 85% of the units had testing coverage exceeding 0%. Therefore, the testing's representativeness was **Sub-optimal**, and the years with verified cases were factored into the priority index. Each NCP operational geographic unit completed a vulnerability assessment.

Calculation of Epidemiological Indicators

The calculation of epidemiological indicators including incidence, mortality, and persistence was automated using an Excel based tool developed by GTFCC. The definitions and calculation for indicators are provided in Table 5.

Table 5. Calculation of epidemiological indicators

Indicator	Calculation and definition
Incidence	Calculation Cholera incidence rate in an NCP operational geographic unit is calculated by dividing: - The total number of cholera cases (including suspected cases and cases tested positive) reported in the unit over the analysis period by - The cumulative person-time (i.e., the sum of population of the geographic unit for each year over the analysis period), then multiplied by 100,000.
	Definition This indicator is the number of cholera cases reported per 100,000 person-years over the analysis period.

Indicator	Calculation and definition
Mortality	**Calculation** Cholera mortality rate in an NCP operational geographic unit is calculated by dividing: The total number of deaths attributed to cholera reported in the unit over the analysis period by - The cumulative person-time (i.e., the sum of the annual population over the period), then multiplied by 100,000.
	Definition This indicator is the number of deaths attributed to cholera reported per 100,000 person-years in the unit over the analysis period.
Persistence	**Calculation** Cholera persistence in an NCP operational geographic unit is calculated by dividing: - the number of weeks with at least one reported suspected cholera case over the analysis period by - the total number of weeks over the analysis period
	Definition This indicator is the percentage of weeks with at least one reported suspected cholera case in the unit over the period of interest.

Scoring of Epidemiologic Indicators

Calculation of Distribution Thresholds (Median And 80th Percentiles of Respective Distributions)

The 50th (median) and 80th percentiles of incidence, mortality, and persistence distributions thresholds were automatically calculated using the GTFCC excel based tool. The distribution thresholds (median and 80th percentile) were calculated out of the NCP operational geographic units where at least one cholera case (suspected or tested positive) was reported over the analysis period.

Scoring of Epidemiological Indicator for Each Geographical Unit

The scoring of epidemiologic indicators for each geographic unit was also done in the GTFCC excel based tool. Epidemiologic indicators (i.e., incidence, mortality, persistence) were scored in four categories based on the 50th (median) and the 80th percentiles of their respective distributions. A score

ranging from zero to three points was attributed to each geographic unit for each epidemiologic indicator. Table 6 describes the criteria that was used to describe epidemiological indicators.

Table 6. Scoring of epidemiological indicators for each geographical unit

Epidemiologic Indicator	Score			
	0 Point	1 Point	2 Points	3 Points
Incidence*	No case	> 0 and < median	$\geq$ median and < 80th percentile	$\geq$ 80th percentile
Mortality*	No death	> 0 and < median	$\geq$ median and < 80th percentile	$\geq$ 80th percentile
Persistence*	No case	> 0 and < median	$\geq$ median and < 80th percentile	$\geq$ 80th percentile
Number of years with case(s) tested positive included in priority index	0 years	1 year	>1 year	Not Applicable

Calculation of Priority Index

The priority index was calculated for each NCP operational geographic unit by summing the scores of the indicators as follows:

Priority index = incidence score + mortality score + persistence score + number of years with cases tested positive score

Stakeholder Validation

The stakeholders who participated in the validation exercise are presented in Table 7. A stakeholder validation workshop was held in Mutare from 14-18 July 2025. The meeting set out to review the list of Priority Areas for Multi-sectoral Interventions (PAMIs). With technical support from the WHO Zimbabwe Country Office and WHO-Regional Office for Africa, Facilitators presented the methods and findings from the PAMI identification exercise, followed by group sessions where stakeholders were divided into smaller groups to review and discuss the process and findings in detail.

Table 7. List of Stakeholders represented during PAMI data analysis and validation

No.	Stakeholders
1	Ministry of Health and Child Care
2	Ministry of Lands, Agriculture, Fisheries, Water and Rural Development

3	Ministry of Local Government and Public Works	
4	United Nations Children's Fund	
5	Red Cross/International Federation Red Cross Society	
6	World Health Organization Country Office	
7	World Health Organization Regional Office for Africa	
8	Zimbabwe Statistical Agency	
9	Rural Infrastructure Development Agency	

Chapter 3: Results

The results of the PAMIs identification exercise are organized into two sub-sections: Priority index and Stakeholder validation.

Priority index

Data Overview

Table 8 presents the data utilized for calculating the priority index for NCP identification of PAMIs. The analysis encompassed 1,910 ward-level geographical units across Zimbabwe over seven and a half years (January 2018 to June 2025). Key findings reveal that 45.8% of wards (874 out of 1910) reported at least one cholera case, contributing to a total of 42,434 recorded cases. Furthermore, testing showed a 39.9% positivity rate among 9,838 suspected cases tested. A total of 722 deaths were recorded during the period of analysis giving a Case Fatality Rate of 1.7%.

Table 8.Data utilized for calculating the priority index for NCP identification of PAMIs

Data description *	
Number of NCP operational geographic units	1,910
Study period: start year	2018
Study period: end year	2025
Study period: number of years	8
Number of NCP operational geographic units with at least one case	874
Total number of cases	42,434
Total number of deaths	722
Overall case fatality	1.7%
Total number of suspect cases tested **	9,838
Total number of suspect cases tested positive **	3,930
Overall positivity rate **	39.9%

* The totals are calculated for the entire set of geographical units over the study period
** Regardless of the testing method applied

Epidemiologic indicators score thresholds

Thresholds for scoring epidemiological indicators are employed to systematically evaluate each indicator, thereby informing the computation of the priority index for each geographical unit. These thresholds are detailed in Table 9. Among the indicators assessed, incidence exhibited the highest median value (15.44) over the analysis period.

Table 9. Epidemiological indicators score threshold.

Epidemiological indicator score thresholds		
Incidence (100,000 pers. y-1) *	Median	**15.44**
	80th percentile	**69.64**
Mortality (100,000 pers. y-1) *	Median	**2.80**
	80th percentile	**5.70**
Persistence (% of weeks with ≥ one case) *	Median	**0.8**
	80th percentile	**2.6**
* Calculated out of geographic units with indicator value >0		

Assessment of the representativeness of testing

The evaluation of testing representativeness is conducted to guide the selection of the positivity indicator to be incorporated into the calculation of the priority index. The first step involves determining whether the positivity rate qualifies as a suitable indicator, based on whether at least 80% of the NCP operational geographic units achieve a weekly testing coverage of 50% or more. The second step assesses whether the number of years with confirmed positive cases should be factored into the priority index. Findings from the representativeness assessment revealed that only 602 geographic units (31.5%) met the threshold of ≥50% weekly testing coverage. However, over 82.3% of the units recorded some level of testing (i.e., coverage >0%). These results indicate that the overall representativeness of testing was sub-optimal, as detailed in Table 10.

Table 10. Assessment of representativeness of cholera testing *

Assessment of representativeness of cholera testing *	
Step 1	
Number of NCP operational geographic units with weekly testing coverage ≥ 50%	**602**
Percentage of NCP operational geographic units (with at least one case) with testing coverage ≥ 50%	**68.9%**
Is weekly testing coverage ≥ 50% in at least 80% of the NCP operational geographic units of the country?	**No**
Level of representativeness of testing	See step 2: check if weekly testing coverage is > 0 in at least 80% of geo. units
Inclusion of positivity rate score into the priority index	**No inclusion of the positivity rate score, see next step 2**

Step 2	
Number of NCP operational geographic units with weekly testing coverage > 0%	**719**
Percentage of NCP operational geographic units with testing coverage > 0%	**82.3%**
Is the weekly testing coverage > 0 in at least 80% of the NCP operational geographic units of the country?	**Yes**
Level of representativeness of testing	**Suboptimal**
Inclusion of the num. of years with case(s) tested positive score into the priority index	**Num. of years with confirmed case(s) score included the priority index**
NA: *not*	*applicable*

* *Regardless of the testing method applied*

Priority Index Scores

All the parameters were used to determine the priority index, and the maximum score was 11. A total of 1, 278 geographical units had a priority index score of 0-3 accounting for 66.9 % of the total NCP geographical units. Moderate Risks scores of 4 to 6 accounted for 356 (18.6%). Meanwhile, 276 units were categorized as high risk in the range 7-11 contributing to 14.5% of the NCP geographical units. A clear inverse relationship was observed between the priority index score and the number of geographical units, with fewer NCP geographical units represented at higher index levels.

In terms of population distribution, 3 555 935 individuals reside in areas with a priority index between 7 and 11, highlighting that 23% of the total population of the country is at high risk of cholera. The burden of cholera was most pronounced in areas with the priority index score of 9, which accounted for 12 944 cases equivalent to 30.5% of all reported cases during the analysis period. This pattern extended to mortality as well, with a clear upward trend in the number of deaths corresponding to increasing priority index values. Areas with a score of 11 reported 166 (23%) deaths whilst areas with a priority score of 3 had no deaths (see Table 11).

Table 11. Summary table of key parameters stratified by priority index values

	Assessment of representativeness of cholera testing
Level of representativeness of testing	**Suboptimal**
Testing indicator score included into the priority index	Num. of years with confirmed case(s)

Priority index values	Number of geographic units	Cum. number of geographic units	Rel. % of num. of geographic units	Total population	Rel. % of population	Cum. % of population	Num. of cases	Rel. % of num. of cases	Cum. % of num. of cases	Num. of deaths	Rel. % of num. of deaths	Cum. % of num. of deaths	Average of positivity rate	Mean of number of years
(blank)		0	**0.0%**		**0.0%**	0.0%		**0.0%**	0.0%		**0.0%**	0.0%		
11	22	22	**1.2%**	206,709	**1.3%**	1.3%	10,404	**24.5%**	24.5%	166	**23.0%**	23.0%	6.2	2.3
10	31	53	**1.6%**	258,670	**1.7%**	3.0%	4,676	**11.0%**	35.5%	102	**14.1%**	37.1%	127.5	2.5
9	52	105	**2.7%**	751,375	**4.9%**	7.9%	12,944	**30.5%**	66.0%	165	**22.9%**	60.0%	6.9	2.1
8	72	177	**3.8%**	1,007,395	**6.5%**	14.4%	5,224	**12.3%**	78.4%	95	**13.2%**	73.1%	29.1	2.2
7	99	276	**5.2%**	1,331,786	**8.6%**	23.0%	4,297	**10.1%**	88.5%	79	**10.9%**	84.1%	32.6	2.1
6	111	387	**5.8%**	1,003,932	**6.5%**	29.5%	2,384	**5.6%**	94.1%	43	**6.0%**	90.0%	15.0	1.7
5	123	510	**6.4%**	1,241,530	**8.0%**	37.6%	1,366	**3.2%**	97.3%	33	**4.6%**	94.6%	5.3	1.5
4	122	632	**6.4%**	1,086,902	**7.0%**	44.6%	684	**1.6%**	98.9%	23	**3.2%**	97.8%	3.6	1.3
3	242	874	**12.7%**	2,015,405	**13.0%**	57.6%	455	**1.1%**	100.0%	0	**0.0%**	97.8%	2.9	1.0
0	1036	1910	**54.2%**	6,543,360	**42.4%**	100.0%	0	**0.0%**	100.0%	16	**2.2%**	100.0%	0.0	NA
Grand Total	1910		**100.0%**	15,447,064	**100.0%**		42,434	**100.0%**		722	**100.0%**		6.9	1.6
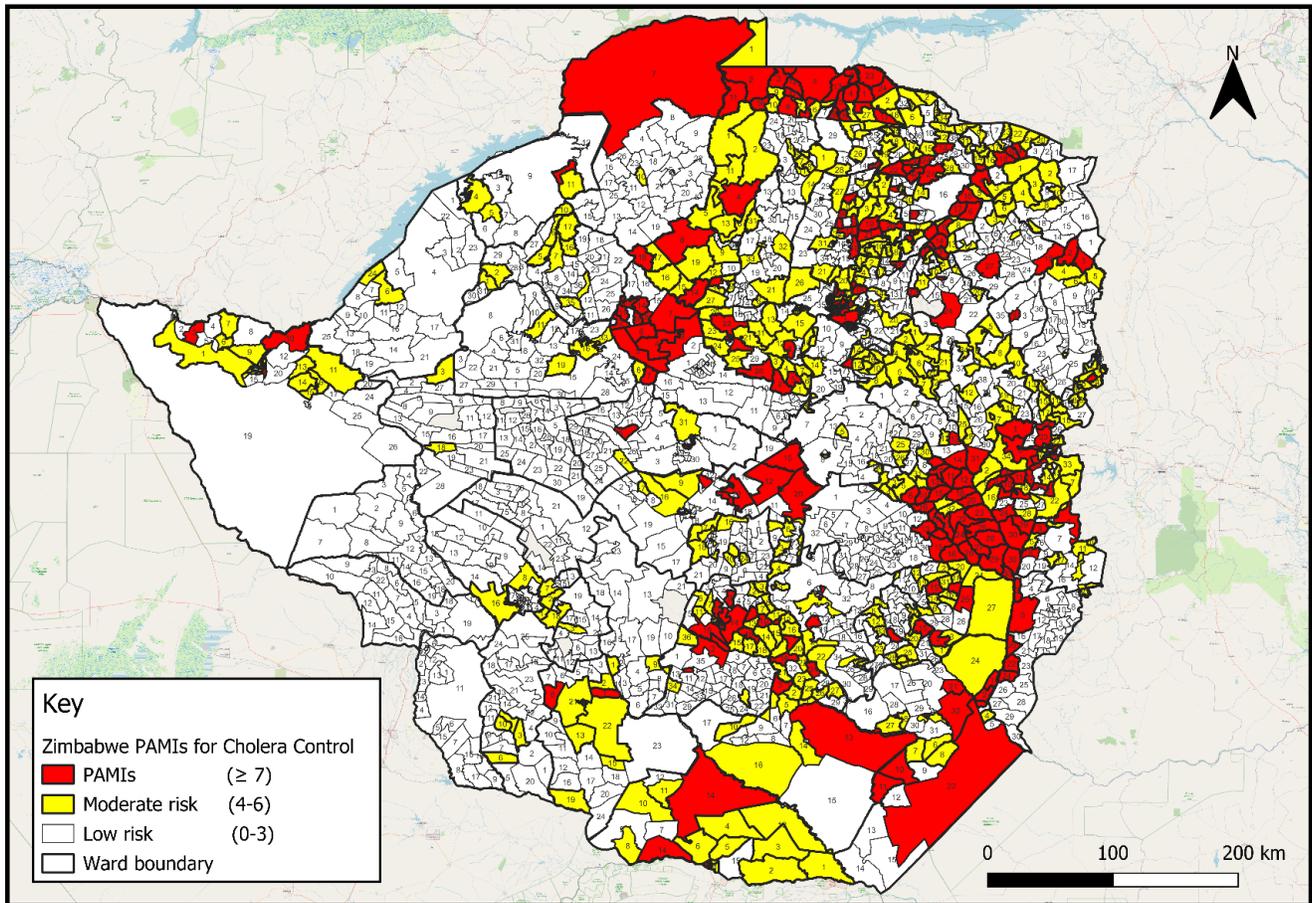
Figure 5. Zimbabwe PAMIs for Cholera Control

Stakeholder validation

Priority index threshold

The determination of the priority index threshold was guided by a collaborative decision-making process among stakeholders, who considered both the potential public health impact and the feasibility of implementing multisectoral interventions. A priority index threshold of 7 was adopted to strategically focus on 276 wards covering a population 3.5 million people. This ensures that our response emphasises immediate containment and proactive prevention within current operational limits. A consensus was reached **not to add any additional PAMIs** as the wards of interest had been sufficiently captured.

List of PAMIs

A total of 276 wards with a priority index score greater than or equal to 7 were identified as Priority Areas for Multisectoral Interventions (PAMIs). These wards accounted for 14.5% of all geographical units and encompassed a population of 3 555 935 people, representing 23% of the national population. These areas bore the brunt of the cholera burden during the analysis period, contributing 3 157 670 cases equivalent to 88.5% of all reported cases and 607 deaths, which constituted 84% of the total fatalities (see Table 12).

Table 12. *Number of geographical units selected as PAMIs and associated population, number of cases and deaths*

Indicator	N (%)
NCP operational geographic units selected as PAMIs	276 (14.5%)
Population and percentage of population living in these units	3 555 935(23.0%)
Numbers and percentages of cholera cases reported in these units over the analysis period	3 157 670(88.5%)
Numbers and percentages of cholera deaths reported in these units over the analysis period	607 (84%)

Table 13. *list of PAMIs*

Province	District	Ward	Priority Index
Midlands	Mberengwa	Ward37_Rural	11
Masvingo	Chiredzi	Ward1_Rural	11
Masvingo	Chiredzi	Ward21_Rural	11
Masvingo	Chiredzi	Ward2_Urban	11
Masvingo	Gutu	Ward15_Rural	11
Harare	Harare City	Ward30_Urban	11
Mashonaland East	UMP	Ward4-Rural	11
Mashonaland Central	Mazowe	Ward15_Urban	11
Mashonaland Central	Mazowe	Ward17_Urban	11
Mashonaland Central	Bindura	Ward16_Rural	11
Mashonaland Central	Bindura Urban	Ward4_Urban	11
Mashonaland Central	Shamva	Ward28_Rural	11
Mashonaland Central	Mbire	Ward5_Rural	11
Mashonaland Central	Mbire	Ward17_Rural	11
Mashonaland Central	Mt Darwin	Ward27_Rural	11
Mashonaland Central	Centenary	Ward5_Rural	11
Mashonaland Central	Centenary	Ward6_Rural	11
Manicaland	Buhera	Ward22_Rural	11
Manicaland	Buhera	Ward23_Rural	11
Manicaland	Chipinge	Ward24_Rural	11
Manicaland	Mutare	Ward21_Rural	11
Manicaland	Mutare	Ward35_Rural	11
Masvingo	Chiredzi	Ward32_Rural	10
Masvingo	Gutu	Ward13_Rural	10
Masvingo	Gutu	Ward14_Rural	10
Masvingo	Gutu	Ward16_Rural	10
Masvingo	Masvingo	Ward10_Urban	10
Harare	Harare City	Ward35_Urban	10
Harare	Chitungwiza	Ward2_Urban	10

Province	District	Ward	Priority Index
Harare	Chitungwiza	Ward3_Urban	10
Harare	Chitungwiza	Ward5_Urban	10
Mashonaland West	Chegutu	Ward22_ Rural	10
Mashonaland West	Chegutu	Ward8_Urban	10
Mashonaland West	Kariba	Ward2_Rural	10
Mashonaland West	Makonde	Ward8_Urban	10
Mashonaland West	Sanyati	Ward7-Urban	10
Mashonaland West	Sanyati	Ward11-Urban	10
Mashonaland Central	Bindura	Ward19_Rural	10
Mashonaland Central	Rushinga	Ward4_Rural	10
Mashonaland Central	Shamva	Ward19_Rural	10
Mashonaland Central	Mbire	Ward3_Rural	10
Mashonaland Central	Centenary	Ward24_Rural	10
Manicaland	Buhera	Ward20_Rural	10
Manicaland	Buhera	Ward26_Rural	10
Manicaland	Buhera	Ward33_Rural	10
Manicaland	Chimanimani	Ward1_Rural	10
Manicaland	Chimanimani	Ward3_Rural	10
Manicaland	Chimanimani	Ward8_Rural	10
Manicaland	Chipinge	Ward16_Rural	10
Manicaland	Mutare	Ward11_Rural	10
Manicaland	Mutare	Ward30_Rural	10
Manicaland	Mutare	Ward12_Urban	10
Manicaland	Mutasa	Ward23_Rural	10
Midlands	Chirumanzu	Ward12_Rural	9
Midlands	Chirumanzu	Ward13_Rural	9
Midlands	Kwekwe	Ward7_Rural	9
Masvingo	Bikita	Ward15_Rural	9
Masvingo	Bikita	Ward17_Rural	9
Masvingo	Chiredzi	Ward25_Rural	9
Masvingo	Chivi	Ward9_Rural	9
Masvingo	Chivi	Ward10_Rural	9
Masvingo	Chivi	Ward18_Rural	9
Masvingo	Chivi	Ward19_Rural	9
Masvingo	Chivi	Ward24_Rural	9
Masvingo	Mwenezi	Ward13_Rural	9
Harare	Harare City	Ward3_Urban	9
Harare	Harare City	Ward4_Urban	9
Harare	Harare City	Ward11_Urban	9
Harare	Harare City	Ward25_Urban	9
Harare	Harare City	Ward27_Urban	9

Province	District	Ward	Priority Index
Harare	Harare City	Ward29_Urban	9
Harare	Harare City	Ward31_Urban	9
Harare	Harare City	Ward37_Urban	9
Harare	Harare City	Ward38_Urban	9
Harare	Harare City	Ward39_Urban	9
Harare	Harare City	Ward43_Urban	9
Mashonaland East	UMP	Ward6_Rural	9
Matabeleland South	Beitbridge	Ward6_Urban	9
Mashonaland West	Makonde	Ward14_Rural	9
Mashonaland West	Sanyati	Ward8-Urban	9
Mashonaland Central	Mazowe	Ward6_Rural	9
Mashonaland Central	Bindura	Ward20_Rural	9
Mashonaland Central	Bindura Urban	Ward12_Urban	9
Mashonaland Central	Rushinga	Ward19_Rural	9
Mashonaland Central	Shamva	Ward23_Urban	9
Mashonaland Central	Shamva	Ward25_Rural	9
Mashonaland Central	Shamva	Ward26_Rural	9
Mashonaland Central	Mbire	Ward4_Rural	9
Mashonaland Central	Mbire	Ward8_Rural	9
Mashonaland Central	Mbire	Ward12_Rural	9
Mashonaland Central	Mbire	Ward13_Rural	9
Mashonaland Central	Mt Darwin	Ward40_Rural	9
Mashonaland Central	Centenary	Ward3_Rural	9
Mashonaland Central	Centenary	Ward4_Rural	9
Mashonaland Central	Centenary	Ward17_Rural	9
Manicaland	Buhera	Ward12_Rural	9
Manicaland	Buhera	Ward14_Rural	9
Manicaland	Buhera	Ward15_Rural	9
Manicaland	Buhera	Ward16_Rural	9
Manicaland	Buhera	Ward21_Rural	9
Manicaland	Buhera	Ward30_Rural	9
Manicaland	Makoni	Ward4_Rural	9
Manicaland	Mutare	Ward5_Rural	9
Manicaland	Mutare	Ward17_Rural	9
Manicaland	Mutare	Ward24_Rural	9
Midlands	Chirumanzu	Ward15_Rural	8
Midlands	Chirumanzu	Ward24_Rural	8
Midlands	Gweru	Ward11_Rural	8
Midlands	Kwekwe	Ward14_Urban	8
Midlands	Mberengwa	Ward2_Rural	8
Midlands	Zvishavane	Ward13_Rural	8

Province	District	Ward	Priority Index
Midlands	Zvishavane	Ward16_Rural	8
Midlands	Zvishavane	Ward19_Rural	8
Midlands	Zvishavane	Ward3_Urban	8
Midlands	Zvishavane	Ward10_Urban	8
Matabeleland North	Hwange	Ward3_Urban_HLB	8
Matabeleland North	Hwange	Ward7_Urban_HLB	8
Matabeleland North	Hwange	Ward10_Urban_HLB	8
Masvingo	Bikita	Ward2_Rural	8
Masvingo	Chiredzi	Ward2_Rural	8
Harare	Harare City	Ward6_Urban	8
Harare	Harare City	Ward12_Urban	8
Harare	Harare City	Ward15_Urban	8
Harare	Harare City	Ward18_Urban	8
Harare	Harare City	Ward24_Urban	8
Harare	Harare City	Ward26_Urban	8
Harare	Harare City	Ward28_Urban	8
Harare	Harare City	Ward33_Urban	8
Harare	Harare City	Ward41_Urban	8
Harare	Chitungwiza	Ward4_Urban	8
Harare	Chitungwiza	Ward7_Urban	8
Harare	Chitungwiza	Ward13_Urban	8
Harare	Chitungwiza	Ward18_Urban	8
Harare	Chitungwiza	Ward21_Urban	8
Harare	Chitungwiza	Ward22_Urban	8
Harare	Chitungwiza	Ward23_Urban	8
Harare	Chitungwiza	Ward24_Urban	8
Harare	Chitungwiza	Ward25_Urban	8
Mashonaland East	Wedza District	Ward14_Rural	8
Mashonaland East	Murewa	Ward30_Rural	8
Mashonaland East	Mutoko	Ward27_Rural	8
Mashonaland East	UMP	Ward9_Rural	8
Mashonaland East	UMP	Ward14_Rural	8
Mashonaland East	UMP	Ward15_Rural	8
Mashonaland West	Chegutu	Ward10_Urban	8
Mashonaland West	Chegutu	Ward5_Norton	8
Mashonaland West	Hurungwe	Ward7_Urbarn	8
Mashonaland West	Makonde	Ward7_Rural	8
Mashonaland West	Makonde	Ward18_Rural	8
Mashonaland West	Sanyati	Ward1_Urban	8
Mashonaland West	Sanyati	Ward3-urban	8
Mashonaland West	Zvimba	Ward12_Rural	8

Province	District	Ward	Priority Index
Mashonaland Central	Mazowe	Ward9_Rural	8
Mashonaland Central	Mazowe	Ward11_Rural	8
Mashonaland Central	Mazowe	Ward13_Rural	8
Mashonaland Central	Mazowe	Ward14_Rural	8
Mashonaland Central	Bindura Urban	Ward6_Urban	8
Mashonaland Central	Rushinga	Ward1_Rural	8
Mashonaland Central	Mbire	Ward16_Rural	8
Mashonaland Central	Mt Darwin	Ward14_Rural	8
Mashonaland Central	Mt Darwin	Ward39_Rural	8
Mashonaland Central	Centenary	Ward1_Rural	8
Mashonaland Central	Centenary	Ward8_Rural	8
Mashonaland Central	Centenary	Ward22_Rural	8
Manicaland	Buhera	Ward11_Rural	8
Manicaland	Buhera	Ward18_Rural	8
Manicaland	Buhera	Ward19_Rural	8
Manicaland	Buhera	Ward28_Rural	8
Manicaland	Chipinge	Ward29_Rural	8
Manicaland	Chipinge	Ward22_Rural	8
Manicaland	Chipinge	Ward5_Urban	8
Manicaland	Chipinge	Ward3_Rural	8
Manicaland	Mutare	Ward4_Rural	8
Manicaland	Mutare	Ward9_Rural	8
Manicaland	Mutare	Ward19_Rural	8
Manicaland	Mutare	Ward19_Urban	8
Manicaland	Nyanga	Ward2_Rural	8
Midlands	Chirumanzu	Ward20_Rural	7
Midlands	Chirumanzu	Ward22_Rural	7
Midlands	Zvishavane	Ward14_Rural	7
Midlands	Zvishavane	Ward9_Urban	7
Masvingo	Bikita	Ward25_Rural	7
Masvingo	Chiredzi	Ward10_Rural	7
Masvingo	Chiredzi	Ward11_Rural	7
Masvingo	Chiredzi	Ward22_Rural	7
Masvingo	Chiredzi	Ward6_Urban	7
Masvingo	Chivi	Ward30_Rural	7
Masvingo	Masvingo	Ward11_Rural	7
Masvingo	Mwenezi	Ward3_Rural	7
Masvingo	Zaka	Ward15_Rural	7
Masvingo	Zaka	Ward18_Rural	7
Harare	Harare City	Ward1_Rural	7
Harare	Harare City	Ward2_Urban	7

Province	District	Ward	Priority Index
Harare	Harare City	Ward5_Urban	7
Harare	Harare City	Ward13_Urban	7
Harare	Harare City	Ward14_Urban	7
Harare	Harare City	Ward20_Urban	7
Harare	Harare City	Ward23_Urban	7
Harare	Harare City	Ward40_Urban	7
Harare	Harare City	Ward42_Urban	7
Harare	Harare City	Ward44_Urban	7
Harare	Chitungwiza	Ward1_Urban	7
Harare	Chitungwiza	Ward6_Urban	7
Harare	Chitungwiza	Ward8_Urban	7
Harare	Chitungwiza	Ward9_Urban	7
Harare	Chitungwiza	Ward10_Urban	7
Harare	Chitungwiza	Ward11_Urban	7
Harare	Chitungwiza	Ward12_Urban	7
Harare	Chitungwiza	Ward14_Urban	7
Harare	Chitungwiza	Ward15_Urban	7
Harare	Chitungwiza	Ward16_Urban	7
Harare	Chitungwiza	Ward17_Urban	7
Harare	Chitungwiza	Ward19_Urban	7
Harare	Chitungwiza	Ward20_Urban	7
Harare	Epworth	Ward1_Urban	7
Harare	Epworth	Ward2_Urban	7
Harare	Epworth	Ward3_Urban	7
Mashonaland East	Wedza District	Ward12_Rural	7
Mashonaland East	Marondera	Ward10_Urban	7
Mashonaland East	Marondera	Ward13_Rural	7
Mashonaland East	Murewa	Ward13_Rural	7
Mashonaland East	Murewa	Ward24_Rural	7
Mashonaland East	Mutoko	Ward19_Rural	7
Mashonaland East	UMP	Ward16_Rural	7
Mashonaland East	UMP	Ward17_Rural	7
Matabeleland South	Beitbridge	Ward4_Urban	7
Matabeleland South	Beitbridge	Ward5_Urban	7
Matabeleland South	Beitbridge	Ward14_Rural	7
Matabeleland South	Gwanda	Ward1_Urban	7
Matabeleland South	Gwanda	Ward8_Urban	7
Mashonaland West	Chegutu	Ward28_Rural	7
Mashonaland West	Chegutu	Ward4_Urban	7
Mashonaland West	Chegutu	Ward12_Urban	7
Mashonaland West	Chegutu	Ward26_Rural	7

Province	District	Ward	Priority Index
Mashonaland West	Chegutu	Ward2_Urban	7
Mashonaland West	Kariba	Ward2_Urban	7
Mashonaland West	Makonde	Ward4_Urban	7
Mashonaland West	Sanyati	Ward12_Urban	7
Mashonaland West	Sanyati	Ward14_Urban	7
Mashonaland West	Sanyati	Ward4_Urban	7
Mashonaland West	Sanyati	Ward5_Urban	7
Mashonaland West	Sanyati	Ward6_Urban	7
Mashonaland West	Sanyati	Ward9_Urban	7
Mashonaland West	Sanyati	Ward13_Urban	7
Mashonaland Central	Mazowe	Ward18_Rural	7
Mashonaland Central	Bindura	Ward21_Rural	7
Mashonaland Central	Bindura Urban	Ward1_Urban	7
Mashonaland Central	Bindura Urban	Ward3_Urban	7
Mashonaland Central	Rushinga	Ward18_Rural	7
Mashonaland Central	Rushinga	Ward25_Rural	7
Mashonaland Central	Shamva	Ward11_Rural	7
Mashonaland Central	Shamva	Ward24_Urban	7
Mashonaland Central	Mbire	Ward2_Rural	7
Mashonaland Central	Mbire	Ward11_Rural	7
Mashonaland Central	Mbire	Ward15_Rural	7
Mashonaland Central	Mt Darwin	Ward22_Rural	7
Mashonaland Central	Mt Darwin	Ward23_Rural	7
Mashonaland Central	Mt Darwin	Ward24_Rural	7
Mashonaland Central	Centenary	Ward23_Rural	7
Manicaland	Buhera	Ward6_Rural	7
Manicaland	Buhera	Ward9_Rural	7
Manicaland	Buhera	Ward10_Rural	7
Manicaland	Buhera	Ward13_Rural	7
Manicaland	Buhera	Ward24_Rural	7
Manicaland	Buhera	Ward25_Rural	7
Manicaland	Buhera	Ward27_Rural	7
Manicaland	Buhera	Ward29_Rural	7
Manicaland	Chipinge	Ward20_Rural	7
Manicaland	Makoni	Ward31_Rural	7
Manicaland	Mutare	Ward1_Rural	7
Manicaland	Mutare	Ward3_Rural	7
Manicaland	Mutare	Ward20_Rural	7
Manicaland	Mutare	Ward29_Rural	7
Manicaland	Mutasa	Ward24_Rural	7
Manicaland	Mutasa	Ward30_Rural	7

Province	District	Ward	Priority Index
Manicaland	Nyanga	Ward3_Rural	7

The PAMIs (Priority index ≥7) represent 23.0% of the total population covering approximately 3.5 million people at risk of cholera. The 276 wards identified as PAMIs have been identified to have increased risk for cholera transmission. Wards with Moderate and Low risk must also be monitored closely for continued cholera prevention activities to ensure that the next iteration of the PAMI identification process will not result in additions to this final list.
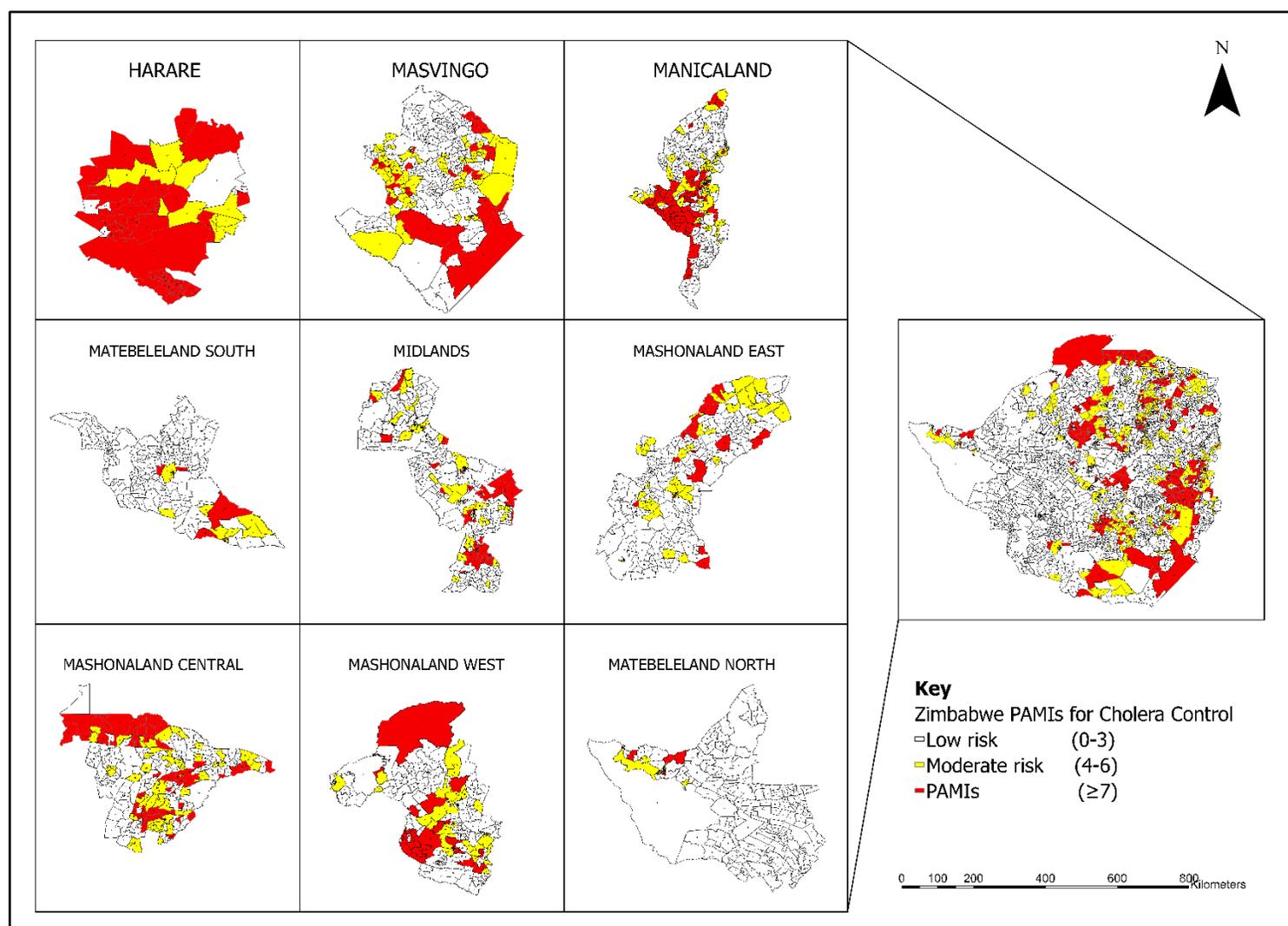

Figure 6. Priority Areas for Multi-Sectoral Intervention by province

Limitation to the findings

- Surveillance limitations, particularly concerning mortality, may lead to an underestimation of actual cholera cases and deaths, especially within communities.

Chapter 4: Recommendations and Way Forward

The statistics demonstrate a notable rise in high-risk wards, emphasizing the urgency for a reinforcement of strategic shift in cholera control measures to avert further escalation. In Zimbabwe, if cholera control strategies are not intensified, the situation may worsen, exposing more communities. To address this, key recommendations and a roadmap for sustainable cholera prevention and control have been proposed.

Cholera data analysis was a comprehensive data collection effort, which leveraged manual data gathering through desk review using DHIS2 and health facility registers. The collection of data focused on an eight-year period from 2018 to June 2025 from 1910 wards. The approach will enable targeted interventions to combat cholera effectively across the country's various wards.

Challenges

1. Staff attrition and inadequate supplies, affecting effective cholera prevention and control measures.

2. Limited assessment of environmental factors such as climate variability, flood risk, or drought impact, which are known to influence cholera outbreaks.

3. Suboptimal performance in cholera testing during outbreaks, thereby limiting data-driven decision-making

Recommendations

Table 14. Zimbabwe Priority Actions for Cholera Control

Prioritized Action	Responsible person	Timelines
Develop WASH infrastructure investment plan for increased funding.	National Action Committee	December 2025
Engage High political leadership to increase their involvement in cholera control efforts	Honourable Minister for Health	July 2025
Apply for preventive OCV campaigns	EPI Unit	January 2026
Strengthen cross-border collaboration and coordination	IHR NFP	December 2025
Train RRT in early detection and rapid response with effective use of Event-Based Surveillance (EBS), Community-Based Surveillance (CBS) and cross-border alerts	EDC	December 2025
Integrate the DHIS2 and LIMS Testing and dissemination of results from the Laboratory to the Health Information Unit level for informed decision-making.	District Laboratory	Immediate
Research on cholera innovations and technologies at household level	NIHR	Ongoing
Conduct RCCE pre-season cholera campaigns	RCCE pillar Lead	September 2025
Review and update the Cholera control plan	EDC	December 2025

Way-forward

1. The PAMIs dissemination to all stakeholders for use when planning Cholera control interventions in Zimbabwe.
2. Develop a multi- year plan of Action for preventive OCV campaigns.
3. The MoHCC and stakeholders should use the PAMIS in the development/updating National Cholera Control Plan
4. IDSR system should continue to be used to investigate and respond to cholera outbreaks regardless of the PAMIs

Conclusion

The exercise's broad objective was to identify Priority Areas for Multi-Sectoral Interventions (PAMIs) for cholera control in Zimbabwe. Through a comprehensive analysis of cholera data and vulnerability factors, a total of 276 PAMIs were identified with an index score of 7 or higher. Continuous monitoring of moderate and low-risk wards is essential to prevent their future inclusion in this high-priority list, ensuring the sustained effectiveness of our national cholera prevention activities.