



Republic of Zambia
Ministry of Health



2022

ANNUAL PROGRESS REPORT



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Acronyms









AFENET	Africa Field Epidemiology Network
CDC	Center for Disease Control and Prevention
EHCO	Emergency
e-IDSR	Electronic Integrated Disease Surveillance and Response
EVD	Ebola Virus Disease
FETP	Field Epidemiology Training Program
GHC	Global Health Corps
IDSR	Integrated Disease Surveillance and Response
MOH	Ministry of Health
NHRA	National Health Research Authority
PHEOC	Public Health Emergency Operation Centre
RCC	Region Collaboration Center
TEPHINET	Training Programs in Epidemiology and Public Health Intervention Network
WHO	World Health Organization
UNICEF	United Nations International Children's Emergency Fund
UNZA	University of Zambia
ZCERHSP	Zambia COVID-19 Emergency Response and Health Systems Preparedness
ZNPHI	Zambia National Public Health Institute

ZNPHI Profile

Zambia National Public Health Institute was established in accordance with the ZNPHI Act No. 19 of 2020 which mandates the ZNPHI Board to approve policies, programs, and strategies of the Institute. As a specialized technical institution, the ZNPHI is mandated to lead in safeguarding Zambia's health security through surveillance and disease intelligence systems, emergency preparedness and response capabilities, specialized laboratory systems and networks, health information management systems, health security workforce development, and generation of scientific evidence through research. Additionally, ZNPHI anchors Zambia's designated role as the host of the Africa CDC Regional Collaborating Center (RCC) for Southern Africa.



<p>Mandate</p>  <p>To lead safeguarding Zambia's health security through Surveillance and disease intelligence systems, Emergency preparedness and response capabilities, Specialized laboratory systems and networks, Health information management systems, Health security workforce development, Communication and generation of scientific evidence through research.</p>	<p>Vision</p>  <p>To be a centre of excellence in public health security for a health Zambia.</p> <p>Mission</p>  <p>To coordinate Public Health Security in Zambia by ensuring robust surveillance systems, effective preparedness, and emergency response mechanisms to support evidence-based decision making.</p>
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CORE OBJECTIVES	
<ol style="list-style-type: none">  Establish and maintain early warning and response surveillance platforms to address all health threats and health emergencies and natural disasters in a timely and effective manner  Support and/or conduct hazard mapping and risk assessments for districts  Support districts in health emergency responses  Support health promotion and disease prevention through health systems strengthening by addressing infectious and non-communicable diseases, injuries, environmental health and Neglected Tropical Diseases (NTDs) 	<ol style="list-style-type: none">  Harmonize disease control and prevention policies and the surveillance systems in the country  Provide an integrated platform for information collection, collation and dissemination  Evaluate and integrate information to determine Zambia's population health status, set priorities, and suggest evidence-based interventions  Support public health capacity-building through medium and long-term field epidemiology and laboratory training programs



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FOREWORD

The Zambian National Public Health Institute (ZNPHI) was established to bridge the gaps and strengthen Zambia's public health system. The ZNPHI serves as the lead in disease surveillance and intelligence in disease response to outbreaks and other occurrences of public health importance, establishing and running a network of public laboratories that will serve the nation and help set the national public health research agenda. These functions feed into the Ministry of Health to allow the Ministry to translate public health security data into effective action.

In 2022, the ZNPHI engaged various interventions which included building capacities in the country to detect and respond quickly and effectively to disease threats and outbreak. The ZNPHI was instrumental in coordinating activities and interventions that mitigated the COVID-19 outbreak. The ZNPHI also coordinated multispectral response to outbreaks using the Incidence Management Systems as well as the National Epidemic Preparedness, Prevention, Control and Management Committee.

It is my expectation that ZNPHI in 2023 will seek to maintain the momentum of 2022 in the implementation of high-impact interventions that will contribute towards the attainment of the public health security targets in the Eighth National Development Plan, National Health Strategic Plan and ZNPHI 2022-2026 Strategic Plan. The ZNPHI will also continue to strengthen partnership engagement, multisectoral coordination and effectively utilize resources mobilized for public health security purposes.



Prof. Peter Mwaba
Board Chairperson
ZAMBIA NATIONAL PUBLIC HEALTH INSTITUTE

ACKNOWLEDGEMENT

The ZNPHI 2022 progress report was generated through inclusiveness and dedicated efforts by different departments, units and individuals who contributed by sharing their time and information on the key interventions and activities that were implemented in the year under review.

I would like to take this opportunity to thank all departments and units for their dedication in outlining the ZNPHI performance and particularly the Strategic Planning and Information Management Department for coordinating the process.

I would also like to thank all our cooperating partners for the financial and technical support offered to ZNPHI in 2022.

It's my expectation, that this report shall provide the needed inspiration and stir innovativeness in the implementation of identified interventions to address the challenges that affect the enhancement of Public Health Security.



Prof Roma Chilengi
Director General
ZAMBIA NATIONAL PUBLIC HEALTH INSTITUTE

ZNPHI BOARD MEMBERS



Prof. Peter Mwaba
Chairperson



Ms. Chibbonta Bubala
Vice Chairperson



Dr Martha Chakulimba
Member



Dr. Izukanji Sikazwe
Member



Dr Geoffrey Muuka
Member



Ms. Doreen M Chomba
Member



Ms. Simumba Flora
Member

Composition of the ZNPHI Main Board

In accordance with Section 5 (1) of the Zambia National Public Health Institute No. 19 of 2020, the ZNPHI board is composed of the following members.

S/N	Name	Institution	Provisions of the Act in Section 5 (1)	Position on Board
1	Prof Peter Mwaba	Zambia Medicines & Medical Supplies Agency	A representative of a public health institute	Chairperson
2	Ms. Bubala Chibbonta	Ministry of Justice	Attorney-General	Vice-chairperson
3	Ms. Doreen Chomba	Ministry of Agriculture	Ministry responsible for agriculture	Member
4	Dr. Izukanji Sikazwe	Centre for Infectious Disease Research (CIDRZ)	A person with relevant knowledge and experience in public health or a related field	Member
5	Dr. Geoffrey Muuka	Ministry of Fisheries & Livestock	Ministry responsible for animal health	Member
6	Dr. Martha Chakulimba	Occupational and Safety Health Institute	A representative of the Occupational Health and Safety Institute	Member
7	Ms. Flora Simumba	Ministry of Water	Ministry responsible for water, sanitation, and environmental protection	Member

ZNPHI SENIOR MANAGEMENT TEAM



Prof Roma Chilengi
Director General



Dr Muzala Kapina
Director SDI



Prof Nathan
Kapata Director
EPR



Dr Kunda Musonda
Director NPHLS



Dr Nyambe
Sinyange
Director FEP



Ms. Mazyanga
Liwewe
Director PHPDC



Ms. Chitamba Martha
Manager-Finance



Ms. Mulando Lengwe
Manager-Procurement



Mr. Muzuma Steven
Manager-Internal Audit



Mr. Phiri Timothy
Manager-HR & Admin



Mr. Dindi Miyoba
Program Director
ZNPHI/CDC CoAg



Dr. Joseph Nikisi
Project Coordinator
ACDCP & ZCERHSP

1.0 Introduction

The ZNPHI is committed to ensuring that its vision, mission and mandate of coordinating the implementation of public health security interventions are accomplished. To the attainment of its mandate, the ZNPHI has provided strategic direction and high impact interventions in its five-year strategic plan (2022-2026) which is in line with the National Health Strategic Plan. The Institute's Strategic Plan is implemented annually using Medium Term Expenditure Framework Plans. The annual plan is developed with realistic targets and schedule of activities linked to the strategic plan. The annual planning process involves utilization of technics and approaches such as situation analysis, prioritization of activities, activity scheduling and activity costing.

1.1 Emerging Issues and New Approaches

The uncertainty and unpredictability associated with occurrence of disease outbreaks and emergencies calls alertness and tact in preparing and responding to outbreak. The ZNPHI as an institute mandated to spearhead preparedness and response to disease outbreaks and emergence has put in place early warning systems that aid the response to emerging and re-emerging disease outbreaks. In planning for 2022, the ZNPHI anticipated the following emerging issues and proposed approaches to address the issues as follows.

Emerging Issue	New Approach
Increasing public health threats and research needs	Establishment of the ZNPHRL
Emergence of new SARS-CoV-2 variants	Genomic Sequencing capacity development
COVID-19 Data repository	Mobile & web-based DHIS2
Spike in confirmed COVID-19 cases in learning institutions	Establish COVID-19 School surveillance
COVID-19 pandemic ongoing	Use of electronic tools for data capture and transmission Monitoring and contact tracing by call centre
Increase in suspected community and facility COVID-19 deaths.	Strengthen and sustain mortality surveillance.
Inadequate collaboration with other key sectors such as animal, environment.	Strengthen IDSR in One health concept

Emerging Issue	New Approach
Insufficient roll out of IDSR and EBS at subnational levels	IDSR in Disaster risk management and EBS/ community-based surveillance
Frontline FETP	<ul style="list-style-type: none"> Decentralized training by employing provincial field mentors and coordinators. Train six cohorts per year Employed a national coordinator for frontline FETP.
Advanced FETP	<ul style="list-style-type: none"> Prepare the program for accreditation. Employed a coordinator for Advanced FETP Recruited an international resident.
COVID-19 Trainings	Online training
COVID-19 Data management	DHIS2 COVID-19 Data Capture/ tracker

Table 1.1.1: Table showing emerging issues and proposed approaches.

1.2 ZNPHI 2022 Key Focus Area

The 2022 focus areas were identified based on the situation analysis findings for the previous financial years. The situation analysis findings highlight gaps and weakness in the provision of public health security interventions. To address the gaps identified and strengthen public health security the ZNPHI came up with the following focus areas.

Department/Pillar	Focus Area	Level of Implementation
SDI	Roll out IDSR 3 rd Edition. <ul style="list-style-type: none"> Trainings Distribution of guidelines and IDSR Tools 	District, Health facility and community levels
SDI	Event Based Surveillance System <ul style="list-style-type: none"> Trainings Purchase of ICT Equipment- (Computers and Tablets/Phones) 	National, Provincial, District, Health Facility & Community
SDI	Electronic IDSR System <ul style="list-style-type: none"> Trainings/Technical Support Purchase of ICT Equipment Internet support- (Bundles and gadgets) 	National, Provincial, District, Health Facility & Community
SDI	Conduct IDSR data quality audits and review meetings.	Provincial District & Health Facilities

Department/Pillar	Focus Area	Level of Implementation
SDI	Cross-border Surveillance	Provincial, District
SDI	Strengthen surveillance technical working groups for all surveillance functions.	National, Provincial, District, Health Facility
EPR	Outbreak response and investigation	National, Province and District
EPR	Rapid Response Teams <ul style="list-style-type: none"> Establishment of RRTs where they don't exist. Strengthening existing RRTs through trainings/mentorship 	Provincial, District
EPR	Incident Management System <ul style="list-style-type: none"> Establishment of IMS Strengthening IMS through training/mentorship 	National, Provincial & District
EPR	Epidemic Preparedness and Response Committee <ul style="list-style-type: none"> Establishment of EPRC where they don't exist. Strengthening existing EPRC 	National, Provincial & District
EPR	Establish Multisectoral Cholera Elimination Task Force at Province and hotspot districts.	Province and Districts
EPR	Strengthen cholera Diagnostics and case management in cholera hotspots.	Provincial and District
EPR	Establish an effective Acute Watery Diarrhea (AWD) surveillance system in all districts.	Districts
EPR	Set up WASH committees at district to spearhead implementation of WASH at Community and Health facility level.	Health Facility and Community
EPR	Cholera Vaccination in Hot spot districts	District & Health Facilities

Department/Pillar	Focus Area	Level of Implementation
EPR	Development of statutory instruments for the ZNPHI No. 19 Act of 2020	National
FEP	Frontline FETP <ul style="list-style-type: none"> In the next 3 Year, each district should target to have at least 5 trained FETP Frontline 	Provincial, District & Health Facilities
NPHLS	ZNPHRL <ul style="list-style-type: none"> Expand range of techniques for diagnosis and characterisation of pathogens of public health importance Expand research participation & collaboration. Establish a biobank. 	National and Provincial
NPHLS	Mentorship Continue at subnational level in Microbiology, QMS, Biosafety & Biosecurity	Provinces, District & Facility
NPHLS	Implementation of the AMR National Action Plan <ul style="list-style-type: none"> Expand partnerships 	Provincial, District & Facility
NPHLS	Sample courier and management <ul style="list-style-type: none"> Plan for transportation of samples-(Measles, COVID-19, AFP) 	Provincial, District & Facility
SPIM	Development of the ZNPHI 2022-2026 Strategic Plan and Structure	National
ACDCP	Implementation of the ACDCP WB Project <ul style="list-style-type: none"> Construction of the BSL3 Laboratory Strengthening of surveillance function 	National, Province, Districts and Health Facility
ZCERHSPP	Implementation of the COVID-19 WB Project <ul style="list-style-type: none"> Cases Management Strengthening COVID-19 Response COVID-19 to move to district level. 	National, Province, Districts and Health Facility

Department/Pillar	Focus Area	Level of Implementation
PHPDC	ZNPHI Legal framework Stakeholder engagements and sensitization	National, Province, Districts and Health Facility
PHPDC	Rollout the Extension for Community Healthcare Outcomes- (ECHO) <ul style="list-style-type: none"> • Trainings • Identification of ECHO Focal point person • Internet Support- (Bundles and Internet gadgets) 	National
PHPDC	Strengthen public health security information management and communication.	Provincial, District & Facility
PHPDC	Health Press and Situation Reports Production	National
PHPDC	Set up of call centers.	Provincial, District
PHPDC	Set up the One Health Public health security data repository.	National

Table 1.2.1.: Focus areas to address the gaps identified and strengthen public health security.

This annual report highlights key activities undertaken by ZNPHI from 1st January to 31st December 2022. The ZNPHI 2022 Action plan was the basis for ZNPHI works' during the period under review. This report endeavours to showcase the progress made in addressing the emerging issues by implementing new approaches set for the year 2022 as well as implementation status of the key focus areas outlined in the Annual plan. The report furthermore highlights the challenges encountered and proposed recommendations and concludes with the financial report for the year 2022. The key activities of the Institute were implemented by the seven strategic pillars shown in the image below.



THE 7 PILLARS OF ZNPHI

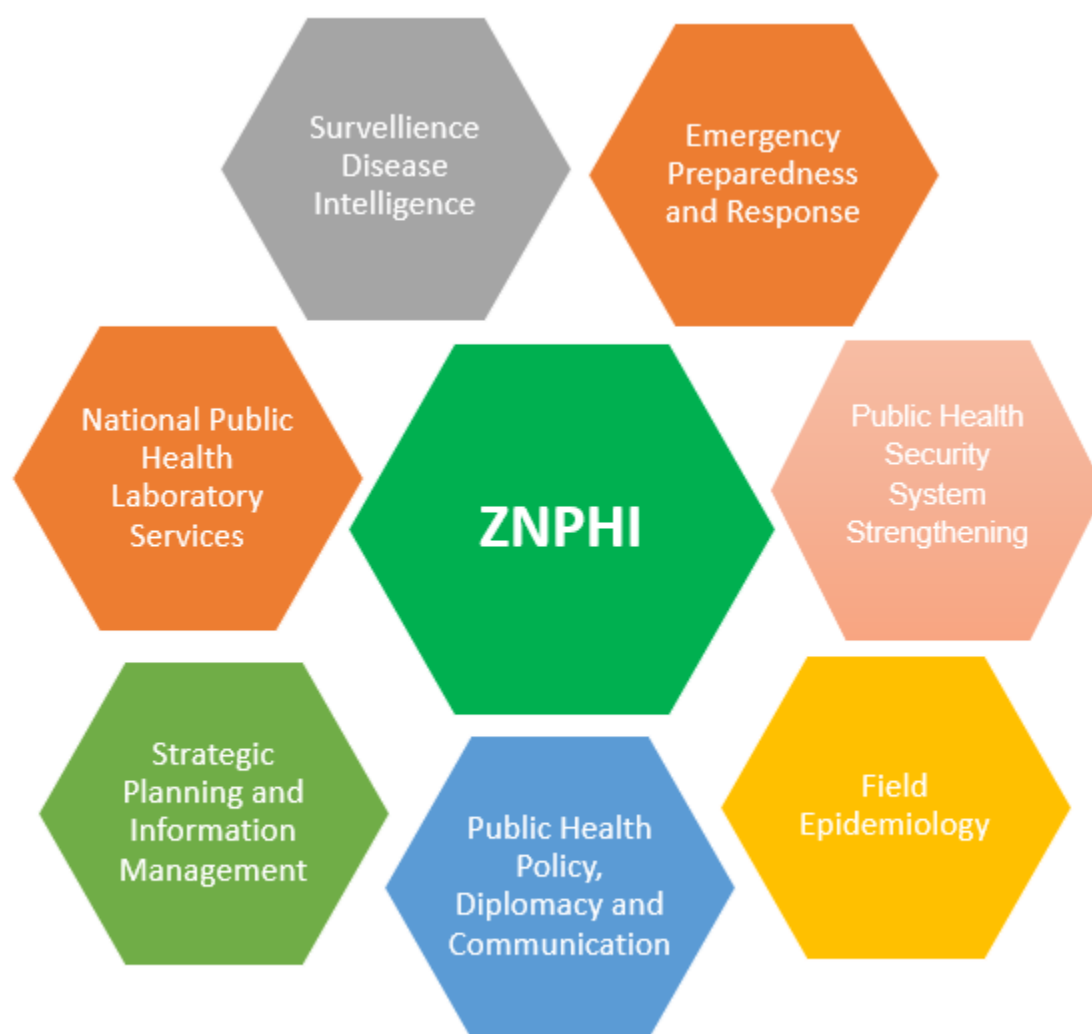


Figure 1.1.1 Table showing the 7 pillars of ZNPHI.

2.0 Surveillance and Disease Intelligence

Surveillance and Disease Intelligence (SDI) department is mandated to ensuring early detection and reporting of potential health threats, notifiable diseases, public health events and changes in epidemiological trends through the timely collection, analysis, and dissemination of data for action. The aim is to strengthen and equip the national surveillance system to generate timely, high-quality data about all nationally notifiable and priority diseases. In the period under review the department had conducted the following activities.

2.1 Key Achievements

- Detected and reported various outbreaks including polio, measles, and cholera in various provinces in the country.
- Provided technical support and mentorship in EBS and Integrated Disease Surveillance Response (IDSR) to 10 provinces (54 districts).
- Provided on-site training to health workers in selected district of all provinces in Active case search for vaccine-preventable diseases.
- Held Data review meetings with provincial surveillance officers.
- COVID-19 Point of Entry Surveillance (Border Health): An exploratory assessment of emergency preparedness plans, POE systems, and planned interventions to prevent, detect, and respond to public health events in Zambia.
- Orientation of provinces on the Development of the Emergency Preparedness Plan and COVID-19 Tracker in DHIS2 at POEs
- Development of One health strategic document to guide One Health activities.
- Acute Flaccid Paralysis (AFP) / Poliomyelitis training of Health care workers in Copperbelt, Western and Southern Provinces.
- Inaugural meeting of Mortality Surveillance Technical Committee to strengthen mortality surveillance activities.
- Developed and printed Event Based Surveillance (EBS) guidelines.
- Produced and disseminated weekly epidemiological bulletin on public Health threats.



Figure 2.1.1: ZNPHI team after the training in EMS



Figure 2.1.2: VPD training Copperbelt Province

2.2 Constraints

- Inadequate staffing levels in the department.
- Delayed approval process for requests
- Long process of procuring equipment
- Some funding lines and budgets were not available/haven't been approved.
- Public health events and outbreaks had overshadowed some planned activities.
- as the response has been prioritized.
- Cabinet authority to travel had stalled the implementation of several activities.

2.3 Recommendations

- Lobby for increased staffing in the department and lobby for district surveillance officers to be officially appointed by PSMD.
- Accounts to notify clusters once resources are available from the different funding lines.
- Institute to seek for waiver from cabinet to travel and implement activities outside the district.

3.0 Epidemic Preparedness and Response

Emergency Preparedness and Response (EPR) department is mandated to enhance the public health security of the country by being “Ready to Respond and Recover” from all public health events of concern.

3.1 Key Achievements

- Above 100% coverage of the target population was vaccinated with OCV.
- Finalization and adaptation of the national all-hazards multispectral.
- Responded to measles outbreaks in various parts of the country.
- Training of staff in eastern province in terms of preparedness for the threat of cholera due to the outbreak in neighboring Malawi.
- Responded to suspected anthrax outbreak in Sioma, Western Province.
- Developed EVD & Cholera Contingency plans.
- Responded to Scabies outbreak in all the 10 Provinces.
- Responded to mumps outbreak in Lusaka & Western Province.

3.2 Constraints

- Delayed clearance of “no objection” for the world bank supported programs.
- Insufficient financial and technical support for field staff that were responding to the COVID-19 pandemic at the sub-national level.

3.3 Recommendations

- Consider doing away with the process of requesting “no objection” from the World Bank for every activity before implementation since the annual workplan is already approved by the world bank.

4.0 National Public Health Laboratory Services

The main function of the National Public Health Laboratory Service (NPHLS) department is to develop an effective, fit-for-purpose public health laboratory system that encompasses a network of laboratories. This is essential to provide specialized capabilities for the detection, prevention, control and response to diseases, public health threats and events of public health significance. Actualizing this entails the establishment of an adequately resourced dedicated national public health reference laboratory with appropriate infrastructure, equipment, and competent staff. The reference laboratory will serve as the 'Apex' laboratory in a multisectoral network of public health laboratories and institutions. In addition to establishing dedicated public health laboratories, efforts will continue to strengthen the capacity (human resource, equipment, systems, practices of existing clinical laboratories, animal health sector laboratories, research laboratories and other participating entities. Based on their competencies and comparative advantage, these existing laboratories are recognized as a key component to enable the Reduce the threat of antimicrobial resistance (AMR) and stem its spread.

4.1 Key Achievements

- Mobilised equipment and infrastructure upgrade at ZNPHRL.
- Mobilised incinerator for ZNPHRL.
- Sustained ZNPHRL operations and activated new units (GS, Microbiology).
- >120,000 samples stored in a biobank so far.
- Deployed mobile lab to Eastern Provincial Genomic Sequencing.
- Obtained USD292,000 grant from Africa PGI for Genomic Sequencing enhancement at ZNPHRL.
- Secured \$1.1M grant under ICARS for AMR work in the human health sector.
- Expanded AMR surveillance sites from 12 to 13.
- Conducted GLASS supervisory visits to existing mentorship program laboratories.
- Conducted Mentorship in Microbiology at Lewanika General Hospital Laboratory, Chipata Hospital Laboratory and Livingstone General Hospital Laboratory.
- Conducted training in use of WHONET for ZNPHRL.
- Conducted laboratory testing for suspected Monkey pox.

- Conduct baseline assessment of BSL-2 laboratories targeted for support (Chinsali, Kasama, Mansa, Eastern, Western, Southern and Lusaka Districts).
- Continued to sequence SARS-COV-2 samples from 2020 and 2021 from selected districts.
- Developed a multi pathogen genomic surveillance strategy, with support from Africa PGI.
- Conducted Quality Management System (QMS) capacity building at subnational level.
- Developed TORs for the One Health public health laboratory network (OHLabNet).

4.2 Constraint

- Inadequate permanent human resource, as most laboratory staff were interns and volunteers.

4.3 Recommendations

- Lobby for increased staffing in the department and lobby for laboratory officers to be officially appointed by PSMD.

5.0 Strategic Planning and Information Management

The Strategic Planning and Information Management department is mandated to plan, design, monitor, coordinate and implement information management activities around all Hazard of Public Health Emergencies and Epidemic Preparedness. To actualize the tasks, the department has four areas of focus: strategic public health planning, information management, public health research and monitoring and evaluation.

5.1 Key Achievements

- Offered onsite Technical Support to 32 district surveillance officers in eIDSR and COVID-19 tracker.
- Coordinated the awarding of ZNPHI/CDC cooperative Agreement.
- Conducted an assessment on the COVID-19 tracker rollout in Lusaka, Copperbelt and Southern.
- Distributed 900 tablets to health facilities with support from E4H.
- Procured 12 laptops for provincial surveillance officers.
- Event Management System (EBS) adaptation to Zambia hence surveillance officers were trained in the system at National, Provincial and District level.
- Conducted Data Audit eIDSR in 40 selected districts.
- Conducted a re-orientation of six sub-districts of Lusaka province in the COVID-19 tracker.

5.2 Constraints

- Low reporting rates.
- Insufficient electronic data capturing tools 1000/3000 targeted.
- Staff attrition especially those that report data.
- Delayed submission of inputs (reports,) by clusters when requested.
- Underutilization of the COVID- 19 tracker due to parallel reporting systems.

5.3 Recommendations

- Continue offering TSS to sub national levels.
- Continue lobbying from partners to support towards procurement of electronic reporting tools.
- Need for periodical refresher training to catch up with the change in human resource.
- Harmonize the reporting systems for COVID-19 data.

6.0 Public Health Policy Diplomacy and Communication

The department is responsible for coordinating and managing public health policy, diplomacy, and communication, foster critical relationships with national and international organizations, governments departments, academic and research institutions, and the Ministry of Health using a One Health Approach with the aim to strengthen public health security.

6.1 Key Achievements

- Supported the Covid19 response by providing daily infographics reports and attending to calls from the general public e.g., receipt of alerts and management of myths and miscommunication.
- Distributed ECHO equipment to 29 sites (10 Province and 19 districts)
- Produced public health reports; Press briefs, Parliamentary statements drafted for use by the Ministry of Health high command.
- Managed to secure an active Journal club.
- Social media Platform and campaigns (Twitter, Facebook, LinkedIn) in order disseminate public health threats and responses to communities.
- Conducted a rapid assessment to determine social factors influencing measles prevalence, vaccine hesitancy and immunization coverage in the Mushindamo district.

6.2 Constraints

- Breakdown of call centre equipment (needs upgrade)

6.3 Recommendations

- Upgrade call center equipment
- Increase staffing levels in the department.
- Set up a TWG for Research

7.0 Field Epidemiology

The main function of the department is to facilitate and coordinate the Zambia Field Epidemiology Training Program (Zambia FETP). The FETP aims to strengthen field epidemiology capacity and effectively contribute to addressing epidemics and other major public health problems in Zambia. The Zambia FETP is an applied epidemiology training program designed to strengthen public health capacity within ZNPHI and the Ministry of Health. Zambia is currently running Frontline and Advanced FETP. Frontline FETP's focuses on district-level health security while the Advanced FETP focuses on national level health security, and this mirrors the public health surveillance system in Zambia.

7.1 Key Achievements

- One HSWD Working Group meeting was held with the following main outputs:
 - Working Group Terms of Reference
 - Training database template
- Frontline FETP
 - 19 Frontline FETP residents graduated in the last quarter.
 - 67 Frontline FETP residents are currently in training.
- Trained 4 cohorts (N=83) in Luapula Southern, Eastern & Central provinces
- Advanced FETP
 - 11 Field placement sites visited, including two new sites.
 - 11 epidemiologists completed their field placement on 30 September 2022.
 - Field investigations conducted by A4 Advanced FETP Residents:
 - Mbala Typhoid outbreak
 - Eastern Province COVID 19 increased positivity
 - Chirundu Measles Outbreak
 - DHIS2 COVID 19 tracker assessment
 - SARI Surveillance Analysis
 - COVID 19 Mortality surveillance
 - Lusaka cholera outbreak
 - Mitete acute diarrhea disease outbreak
 - Shibuyunji food borne outbreak.

- Sinazongwe measles outbreak
- Chirundu Schistosomiasis
- Staff skills enhancement conducted:
 - R Training for 12 A5 residents and mentors
 - Environmental Epidemiology training for 21 A4, A5 FETP residents, and mentors
 - Leadership and management training for nine A5 FETP residents
 - Leadership and management training for 20 ZNPHI and ZNPHRL staff
- Revision of the National Multispectral Cholera Elimination Plan



Figure 7.1.1: Polio SIA in selected districts of Zambia, July 2022

7.3 Constraints

- Capacity building involves all clusters, yet budget lines and activities are not embedded in the capacity building cluster.

7.4 Recommendations

- Need to have all capacity building activities in budget line and embedded in the capacity building cluster for ease of implementation.

8.0 Public Health Security System Strengthening

8.1 Human Resource Management

The Human Resource Management (HRM) pillar shall be responsible for managing the Institute's human and other resources to improve organizational performance and ability to effectively detect, assess, report, and respond to public health events. In addition, the pillar shall be responsible for the provision of administrative and logistical support services to enhance smooth operations of the Institute.

8.1.2 Staffing

The availability of adequate human resource is critical for actualizing the ZNPHI Mandate and Vision. In 2022 ZNPHI developed an organizational in line with its mandate and vision. The next steps involve seeking treasury authority to fund the approved structure. For operations and anchoring the vision of establishing the ZNPHI staff from the Ministry of Health have been attached to the institute whilst other staff have been recruited using support from partners. The engagement of Interns has also help in beefing up human resource capacities.

8.1.3 Key Achievement

- Development of the ZNPHI Organization Structure in collaboration with Cabinet Office, Management Development Division
- Normalization of all staff attachments for all staff attached to ZNPHI.
- Conducted Annual Performance Appraisal for all staff at ZNPHI.
- Developed the ZNPHI Transport Policy for onward submission to the Board.
- Provided logistical and operational support services for the effective and efficient functioning of ZNPHI.

8.1.4 Constraints

- Most of the members of staff were not conversant with the procedure to complete the Annual Appraisal Systems (APAS) Forms
- Delay in the formalization of the attachments as there are other stakeholders involved.

8.1.5 Recommendations

- Orient members of staff on the development of Individual and Departmental Work Plans
- Frequent follow ups on submissions made on various human resource cases.

8.2 Africa Centers for Disease Control (Africa CDC) Regional Investment Financing Project

The Africa Centers for Disease Control (Africa CDC) Regional Investment Financing Project (ACDCP) will support vital institutional capacities for measurable functions by the Africa CDC headquarters in Addis Ababa, the SA-RCC in Lusaka, and the Ethiopian and Zambian health authorities. The actions supported by ACDCP are organized under five strategic components: (i) governance, advocacy and operational frameworks; (ii) public health assets; (iii) human resource development; (iv) project management support; and (v) a CERC for Ethiopia and Zambia. In each strategic component, complementary actions by the three implementing bodies the Africa CDC and the Ethiopian and Zambian governments will establish the physical, organizational infrastructure and technical capabilities necessary for the Africa CDC to execute its core functions and lay the groundwork for its continued expansion into a continental health institution. In line with the Africa CDC's operational model, the EPHI and ZNPHI will be the Africa CDC's operational agencies at the country level, and their regional reference laboratories, emergency response centers, data management centers, and surveillance systems will serve as centers of excellence that will pilot regional disease control mechanisms, including the One Health approach. The Project Development Objective is to support Africa CDC to strengthen continental and regional infectious disease detection and response systems.

8.2.1 Key Achievement

- Procured 1500 report books, 1500 registers, 1500 bags, 3000 pens and 500 Guidelines to be utilized by Community Based volunteers.
- IDSR data quality audit was conducted in 30 Districts (3 per province). Transcription and content errors were corrected. Health Facilities and Districts were offered technical support.
- **Conducted Measles Risk Assessment in all 10 Provinces:** On average, there were six high-priority sites, 10 medium-priority sites, and 19 low-priority sites in the province. The Northern Province is still considered a low-risk area for measles because it has remained above the immunization threshold. However, there are many challenges the provinces are facing in measles surveillance. There is low immunization coverage especially in Northwestern, Eastern and western which

have remained <90% coverage for both types of vaccine which could explain recently high number of measles cases in Northwestern province part of Zambia.

- Rolled out Enhanced Community Health Outcomes (ECHO) and trained staff in provinces housing the 15 High Risk Districts. (Central, Eastern, Lusaka, Luapula, Muchinga, North-Western, Southern and Western).

8.2.2 Environment Safeguards

- The World Bank, under this Project, agreed to support the refurbishment of selected BSL2 Laboratories in the country. The first requirement under the Environmental and Social Safeguards is the screening of all the sub projects based on the proposed improvements, to understand significance of impacts that may arise and classify the respective sub projects to low, moderate, or high risks. All the selected BSL2 Laboratories were screened, and currently some of screening reports are under review by the World Bank. All the BSL2 Laboratories screened were found to be either low risk or moderate risk.
- The development of Environmental and Social Management Plans (ESMP) for the respective BSL2 Laboratories commenced during the period under review. This is the final stage before the proposed activities to refurbish the said laboratories could commence. Currently under review by the World Bank are some of the ESMPs prepared for the Low-Risk Sub Projects. The rest of the ESMPs for both low and moderate risk sub projects will be submitted to the WB in the second quarter and immediately after clearance of the first batch.
- Incorporated the Environmental, Health and Safety aspects in the Terms of Reference for the Design and Supervision Consultant.
- Incorporated the Environmental, Health and Safety aspects in the Terms of Reference for the Engineering Procurement Consultant
- Incorporated the Environmental, Health and Safety aspects in the Terms of Reference for the Quality Assurance Consultant.
- Communicated the Environmental, Health and Safety requirements for the construction of the Perimeter Fence, to the bidders during the pre-bid meeting.

8.2.3 Construction Status

- A road map was developed for the construction components of the project. An agreement was reached with the World Bank to include refurbishment of some existing BSL-2 laboratories in the country, and these were also captured in the road map. The construction was broken down into four phases i.e., Phase 0, Phase 1A, Phase 1B and Phase 2. The timelines for these phases include preliminary works such as document preparation all the way up to the end of the defect liability periods.
- Phase 0 captures the preliminary works at the main ZNPHI site in Silverest and includes construction of a perimeter fence and drilling of boreholes. This phase would run from June 2022 to May 2024 (end of defect liability period). The first hand over was expected to have been done by May 2023.
- Phase 1A captures the refurbishment of BSL-2 laboratories around the country. This work began with assessments for selection of laboratories in November 2022 and the first handover for the first facility would be by October 2023.
- Phase1B runs from July 2022 to October 2026. The first hand over is expected in October 2025. This phase is for the construction of the ZNPHI Office complex, PHEOC, ICT centre and training complex.
- Phase 2 is for the construction of the ZNPHI laboratory complex and associated auxiliary buildings. Because of the complexity of this work and the expertise required, it would take significantly longer than the other phases i.e., about 3years to the first handover in June 2027. The pre-design phase begins in December 2022. The construction works are planned to begin in September 2024.

8.2.4 Constraints

- Emerging and re-emerging outbreaks shifting implementation focus.
- Prolonged/delayed procurement processes at MoH
- Prolonged process of approvals for ToRs/Activities (WB)

8.2.5 Recommendations

- Prioritize and sequence activities from the approved AWPB which are included in the procurement plan.
- Bank to expedite approval processes.

8.3 Zambia COVID-19 Emergency Response and Health Systems Preparedness

The Zambia COVID-19 Emergency Response and Health Systems Preparedness (ZCERHSP) Project is co-financed by World Bank's International Development Association (IDA) and the Global Financing Facility for Women, Children and Adolescents (GFF) to support the Government of Zambia's effort to respond to COVID-19 pandemic. The Project is aligned to the updated Government of Zambia's COVID-19 Preparedness and Response Plan (May 2021) aimed at providing emergency financing, technical assistance and build resilient health systems to sustain the provision to essential health services within the context of COVID-19 pandemic control. The Project complements support from other development partners. The actions supported by the (ZCERHSP) are organized under three strategic components: (i) emergency Public Response to COVID-19; (ii) resilient health service delivery; and (iii) project management, operational research and governance and accountability. The Project Development Objective (PDO) is to prevent, detect and respond to the COVID-19 threat in Zambia and strengthen national public health systems for preparedness.

8.3.1 Key Achievements

- Procurement of COVID-19 Vaccine
- Vaccine Deployment: During the review period the project with other partners like WHO, UNICEF and CIDRZ supported two COVID-19 vaccination campaigns undertaken across the country in May 2022 and from October/November 2022, respectively. The project supported the district and provincial micro plans. By end of December 2022, about 79.4% of eligible population was fully vaccinated, thus exceeding 70% Covid-19 vaccination benchmark that was set by WHO for countries to vaccinate their populations and attain herd immunity.
- Procurement of Laboratory Equipment, Reagents for SARS-CoV-2 testing and Genomic Sequencing, Blood Transfusion Commodities, and establishment of provincial blood bank hubs
- Support to POEs, including procurement of scanning equipment.
- Infection prevention and control through procurement of PPEs and maintenance of WASH standards, including HCW management.

- Supporting a decentralized multisectoral response to COVID-19 7) Psychosocial support for project beneficiaries and health service providers

technical support supervision to the provincial and district incident management teams and rapid response teams in COVID-19 Active Case Finding (ACF) in North-western (Solwezi, Kasempa and Kalumbila), Southern (Livingstone and Choma), Lusaka (Lusaka and Kafue) and Eastern (Chipata and Kasenengwa) provinces.



Figure 8.3.1: President Hakainde Hichilema during the celebration of Zambia attaining 70 percent full vaccination against COVID-19 at the State house on 1 November 2022

8.3.2 Constraints

- Closure of the MoH Procurement Unit and appointment of alternative procurement agent, leading to delays in the procurement process for both emergency goods and PIU staff, including evaluation of submitted bids. In April 2022, the Ministry of Health appointed UTH Procurement Unit to undertake the Project's procurements.
- Understaffed PIU leading to challenges in timely coordination of project implementation and reporting. The Project obtained approval from the Controlling Officer at UTH to use the newly constituted ZNPHI Procurement Unit to finalize the recruitment process for Project staff.
- Delays in the review of contracts by Ministry of Justice leading to uncertainties in disbursement projections. The Project identified a liaison officer at the Ministry of Justice for constant engagement.

- Challenges in contract management for issued Local Purchase Orders (LPOs) leading to delays in deliveries, submission of invoices for payment and subsequently disbursements. The Project requested for an internal audit for the procurements at UTH.
- Approval delays by the World Bank due to changes in the Project's Task Team Leader (TTL). The Project continued to implement procurements carried over from 2021 AWPB. A high-level meeting was held between the World Bank, the Ministry of Health and ZNPHI with a view of ironing out implementation bottlenecks by both parties. The World Bank team was led by the Practice Manager, Human Development Department, while the Project team was led by the ZNPHI Director General. It was agreed that due to the delay in approval of the 2022 AWPB, a 3-month (October – December 2022) WPB be submitted for World Bank approval. It was also agreed that the remaining activities be transferred to the 2023 AWPB to be submitted by 31st October 2022.

8.3.3 Recommendations

- Accelerate the assessment of ZNPHI to undertake the procurement process for the World Bank-supported Projects.
- Fast track the recruitment processing for the remaining PIU positions of Internal Auditor, IT Specialist, M&E Officer, Project Accountant, Project Assistant, Driver, and Office Assistant. Engage with Ministry of Justice and involve them in the planning and orientation process.
- Appoint contract managers early in the procurement process.

8.4. Finance

8.4.1 Government Funding

The ZNPHI is a grant aided institution supported by the Ministry of Finance through the budget allocated to the Ministry of Health. The annual grant for the ZNPHI has increased from **3,500,000.00** in 2017 to **K 13,352,524.00** in 2022. The allocated grant currently doesn't cover personnel emoluments. The grant is also used to support Southern Regional Collaboration Centre (SA-RCC) based on the host agreement.

During the period under review the institute received from the Ministry of Finance a total of 13,252,524 representing 100% funding against the annual approved amount. The total annual grant received in 2022 is illustrated in the table below. The quarterly allocation was K 3,313,131 whilst the monthly allocation was K 1,104,377.

Activity	Annual ZMK	Quarterly ZMK	Monthly ZMK
ZNPHI Grant	13,252,524	3,313,131	1,104,377

Table 8.4.1: ZNPHI 2020 Allocation by; Annual, Quarterly and Monthly

8.4.2.1 Grant Expenditure

The expenditure during the financial year ended 31st December 2022 amounted to K 12,849,428.00 representing 97% expenditure against total receipts.

No	Expenditure Category	Expenditure Amount ZMK
1	Administrative Expense	6,535,860
2	Operating Expense	6,114,520
3	Other Expense	199,048
	Total	12,849,428

Table 8.4.2 ZNPHI expenditure allocation (administrative & Operating expenses)

8.4.3 Donor Funding

Financial and expertise support provided by partners remains a key requirement for effective operation and accomplishment of the ZNPHI mandate. In order to preserve the country's health security and also yield high impact results from public health security interventions implemented in the health sector, there is need to enhance partner involvement and coordination in the sector.

8.4.3.1 Donor Fund allocation and Expenditure

Other Donors

A total of K 3,629,667 was received from various cooperating partners during the year under review. In the period under review K 946,043.00 was spent representing 26.06% of the received funding. The funds were received from the following source.

No	Funding Source	Amount ZMK
1	University of Western Cape	513,639
2	African Society for Laboratory Medicine (ASLM)	2,227,783
3	World Health Organization (WHO)	575,400
4	World Health Organization (WHO)	263,845
5	Zambia Medical and Regulatory Authority (ZAMRA)	49,000
	Total	3,629,667

Table 8.4.3.1 Table showing funds and the sources.

ACDCP Project

The actual project expenditure at the end of 2022 was USD 1,998,687.83 against a project budget of USD 5,526,475.20, giving an expenditure rate of 36.17%. There was no expenditure under Component 1 in the period under review. The non-expenditure is due to the lack of tools from Africa CDC which were supported to be adopted and customized in the period under review. The Component 2 total 2022 expenditure was USD 536,763.32 which is 14.00%. The total expenditure under component 3 was 603,135.82 (98.67%) and under Component 4 Project Management, the total expenditure in the review period was USD 858,788.69 against the total budget of USD 1,061,620.72, giving an expenditure rate of 80.89%.

Components	Budgeted Amount (USD)	Amount Spent	Balance	Expenditure Rate
Governance, Advocacy, and Operational Frameworks	20,020.00	-	20,020.00	0%
Public Health Assets	3,833,592.48	536,763.32	3,296,829.16	14.00%
Human Resource Development	611,242.00	603,135.82	8,106.18	98.67%
Project Management	1,061,620.72	858,788.69	202,832.03	80.89%
	5,526,475.20	1,998,687.83	3,527,787.37	36.17%

Table 8.4.3.2 Table showing expenditure for the ACDCP Project

ZCERHSP Project

The actual project expenditure at the end of 2022 was USD 5,696,682.22 against a project budget of USD 27,615,841.02, giving an expenditure rate of 21%. The moderate utilization of the funds was mainly due to the delayed procurements and understaffed PIU unable to undertake critical activities. To expedite implementation, a 3-month budget (October to December 2022) of USD 15,524,462.31 for prioritized activities (including COVID-19 vaccine purchase for USD 9,170,842.31) was approved for implementation and the rest of the activities transferred to the 2023 draft AWPB submitted in October 2022. The Component 1 total expenditure as of 31st December 2022 was USD 150,293, which is 4.5% of the approved component budget of USD 3,503,011. The Resilient Health Service Delivery component's total 2022 expenditure was USD 5,240,417, which is 23.2% of the approved component budget of USD 22,539,923. Under Component 3 Project Management, the total expenditure in the review period was USD 305,972 against the total budget of USD 1,572,907, giving an expenditure rate of 19.5%. There was also a commitment of USD 484,870 for procurement of PIU motor vehicles bringing the total projected expenditure (USD 790,842).

No	Component	Budgeted Amount (USD)	Amount Spent USD	Balance USD	Expenditure Rate
1	Emergency Public Health Response to COVID-19	3,503,011	150,293	3,352,717	4.3%
2	Resilient Health Service Delivery	22,539,923	5,240,417	17,299,506	23.2%
3	Project Management, Operational Research and Governance and Accountability	1,572,907	305,972	1,266,935	19.5%
	Total	27,615,841	5,696,682	21,919,159	20.6%

Table 8.4.3.3 Table showing expenditure if the ZCERHSP Project

9.0 Key Performance Indicators

9.1 IDSR Reporting

The e-IDSR is an electronic data management system of the Zambia National Public Health Institute (ZNPHI) established in 2019. It continuously and systematically collects, analyses, interprets, and utilizes public health data for decision making in order to improve data quality and efficiency (i.e., timeliness of reports, reporting rates).

9.1.1 Reports Completeness

Reports completeness is defined as the number of reports received from health institutions (i.e., health centers and hospitals) during a given period per the number of reports that are expected during the same period. The main purpose of this indicator is to increase the quality and completeness of surveillance data. The national target for report completeness is 80 percent. For the period under review, reports completeness improved from 72% in 2021 to 89.9% in 2022. From 2019 to 2022 Central, Eastern and Southern Province had maintained reaching the national target on reports completeness (highest) with Lusaka being the least. In 2022 most province's reporting rate on completeness was above 80% except for western province which reported 69% and Lusaka province 79% as shown in figure 9.2.1 and 9.2.2

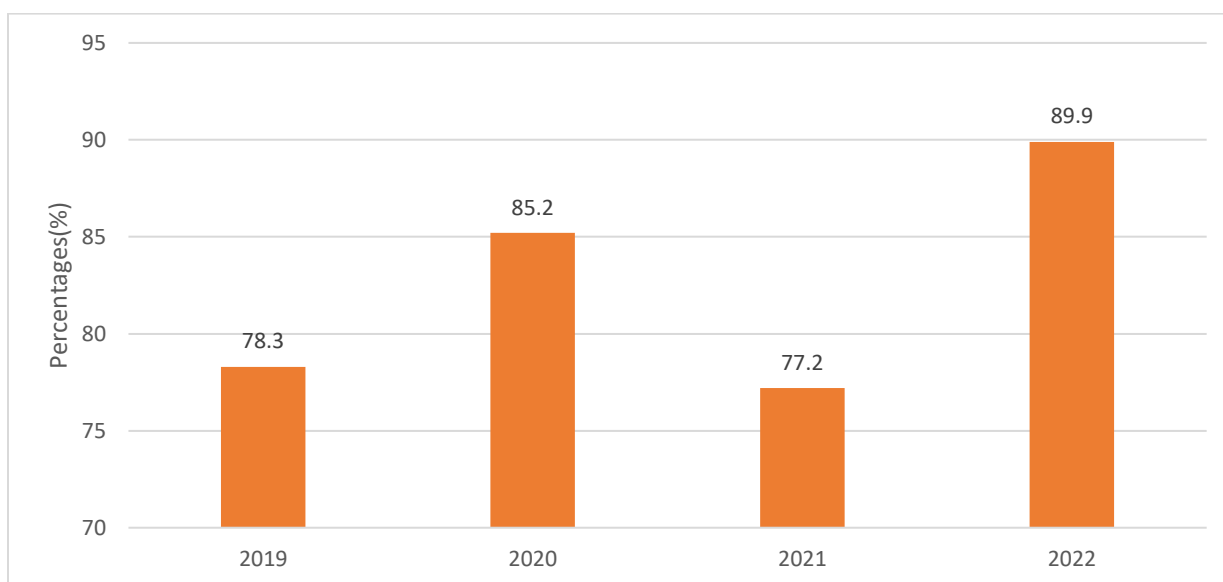


Figure 9.2.1: Showing the reports completeness at national level.

Province	2019	2020	2021	2022
Central	87.1%	93.3%	81.8%	87.3%
Copperbelt	82.9%	71.0%	76.7%	85.8%
Lusaka	66.1%	54.4%	43.7%	79.2%
Eastern	94.7%	93.9%	83.8%	100.0%
Luapula	64.8%	88.7%	94.4%	88.7%
Muchinga	78.2%	93.1%	84.6%	100.0%
Northern	74.4%	92.6%	79.9%	95.8%
North-Western	75.7%	82.2%	73.6%	88.9%
Southern	89.9%	91.2%	87.4%	94.7%
Western	53.5%	80.3%	53.7%	69.1%
Zambia	78.3%	85.2%	77.2%	89.9%

Table 9.1.2: ND2 Annual reporting rate (Completeness)
(Source: eIDSR)

9.1.2 Reporting rate on time

Reporting rate on time means a report is captured in the system within a specified reporting time. Routine surveillance data is required to be entered into the DHIS2 on Monday every week (weekly). This indicator provides a measure of the extent to which data entry staff makes information accessible in a timely manner.

For the period under review, the reporting rate has been improving despite being low from 36.6% in 2019 to 64.5% in 2020. The reporting rate on time reduced to 59.9% in 2021 and this could be attributed to impact of COVID-19, as there was redirection of efforts to mitigate against the disease.' In 2022 the reporting rate increased to 76% although was still below the national target of 80%. In 2022 only Northern, Copperbelt, Southern, Muchinga and Luapula had reached the national target.

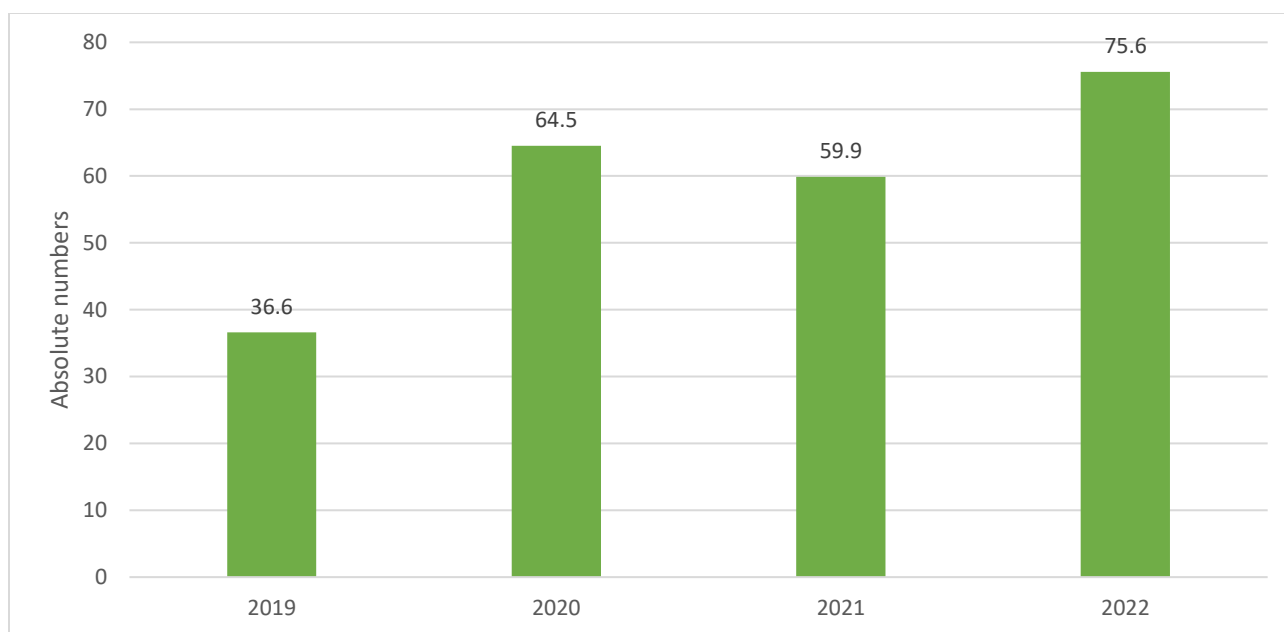


Figure 9.1.2: showing the Country e-IDSR Annual Reporting rate on time from 2019 to 2022.

Province	2019	2020	2021	2022
Central	52.9	70.9	59.2	78.1
Copperbelt	23.7	51.6	56.9	82.2
Lusaka	37.9	42.2	34.9	72.4
Eastern	26.9	67.9	62.7	71.2
Luapula	31.8	61.4	84.8	81
Muchinga	18.2	77.4	68.9	81.2
Northern	41.9	84.5	69.1	88.2
North-Western	51.0	76.5	55.9	70
Southern	53.2	81.7	72.6	81.3
Western	13.1	27.9	27.2	53.5
Zambia	36.3	64.5	59.9	75.6

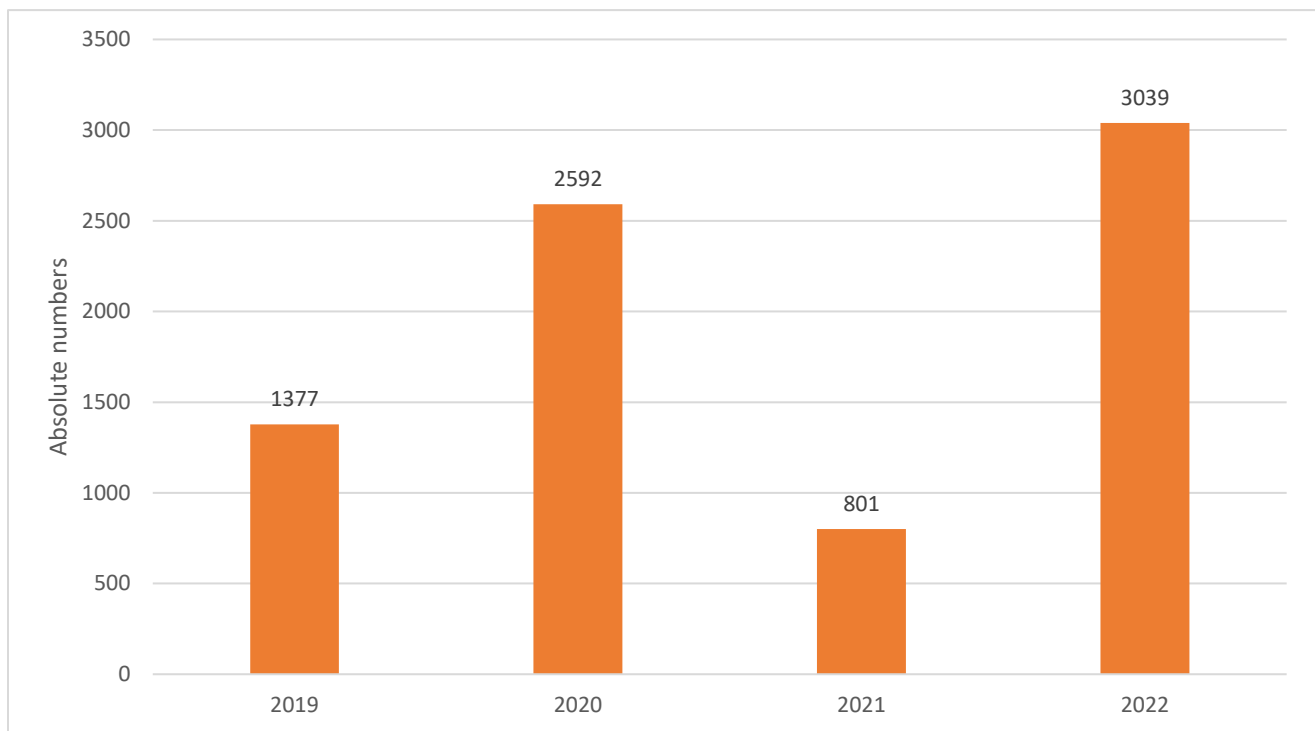
Table 9.1.2: ND2 Annual reporting rate (Reporting rate on time)

9.2. Disease Outbreaks

9.2.1 Measles

There have been outbreaks of Measles in the country. In 2019 Zambia recorded 1377 cases, in 2020 the cases increased further to 2592. In 2021 the cases reduced to 801. In 2022 the measles cases increased from 801 to 3039 covering the whole country with the highest cases being reported in Lusaka (1139) and Muchinga reported the lowest cases (5). The rise in cases is attributed to low immunization coverage and cold chain challenges.

Measles Suspected cases



*Figure 9.2.1: Showing measles confirmed cases in Zambia from 2019-2022
source (e-IDSR)*

Measles suspected cases by Province 2022

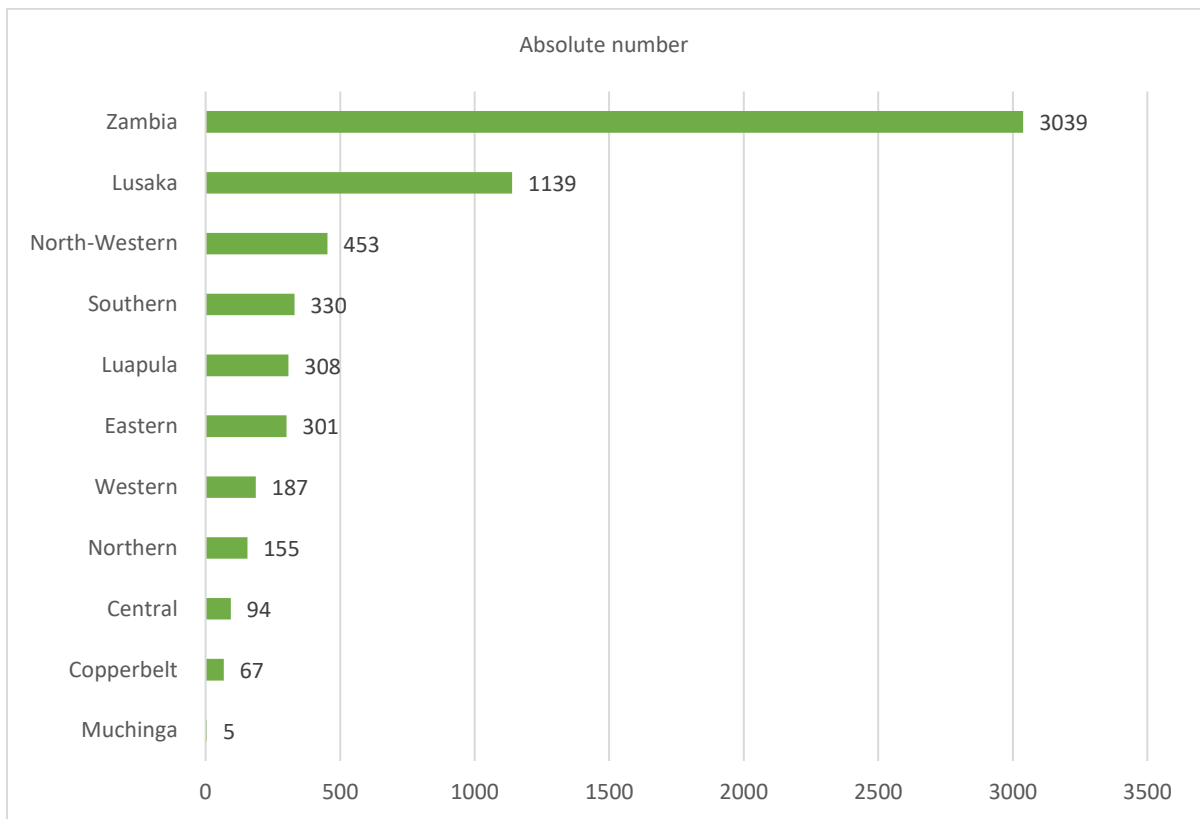


Figure 9.2.2: showing measles suspected cases by province in 2022 (source; e-IDSR)

9.2.2 Mumps

There have been outbreaks of mumps in the country. In 2019 Zambia recorded 19441 cases, in 2020 the mumps cases had reduced from 19441 in 2019 to 9891 in 2020. In 2021 the cases further reduced to 5105. In 2020 the ongoing outbreaks reported 14125 cases with more cases being reported in Southern (3878), Copperbelt (3292), and Lusaka (2697) respectively and lowest cases were reported from Luapula (103) cases. Zambia is currently not offering routine immunization for mumps, and this could be attributed to the rise in the number cases in the country.

Mumps Suspected Cases

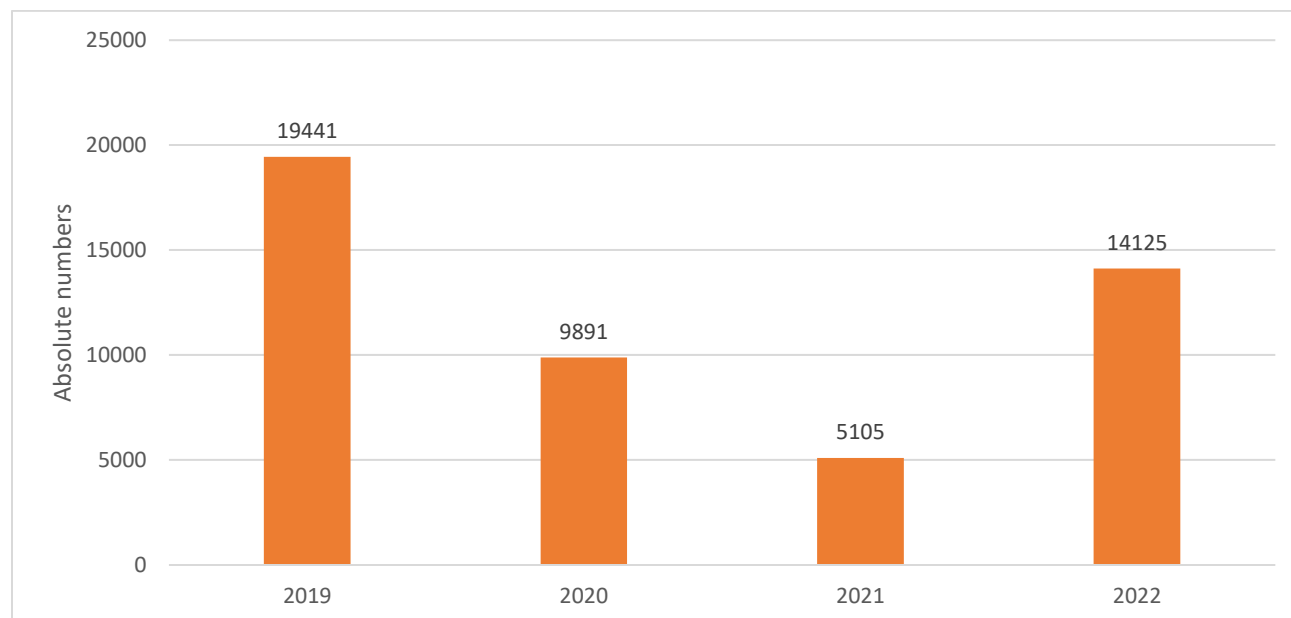


Fig 9.2.2.1 Showing mumps suspected cases in Zambia from 2019-2022 (Source: e-IDSR)

Mumps suspected cases 2020 by Province.

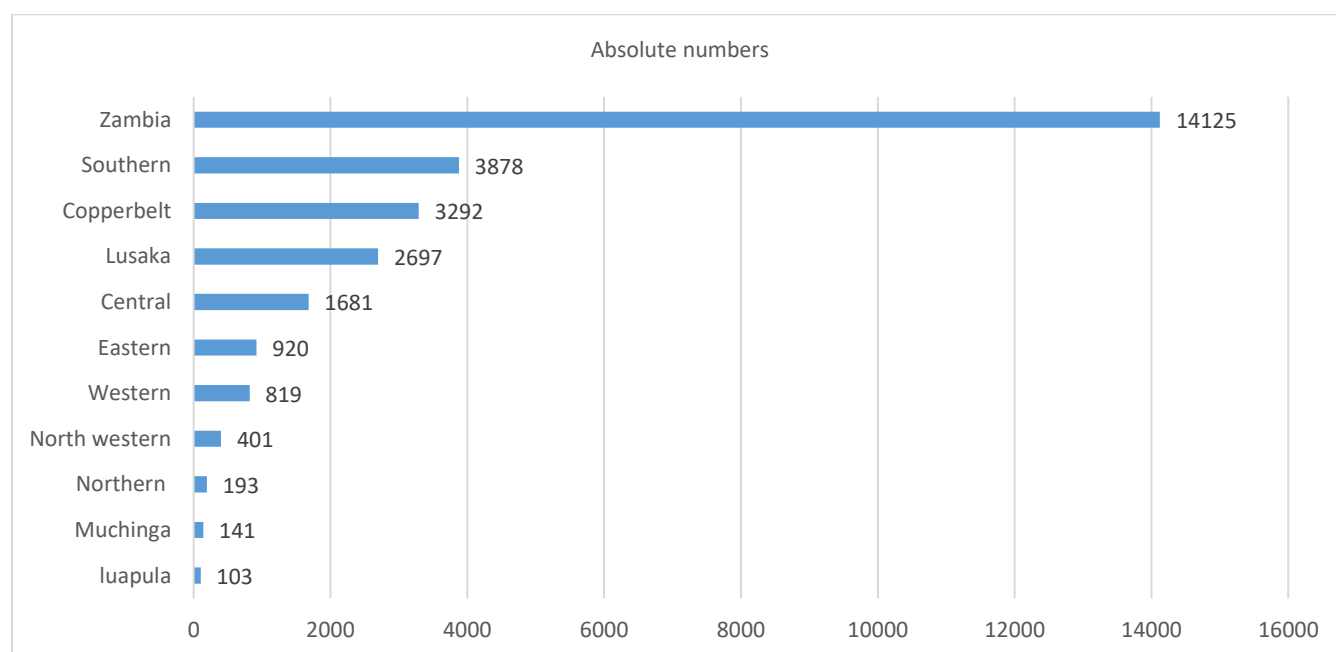


Fig 9.2.2.2 showing mumps suspected cases by province in 2020 (source; e-IDSR)

9.2.3 Scabies

Suspected Scabies in 2022

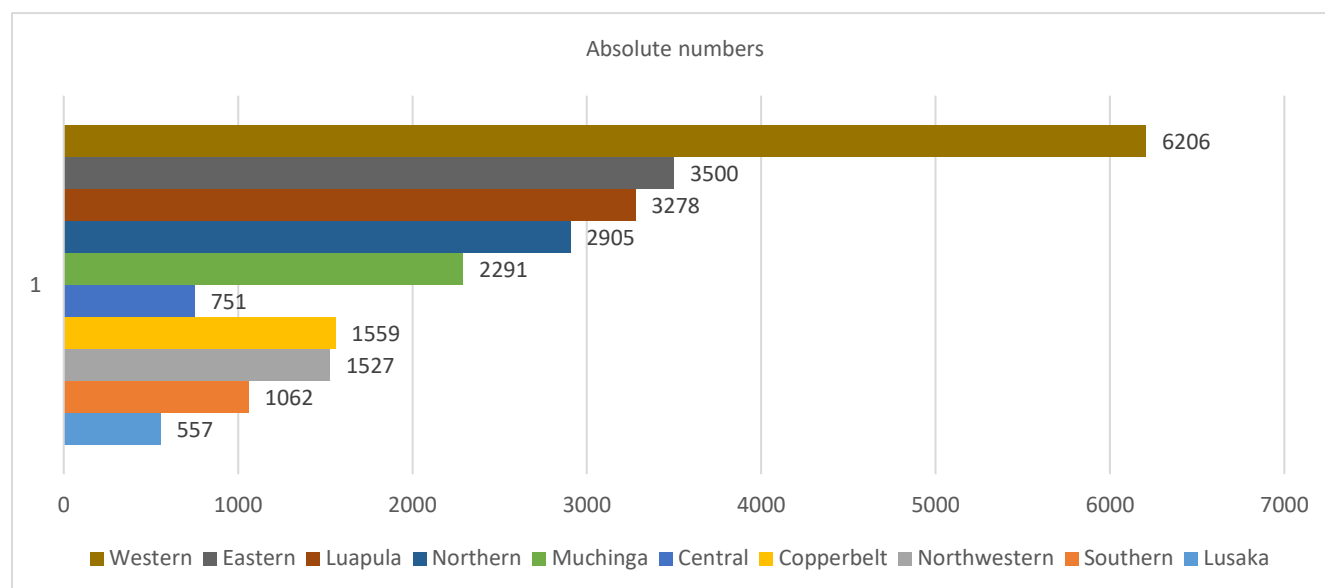


Figure 9.2.3 Showing scabies suspected cases by province (Source: e-IDSR)

In 2020 more suspected cases of scabies were reported in Western (6206), Eastern (3500), 3278 cases in Luapula and lowest cases were reported in Lusaka (557). From the graph above, there is more urgent need to implement preventive measure that include provision of health education to the population in all provinces but especially in Western and Eastern provinces.

9.3 Other key performance indicators

Indicator	Target 2022	Result 2022	Comments
Number of outbreaks investigated by FETP	5	8	The Zambia FETP participated in 8 outbreaks involving Cholera in Mbala, acute watery diarrhea in Mitete, Measles in Sinazongwe and Zimba Districts, schistomiasis and measles in Chirundu District. We also participated in HIV Recency investigations in southern province.
Number of research articles published	10	2	
Number of scientific conferences attended by FETP resident	2	7	Our residents and staff participate in the TEPHINET Global scientific conference, EICD, APHA, IAS and AFENET Regional conference.
# of Provinces whose district have RRT trained in EVD and Cholera preparedness and response	10	10	

Hold Bi-Annual Partners TWG Meetings	Meet twice Annually	1	Partner's mapping meeting was held in quarter 3
Percentage of confirmed outbreaks of immediately reportable diseases responded to within 48 hours	100% of outbreaks responded to	100% (5/5)	Responded to measles outbreaks in various parts of the country, to suspected anthrax outbreak in Sioma, Western Province, mumps in outbreak in Lusaka & Western Province and Scabies outbreak in all the 10 Province
Percentage of confirmed outbreaks of immediately reportable diseases responded to within 48 hours	100% of outbreaks responded to	100% (5/5)	
No. of Advanced FETP per 200,000 population	1/200,000 population	35 trained	For this target we are still far off the target. However, with the current strategy of enrolling a cohort every year and the introduction of the intermediate FETP next year we hope to achieve this target in the next 5 years
Percentage of planned programme implemented	100% of Planned activities implanted annual	82% (45/55)	

10: Annexes

10.1 Key Stakeholders

No.	List of Stakeholder
1.	Africa Centre for Disease Control and Prevention (Africa CDC)
2.	Africa Field Epidemiology Network (AFENET)
3.	ASLM - African Society for Laboratory Medicine (ASLM)
4.	Association of Public Health Laboratories (APHL)
5.	Canadian International Development Agency (CIDA)
6.	Centre for Infectious Disease Research in Zambia (CIDRZ)
7.	China Centers for Disease Control and Prevention (China CDC)
8.	Disaster Management and Mitigation Unit (DMMU)
9.	Food and Agriculture Organization (FAO)
10.	Food and drugs laboratory
11.	Foundation for Innovative New Diagnostics (FIND)
12.	Health Professions Council of Zambia (HPCZ)
13.	Japan International Cooperation Agency (JICA)
14.	Lusaka City Council
15.	Ministry of Defense
16.	Ministry of Fisheries and Livestock/ Department of Veterinary Services
17.	Ministry of Health (MOH)

18.	National Malaria Elimination Centre (NMEC)
19.	Preserving and Nurturing Diverse Ocular Health in Zambia (PANDORA)
20.	Public Health England
21.	School of Veterinary Medicine UNZA
22.	The Department for International Development (<i>DFID</i>)
23.	Training in Epidemiology and Public Health Network (TEPHINET)
24.	Tropical Disease Research Centre (TDRC)
25.	United Nations International Children's Emergency Fund (UNICEF)
26.	United States Centers for Disease Control and Prevention (US CDC)
27.	University of Zambia (UNZA)
28.	University Teaching Hospital laboratory
29.	World Bank
30.	World Health Organization (WHO)
31.	Zambia Agriculture Research Institute (ZARI)
32.	Zambia Environmental Management Agency (ZEMA)
33.	Zambia Medicines Regulatory Authority
34.	Zambia Medicines Regulatory Authority (ZAMRA)