EXPANDED SPECIAL PROJECT FOR ELIMINATION OF NEGLECTED TROPICAL DISEASES

World Health Organization
REGIONAL OFFICE FOR Africa

ZIMBABWE NTD MASTER PLAN 2023 – 2027

National Master Plan for the Elimination of Neglected Tropical Diseases 2023 – 2027

Foreword

Zimbabwe has a huge burden of Neglected Tropical Diseases (NTDs). These NTDs are diseases of the socio-economically disadvantaged and neglected people living in abject poverty. The diseases include schistosomiasis, soil transmitted helminths, blinding trachoma, Human African Trypanosomiasis, lymphatic filariasis, leprosy, snake bites, anthrax, food trematodes, taeniasis, cysticercosis, scabies and rabies.

The Government of Zimbabwe recognizes the negative impact of NTDs on the quality of life of the people of the country. In order to mitigate against these negative effects, the Government of Zimbabwe through the Ministry of Health and Child Care and its stakeholders have developed a National Master Plan for the elimination of NTDs for the period 2023 - 2027 to guide responses.

The development of this Master plan for the elimination of NTDs has been in response to the requirements of projected plans and guidelines that will be used for the effective control of NTDs until they are eliminated and some eradicated in Zimbabwe. The development of this tool involved inputs from the Ministry of Health and Child Care, Ministry of Primary and Secondary Education, the National Institute of Health Research, Department of Pharmacy Services, the Veterinary Department and other government departments and expert advice from the World Health Organization, ESPEN, Sightsavers, World Vision and Higherlife Foundation. This tool will be used in conjunction with the NTD control policy in prevention and control of NTDs by all stakeholders throughout the country, thereby contributing to an effective national NTD control program. The document will be reviewed and revised as and when necessary to align it with any new developments.

Air Commodore (Dr) Jasper Chimedza

PERMANENT SECRETARY FOR HEALTH AND CHILD CARE

Acknowledgements

This Zimbabwe National Master Plan for the Elimination of Neglected Tropical Diseases (NTDs) is the update of all past drafts strategic plan led by the Department of Epidemiology and Diseases Control, Ministry of Health and Child Care. The planning involved other stakeholders from other ministries. In preparing the National Master Plan for the Elimination of Neglected Tropical Diseases, the team invited decision makers, health and education professionals, planners, development partners and all other stakeholders to draft a comprehensive plan and roadmap for action toward reducing, controlling and prevention of the heavy burden of NTDs to below public health significance and progress towards elimination in the country by 2030.

The Ministry of Health and Child Care acknowledges the leadership of Professor Takafira Mduluza[1] as the local WHO consultant and the funding support toward the workshops and other engagements that led to the development of this plan. In addition, the Ministry of Health and Child Care extend great appreciation to the collaborative technical and financial assistance provided by the World Health Organization (WHO) Regional Office for Africa and the Expanded Special Project for the Elimination of NTDs (ESPEN). Special appreciation also goes to Dr Isaac Phiri, the Deputy Director of the Epidemiology and Diseases Control, MoHCC, the country Director and staff from Sightsavers, Higherlife officers and World Vision who contributed to the development of this comprehensive Master Plan to control and eliminate NTDs in Zimbabwe by 2030. Great appreciation to the expertise and technical guidance that WHO provided through Dr. Anderson Chimusoro and Jose Alves Phiri. The ESPEN supported the 3 consultants; Dr Chukwu Okoronkwo, Dr Fredrick Makokha and Dr Fredrick Maloba; while TIBA supported Professor Francisca Mutapi that provided expert guide during the draft of the Master Plan document.

Further, the team would like to thank the following stakeholders for their continued valuable engagements and contribution to this strategic plan.

- National Task Force Team for the Control of Neglected Tropical Diseases
- National Trachoma Task Force
- Ministry of Health and Child Care
- Ministry of Primary and Secondary Education
- Ministry of Lands, Agriculture, Water, Fisheries and Rural Development
- The University of Zimbabwe
- Sightsavers
- Higherlife Foundation
- World Vision
- Mvuramanzi Trust
- Council for the Blind Zimbabwe

The collaborative work and efforts of the various departments and agencies of the Government of Zimbabwe, the development partners and other stakeholders, enabled the preparation of this Master Plan.

[1] Appointed as the consultant to lead the process of reviewing past activities on NTDs and to developing the current Master Plan.

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ABBREVIATIONS AND ACRONYMS

CM	Case management
DHIS	District Information health system
DMO	District Medical Officer
DNO	District Nursing Officer
GMO	Government Medical Officer
EDC	Epidemiology and Diseases Control
EDLIZ	Essential Drugs List of Zimbabwe
EHT	Environmental Health Technician
ESPEN	Expanded Special Project for the Elimination of Neglected Tropical Diseases
FGS	Female Genital Schistosomiasis
GDP	Gross Domestic Product
HAT	Human African Trypanosomiasis
HCW	Health Care worker
HAIs	Health care-associated `infection
IDM	Intensified Disease Management
IPC	Infection Prevention and Control
IRS	Indoor residual spraying
ITCZ	Inter-tropical Convergence Zone
ITN	Insecticide-treated net
IVM	Integrated vector management
LF	Lymphatic filariasis
MCAZ	Medicine Control Authority of Zimbabwe
MDA	Mass drug administration
MoHCC	Ministry of Health and Child Care
NDS	National Development Strategy
NHIS	National Health Information System
NTD	Neglected tropical diseases
PCT	Preventive chemotherapy
PEST	Political, Economic, Social and Technological Analysis
PHC	Primary Health Care
RCCE	Risk Communication and Community Engagement
SAFE	Surgery, Antibiotic, Facial cleanliness and Environment
SBCC	Social and Behaviour Change Communication
SCH	Schistosomiasis
SDGs	Sustainable Development Goals
STH	Soil-transmitted helminthiasis
SWOT	Strengths, weaknesses, opportunities, and threats
TAS	Transmission Assessment Survey
TIPAC	Tool for Integrated Planning and Costing
TOR	Terms of Reference
ToT	Training of Trainers
TRA	Trachoma
TT	Trachoma Trichiasis
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

WHO/AFRO	World Health Organization Regional Office for Africa
ZIMSTATS	Zimbabwe Statistics Agency

KEY DEFINITIONS

Control: Reduction of disease incidence, prevalence, morbidity and/or mortality to a locally acceptable level as a result of deliberate efforts; continued interventions are required to maintain the reduction. Control may or may not be related to global targets set by WHO.

Elimination (interruption of transmission): Reduction to zero of the incidences of infection caused by a specific pathogen in a defined geographical area, with minimal risk of reintroduction, as a result of deliberate efforts; continued action to prevent re-establishment of transmission may be required. Documentation of elimination of transmission is called verification.

Elimination as a public health problem: A term related to both infection and disease, defined by achievement of measurable targets set by WHO in relation to a specific disease. When reached, continued action is required to maintain the targets and/or to advance interruption of transmission. Documentation of elimination as a public health problem is called validation.

Eradication: Permanent reduction to zero of the worldwide incidences of infection caused by a specific pathogen, as a result of deliberate efforts, with no risk of reintroduction.

Hygiene: Conditions or practices conducive to maintaining health and preventing disability.

Integration: the process by which disease control activities are functionally merged or coordinated within multifunctional health-care delivery.

Integrated vector management: A rational decision-making process to optimize the use of resources for vector control.

Mass drug administration: Distribution of medicines to the entire population of a given administrative setting (for instance, state, region, province, district, sub district or village), irrespective of the presence of symptoms or infection; however, exclusion criteria may apply. (In this document, the terms mass drug administration and preventive chemotherapy are used interchangeably.)

Morbidity: Detectable, measurable clinical consequences of infections and disease that adversely affect the health of individuals. Evidence of morbidity may be overt (such as the presence of blood in the urine, anaemia, chronic pain or fatigue) or subtle (such as stunted growth, impeded school or work performance or increased susceptibility to other diseases).

Monitoring and evaluation: Processes for improving performance and measuring results in order to improve management of outputs, outcomes and impact.

The National NTD Task Force comprise of stakeholders involved in WASH and community development projects.

The NDS1 is aimed at realizing the country's Vision 2030 by promoting sustainable economic growth, employment and new wealth creation, national development and poverty alleviation.

The six result areas are: Social Services and Protection; Poverty Reduction and Value Addition; Food and Nutrition; Gender Equality; HIV and AIDS; and Public Administration and Governance.

One Health is a collaborative, multisectoral and transdisciplinary approach of achieving optimal health outcomes recognizing the interconnection between people, animals, plants and their shared environment.

Platform: Structure through which public health programmes or interventions are delivered.

Preventive chemotherapy: Large-scale use of medicines, either alone or in combination, in public health interventions. Mass drug administration is one form of preventive chemotherapy; other forms could be limited to specific population groups such as school-aged children and women of childbearing age. (In this document, the terms preventive chemotherapy and mass drug administration are used interchangeably.)

Prevention: A state of keeping an individual safe from an infection/disease.

PURPOSE OF DOCUMENT

Neglected Tropical Diseases are endemic in Zimbabwe and the burden is heavy among the poorest and marginalized communities that affects socio-economic development in the country. The WHO roadmap to tackle NTDs provides opportunities to speed up the elimination of these diseases and contribute toward social development as contained in the National Development Strategy to 2030. The Government envisages to provide basic health conditions to the Zimbabwean population in line with the SDG through strengthening health systems and giving every Zimbabwean a conducive environment permitting maximum potential in all endeavours.

Tackling NTDs will improve the health status through the prevention of illness, disease and the promotion of healthy lifestyles and to consistently improve the health care delivery system by focusing on access, equity, efficiency, quality and sustainability. Currently, significant progress has been made towards improving the quality of life through the control of NTDs as revealed by the results from impact assessments post mass drug administration of the NTDs that have been under several rounds of MDA since 2012[1]. The National NTDs Taskforce conducted mass treatment of school age children against schistosomiasis and soil-transmitted helminthiasis annually since 2012 while mass deworming was conducted over the same period for pre-school age children[2]. Trachoma and Lymphatic filariasis have been controlled with impact assessments conducted. Case management of schistosomiasis, leprosy, snake bites and human rabies have been going on in specific endemic regions of the country. However, much remains to be done towards eliminating these diseases in all communities. The need for progress towards elimination of the major PCT-NTDs is urgent in order to realize the human capital development. The strategic priorities of current phase of the NTDs elimination in country targets both NTDs for PCT and IDM[3]. This NTD Master Plan, articulates a roadmap to shift from control focus to an elimination paradigm for schistosomiasis, soil transmitted helminthiasis, Trachoma and Lymphatic filariasis in Zimbabwe. The strategic plan, which was developed with the support of the World Health Organisation, is intended as a guide for the health personnel and relevant stakeholders such as academic institutions, laboratories, Departments of Water and Infrastructure development, Education and Agriculture, Wild life, Forestry and Fisheries. We trust this master plan will assist health workers and stakeholders to plan for effective control and working towards the elimination of neglected tropical diseases in Zimbabwe. This NTDs strategic plan is designed to effectively and comprehensively implement the NTDs prevention, control and elimination by 2030[4], in collaboration with all relevant sectors and partners within the environs where the diseases circulate. There is therefore need for all stakeholders to support the full implementation of this plan.

This guide builds on the foundation and progress made in the implementation of previous strategic plans and tries to address some of the inherent challenges. Consequently, the current guide seeks to encourage three fundamental shifts in the approach to tackling NTDs:

- Increase accountability for impact by using impact indicators instead of process indicators;
- Move away from siloed, disease-specific programmes by mainstreaming programmes into national health systems and intensifying cross-cutting approaches centred on the needs of people and communities; and
- Change operating models and culture to facilitate greater ownership of programmes. Shift from externally driven partner and donor funding, to country ownership and financing.

EXECUTIVE SUMMARY

Neglected Tropical Diseases are endemic in Zimbabwe and the burden is heavy among the poorest and marginalized communities that affects socio-economic development in the country. The NTDs that are endemic and some suspected to be prevalent in Zimbabwe and which are of public health concerns are schistosomiasis, Trachoma, soil-transmitted helminths (STHs), lymphatic filariasis, scabies, leprosy, snake bites, anthrax, food trematodes, taeniasis, cysticercosis, scabies and rabies. The WHO roadmap to tackle NTDs and this Master Plan provide opportunities to speed up the elimination of these diseases and contribute toward social development as contained in the National Development Strategy 1 (NDS1), 2021 - 2025[5].

The vision of the country's NTD Programme is a Zimbabwe free of schistosomiasis, soil transmission helminthiasis, Lymphatic filariasis, Trachoma, leprosy, human rabies, Human African Trypanosomiasis, anthrax, food borne trematodes, scabies and snakebites. Tackling NTDs will improve the health status through the prevention of illness, disease and the promotion of healthy lifestyles and to consistently improve the health care delivery system by focusing on access, equity, efficiency, quality and sustainability. Currently, significant progress has been made towards improving the quality of life through the control of NTDs as revealed by the results from impact assessments post mass drug administration of the NTDs that have been under several rounds of MDA[6] since 2012. The strategic priorities of current phase of the NTDs elimination in country targets both NTDs for PCT and IDM[7].

This NTD Master Plan, articulates a roadmap to shift from control focus to an elimination paradigm. It envisages that by 2027 the country would have interrupted transmission of trachoma, ensured that 50% fewer people require interventions against NTDs, and achieved moderate morbidity control in all STH-endemic districts. Additionally, the Plan envisions reaching a 75% treatment coverage index for PC NTDs, 80% of households having access to WASH in NTD endemic districts, and 100% of districts reporting on all relevant endemic NTDs by 2027.

The total cost of this strategic plan is **US$82,635,074**. The key drivers include mass drug administration, medicines procurement, and assessments/surveys for tracking progress.

The strategic plan, which was developed with the support of the World Health Organisation, is intended as a guide for the health personnel and relevant stakeholders such as academic institutions, laboratories, Departments of Water and Infrastructure Development, Education and Agriculture, Wild life, Forestry and Fisheries.

This NTDs strategic plan is designed to encourage effective and comprehensive implementation of interventions for the NTDs prevention, control and elimination in collaboration with all relevant sectors and partners within the environments where the diseases occur [8]. There is therefore need for all stakeholders to support the full implementation of this plan.

INTRODUCTION

Zimbabwe has a high burden of Neglected Tropical Diseases (NTDs) that mainly affect rural and peri-urban populations and marginalized communities. The NTDs that are endemic and some suspected to be prevalent in Zimbabwe and which are of public health concerns are schistosomiasis, Trachoma, Soil-transmitted helminths (STHs) - *Ascaris lumbricoides*, *Trichuris trichiura* and hookworms (*Necator americanus* and *Ancylostoma duodenale*), Lymphatic filariasis, scabies, Leprosy, snake bites, anthrax, food trematodes, taeniasis, cysticercosis, scabies and rabies. The diseases cause chronic, disfiguring and disabling conditions and are among the conditions that drives the poor and disadvantaged communities into the cycle of poverty, affecting economic productivity in affected adults and inhibiting intellectual and physical development of the adolescents [9].

A new momentum now exists globally to accelerate the control and elimination of NTDs, which can contribute to the achievement of the Zimbabwe National Development Goals to 2030. The major political commitments to address NTDs include World Health Assembly Resolutions on NTDs and the WHO Regional Committee Resolution on NTDs in 2013 (WHA, 2013); the 2012 London Declaration on NTDs and the Accra Urgent Call to Action on NTDs. This integrated multi-year national strategic plan to eliminate NTDs (NTD Master Plan) translates into action the Zimbabwe commitments to these global, regional and national policy directions.

The NTD Master Plan provides a sound roadmap to accelerate progress toward the control and elimination of the targeted NTDs. The Master plan also provides a sound foundation for integrated planning and costing and for resource mobilization for the NTD programme and for improving the coordination and alignment of all stakeholders toward control and elimination of NTDs, while also encouraging strong linkages with other programmes the One Health approach, WASH and the education sector (**Figure 1**). The NTD Master Plan also includes the financial implications of the programme that can be linked to the national budgeting and planning cycles to secure the required financial and other resources that will ensure effective implementation of the strategic priorities. The Master Plan is the results of extensive consultations involving the national and provincial ministries and programmes, and various other stakeholders. These were part of the National NTD elimination master plan workshop series, held on inception consultation and drafting the extent of the planning process, setting the objectives and priority pillars at which the World Health Organization and ESPEN consultancy provided technical guidance.

The Zimbabwe NTD Master Plan comprise of four parts: Part I - Situation Analysis, which includes the country context, health system situation analysis and the NTD situational analysis. Part II outlines the Strategic agenda, which articulates the NTD programme mission, vision and goals and the strategic priorities and objectives. The operational framework for implementing the strategic plan is outlined in Part III, and the budget justification and estimates are shown in Part IV. This document is divided into three main sections: Operating Context, Programmatic Targets and Operational Framework. **Figure 2** illustrates the NTD master plan development and revision process; and the steps (**Table 1**) and whole process is summarized in **Figure 3**.

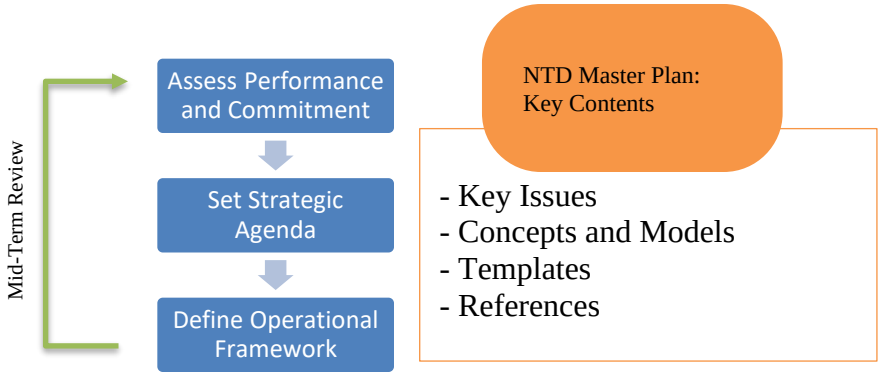


Figure 1. NTD Master Plan Key Contents

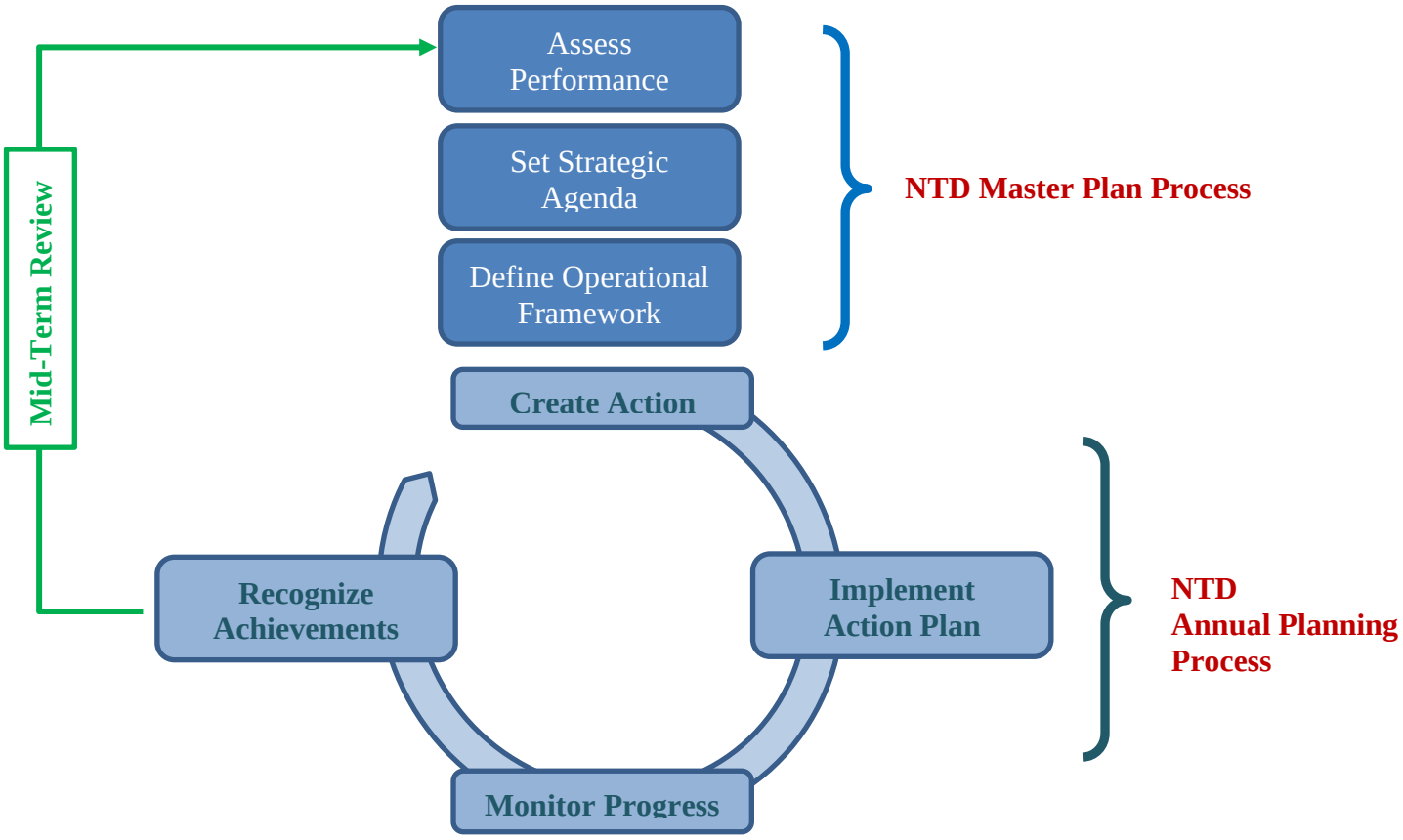


Figure 2. NTD Master Plan: Process and Management Cycles

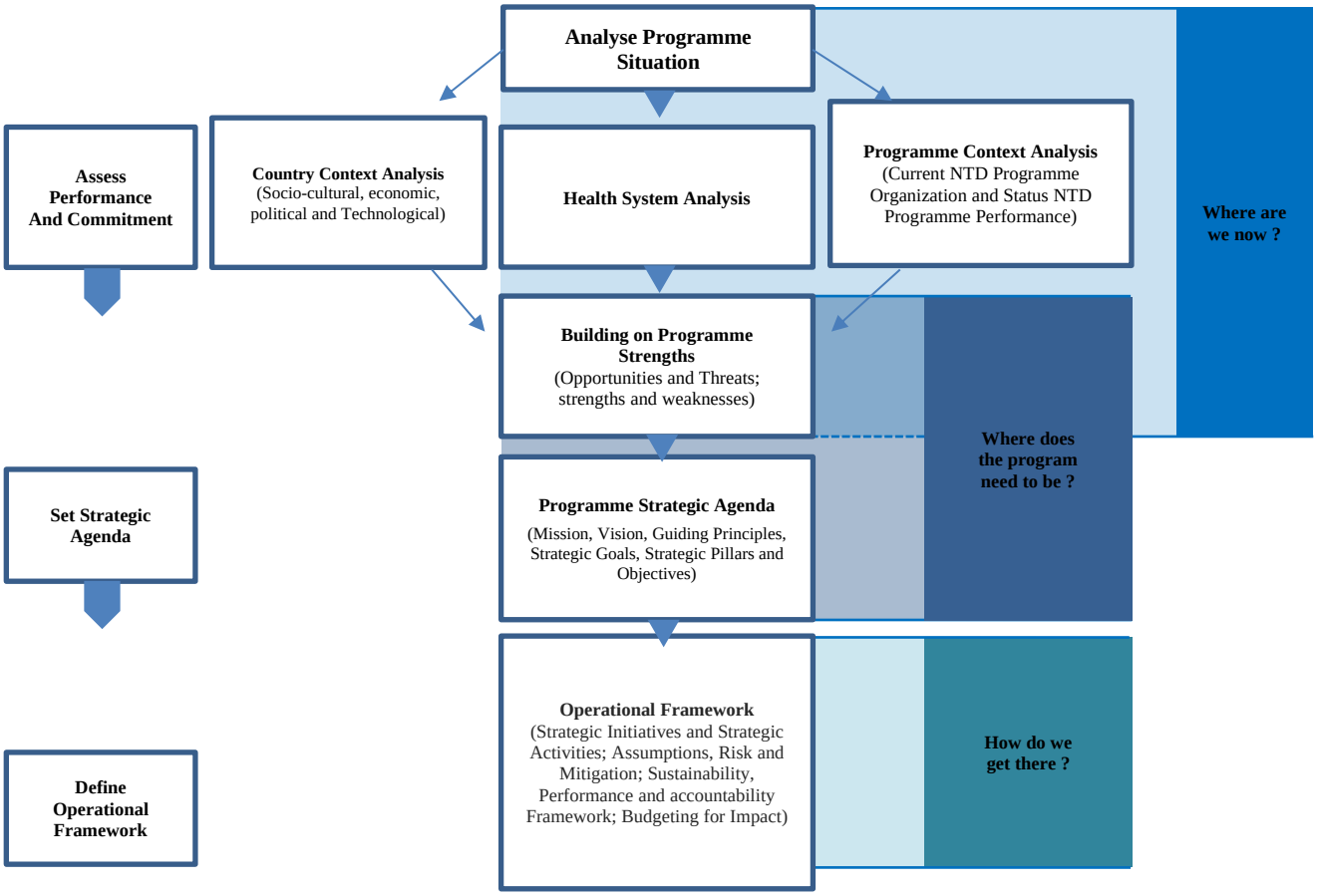


Figure 3. NTD Master Plan Process

Table 1. NTD Master Plan Tools

Key area	**Tools**
Country Context Analysis	PEST ANALYSIS
Health System Analysis	6 Building Blocks
Programme Context Analysis	Prog. Results and Impact Trends Analysis; Gap Assessment; Structure and Functional Review
Building on Programme Strengths	SWOT Analysis
Programme Strategic Agenda	Mission Statement; Vision, Guiding Principles and Goal Statements; Targets sets; Milestones Charts; 3-level Hierarchy of Objectives; Master Plan Strategic Logic Map
Operational Framework	Operations Planning Tools; Programme Strategic Shifts; Programme Culture and Dual Operating Model; Partnerships Matrix; Coordination Mechanisms chart and TOR; Risk Likelihood and Impact Matrix; Assumption and Risk Register; Risk Mitigation Plan; M&E Framework; Balanced Scorecard; Budgeting Tools

PART 1: NTD SITUATION ANALYSIS

1.1 Re-assess National Priorities and the National, Regional and Global NTD Commitments

The African Region bears about 40% of the global burden of neglected tropical diseases (NTDs). All the 47 countries of the Region are endemic for at least two of the NTDs while 36 of them are co-endemic for at least 5 of these diseases [11]. Africa is the region which is the most affected by schistosomiasis, hosting 91.4 % of the total number of people requiring treatment globally. In recent years, the goal to control and eliminate schistosomiasis from Africa has gathered increased momentum with high level commitment by the donors, NGOs, partner institutions, and Member States to work towards elimination targets, under the guidance and leadership of the World Health Organization Regional Office for Africa (WHO/AFRO), through the Expanded Special Project to Eliminate Neglected Tropical Diseases (ESPEN). The Vision 2030 aims at strengthening of the health system to ensure that it is efficient, responsive and offers required services.

The Government of Zimbabwe plans to achieve the country's Sustainable Development Goals outlined in the NDS1. To implement the NDS1- within a framework for collective action aimed at achieving sustainable development that include ending poverty and hunger, the Government proposed to follow the sustainable development theme of "leaving no-one and no place behind." The collective action aims at improving the livelihoods of the people of Zimbabwe. The WHO theme is centred around an effective health system that is important for the attainment of the expected health outcomes as outlined in the country's NDS1. The NDS sets out long-term health goals along the SDGs for Zimbabwe. Most of the goals aim to improve the health and well-being of the Zimbabwe population and these are achievable through health systems strengthening.

NTDs have received in recent times increased attention and there have been significant strides made globally in the control, eradication, and elimination of NTDs. This increased attention and improved resource mobilization have occurred on account of regional and global commitments. These commitments include;

- The Accra Urgent Call to Action on NTDs (June 2012)
- The London Declaration on NTDs (January 2012)
- WHA resolution on NTDs at Sixty-sixth WHA in May 2013
- Regional consultative meeting on NTDs in Brazzaville (2013)
- Sixty-third session of the African Regional Committee (RC63, September 2013) which adopted the regional strategy on NTDs which is in alignment with the resolution on NTDs adopted by the Sixty-sixth World Health Assembly in May 2013
- The Addis Ababa commitment on NTDs (December 12, 2014)
- The TVD Regional Resolution (AFR/RC72/7) July 2022: Framework for the Integrated Control, Elimination and Eradication of Tropical and Vector-Borne Diseases in the African Region, 2022–2030
- The 2022 Kigali declaration on Malaria and Neglected Tropical Diseases (NTDs)
- Global NTD Road maps 2021-2030

1.2 Country Analysis

Zimbabwe is a landlocked country in southern Africa between the Zambezi and the Limpopo rivers. The country also borders Botswana, Mozambique, South Africa, Zambia and, and meets Namibia at its western-most point. The map of Zimbabwe and the districts location in relation to the provinces in the country is shown in **Figure 4**. The total surface area of Zimbabwe is 390 580 km^2 of which 3 910 km^2 comprises lakes and water reservoirs. Much of the country is high plateau with higher central plateau (Highveld) forming a watershed between the Zambezi and Limpopo River systems. The climate is tropical, although markedly moderated by altitude. There is a dry season, including a short cold season during the period May to August when the whole country has very little rain. The dry hot season occurs during the period from September to early November, while the rainy season is typically a time of heavy rainfall from November to March when the whole country is under the influence of the Inter-tropical Convergence Zone in January. The key demographic information is reflected in **Table 2**.

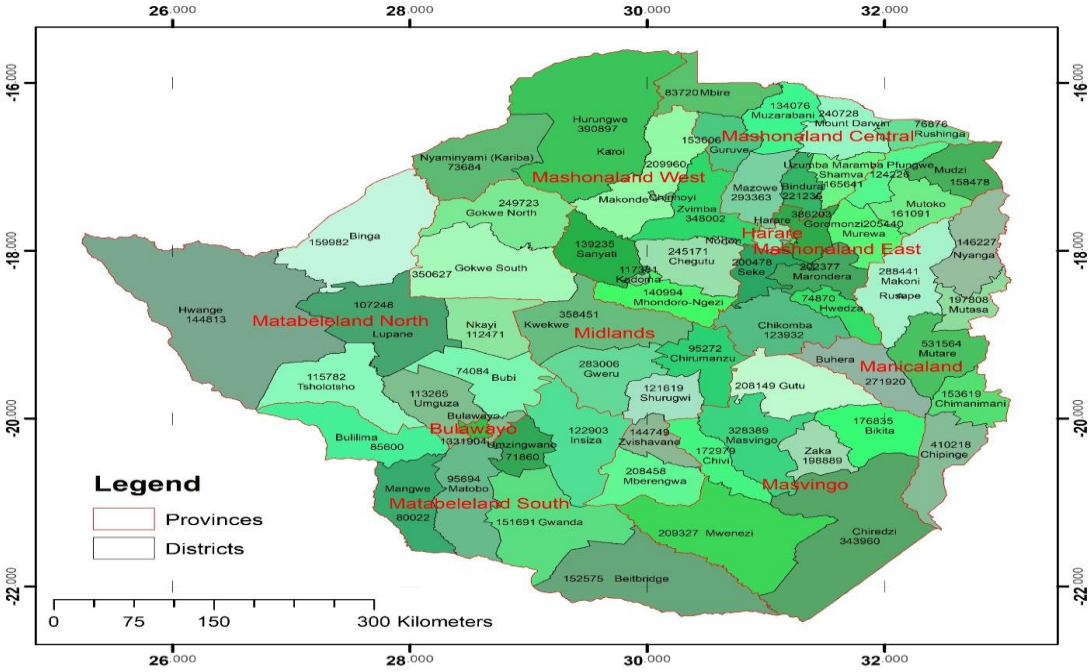


Figure 4. Demographic map showing administrative structure

Table 2. Zimbabwe Demographic Indicators

Population Characteristic	Estimates (ZIMSTATS, 2022)
Total population	15, 473, 818
Growth rate	1.37
Growth rate of the 0-14 years	1.45
Under 5 years old	2, 014, 398
School-age children between 5-14 years	3, 741, 792
Women of reproductive age (15-49 years)	4, 207, 916
Total fertility rate	2.9%
Maternal mortality ratio	363 per 100 000 births
Infant mortality rate	24.2 per 1000 births
Under-five mortality rate	39.8 per 1000 births

i. **Political:** Zimbabwe is generally a peaceful country. This atmosphere allows for implementation of NTD control programme by government and other development partners. The public health system is financed through central and local government systems. The Government has made efforts to meet internationally agreed commitments on health but the NTD programme has not secured the required funding commitment under the health sector. This is largely due to low revenue inflows in the public sector and macro-economic instability. Donor and bilateral support systems thus play a pivotal role in health financing for priority diseases, including NTDs. But the political will exists, and this has been exhibited in government's mobilization of resources from outside the country to support health services.

ii. **Economic:** The economy of Zimbabwe is agro-based. The main source of income for the inhabitants is dependent on commercial and subsistence farming. Irrigation is practised all year round. Irrigation in the sugar plantations maintains the production of sugar in the Low Veld. Irrigation of sugar plantations requires constant supply of water through irrigation canals and labour force that is in constant contact with water. The water canals maintain water into which schistosomiasis intermediate host snails breed, increase in population and sustain the life cycle and transmission of schistosomiasis. Market gardening is commonly practised in Mashonaland East due to a high-water table and the abundance of water sources. Maintenance of wet soils or moisture provides a conducive environment for the survival of soil transmitted helminths larvae and ova. These play a major role in transmission of STHs that is endemic in the region. People practising market gardening use either natural or man-made water reservoirs in their gardens. These are also ideal habitats for schistosomiasis intermediate host snail population growth and thus disease transmission in a population whose occupation (market gardening) exposes people to contaminated water. In addition to agriculture, natural mineral resources are sources of income, so is tourism and manufacturing. Small scale mining practices open up the land forming ditches that harbour water. In most places these ditches are not filled. They become potential breeding sites for mosquitoes some of which are responsible for the transmission of Lymphatic filariasis.

The global economic meltdown has significantly affected the country leading to high unemployment rates, increased inequalities, and pauperization of the majority of the population. World Bank statistics show that 40% of Zimbabweans are trapped in extreme poverty [9]. Extreme poverty rate increased steadily between 2011 and 2020, only declining in 2021. Although poverty remains an overwhelmingly rural phenomenon, it has increased relatively faster in urban areas. In 2021 Zimbabwe's total public debt stood at US$13.7 bn (84.7% of GDP), which breaches the IMF's recommended threshold of 60% of GDP for emerging economies [10]. About US$13.2 bn of total public debt is held externally, and US$500 m is held domestically. About 50% of Zimbabwe's external debt is in arrears and subject to penalties.

iii. **Social:** The rural population is characterized by permanent settlements that are nucleated or linear type and are normally organized into ethnic groups. The main ethnic groups are Shona and Ndebele. Other ethnic groups include Tonga, Kalanga, Ndau, Venda, Nambya and Shangani. The community leadership is two-pronged consisting of the traditional and political leadership. Under the traditional leadership, the Chief is the leader of a tribe or defined settlement that includes several wards and villages. Under the chief is the Village Headmen who are responsible for presiding over matters arising at village level. A village

is made up of at least 30-100 households. Each house hold is most commonly headed by a male person although female or child headed households are also not uncommon where the males work in urban areas. Social services have deteriorated with massive inflation. There is limited access to electricity and water supply in some areas. Whilst the government strives to provide health to all, there are still some populations that rely on faith and traditional healers. Communal activities peak in summer and autumn when crops are grown and harvested both for consumption and for sale. The existing association groups in the community include cooperatives and various church organizations that bring people together on a regular basis. In most districts, ward health teams, health centre committees and community health clubs exist to address local health problems. There are safety nets programmes assisting people affected by NTDs e.g., the blind, and this is mostly donor driven. There are traditional village announcers who transmit information either door-to-door or using a sentinel site. Village meetings also provide opportunities to pass on necessary information to members. With the advent of modern communication technology, mobile phones are increasingly being used as a means of communication at the community level. Most of the villages have considerable experience in building schools, health facilities, and other social amenities either by themselves or as Government programs. They also work in collaboration with Non-Governmental Organisations or private sector on developmental issues of the community. Cross border interactions are limited by strict laws of movement. This positively helps in reducing cross border NTD transmission. Generally, the security is good in most of the regions of the country therefore NTD interventions are not hampered by this.

iv. **Technological Analysis:** The road network in Zimbabwe connects all major towns on tarmac and to rural area growth points. Further connections to wards, farms and villages are well gravelled roads. The communication network is good in most parts of the country, except for some rural areas and some areas towards the country's borders. The POTRAZ regulates the levels of charges by the mobile companies, transmission of information and sharing of base towers by the different service providers in the country so as to keep the charges affordable by the majority. These communication links are important for relaying health information, relaying results of investigations done on patients or referrals of patients from one level of care to another and feedback information. All health facilities have cell phones for relaying surveillance and routine health information, and may in addition have a high frequency radio link to the district and provincial hospital. Internet services are growing especially in the urban areas and most government departments and offices have connectivity to the internet. The WASH sector has real-time transmission of Rural WASH Information Management System (RWIMS Live Cast). for Government of Zimbabwe.

The national environmental and contextual factors that are critical in understanding the distribution of NTDs and their control details include factors relating to (i) Political; (ii) Economic; (iii) Social; and (iv) Technological using the PEST analysis (Figure 5).

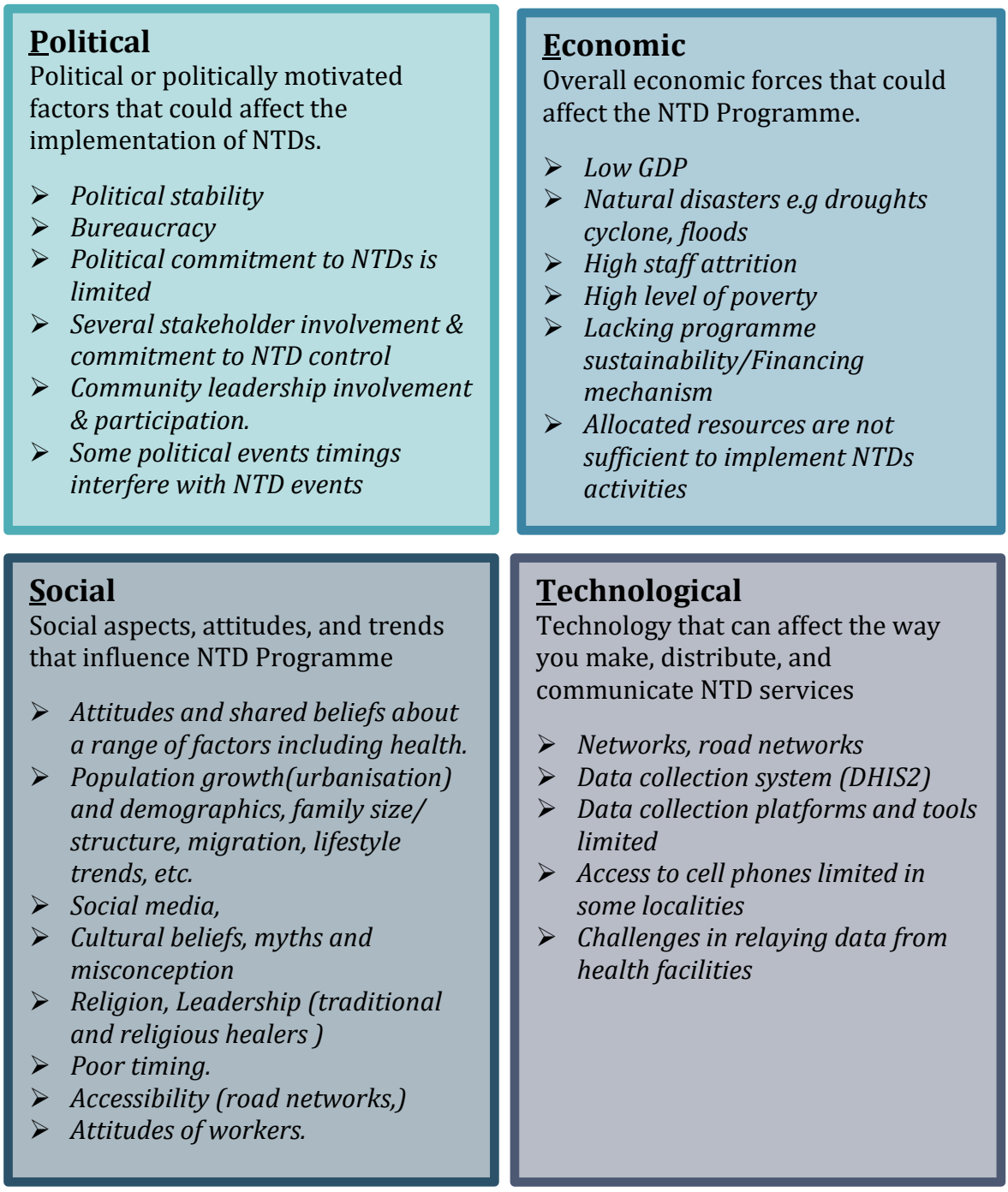


Figure 5. The PEST analysis

1.3 Health Systems Analysis

1.3.1 *Health system goals and priorities*

The Health System's vision is to have the highest possible level of health and quality of life for all citizens. The Mission is to provide, administer, coordinate, promote and advocate for the provision of equitable, appropriate, accessible, affordable and acceptable quality health services and care to Zimbabweans while maximizing the use of available resources in line with the

Primary Health Care approach. The goal of the National Health Strategy 2021 - 2025 is to improve the quality of life for all Zimbabweans.
The priorities of the Ministry of Health and Child Care is to strengthen preventive services and promote healthy lifestyles. Key areas of focus which impact on control of NTDs include:

i) Increasing access to water, sanitation and healthy environment,
ii) Reducing morbidity and mortality due to communicable and non-communicable Diseases,
iii) Improving reproductive, maternal, new-born, child and adolescent health and nutrition,
iv) Improving public health surveillance and disaster preparedness and response,
v) Strengthening the enabling environment for health services delivery (which includes improving access to essential medicines and commodities).

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. Communicable diseases (HIV/AIDS, TB, Malaria, etc) constitute a major challenge to the health sector. The NHS 2021-2025 recognizes the need to address NTDs as part of the public health system conditions that need to be managed or eliminated [11]. The NHS notes that 70% of the population is at risk of NTDs. The NHS 2021-2025 strategic direction on strengthening prevention and control of NTDs puts emphasis on common approaches including preventive chemotherapy including mass drug distribution, transmission control, case management, vector control, WASH, as well as morbidity management and disability prevention.

1.3.1.1 Analysis of the overall health system

An analysis has been done based on the WHO framework for strengthening health systems with the six building blocks: service delivery; health workforce; information; medical products, vaccines and technologies; financing; and leadership and governance, as detailed below (Table 3)

Table 3. Summary of the Health Systems Analysis

Service delivery
In Zimbabwe there is a five-tier health delivery system, from Primary, secondary, tertiary quaternary and quinary levels. The primary level which consists of clinics and rural health centres provides both preventive and curative health services. The network of Health Centres/Clinics/Rural Hospitals are organized in such a way that they are located in each ward in rural areas while Polyclinics are in urban areas. In addition, there are also private clinics on farms and commercial entities such as industry or mines. The network of doctors and nurses' private surgeries falls under this level as well. The primary care level coordinates the community health work. Under PHC, community participation, involvement and ownership of health are cornerstones of health provision. Village Health Workers (VHW) provide the link of the peripheral health facilities with the communities, promoting primary health care and disease prevention strategies at community level. With the economic and health crisis of the past decade, there has been a weakening of community health systems and initiatives to support their participation in health. NTD programme implementation is envisaged to contribute to the revitalization of the PHC approach. The diagnosis of neglected tropical diseases at this level is based on clinical symptoms. Other cases are referred to the secondary level.
The secondary level, which consists of district hospitals, Municipal Referral hospitals, and mission hospitals, offers a wider range of preventive, diagnostic and curative services, including performance of basic surgery procedures . They offer emergency, ambulatory, and inpatient services. There is one such Hospital in each district.
The tertiary, quaternary and quinary levels are supportive to the district health service and provide specialist services, with increasing specialization. All the eight rural provinces have each a tertiary hospital and network of district hospitals, each servicing a single district.

Health workforce
All the primary care facilities are manned by an average of three nurses each, one EHT, a nurse aide and a general hand, who are trained and able to provide basic preventive, curative and promotive services. District hospitals, according to standard, should have healthcare workers across major disciplines for preventive, curative, promotive and rehabilitative purposes with an ability to provide basic surgeries as well as admission facilities where necessary. Complicated NTDs conditions are managed at tertiary and quaternary levels, The Health Professions Authority regulates health institutions, while the Medical, Dental and Allied Professions Council regulates the various categories of health workers. The disease burden has increased, giving rise to increased health care needs by the population. On the other hand, there has been high attrition of health workers across all disciplines. The human resource for health establishment has also not been reviewed to match increases in population and disease burden. Resources for all health workers e.g. computers and diagnostic equipment are inadequate. There has been recognition of CHWs/VHW and creation of Health Post responsible for all health needs within the community. There is NTDs coordination from the EDC with a focal person on NTDs, however there are no dedicated staff at all other levels.
Health information
Data is collected at community level by village health workers, Environmental health technician/officer and at health facilities across the first four tiers. The data collection tools are mainly paper-based, although Zimbabwe is currently working on introducing a computer-based tool (E-Health) to collect data at district level. Data that is collected in the community is mainly NTD risk factors. At all health facilities, data on NTDs that report for diagnosis and treatment is also captured, including availability of medicines. Reporting of data comes from the community through the health facility to the district as paper-based. At the district level, the data is uploaded into the DHIS platform, which is accessible to all people with credentials. The district health information systems provide the health information in the country. Notification of diseases starts at the point of diagnosis to the district, the province and national level, although there are elements of community surveillance in place with information from community health workers attached to health care centres. Standardised reporting documents and procedures, standard operating procedures (SOPs), case notification forms and case definitions are all made available to facilitate surveillance and reporting.

Table 4. Summary of the Health Systems Analysis

Medical products
Zimbabwe has a very stringent regulatory framework for medicines and medical supplies, in terms of the practitioner practice, producers and products. The Medicines Control Authority of Zimbabwe (MCAZ), is responsible for registration, quality assurance and quality control of all drugs, vaccines and other supplies produced in or outside the country. This regulatory authority is also responsible for pharmaco-vigilance systems in Zimbabwe. Prescription only medicines are prescribed only by medical doctors or nurses in charge of rural and urban clinics, while over the counter or provider-initiated medicines can be accessed from pharmacies. Procurement of drugs is done through the National Pharmaceutical Company, a government parastatal responsible for procurement and supply chain management of drugs and medical supplies for public health institutions. A national drug formulary, the Essential Drugs List of Zimbabwe (EDLIZ), provides guidance on the drugs registered for use in the country and those indicated for treatments of various common medical conditions, including tropical and neglected diseases. The EDLIZ also prescribes at which levels of the health delivery system these drugs are to be deployed. Drugs for Schistosomiasis, STHs, anthrax and plague will therefore be deployed to primary level, while those for leprosy, HAT and LF will remain specialist drugs according to the national schedule. The EDLIZ carries a system of reporting of adverse drug events for reporting by clinicians. Zimbabwe has policies and regulations that support medical products for supply and use in the country. Medical products are ordered from suppliers overseas and undergo quality checks. Provincial health departments procure from the suppliers according to guidelines and allocated budget. The medicines are stored and handled according to stipulated guidelines.
Health financing
The public health system is mainly financed through central and local government systems, with revenue collected through various revenue collection systems. From district to quaternary levels, there are also systems for collection of revenue for local financing. Donor and bilateral support systems also play a pivotal role in health financing for priority diseases, including NTDs. Due to low revenue inflows in the public sector and macro-economic instability, government support for the health sector including the NTD programme has been minimal. This reduced inflow of resources to the health sector has increased out-of-pocket expenses thus exacerbating poverty levels.
Leadership and Governance
The Minister of Health and Child Care is in charge of the Ministry, whilst the Permanent Secretary for Health and Child Care is the accounting officer, technical lead or head of the Ministry. Reporting to the Secretary for Health and Child Care are 9 Chief Directors, and below these are the various Directors, Chief Medical Officers and Medical Superintendents.

PMDs and Provincial health executives, District Medical Officers and Districts Health executives are responsible for the leadership in the province and districts, respectively. The EDC Department provide leadership and coordination of NTD programmes. There is a National NTDs Task Force that brings all stakeholders together. The NTDs Focal Person is situated in the EDC department with no other representative at lower levels eg province or the districts. The National Pharmaceutical Company (NatPharm) is responsible for the pharmacovigilance and responsible for all medicine distribution in the country. The implementation of the strategic priorities for steering the health sector towards Vision 2030, continue to be driven by the epidemiology and communicable diseases in all provinces and there are no hindrances to the leadership and governance system.

1.4 Gap Assessment

Zimbabwe has a burden of NTDs of public health significance, these include Schistosomiasis (SCH), Soil transmitted helminthiasis (STHs), Lymphatic filariasis (LF), Trachoma, Human African Trypanosomiasis (HAT), leprosy, scabies, snake-bite envenoming, echinococcosis, taeniasis and neuro-cysticercosis as well as other zoonotic NTDs: rabies, anthrax and plague [12]. The routine health information system captures only cases that are attended at health facilities but these are not comprehensive. The actual disease burden of most of the listed NTDs are not yet known in the country [12]. Consequently, there is insufficient understanding of their prevalence and distribution of most of the NTDs suspected to be in the country.

Mass drug administration for LF as well as for SCH and STH had commenced but had to be stopped due to several factors. The exception has been the trachoma MDA which has not been interrupted since it started. Treatment and case management of the other diseases take place when patients visit health facilities. Case Management diseases in Zimbabwe is based on suspected cases with a few laboratory-confirmed cases. It is important to restart mass treatments using school or community-based approaches or a hybrid for the endemic PC-NTDs and organize structured case management systems in health facilities and at community levels based on results from mapping exercises.

Coordination structures are sub-optimal. Currently, there are very limited coordination structures in place at the national level for NTD programming and very little exists at the sub-national level. The NTDs Taskforce only exists at the national level and is activated when there are NTDs activities at the provincial and district levels. The NTDs activities do not have personnel or programme officers as compared to other programmes like WASH. The implication is that interventions are not properly coordinated and reported.

Surveillance for NTDs is not adequate. Rabies, Anthrax, leprosy, and HAT are included in the notifiable diseases category regularly reported to the Ministry of Health and Child Care. Treatment of reported notifiable diseases is supposed to be prompt and is health facility based. The National Taskforce on Epidemic Prone Diseases oversees the planning and response required for any possible report of notifiable diseases. However, most of these are not functioning well.

1.5 Programme Context Analysis

Current NTD programme organization and status is premised on the population distribution of the district affected and the diagnosis of the NTD from the mapping exercise. The NTDs not yet mapped the information is obtained from the NHIS data from the peripheral health facilities that provide data on the status to the national hub (Table 4). Known disease distribution in the country and the existing current hotspots identified with transmission (Table 5). Current

prevalence has been identified for NTDs that have been under MDA and hotspots for co-endemicity have been reported (Figure 6).

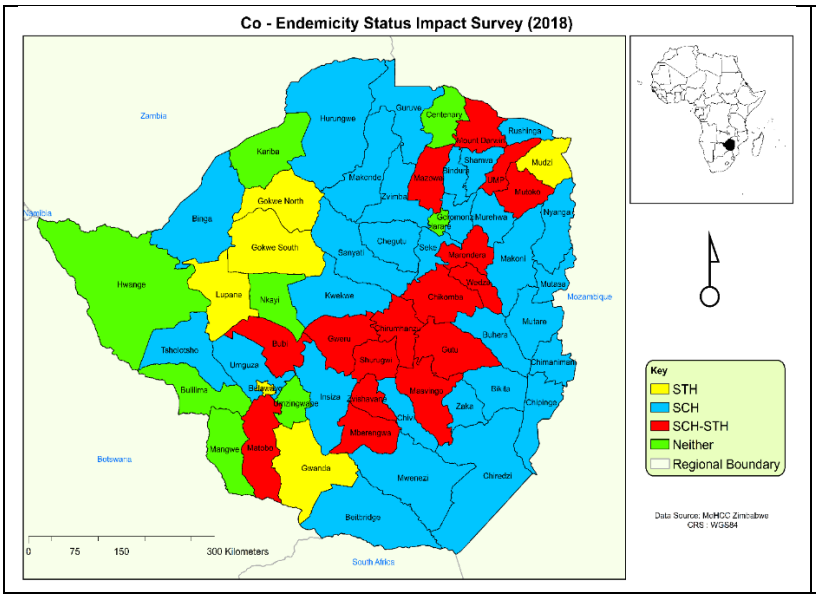
Table 5. National population data, schools, and health facilities at district level

Province	**Number of districts**	**Total population**	**Under-5 (Pre-school)**	**5–14 years (school age)**	**No. primary schools**	**No. of peripheral health facilities by level**			
						Quaternary	***Tertiary***	***Secondary***	***Primary***
Harare	5	2697465	373927	535311	361	3			59
Bulawayo	3	786031	101821	162246	293	3			54
Manicaland	7	2129710	343378	588600	1072		1	6	310
Mashonaland Central	8	1550743	247287	413656	567		1	12	157
Mashonaland East	9	2046942	320674	520698	764		1	8	228
Mashonaland West	7	1989399	308466	504543	765		1	10	213
Masvingo	7	1887054	301174	547240	875		1	14	221
Matabeleland North	7	944247	141690	271393	628		0	7	159
Matabeleland South	7	858976	127365	242461	517		1	5	139
Midlands	8	2089946	321418	565070	854		1	23	242
Total	**63**	**16980513**	**2587200**	**3,920,601**	**6696**	**6**	**7**	**85**	**1767**

Table 6. Known disease distribution in the Country

Province	Number of Districts	Number of endemic districts									
		LF	STH	SCH	TRA	HAT	TT	Leprosy	SB	Rabies	Scabies
Harare	7	0	0	0	0	*	0	*	0	*	0
Bulawayo	3	0	0	0	0	*	0	*	0	*	0
Mat North	6	0	1	3	0	*	2	*	0	*	0
Mat South	7	1	0	5	0	*	1	*	0	*	0
Mash Central	8	0	0	8	0	*	4	*	0	*	0
Mash West	7	0	0	7	0	*	2	*	0	*	0
Mash East	9	1	4	8	1	*	4	*	0	*	0
Manicaland	8	0	0	8	1	*	0	*	0	*	0
Midlands	8	0	0	7	1	*	2	*	0	*	0
Masvingo	7	0	0	6	0	*	0	*	0	*	0
Total	63	2	5	53	3	*	15	*	0	*	0

* Not mapped yet



Disease co-endemicity

NTD co-endemicity (PCT)	No. Health Districts
LF – SCH – STH - TR	8
LF – SCH - STH	22
LF – SCH - TR	1
SCH - STH - TR	2
SCH – STH	16
LF - SCH	4

Figure 6. NTD co-endemicity (a map and Table), provided the co-endemicity map of the NTDs present in the country.

Organizational chart showing the position of NTD programmes and programme coordinator and managers in the health sector (**Annex 3**).

1.6 Current NTD Programme Organization and Status

The main NTDs Targeted for PCT interventions in Zimbabwe so far are schistosomiasis, soil transmitted helminthiasis, lymphatic filariasis and blinding trachoma. The NTDs program in Zimbabwe is run from the EDC department which also coordinates the NTDs steering committees, WASH, UZ/Academia units, information and the national trachoma task force, ZATEP, WASH Sector, MDA, surgery and dossier preparation for recording the progress towards NTDs elimination. For schistosomiasis the activities are centred on monitoring the suggested frequency of interventions, preventive chemotherapy aimed at times per year. Checking coverage and compliance on the drug uptake and to extend coverage to other groups at risk or possibly to the entire population in the areas. Reinforce measures for safe water sanitation and health education, even when the drug is not distributed to continue sentinel site monitoring to inform managers on possible recrudescence of the infections. Use a more sensitive method for the evaluation of the prevalence (i.e. serology, PCR). No treatment is needed in areas where serology is negative in 8 districts (10.8%), while 28 (38.4%) would require administration of 1 round of praziquantel every 2 years in areas where serology is positive. For STHs, preventive chemotherapy 3 times per year in identified hotspots areas. Check coverage and compliance and extend coverage to other groups at risk or possibly to the entire population in the area. Reinforce measures for safe water, sanitation and health education. Maintain treatment of school-age children at previous level for the next 4 years in 10 districts. Continue sentinel site monitoring annually, even when the drug is not distributed to inform managers on possible recrudescence of the infections.

Lymphatic filariasis requires confirmatory results using FTS methodology in two (2) districts that qualify for MDA. The country has done lower-level assessment of STH and SCH leading to

a proposed strategy that the program will implement ward level treatment strategy in districts that would have been identified as endemic. While for Trachoma Trichiasis current status show that seven (7) districts are in transition phase. Three (3) districts currently conducting surgeries, Four (4) districts will start surgeries . Trachoma Follicles- current status in Zimbabwe has mapped 49 districts for trachoma follicles of which 23 districts were identified to be endemic for TF. The program will be implementing MDAs in 3 districts. The Quality Survey Tool on Trachoma activity conducted by MOHCC and Sightsavers on trachoma activities being conducted showed the national program score 74.8 %. The highest scores were on WASH provisions during implementation at 88.9%. The service delivery was at 82.7%, Health Workforce at 72.3%, The program effectiveness was at 61.6%. Continuous monitoring of medicines stock status and expiry dates, Implementation of pre-MDA activities planned ahead of time and community engagement strategies to be increased.

NTDs control approach aims to improve health outcomes by recognizing the connections between the health of people, animals and their environment, interface based on collaboration, communication, and coordination across all relevant sectors and disciplines, with the ultimate goal of achieving optimal health outcomes for both people and animals. This is especially important for NTDs, which often have a significant zoonotic or environmental component. This relationship can take various forms, for example rabies, where most cases are transmitted by dogs to people through direct contact (bites and scratches), hence preventing disease in dogs is key to preventing disease in people. Taeniasis and cysticercosis, where people develop taeniasis through the ingestion of larval cysts in infected raw or undercooked pork, or develop cysticercosis through the ingestion of the parasite's eggs due to poor hygiene (faecal−oral transmission), or ingesting contaminated food or water, hence interventions in pigs, food safety and WASH are critical. Cross-cutting NTD surveillance, such as for schistosomiasis and taeniasis, where the same sample or population can be used for disease detection.

1.6.1 Schistosomiasis and Soil Transmitted Helminthiasis

Schistosomiasis is Africa's second most prevalent parasitic disease, infecting millions of people each year. One of the most common presentations is urogenital schistosomiasis, which is caused by the species *Schistosoma haematobium*. Humans contract schistosome infections through contact with contaminated freshwater sources, and this can occur via routine day-to-day activities like washing, working or playing in water. As a result of constant exposure to schistosome infection, chronic clinical manifestations of *S. haematobium* include dysuria, haematuria, injury of the genital tract increasing susceptibility to HIV and even bladder cancer. Thus, to treat these schistosome infections and reduce disease-related morbidity, the drug PZQ is utilized across Africa to prevent persistent infections in schistosome-exposed populations. Schistosomiasis control programs rely heavily on the MDA of PZQ to treat exposed individuals and to retain control of this disease in endemic areas.

The prevalence of schistosomiasis and soil transmitted helminthiasis in Zimbabwe were 22 % and 5.7 %, respectively [6]. The common STHs in Zimbabwe are the hookworms, *A. lumbricoides* and *T. trichiura* in rural provinces with the prevalence rates ranging from 20% to 60%. Over 50 % of the Zimbabwe population are at increased risk for the infection if non-concerted control effort is implemented, that is inclusive of all population segment preschool age children, school age children and adults. Like several other African countries, Zimbabwe has been administering Praziquantel as part of a national helminth control program for nearly a decade, with general success in controlling the national prevalence of *S. haematobium* infections [2] (**Figure 7**).

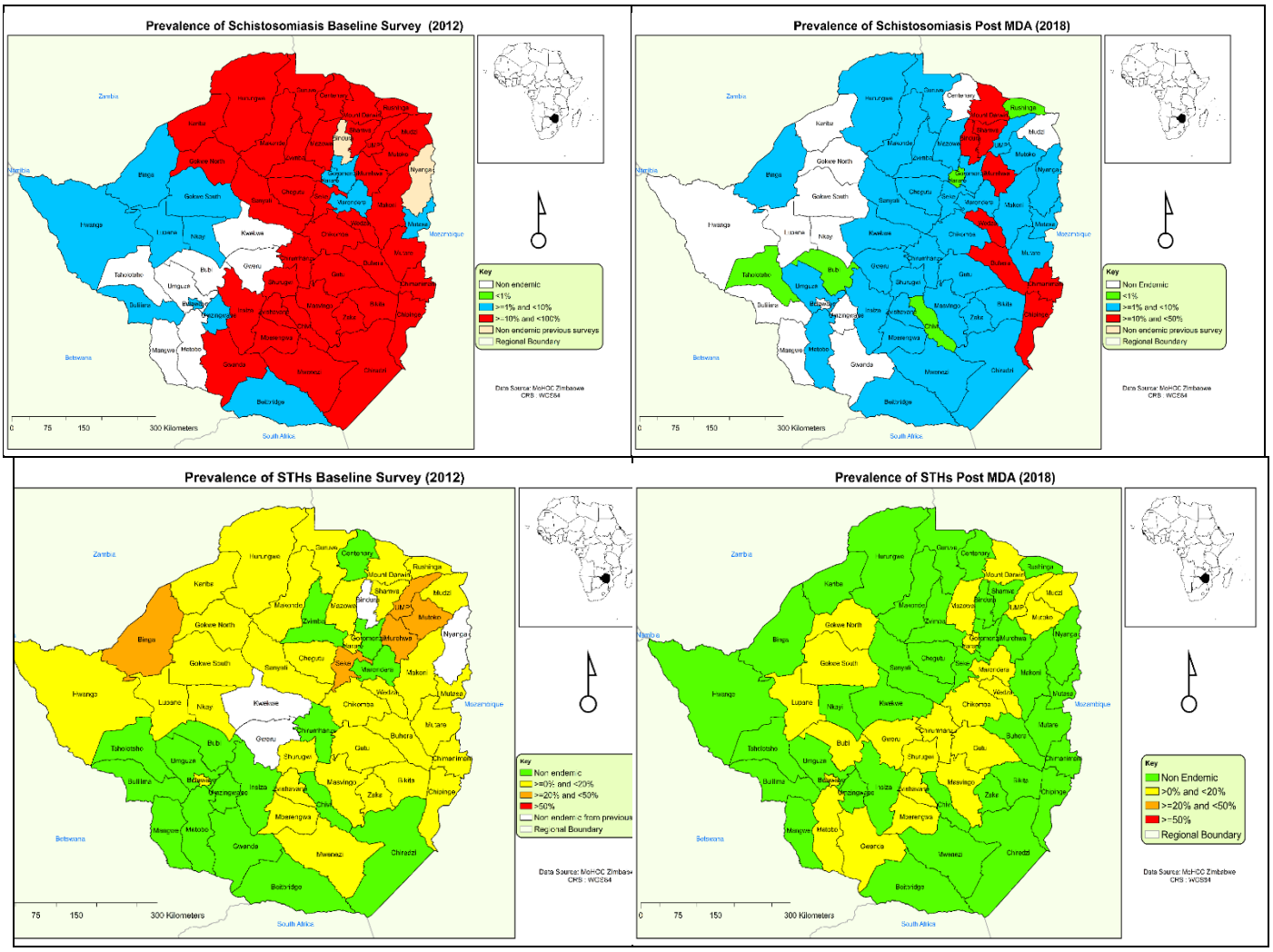


Figure 7. Trends on the coverage and impact of Mass Drug Administration for schistosomiasis and STH from 2012 to the end of MDA phase 2017.

1.6.2 Lymphatic filariasis

Lymphatic filariasis is a painful disfiguring mosquito borne disease that occurs in 52 countries worldwide and is targeted for elimination. Steady declines in the disease have been achieved through large scale community wide drug distributions which do not cure the disease but temporarily halt transmission to others. Transmission still occurs at low levels because elimination programmes fail to reach everyone. To achieve elimination, there is need to understand why some individuals are continually exposed to infective bites and determine how to reach them using complementary strategies or alternative approaches. Disease elimination face common challenges during the endgame, when the prevalence is very low, but the risk of resurgence is high due to difficulties in reaching the remaining foci of transmission [14]. In 2015, 39 districts were identified to have Lymphatic Filariasis. Only two (2) rounds of LF MDAs were implemented (2016, and 2017), with the country embarking on confirmatory mapping in 2021. The first phase identified 16 priority districts for mapping, among these selected districts only two (2) came out positive for LF endemicity. The program plans to conduct further confirmatory mapping in the remaining 23 districts (**Figure 8**).

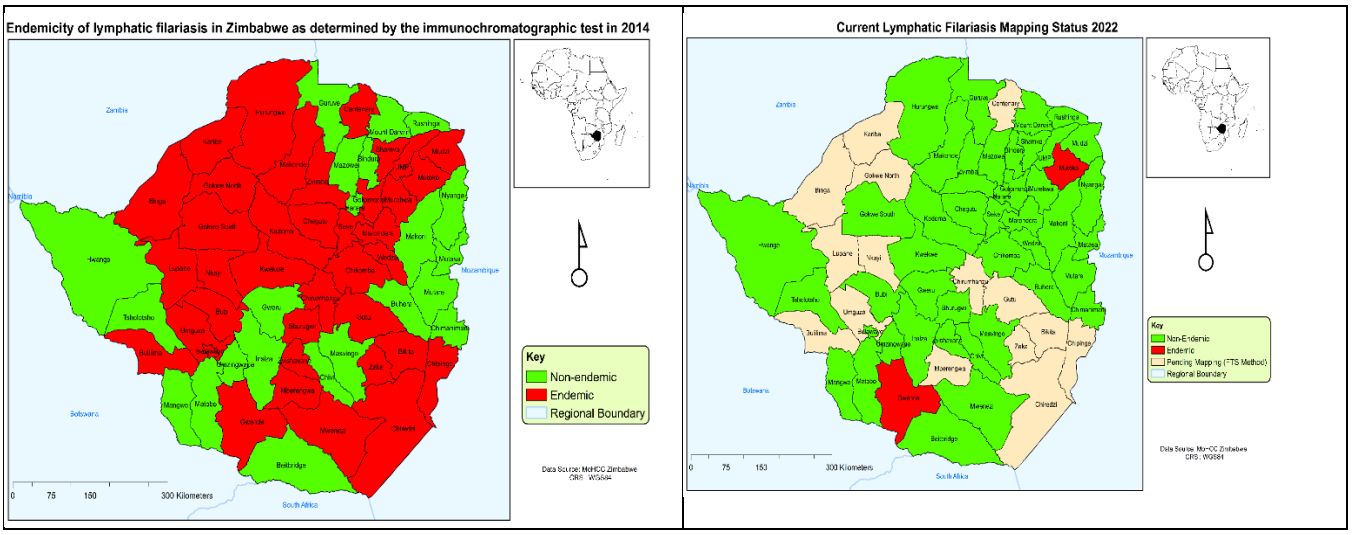


Figure 8. Trends on the coverage and impact of Mass Drug Administration for Lymphatic filariasis baseline 2012 and impact assessment in 2022

1.6.3 Human African Trypanosomiasis

Human African trypanosomiasis (HAT) continues to cause debilitation in regions prevalent of the diseases and leading to decreased social participation and economic productivity in Zimbabwe. HAT is caused by *Trypanosoma brucei brucei, Trypanosoma brucei rhodesiense, Trypanosoma congolense, and Trypanosoma vivax* that is tsetse fly-transmitted. The disease is common in wild animals, but can affect cattle some domesticated animals. There are several control measures that include mass treatment of cattle using Trypanosoma drugs. Tsetse traps have been successfully used over the past 30 years even though the problem still persists in many tropical areas in wildlife reserves [15]. This demands design of control measures in affected regions targeting trypanosome infections in cattle and other animals, also believed to be reservoirs for the zoonotic trypanosomiasis; and strategic treatment in human populations in the transmission areas. The current status of human African trypanosomiasis is not commonly reported although it is a notifiable disease. Few cases have been reported, up to five annually, mostly as referrals from the private sector and involving game rangers and tourists. The exact burden of disease reveals that the diseases is prevalent is certain pockets of the country. Surveys conducted indicated that the parasite was restricted to the basin of the Zambezi River system in forest and semi-forest areas of the middle-veld. Further detailed studies conducted four decades ago in two districts showed an overall prevalence of 61%, in Makonde district and 20% in Lupane district. The majority of cases of *M. perstans* were found to be symptomless. Where symptoms occurred the most frequent complaints were extreme tiredness, pains in the joints and neurological symptoms. It is assumed that about 20% of Zimbabwe's population is at risk, based on records of infections and disease surveys indicated a national prevalence of 4.63% for HAT in Zimbabwe [16]. Zimbabwe is presented as one of the 38 endemic countries in Africa. The insect vectors of the *Culicoides* are highly prevalent in Zimbabwe, currently attracting the veterinary and wild life departments to conduct corridor traps in regions where the flies are found [17].

1.6.4 Rabies

Rabies is a zoonotic disease caused by the rabies virus belonging to the *Lyssavirus* genus. The disease affects the central nervous system leading to acute encephalitis and is a fatal rapidly progressive disease of humans and mammals [18]. Dogs are the main transmitter of rabies (canid rabies) in the majority of developing countries, while rabies is a disease of wild carnivores in many developed countries. Humans and other domestic animals are usually the main victims of

canid rabies as dogs often have contact with other animals and people. In Zimbabwe, 90% of laboratory confirmed human rabies cases have been associated with domestic dogs. Since 2019 – 2022, a total of 24 human rabies cases have been laboratory confirmed, with 62 deaths reported in the past five years (**Figure 9**). Zimbabwe has vast tracks of wild life reserves that is conducive to zoonotic diseases. Rabies is among the notifiable diseases in Zimbabwe. The disease is reported weekly through the Health Information System (DHIS) which is responsible for the notifiable disease surveillance. Over the past three years, rabies reports have been on the increase in Mashonaland Central province compared to other provinces. High numbers of suspected cases were also reported in Midlands over the same period of time. There has not been any systematic survey to map the distribution of the disease. This could be due to high case fatality ratios associated with the diseases and difficulties in laboratory diagnosis that involves post mortem procedures to confirm cases.

1.6.5 Leprosy

Leprosy is a communicable disease that is caused by the microorganism *Mycobacterium leprae*. Many African countries have achieved the elimination of leprosy as a public health problem. *Mycobacterium leprae* is transmitted through contact and the most common route of infection is through respiratory contagion. Leprosy can affect anyone including infants. Leprosy is preventable and curable using antibiotics. Once nerve damage occurs in infected individuals, the resulting disability is usually permanent. While the diseases has been contained in many places, the full benefits of the control and prevention strategy has not reached every community, there remains stigma attached to the disease [19]. The poor community awareness of the leprosy disease, the need for early diagnosis, patients presenting late when they are at advanced stage of the disease and the low cure rate demands revisiting the diseases. There is need to enhance surveillance and application of the national policy aimed at early diagnosis and treatment to prevent disability, finding and treating infected contacts. Increased community awareness and public health care is an important part required to eliminate the disease. Zimbabwe has a low endemicity of leprosy. It reached the World Health Organization target of elimination of leprosy as a public health problem in 1987 (1/10,000 population). The elimination was achieved during the collaboration and support of Leprosy Mission Zimbabwe and Leprosy Mission International [20]. Although the leprosy problem was well controlled, the changes in socio-economic factors to minimize the transmission of leprosy bacillary has not yet occurred. The predisposing factors still exist, such as poverty, over-crowding and poor nutrition. Leprosy case finding and monitoring of patients is done to improve the flow of leprosy statistics from the provinces to the central level (**Figure 9**). Data on endemicity of leprosy is dependent on reports from the peripheral health facilities through the province to the central level and the ability of health workers to identify and correct diagnosis of cases from the community.

1.6.6 Anthrax

Anthrax is another notifiable zoonotic disease prevalent in Zimbabwe. The data on anthrax cases and anthrax related deaths is collected through the routine health information system as well as the weekly disease surveillance system. Results from the previous three successive years show that the disease occurs more frequently in Manicaland, Mashonaland Central, Mashonaland West, Matabeleland North and Midlands provinces [21] (**Figure 9**).

1.6.7 Plague

There have been no cases of plague in the recent years, the last outbreak having been reported in Nkayi district of Matabeleland North in 1995. The weekly surveillance system continues zero reporting for plague as it is both a notifiable and a priority epidemic prone

1.6.8 Trachoma

Trachoma is one of the oldest diseases in the world. It is an infectious disease caused by the bacterium *Chlamydia trachomatis*. Infection is spread through personal contact through hands, clothes, bedding or through flies in contact with the discharge from the eyes and nose of an infected person. Repeated infections over the years cause eyelashes to face inwards rubbing on the eye surface causing pain, discomfort and in the long run damage to the cornea. Trachoma is the leading cause of preventable blindness. According to the World Health Organization, it is responsible for 3% of the world's blindness. Africa is the worst affected continent accounting for 85% of the world's Trachoma cases. Populations are more susceptible because of predisposing factors like lack of access to clean water, low latrine coverage and inadequate health facilities. The elimination strategy is summarised by the acronym **SAFE** which means **S**urgery for advanced disease, **A**ntibiotics to clear *C. trachomatis* infection, **F**acial cleanliness and **E**nvironmental improvement to reduce transmission [22]. By the year 2018 global antibiotic coverage was at 50%. To date, several efforts have been put in place to reach the goal of eliminating Trachoma. Observing proper hygiene practices and access to clean running water is therefore essential in reducing the spread of Trachoma. Implementation of the SAFE strategy in controlling trachoma is critical as it enables a holistic approach in addressing risk factors. The NTDs program has mapped 49 districts with 23 being identified as TF positive. Of the 23 endemic districts 15 required 1 round of MDA and 8 districts implemented 3 rounds of MDA. 12 districts were found to be endemic for trachoma Trichiasis and implemented surgeries. Further mapping in districts that are adjust to endemic districts is still being conducted.

1.6.9 Snakebites envenoming

Snakebites are responsible for considerable mortality and morbidity throughout much of the world. The increased loss of lives due to snake bites indicate the need for an intervention programme and save lives. WHO estimates that 5.4 million people worldwide are bitten each year, with 2.7 million envenomation. Snakebites are responsible for some 83,000-138,000 deaths per annum. An additional 400,000 people per year suffer from disabilities such as amputations, scarring leading to impaired limb function and post-traumatic stress disorder. In sub-Saharan Africa the number of snakebite cases is estimated to reach 435,000-500,000 per year with 20,000-32,000 deaths, while in Zimbabwe over 30 deaths due to snake bites occur each year [23] (**Figure 9**). Victims are from some of the least-empowered, poorest and most-marginalised communities; often agricultural workers, rural villagers, children living in poorly constructed housing with very limited access to education and health care. Communities regularly come into conflict with the snakes in their environment [24]. It is well understood that the special habitats and season where the venomous snakes live can be considered under exercise to develop and reduce human-snake encounters [25].

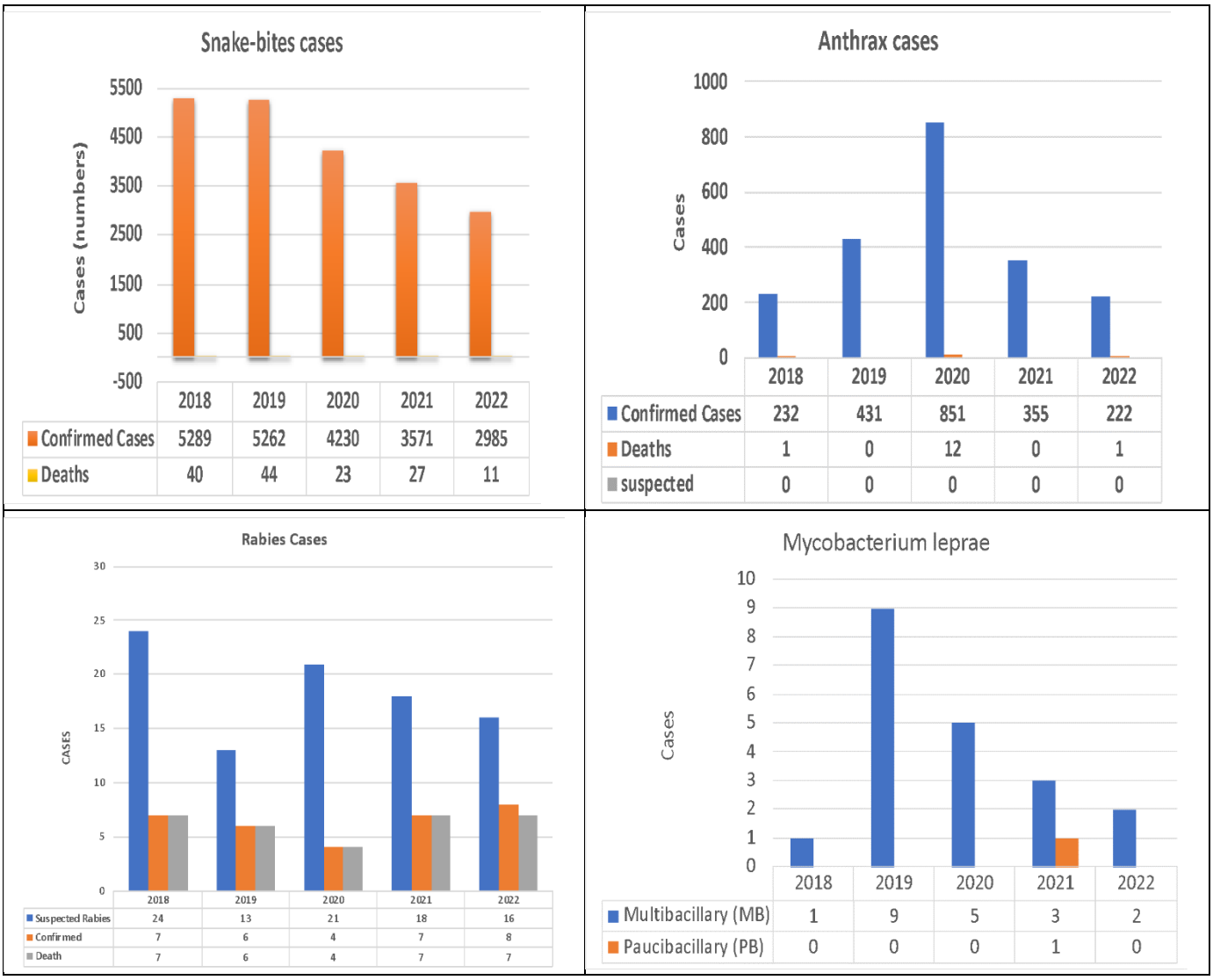


Figure 9. Trends of other NTDs, snake bites, anthrax, rabies and leprosy since 2018 to 2022.

1.6.10 Scabies

Scabies is a disease often recorded in low- and middle-income countries. Zimbabwe being a middle-income country records cases from across the country. The cases of Scabies have been on a declining trend from a high of 9498 cases in 2018 to 7506 in 2022; there has been an increase of cases from 2021 to 2022 (**Figure 10**). In 2022, outbreaks of scabies were report in Mashonaland Central and Mashonaland West provinces. No deaths were reported due to scabies.

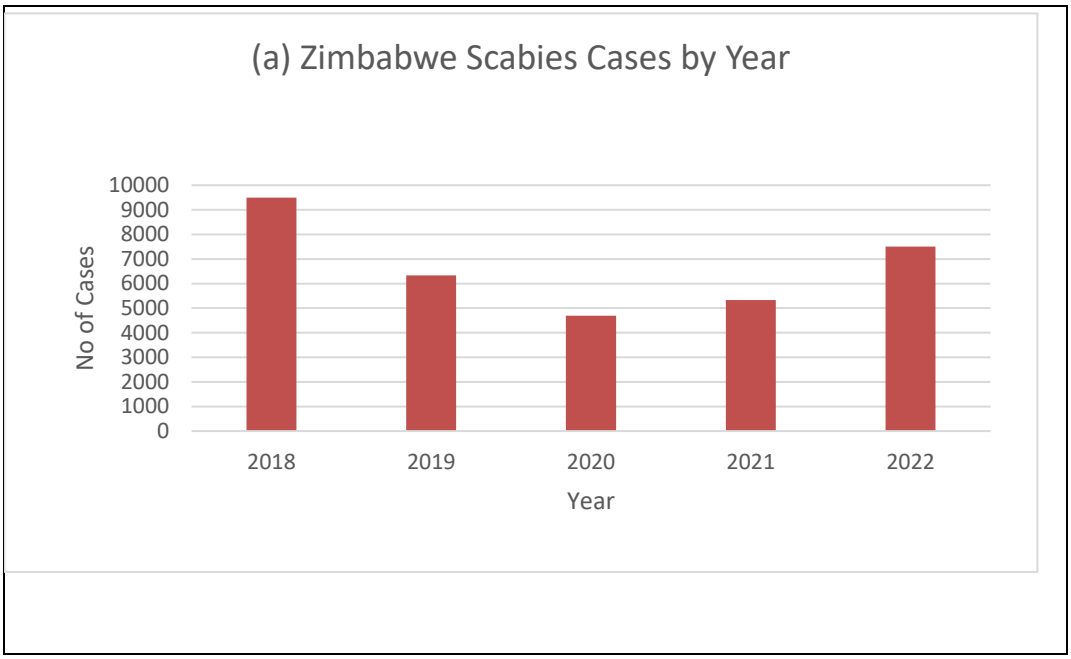


Figure 10. The number of Scabies cases (a) between 2018 – 2022.

1.6.11 *Taenia saginata/ Taenia solium* (taeniasis/cysticercosis)

Meat for consumption in general Zimbabwean population is expected to go through meat inspection, however due to increased demand, the inspection is lacking in some areas resulting in possible transmission of meat borne parasites. Rearing of pigs in most rural areas is free ranging that predisposes them to cysticercosis. There has been limited intervention for Taeniasis (**Table 6**) and Cysticercosis by the MoHCC in Zimbabwe. There is need for mapping the disease so as to inform monitoring and intervention programmes. Deworming programmes need to be intensified.

1.6.12 Echinococcosis

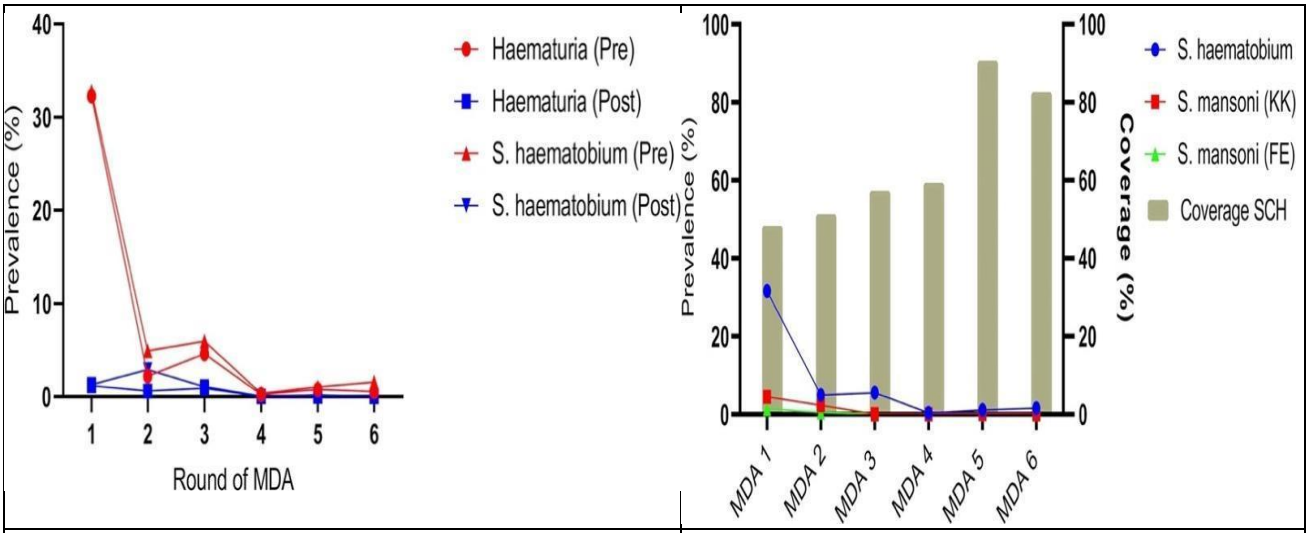
Meat inspection plays a crucial role in the intervention of Echinococcosis transmission, due to high demand in meat consumption in Zimbabwe most meat reach consumers without proper inspection. This increases the chances of transmission and demands collaborative intervention with the veterinary meat inspection. There is need to map the distribution of the diseases, risk factors for transmission in animals and humans and the relation with human health following a "One Health" approach.

1.7 NTD Programme Performance

1.7.1 Interventions for Preventive Chemotherapy NTDs

After 6 rounds of MDA the impact revealed a massive reduction in school-going children to very low levels [2]. Despite the program only surpassing the minimum target of 75% twice in six implementation rounds a significant reduction of SCH and STH was noted across all endemic districts. The current prevalence distribution of schistosomiasis in Zimbabwe based on the recent impact assessment survey reveals a successful reduction in morbidity and infection intensities (**Figure 11, Table 6**). Consequently, there is an urgent need for data and tools to identify and predict potential schistosomiasis hotspots caused by exacerbated transmission factors or probable praziquantel efficacy. Hotspots of persistent *S. haematobium* infection have

been identified in multiple schistosome-endemic countries, regardless of MDA interventions [26]. This could be the case in Zimbabwe, where precision mapping of hotspots and MDA implementation may be recommended. For LF, among the 39 endemic districts only two (2) rounds of LF MDAs were implemented in 2016 and 2017. In 2021, the program conducted confirmatory mapping in 23 priority districts and 2 districts were found to be endemic. Further mapping is currently being conducted in 2023. Endemic districts will be recommended for triple therapy thus shortening duration of implementation from 5 years to 3 years. A marked progress has taken place concerning Trachoma treatment using mass treatment in endemic districts and intervention on case management. Currently, trachoma elimination is on course with the final application of SAFE strategies, of the last F and E being conducted in selected endemic districts. The trachoma programme currently shows indication of being on course fulfilling the roadmap for elimination by the 2030.



Decline in the prevalence of *S. haematobium* morbidity as measured by visible haematuria in the cohort of children.

Relationship between treatment coverage rates and schistosome infection prevalence across the MDAs in the cohort of children.

Figure 6. Trends on the coverage and impact of Mass Drug Administration for NTDs 2012 -2017

1.7.2 Intervention for Case Management Diseases

Data reported for Case Management (CM) diseases in Zimbabwe is based on suspected cases with a few laboratory-confirmed cases. There is limited information on outputs of interventions for case management NTDs as they are currently not structured or organized. Health facilities deal with cases as they come and some of the treatment outcomes are captured in the DHIS. Great noticeable achievements have been reached over the past that must be reflected. In the case of leprosy the country reached the World Health Organization target of elimination as a public health problem in 1987 (1/10,000 population). With respect to trichiasis, TT cases as at 2022 across 10 districts in 7 provinces have been managed; but 4 districts are yet to commence surgeries. Further mapping of LF hydrocele and morbidity management have not been implemented by the programme. The current mapping status for the NTDs known or suspected to be in Zimbabwe is reflected in the Table 5.

Table 7. NTD mapping status

1.7.3 Performance of the other programmes that are closely related to NTD programme

Endemic NTD	Total # Districts	No. of districts mapped or known endemicity status	No. of endemic districts	No. of districts remaining to be mapped or assessed for endemicity status
Schistosomiasis	63	54	54	0
Soil Transmitted Helminthiasis	63	54	3	0
Trachoma	63	49	22	3
rHAT	63	3	3	3
Leprosy	63	63	7	63
Taeniasis/cysticercosis	63	0	11	63
Rabies	63	63	63	63
Snakebite envenoming	63	63	63	63
Scabies	63	0	63	63
Anthrax	63	0	0	63
Echinococcosis	63	0	0	63
Food borne trematodiasis	63	0	63	63
Lymphatic filariasis	63	0	16	63

1.7.3.1 Vector control

Vectors transmit most NTDs in Zimbabwe, including schistosomiasis, trachoma, LF, among others. The MoHCC and its partners coordinate programmes that seek to control specific vectors via molluscicide, indoor residual spraying and bio-larviciding to kill mosquito and mosquito larvae [27] **(Table 7)**. For the control of open defaecation, house flies and infections, there is construction and use of ventilated pit latrines with hand washing facilities. Specifically, the design and construction of pit latrines and the no open defaecation policy interventions are directed towards fighting fly-mediated trachoma and diarrhoea disease transmission. Currently the country conducts vector control activities which include indoor residual spraying in malaria endemic districts with a target coverage of 95% annually. Net distribution is also ongoing with a coverage of 100% in the affected areas. Vector control activities targeting tsetse fly have been deployed in the country include insecticide impregnated targets [15,16], ground spraying and aerial spraying in the affected areas of Mashonaland West and Mashonaland Central. For schistosomiasis snail control has been on implemented in selected areas in Zimbabwe with ongoing exercise in Umzingwane District.

Table 8. NTDs that require Vector Control Programmes and the Activity

Condition	LF	Malaria	Schistosomiasis	HAT	Trachoma
Activity	Mosquitoes		Snails	Tsetse fly	Flies
ITN	X	X			
IRS	X	X			X
Space spraying		X		X	X
Traps				X	X
Prevention/treatment of breeding sites	X	X	X	X	X
Larviciding	X	X			

1.7.3.2 One-Health

Zimbabwe One Health undertaking is a collaborative, multisectoral and transdisciplinary approach - functional at the ward, district, provincial and national levels. The goal of achieving

optimal health outcomes recognizing the interconnection between people, animals, plants and their shared environment. One health is five-pronged targeting:

- Education and Awareness
- Surveillance and Research
- Infection Prevention & Control and Biosecurity
- Antimicrobial Use
- Research and Development

The MoHCC together with the Veterinary Services Department collaborate in programmes that fight zoonotic diseases. This involves regular deworming and vaccination of domestic animals against zoonotic diseases such as rabies. There are Zoonotic Committees at all levels of service delivery from ward up to national level in the country and there is need to fully utilize and have them functional. All meat intended for human consumption is subject to inspection and certified by meat inspectors from the Department of Veterinary Services to reduce the spread of zoonotic diseases such as cysticercosis, echinococcosis, anthrax and others. All the above is supported by health education on the dangers of consuming meat of animals that die of diseases. **Figure 12** below shows the pillars coordinating mechanisms in one health.

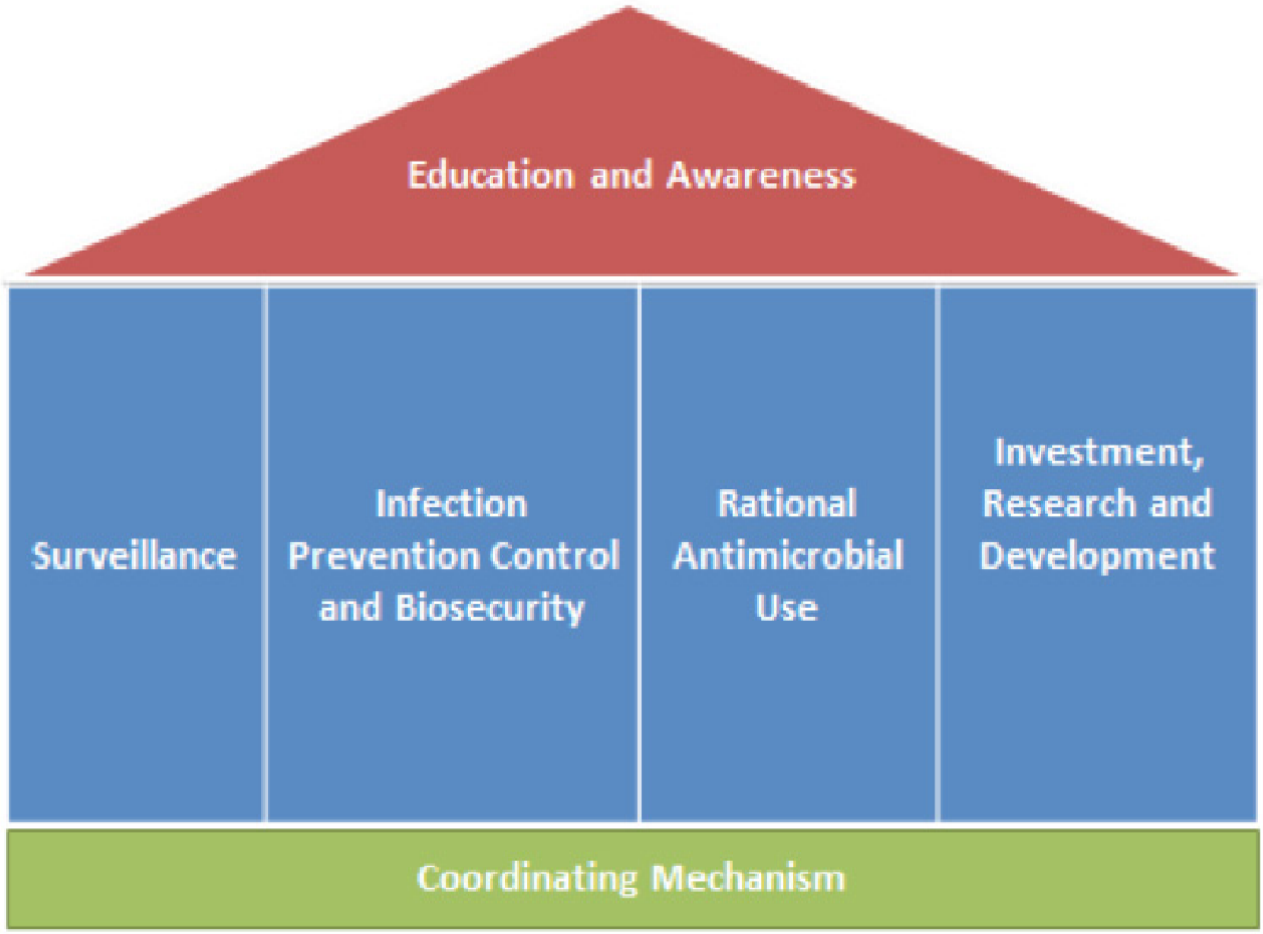


Figure 7. Indicating the Pillars coordinating mechanisms in One-Health

The four key pillars of the One Health strategy are:

1. Surveillance of drug and biochemical use patterns in animals, humans and crops.

2. Prevention, which will reduce the need for antimicrobials through effective IPC, farm biosecurity and good farm practices, WASH and immunisation
3. Rational antimicrobial use, which seeks to improve controlled access to antimicrobials and to optimise responsible use in animals and humans.
4. Investment in research and development which seeks innovative ideas of alternatives to antimicrobials or quicker diagnostic techniques.

1.7.4 Water Sanitation and Health (WASH)

The prevention, control of NTDs and management of NTD related disabilities relies heavily on access to safe water, Sanitation and Hygiene (WASH). There are numerous NTD transmission routes that can be interrupted with improved WASH, including trachoma, schistosomiasis, soil transmitted helminthiasis (STH). Coordination within the WASH sector lies with the National Action Committee with structures at National, Provincial, District and Wards and the secretariat being department of National Water, Sanitation, Hygiene and Pollution Coordination (DWASHP). The principal sector leaders Ministry of Health and Child Care – MoHCC and Ministry of Lands, Agriculture, Water, Fisheries and Rural Development- MLAFWRD work in collaboration with the ministries responsible for local Government and Public works (MLGPW), the rural development (Rural Infrastructure Development Agency- RIDA), Ministry of Gender and Women Affairs, Ministry of Primary and Secondary Education- MoPSE, and others to implement WASH and WASH-related activities.

The coordination of NTDs and WASH services is more active at national level than at subnational levels (Province, District and Ward). WASH activities include hygiene education, safe water provision, and safe sanitation e.g. construction and use of latrines and discouragement of open defecation.

Key interventions that contribute to the prevention, control and elimination of NTDs include:

1. Promotion of provision of adequate safe and clean water,
2. Promotion of open defecation-free ODF communities,
3. Provision of technical/financial/material support for grassroots NTDs and WASH activities,
4. Promotion of hand and facial washing behaviour,
5. Development of behaviour change initiatives that are aligned to specific NTDs.

Human behaviour at the individual, household, community and societal level underpins the transmission and treatment of NTDs. Promoting healthy behaviours and preventing behaviours that undermine health and associated services is an ongoing challenge of WASH, NTD, education and health programs. Behaviour Change interventions will need to target schools given that children are more susceptible to NTDs and are effective change agents in households and local communities. There is need to refocus the communication tools, health education and health promotion materials to include information on NTDs. This should be spearheaded by the National Taskforce in collaboration with the WASH sector and other key stakeholders and NGOs.

WASH Performance and Coverage

The proportion of households with access to at least basic sanitation stands at 53.8% (ZIMSTAT, 2022- Housing Characteristics and living Conditions report). Proper waste disposal is being practiced by 39.7% (recycling 0.2%, composting 9.3% and formal 30.2%). Composting is being practiced more in Rural areas and recycling more common in urban areas. Open defecation sits at 19.8%. Performance of key WASH indicators by province is reflected in the **Table 8**, but these are only for the rural areas.

Table 9. The performance and coverage of WASH at households in Provinces

Indicator	Province								National (Rural only)
	Manicaland	Mash Central	Mash East	Mash West	Mat North	Mat South	Midlands	Masvingo	
Proportion of households with access to improved water sources	80%	84%	83%	77%	84%	73%	74%	69%	78%
Proportion of households with access to improved sanitation	76%	71%	77%	58%	48%	66%	62%	64%	66%
Proportion of households practicing open defecation	12%	12%	14%	34%	50%	31%	33%	32%	27%
Proportion of households with access to handwashing facilities	92%	93%	94%	94%	86%	88%	94%	92%	92%

1.7.5 Pharmacovigilance

The Medicines Control Authority of Zimbabwe (MCAZ), is responsible for registration, quality assurance and quality control of all drugs, vaccines and other supplies produced in or outside the country. This regulatory authority is also responsible for pharmaco-vigilance systems in Zimbabwe. A national Essential Drugs List of Zimbabwe (EDLIZ) provides guidance on the drugs registered for use in the country and those indicated for treatments of various common medical conditions, including neglected tropical diseases. The EDLIZ also prescribes at which levels of the health delivery system these drugs are to be deployed. Drugs for Schistosomiasis, STHs, anthrax and plague will therefore be deployed to primary level, while those for leprosy, HAT and LF will remain specialist drugs according to the national schedule. The EDLIZ carries a system of reporting of adverse drug events reporting by clinicians. The Authority now requires healthcare practitioners to record and report any unexpected events that might be associated with administration of drugs to patients. Health professionals participating in the NTDs programme implementation should distribute the medicines together with SAE forms and advise patients to report any adverse events associated with taking the medicines.

The delivery methods for NTDs control will require health care workers including CHWs, school health masters and other designated persons involved to be trained in detecting and monitoring the adverse drug events of the specific drugs used. They should inform recipients of the drugs to report to their healthcare provider if they experience any adverse events after taking the medicine. The messaging should however be in a way that the patients know that the medicines they are receiving are safe, effective and of good quality, however as with other products that are consumed including some food items, a few individuals may develop allergies after taking the medicine. Currently the NTDs programmes on specific diseases has been received and attained very high coverages. **Table 9** gives a summary of intervention information on existing NTD programmes

Table 10. Summary of intervention information on existing NTD programmes

NTD	**Date Programme started**	**Total Districts Targeted**	**No. of districts covered (geographical coverage *)**	**Total Population in target district**	**No (%) covered**	**Key Strategies used**	**Key Partners**
Schistosomiasis	2010 (Base-line assessment)	58	58	3 434 714	82.3% (avg 72.84 % for 5-year implementation)	Mass treatment for Endemic Districts	World Health Organization The End Fund UNICEF Higherlife Foundation MoPSE
Soil transmitted helminths (*Ascaris lumbricoides*, *Trichuris trichuria*, Hookworms)	2010 (Base-line assessment)	47	32	4 225 010	66.2 % (avg 62.66% for 5-year implementation)	Mass treatment for Endemic Districts	World Health Organization The End Fund UNICEF Higherlife Foundation MOPSE
LF	2014 (Base-line assessment)	39	39	6 974 488	53.1 % Avg 70.1% for two-year implementation	Mass treatment for Endemic Districts	World Health Organization The End Fund UNICEF Higherlife Foundation MOPSE
Trachoma	2014 Baseline	19	19	4 225 910	67 % (since 2016 avg 65 %)	Mass treatment for Endemic Districts	World Health Organization Sightsavers The End Fund UNICEF MOPSE
HAT							
Food borne Trematodes*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scabies*	N/A	63	63	N/A	N/A	N/A	N/A
Leprosy							

Rabies							
LF (Hydrocele management)	2014	39	0		0	N/A	N/A
HAT							
Snakebite		63	63				
Anthrax		63	63				
Scabies		63	63				
Trachoma Trichiasis	2014	14	14		2609	Outreach TT surgeries facility based surgeries	Sightsavers

*Scabies and food borne Trematodes: there is no specific public health program currently being implemented for theseNTDs. In 2022 through the surveillance system the country was able to detect two scabies outbreaks in Mashonaland West and Mashonaland Central, respectively. **NB**. Scabies MDA requires a prevalence of > 10% ; **N/A** – Not Available

1.8 Building on NTD Programme Strengths

The MoHCC and specific partners have implemented several interventions of selected NTDs in the country. The programme has been faced with some challenges that need to be addressed. The past activities of the NTDs control implementation since the first MDA in 2012 has provided identification of strengths, weaknesses, opportunities and the threats (SWOT) of the programme, summarised below. The SWOT analysis resulted in the identification of the following gaps and priorities (**Table 10**).

Table 11. Using SWOT analysis building on NTD programme strength

SWOT ANALYSIS		
Weakness	**Strengthen counteracting weaknesses**	**Opportunities counteracting weaknesses**
Planning • The NTD programme ownership and accountability is only MoHCC under EDC Department. • Inadequate resources (human, finance and materials). • Lack of knowledge and skills among healthcare workers and stakeholders regarding NTDs. • Lack of MDA policy on NTDs	• Availability of health systems. • Development and launch of NTD Master Plan in progress. • Existence of pharmaceutical logistics management unit. • Availability of mapping results for the common NTDs in the provinces. • Availability of drugs from WHO and Partners. • Availability of impact assessment results for some NTDs.	• Support from partners. • Improved donor interest towards NTDs control and elimination. • Planning with other stakeholders e.g. NIHR, Universities, Governmental Departments and Districts.
Programme Coordination, Partnerships and Collaboration • Lack of collaboration with other implementing partners. • Lack of integration of NTDs within the school and healthcare workers training curriculum.	•National Taskforce Platform established for National NTDs. •Collaboration with other Departments.	• Collaboration with stakeholders. • Vaccination against rabies of dogs. • Existing platforms for intersectoral collaboration. • Involvement and commitment from politicians in health programmes.
Resource Mobilization and Advocacy • Funding advocacy for NTDs inadequate.	• Available experience in advocacy and social mobilization. • Available health promotion activities in the MoHCC.	• NGO with established programmes for health promotion and community awareness. • WASH Programmes and NGO stakeholders with experience around campaigns. • Economic growth NDS1 middle income by 2030.
Implementation • Verticalization of MoHCC Programmes. • Dependency on external funding and resources.	• Development of NTDs Master Plan at National Level with stakeholder involvement and input from all sectors involved in NTDs.	• Support from partners - WHO, Leprosy; Sightsavers on Trachoma. • High commitment of partners for NTDs (Higherlife, ENDFUND, Sightsavers, etc)
Surveillance, monitoring and evaluation • Lack of proper monitoring and evaluation of NTDs programme • Mapping for some NTDs incomplete. • Inadequate research programmes. • Lack of independent pre-and-post MDA coverage survey and impact assessments. • Lack of pharmaco-vigilance for NTDs treatment	• Inclusion of major NTD indicators in the District Health Information Systems (DHIS)	• Tools for surveillance, monitoring and evaluation available from WHO.

Table 12. Using SWOT analysis building on NTD programme strength

Threats	Strengthen counteracting threats	Opportunities counteracting threats
• No coordination between sectors on NTDs. • Inadequate complementary public health interventions e.g. WASH. • Resistance by Parents & communities. • Retrogressive religious/traditional practices and misconceptions. • Stigma and discrimination against people affected by NTDs like Leprosy, LF. • Drug donation only for selected groups. • Cross-border and internal population movement. • Climate Change.	• NTD Master Plan and annual plans laid out. •Availability of the Coordination mechanism for NTD programme in Zimbabwe. • Proper advocacy. •Engagement of stakeholders at planning stage (i.e. Community and religious groups).	• Strengthening of the integrated school health and community health clubs. • Strengthening outreach of the programme ward-based team. • Collaboration with traditional health practitioners. • Availability of medicine donations that could be extended to other at-risk groups since the target is elimination. • WASH programme available.

SWOT analysis identified strengths, weaknesses and the opportunities to be utilized while there are a few existing threats in Zimbabwe (**Figure 13**).

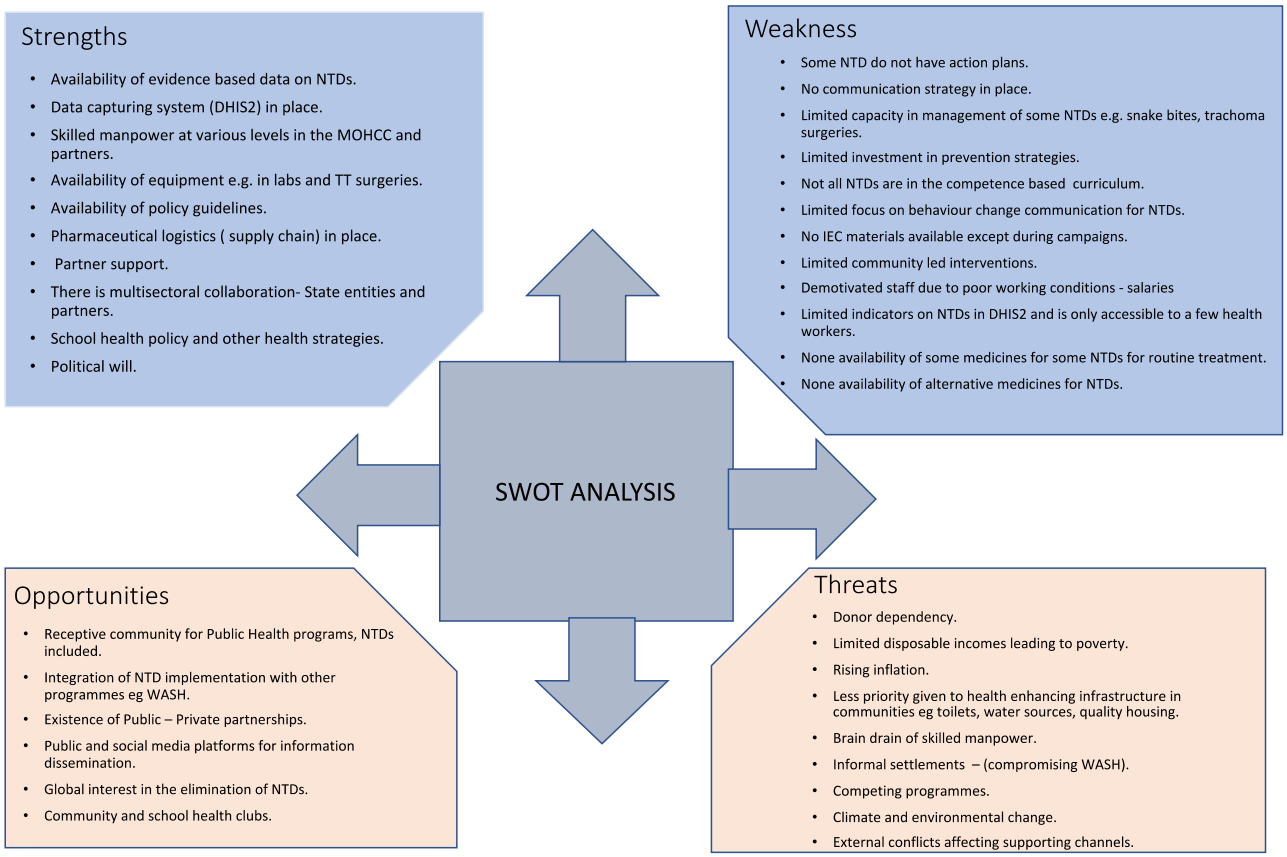


Figure 8. SWOT analysis

1.9 Gaps and priorities

Zimbabwe has a huge burden of ten identified NTDs prevalent in different communities at public health significance. These NTDS include Schistosomiasis (SCH), Soil transmitted helminthiasis (STHs), Lymphatic filariasis (LF), Trachoma, Human African Trypanosomiasis (HAT), leprosy, scabies, snake-bite envenoming, echinococcosis, foodborne trematodiasis, taeniasis and neurocysticercosis and ectoparasitic infections and the zoonotic; rabies, anthrax and plague. The routine health information system records cases that are attended at health facilities. The foodborne trematodiasis, taeniasis and neurocysticercosis reported on the rapid disease notification/weekly disease surveillance system. The actual disease burden of some of the listed NTDs are not yet known in the country. The routine health information system provides data on all conditions and diseases reported at the health facility throughout the country. Report on the recent national MDA impact assessment of schistosomiasis and STH surveys showed that transmission in many districts has been drastically reduced. However, in some selected districts, co-endemicity for NTDs has been observed e.g. schistosomiasis and STH; Trachoma and Lymphatic filariasis and HAT. The existing challenges and transmission of NTDs resulted in identified gaps and the priorities required to tackle the diseases (**Table 11**).

Table 13. Gaps and priorities

	Gaps	Priorities
Planning	• Limited of a dedicated budget for NTDs programmes • Poor retention of skilled human resources. • inadequate knowledge and skills among healthcare workers and stakeholders regarding NTDs. • Inadequate human and material resources	-Review of the administration of MDAs, to allow VHWs and teachers to distribute medicines.
Programme Coordination, Partnerships and Collaboration	- Inadequate integration of NTDs within the school health programme - NTDs are not prioritised by many stakeholders - Weak multi-sectoral coordination amongst NTDs players - Low access to WASH services	- Strengthen MoHCC inter-departmental and multi-sectoral ownership, collaboration, advocacy, coordination and partnerships - Advocate for WASH programme enhancement
Resource Mobilization and Advocacy	- Funding and advocacy for NTDs inadequate.	- Allocation for NTDs from the government budget . - Completion of the NTD master plan to inform areas in need of funding and advocacy.
Implementation	- Weak integration of NTD programmes into other MoHCC Programmes - Dependency on external funding and resources - Limited resources to complete baseline surveys for some NTDs - Low MDA coverages across all NTDs as the model make use health workers in distribution of medicines	- Improve interdepartmental coordination of NTDs programmes within MoHCC. - Ensure that MDAs in Zimbabwe adopt the use of VHWs in distribution of medicines. - Establish NTDs program at all levels especially at grass roots in communities. Involve of laboratory for diagnosis. - Planning for resource mobilisation and financial sustainability of national NTD programmes; - Development of NTDs National Policy for control, prevention and elimination. - Strengthen the existing NTDs task force with other relevant Ministries and Agencies. - Strengthen district level relevant structures for NTD control and monitoring activities.
Surveillance, monitoring and evaluation	- Mapping for some NTDs incomplete. - weakness in pharmaco-vigilance reporting (late reporting)	Adopting across all NTDs the use of DHIS2. - Mobilisation of extra resources to complete mapping or any research around NTDs. - Develop surveillance, treatment and clinical guidelines for NTDs.

PART 2 STRATEGIC AGENDA

This section provides an overview of the targets and milestones for all NTDs that are endemic in Zimbabwe, which have been determined through consultation with stakeholders in the country including representatives from national and sub-national governments, scientific and research groups, non-governmental organizations, implementing partners, donors and private sector organizations. The strategic agenda of the national NTD programmes articulates the overall programme vision, mission, and goals. It also delineates the strategic goals, major programme focus, and strategic milestones. In addition, the strategic priorities and strategic objectives indicate the main 'pillars of excellence' as well as the continuous improvement objectives that the programme intends to achieve by 2027.

2. NTD Programme Mission and Vision

The NTD Master Plan, as a multi-year strategic plan, requires a clear strategic agenda. The major elements of the strategic agenda are: Mission, Vision, Guiding principles, Programme Strategic Priorities and Pillars.

Mission and vision

Mission *What we exist to do*	Elimination of NTDs as a public health problem in Zimbabwe
Vision *Where we need to go*	Zimbabwe free of schistosomiasis, soil transmission helminthiasis, Lymphatic filariasis, Trachoma, leprosy, human rabies, Human African Trypanosomiasis, anthrax, food borne trematodes, scabies and snakebites

2.2: Milestones and Targets

2.2 Targets

The overarching targets to reach NTDs elimination to be achieved by Zimbabwe aims for Trachoma that has been managed extensively on the strategies towards elimination using the SAFE approach [22]. So far very few districts are now in the transition stages. While LF has only 2 remaining districts, the diseases that has enjoyed concerted indirect vector control when targeting other diseases like malaria and use of drugs during STHs mass treatments. Even though STHs is difficult to contain, the current impact assessment gives the impression of an early control below public health concern. The challenge with reaching elimination for schistosomiasis is the need to conduct MDAs for a couple of years and to conduct the control impact assessments while completing the dossier for elimination which would be beyond the target of this master plan period, 2027 [28].

Overarching targets
By 2027 in the country:

- Interrupted transmission of trachoma,
- 50% fewer people require interventions against NTDs,
- Achieved moderate morbidity control in all STH-endemic districts.

2.3 Cross-cutting Targets

The **Figure 14** reflects the cross-cutting targets which Zimbabwe hopes to achieve by 2027. The diseases specific target are summarised in **Table 12**.

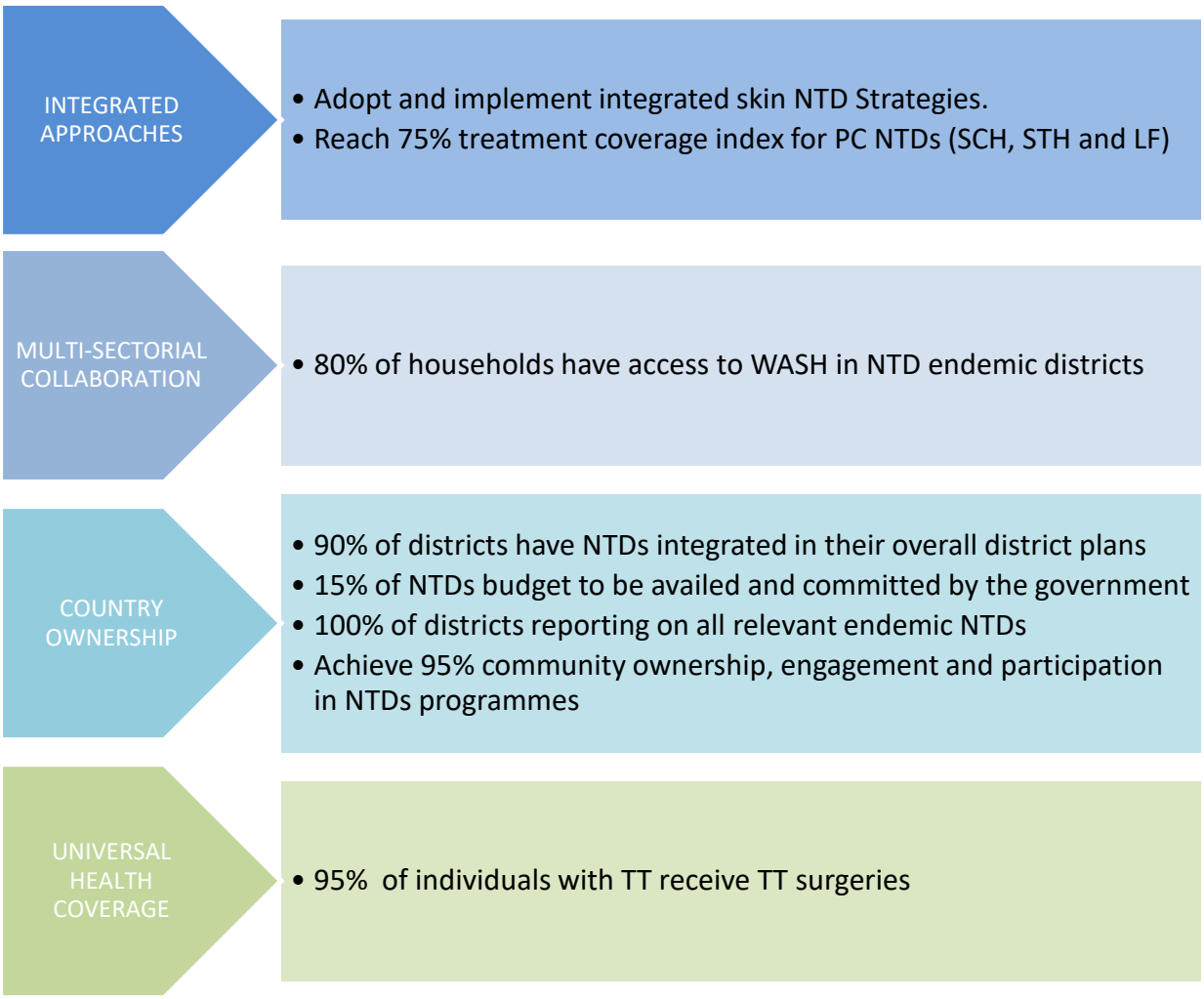


Figure 9. Cross-cutting targets for Zimbabwe

Table 14. Disease-Specific Targets

National target	Diseases	Objective	Year	Strategies
Targeted for Elimination (Interruption of Transmission)	Trachoma	Interrupt transmission in all endemic districts	2027	SAFE
Targeted for elimination as a public health problem	Schistosomiasis including FGS	12 districts achieve moderate morbidity control	2027	MDA WASH Vector control Case management
	Soil transmitted helminthiases	All (100%) districts achieve moderate morbidity control	2027	MDA WASH
	Lymphatic filariasis	Transmission interrupted in 4 districts	2027	Mass Drug Administration, MMDP & Vector control.
	Leprosy	To reduce new leprosy cases with G2D to less than one case per million population.	2027	Active surveillance, contact tracing, case management, rehabilitation.
	Human Rabies	Achieve zero deaths due to human rabies	2027	Case management Veterinary public health intervention (dog vaccinations) Hygiene RCCE
	HAT (*Rhodiense*)	Interrupt transmission	2027	Active surveillance, case management. Vector control
	Anthrax	Interrupt transmission	2027	IDM Veterinary public health intervention (cattle vaccinations) RCCE
Targeted for control	Scabies	100% of scabies cases identified receiving appropriate treatment	2027	MDAs WASH IDM RCCE
	Snake bites envenoming	Zero deaths due to snake bites	2027	IDM RCCE
	Food borne trematodiases	100% districts implementing Intensified control in high endemicity areas	2027	IDM RCCE WASH Veterinary public health intervention
	Echinococcosis	100% districts implementing Intensified control in high endemicity areas	2027	

2.3.1 Milestones

In order for Zimbabwe NTD programme to achieve the overarching, cross-cutting and disease-specific targets as set forth in this strategic plan and given the progress so far made as elucidated in the previous sections a number of milestones have been developed. These disease specific milestones are reflected for; Lymphatic filariasis **Table 13,** **Trachoma** **Table 14,** Schistosomiasis **Table 15,** Soil Transmitted Helminths **Table 16** and CM-NTDs **Table 17**.

Table 15. Milestones for Lymphatic filariasis

Indicator	2023	2024	2025	2026	2027
Complete mapping of LF and Determined LF endemic areas and the population at risk (confirmatory mapping in pending districts)	23 (100%)				
Implement LF MDA in IUs requiring LF MDA including co-endemic areas (one district)	2 (50%)	4 (100%)			
Geographical coverage in LF of LF MDA	2 (50%)	4 (100%)			
Transition of medicines distributors in LF endemic districts (Training and empower VHWs for drug delivery to communities)	0 (0%)	2 (50%)	4 (100%)		
Number of IUs conducted more than 5 rounds of with coverage more than 65%	2 (50%)	3 (75%)	4 (100%)		
Number of IUs conducted first TAS activity after at least 5 rounds of MDA	2 (50%)	3 (75%)	4 (100%)		
Number of IUs conducted and passed at least 2 TAS activities	2 (50%)	3 (75%)	4 (100%)		
Present "Dossier" for verification of absence of LF transmission	0 (0%)	2 (50%)	3 (75%)	4 (100%)	
Number of IUs implementing IVM for the elimination of LF	0 (0%)	1 (25%)	2 (50%)	3 (75%)	4 (100%)
Number of IUs, where there is full coverage of morbidity - management services and access to basic care	0 (0%)	1 (25%)	2 (50%)	3 (75%)	4 (100%)

Table 16. Milestones for Trachoma

Indicator	2023	2024	2025	2026	2027
Conducted mapping of trachoma and determined trachoma endemic areas (health districts) and the population at risk	49 (100%)				
Begun implement SAFE strategy in IUs requiring interventions	29 (100%)				
Geographical coverage in trachoma of SAFE strategy	29 (100%)				
IUs (districts) requiring 1 round of treatment with coverage more than 80%	15 (100%)				
IUs with more than 3 rounds of treatment with coverage more than 80%	8 (100%)				
IUs conducted first impact assessment after 1 or 3 rounds of MDA	17 (59%)	24 (83%)	29 (100%)		
IUs that passed impact assessment	14 (48%)	18 (62%)	24 (83%)	29 (100%)	
IUs that started passive surveillance	14 (48%)	18 (62%)	24 (83%)	29 (100%)	
IUs with full coverage of morbidity-management services	14 (48%)	18 (62%)	24 (83%)	29 (100%)	
IUs achieved elimination of blinding trachoma	0 (0%)	0 (0%)	24 (83%)	29 (100%)	

Table 17. Milestones for Schistosomiasis

Indicator	2023	2024	2025	2026	2027
Completed mapping of SCH and determined SCH endemic areas and the population at risk	63 (100%)				
Begun implement SCH MDA in IUs (in schools and communities as appropriate) requiring SCH MDA	54 (100%)				
Geographical coverage in SCH-endemic areas (districts) of SCH MDA	54 (100%)				
Percentage of low endemic IUs that conducted more than 3 rounds of MDA with coverage more than 75%	0%	0%	0%	12 (100%)	
Percentage of moderate - highly endemic IUs conducted more than 5 rounds of MDA with coverage more than 75%	54 (50%)	54 (75%)	54 (100%)		
Number of IUs with full coverage of WASH interventions.	0 (0%)	0 (0%)	6 (11%)	12 (22%)	18 (33%)
Percentage of IUs conducted first impact assessment after at least 3 rounds of MDA.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	12 (100%)
Number of IUs conducted first impact assessment at least 5 rounds of MDA.	54 (50%)	54 (75%)	54 (100%)		
Endemic IUs achieving moderate morbidity control	0 (0%)	0 (0%)	0 (0%)	0 (0%)	12 (22%)
Endemic IUs achieving advanced morbidity control	0 (0%)	0 (0%)	0 (0%)	10 (0%)	20 (0%)
Endemic IUs achieving elimination of transmission.	54 (50%)	54 (75%)	54 (100%)		

Table 18. Milestones for Soil Transmitted Helminths

Indicator	2023	2024	2025	2026	2027
Completed mapping of STH and determined STH endemic areas and the population at risk	63 (100%)				
Begun implement STH MDA in IUs (districts) requiring SCH MDA	5 (100%)				
Geographical coverage in STH-endemic areas (districts) of STH MDA	5 (100%)				
Percentage of low endemic IUs that conducted more than 3 rounds of MDA with coverage more than 75%	0%	0%	0%	2 (100%)	
Percentage of moderate - highly endemic IUs conducted more than 5 rounds of MDA with coverage more than 75%	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (100%)
Number of IUs with full coverage of WASH interventions.	0 (0%)	0 (0%)	0 (0%)	2 (40%)	3 (60%)
Percentage of IUs conducted first impact assessment after at least 3 rounds of MDA.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
Number of IUs conducted first impact assessment at least 5 rounds of MDA.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (100%)
Endemic IUs achieving moderate morbidity control	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (100%)
Endemic IUs achieving advanced morbidity control	0 (0%)	0 (0%)	0 (0%)	10 (0%)	20 (0%)
Endemic IUs achieving elimination of transmission			54 (50%)	54 (75%)	54 (100%)

Table 19. Milestones for targeted CM-NTDs

Indicator	2023	2024	2025	2026	2027
Active case detection/ screening for in at risk IUs (all CM-NTDs)	10%	20%	30%	50%	75%
Passive case detection in other at-risk IUs	0%	10%	20%	30%	50%
Manage **all** patients in peripheral health facilities	10%	20%	30%	40%	50%
Refer **all** severe and complicated cases for management at district hospitals and reference centres	10%	20%	30%	40%	50%
Achieved 100% treatment coverage of identified cases in at risk districts (all CM-NTDs)	0%	30%	40%	50%	70%
Achieved 100% coverage of identified surgical trachoma trichiasis (TT) cases in endemic districts	7 (41%)	10 (58%)	12 (71%)	14 (81%)	17 (100%)
Started passive surveillance in target IUs for CM-NTDs targeted for elimination	0%	0%	0%	10%	30%
Started sentinel site surveillance in target IUs for CM-NTDs targeted for elimination	0%	10%	30%	50%	80%
Started passive surveillance in target IUs for other CM-NTDs	0%	0%	0%	0%	10%

2.4 Guiding Principles

Table 20. Guiding principles

Guiding principles	• Inter-sectorial involvement of all stakeholders and expertise to maintain efficiency. • Inter-sectorial decision making to enhance implementation strategies. • Evidence-based expert advice and information on best practices and also on coordination of NTDs elimination strategies. • Transparency and accountability. • Consideration to ensure effective coverage of the vulnerable groups and those in hard-to-reach areas of the country. • Community engagement and participation

2.5 Strategic Pillars and Strategic Objectives

2.4.1. Programme Strategic Pillars

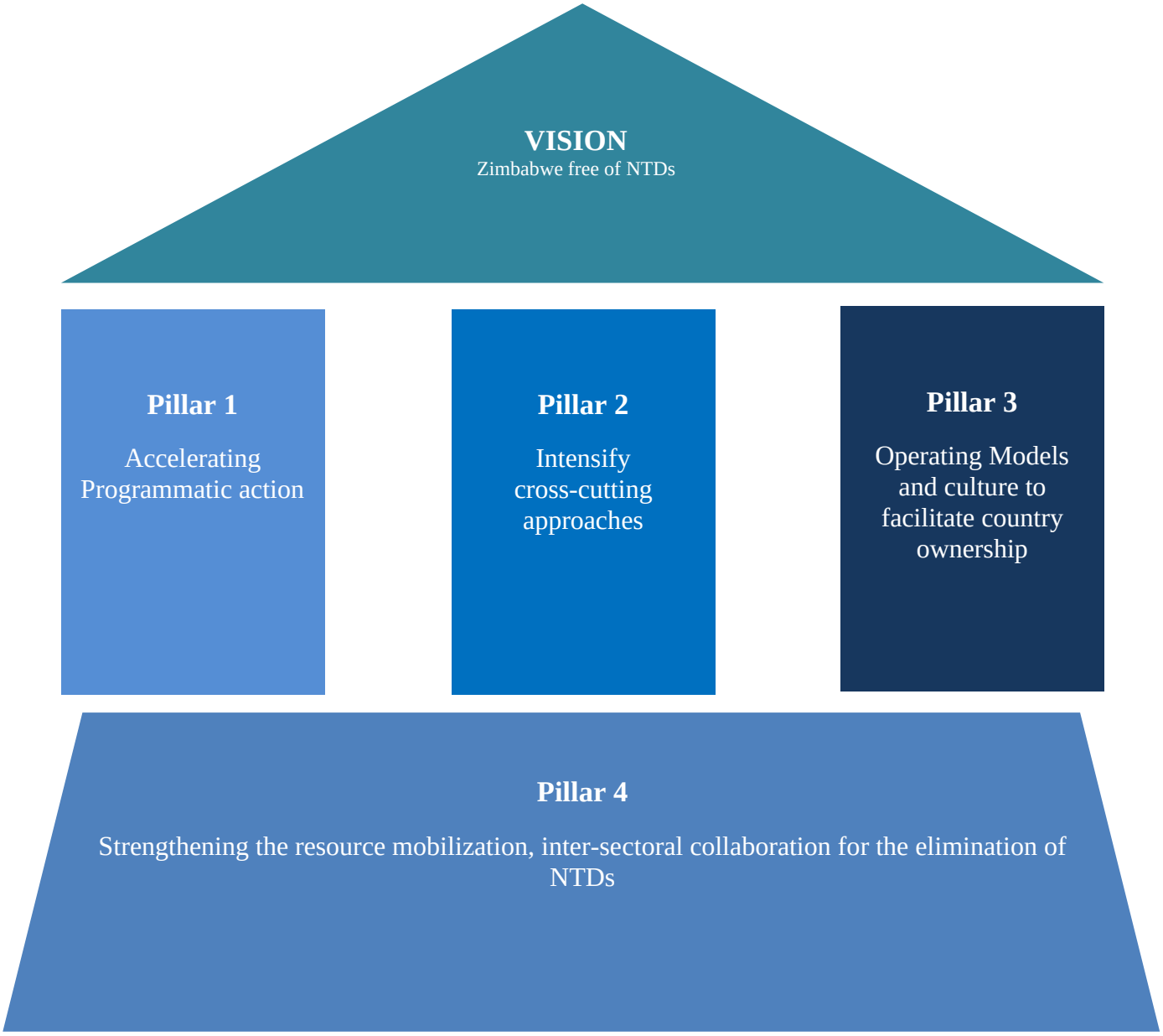


Figure 10. Programme Strategic Pillars

2.5.1 *Strategic Priorities*

Strategic priorities have been established for each Pillar (**Table 19**).

Table 21. Strategic Priorities for the Elimination of Neglected Tropical Diseases

Strategic Pillar	Priorities
Pillar 1. Accelerating programmatic action	Scale up and sustain integrated preventive chemotherapy to achieve 100% geographic coverage and treatment access to SCH (54), STH (5), trachoma (49) and lymphatic filariasis (2).
	Scale up integrated morbidity management of priority NTDs, LF hydrocele management, TT surgeries, complicated SCH (e.g FGS) surgery, scabies, and leprosy as well as case-based diseases management for Anthrax, HAT, snake bites, and rabies
	Prioritize and strengthen monitoring and evaluation to track progress and decision making towards the 2027 goals.
	Ensure timely, safe, and effective supply chain management of quality assured NTD Medicines and other products up to the last mile.
Pillar 2. Intensify cross-cutting approaches	Strengthen identified platforms with similar delivery strategies and interventions (MDAs, skin NTDs, Morbidity management, Risk Communication and Community Engagement (RCCE), WASH etc) for integrated approaches across NTDs.
	Mainstream delivery platforms within the national health system.
	Integrate safety across NTD planning, implementation and monitoring.
Pillar 3. Operating Models and culture to facilitate country ownership	Continue to promote, and strengthen country ownership, and leadership through organizational structures at national and local government with dedicated funding.
	Empower local government and authorities in social mobilization, risk and crisis communication, behavioral change and building local support for NTD interventions.
Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the elimination of NTDs	Promote community participation and ownership of the program for optimal use of available resources.
	Promote improved communication and awareness at the community level for a successful elimination of the endemic NTDs.

2.5.2 *Programme Strategic Agenda Logic Map*

The **Figure 16** maps out logically how the elimination programme in Zimbabwe will be implemented and working and the inter-relatedness. This illustrative example of logic map follows the WHO[28] Thirteenth General Programme of Work 2019–2023 (GPW 13) Page 4.

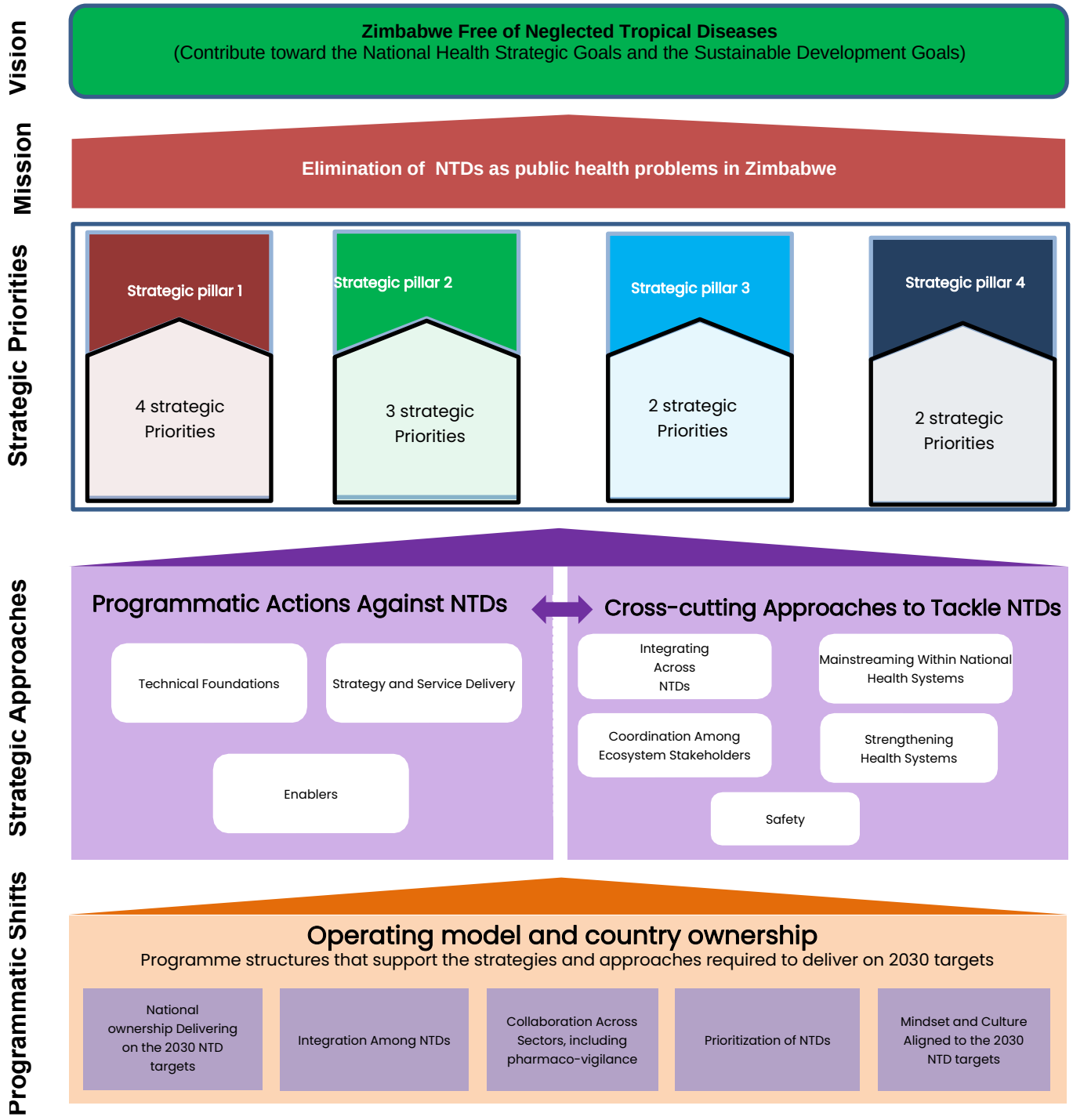


Figure 11. Programme Strategic Agenda Logic Map

PART 3: IMPLEMENTING THE NTD STRATEGY

3.1 Operational Framework: Strategic priorities and Key Activities

This section of the Master Plan provides a description of how Zimbabwe will implement each Strategic Pillars, the Key Activities, sub-activities and the resources required.

3.1.1 PILLAR 1: Accelerating programmatic action

While WHO recommended three main intervention strategies, namely; mass drug administration, case management and transmission control. Additional health and behaviour changes should also be considered alongside. The drugs used for MDA elimination in school health programmes are known to be effective and have an excellent safety record for use in school-age children, pregnant and lactating women. Zimbabwe needs to change the approach on drug distribution of medication for controlling NTDs so as to reach everyone and attain high coverage. The implementation of MDA requires the involvement of diverse community health workers, Environmental Health Practitioners, school health teachers and including agriculture extension workers and community leaders in addition to the government health workers stationed at the rural health centres. In order to cover the community, interventions need to be both community and health facility-based as well as school-based. Health centres, community halls/churches, clinic committees and ward-based committees can be used for social mobilization. Prevention of NTDs morbidity can be achieved through early detection and management of patients. This should be included in the guidelines for the implementation of NTDs control, prevention and elimination. The Government should declare all NTDs as notifiable in Zimbabwe that will assist in ensuring early detection, reporting and management. Leprosy case finding is already integrated with active case findings of TB during community-based care. Rabies prevention and awareness programmes targeting health care providers and communities should be conducted integrated with the Ministry of Agriculture and Fisheries, Veterinary services and the National Parks. Campaigns should include the vaccination of dogs and the promotion of responsible dog ownership. The strategic priorities and key activities are summarised (**Table 20**). Surveillance is a core intervention when a disease is targeted for elimination. This is to ensure a continuous, systematic, analysis and interpretation of data for planning, implementation and evaluation of the NTD interventions. Three of the ten endemic NTDs have been targeted for elimination in Zimbabwe. Therefore, there is need to ensure that surveillance is constant to be able to detect any resurgence or increase in the diseases, clarify the epidemiology and track progress towards the national goal of a Zimbabwe free of NTDs transmission.

A critical examination of the current surveillance capabilities and capacities should be prioritised to enable improved coordination between systems in support of ongoing control. The country has set an ambitious goal of achieving nation-wide transmission interruption by 2030. NTDs should be included on the list of infectious diseases targeted with high priority for surveillance and control. For monitoring of treatment coverage, data should be available in real time as the MDA progresses and a dashboard created that shows the coverage progress.

Table 22. Pillar 1: Accelerate Programmatic Action: Strategic priorities and Key Activities

Pillar 1: Accelerate Programmatic Action		
Strategic priority 1: Scale up and sustain integrated preventive chemotherapy to achieve 100% geographic coverage and treatment access to SCH (54), STH (5), trachoma (49) and lymphatic filariasis (2).		
Key Activities	**Time Frame**	**Resources needed**
Conduct ToT for health workers to deliver MDAs for PC NTDs	Annually	Financial, Human resources and logistical resources
Conduct training for VHW to distribute PC medicines	Annually	Financial, Human resources and logistical resources
Conduct baseline and confirmatory mapping surveys in outstanding districts.	2023	Financial, Human resources and logistical resources
Capacity building of key personnel for implementation of MDAs (Healthcare workers, School Health clubs, community health clubs).	Annually	Financial, Human resources and logistical resources
Conduct mass drug administration in endemic districts	Annually	Financial, Human resources and logistical resources
Conduct quarterly and annual review meetings for implementation activities	Quarterly	Financial, Human resources and logistical resources
Develop comprehensive NTDs training manual and guidelines, for implementing integrated Mass Drug Administration among selected NTDs	2023	Financial, Human resources and logistical resources
Strategic priority 2: Scale up integrated morbidity management of priority NTDs, LF hydrocele management, TT surgeries, complicated SCH (e.g FGS) surgery, scabies, and leprosy as well as case-based diseases management for Anthrax, HAT, snake bites, and rabies		
Train Health Care Workers on how to screen, diagnose, treatment and self-care of case management of NTDs in endemic.	Annually	Financial, Human resources and logistical resources
Train surgical health care workers on relevant NTDs	Annually	Financial, Human resources and logistical resources
Conduct training of Health Care Workers on integrated treatment/management of NTD morbidities in endemic districts	Annually	Financial, Human resources and logistical resources
ToT of laboratory personnel on relevant NTDs in endemic districts	Annually	Human, material, and financial resources
Training of Health Care Workers on Active case detection and reporting for communities in endemic districts	Quarterly	Human, material, and financial resources
Conduct training of lab staff on integrated screening and diagnosis of NTDs	Annually	Human, material, and financial resources
Train all relevant stakeholders on identification and treatment of cases in endemic districts .	Annually	Training modules
Develop and update case definitions with relevant stakeholders	2023	Human, material and financial resources
Train health care workers, school communities, and community on NTDs with emphasis on the case definitions, symptoms and reporting	Annually	Human, material and financial resources, transport
Conduct transmission CM NTDs survey	2025/2027	Human, material and financial resources, transport

Strategic priority 3: Prioritize and strengthen monitoring and evaluation to track progress and decision making towards the 2027 goals		
Develop/Review NTDs manual (contains* registers, tools, frameworks, SOPs)	2023/2026	Human, material and financial resources
Establishment of sentinel sites for M&E in selected districts.	2023	Human, material and financial resources
Training of M&E and Health Information personnel on NTDs programming .	2023, 2025, 2027	Human, material and financial resources
Conduct M&E activities in accordance with approved framework and guidelines.	Annually	Human, material and financial resources
Establish surveillance system for case finding, laboratory confirmation and vector surveillance through integrated sentinel sites, e.g HAT, LF	2023	Human resource Expertise (NIHR, Research institutions, other stakeholders) Financial resource
Develop tools and integrate surveillance data management system for NTDs into DHIS2	2023	Human, material and financial resources
Conduct expert integrated support supervision on surveillance for NTDs at all levels	2023-2027	Human, material and financial resources, transport
Integrate NTDs into notifiable medical conditions surveillance system	2023-2027	Human, material and financial resources, transport
Stakeholder mapping in NTD surveillance	2023-2027	Human, material and financial resources
Identify and conduct random sampling in risk areas (spot check)	2023/2026/2029	Human, material and financial resources, transport
Conduct coverage survey after MDA implementation	Annually	Human, material and financial resources
Conduct cross border activities to strengthen surveillance between neighbouring countries and provinces	2023-2027	Human, material and financial resources
Strategic Priority 4: Ensure timely, safe and effective supply chain management of quality assured NTD medicines and other products up to the last mile		
Train pharmacists in effective supply chain management in endemic districts	Annually	Human, material and financial resources
Request and acquisition of essential NTD medicines and other relevant products.	Annually	Human, material and financial resources
Distribution of medicines to health facilities timeously and appropriately stocking facilities, 95%.	Annually	Human, material and financial resources
Monitoring and management of adverse events,	Annually	Human, material and financial resources
Review of drug efficacy survey	Annually	Human, material and financial resources
Conduct medicines inventory	Annually	Human, material and financial resources
Procure case management NTD medicines- deworms, taeniasis/cysticercosis, echinococcosis for humans and livestock	Annually	Human, material and financial resources

3.1.2 PILLAR 2: Intensify Cross-Cutting Approaches:

The elimination of NTDs is achievable with adequate transmission control, environmental modification, research to provide evidence and innovative approaches to accelerate elimination targets. Most of these interventions are covered under surveillance, coordination and collaboration. The enabling factors in Snail control is done through environmental management, drainage and land reclamation and use of biological and chemical agents to kill or reduce snail population. This require continuous activities that are supported by the country planning ownership. Snail control and other NTDs vector control are a significant control measure that results in the interruption of transmission thereby reducing the infection level in the communities. The use of vector control combined with chemotherapy has shown that transmission can be reduced. In addition, environmental modification such as alteration of water resources for irrigation schemes, in order to control or eliminate snail habitats is recommended for schistosomiasis elimination. This method may be costly but may have long-term economic benefit and required country support and involvement of other stakeholders involved in the sector There is need to strengthen identified platforms with similar delivery strategies and interventions (MDAs, skin NTDs, morbidity management, Risk Communication and Community Engagement (RCCE), WASH, etc for integrated approaches across NTDs (**Table 21**). This major policy change is highly recommended and will establish NTDs as a national priority. The strategy for mass treatment is based on WHO recommendations.

Table 23. Pillar 2. Intensify Cross-cutting Approaches: Strategic priorities and Key Activities

Pillar 2. Intensify Cross-cutting Approaches		
Strategic Priority 1: Strengthen identified platforms with similar delivery strategies and interventions (MDAs, skin NTDs, Morbidity management, Risk Communication and Community Engagement (RCCE), WASH etc) for integrated approaches across NTDs		
Strengthen multi-sectoral collaboration in WASH, vector control, and One health programme	Annually	Personnel
Request and acquisition of essential NTD medicines and other relevant products.	Annually	Budget and Human, Financial resources
Strengthening of the One Health Strategy for NTDs including case definition, common targets, strategies and mechanism for collaboration with other stakeholders	Annually	Budget and Human, Financial resources
Follow up on mass treatment adverse events reported and managed appropriately	Annually	personnel, tools
Collaborate with meat inspection for case reporting on zoonotic NTDs	Annually	personnel, tools
Collaborate with Vet department during dog vaccination and or / awareness against rabies	Annually	Vaccines, IECs
Implement integrated Vector Control management strategies	Annually	Budget and Human, Financial resources
Update guidelines on rabies, rHAT	Annually	Budget and Human, Financial resources
Advocate for inclusion NTDs in the training curriculum in schools	2023, 2024	Budget and Human, Financial resources
Advocate for the establishment of high-quality rabies vaccine bank and support manufacturing of vaccines locally.	Annually	Advocate for vaccine production
Provision of vaccinations for treatment of NTDs		Vaccines, Budget and Human, Financial resources

Strengthen partnership with research and academic institutions	2023	Human resource Expertise (NIHR, Research institutions, other stakeholders) Financial resource
Strategic Priority 2: Mainstream delivery platforms within the national health system		
Inclusion of NTD annual deworming during routine Under 5 children hospital visits	Annually	Budget and Human, Financial resources
School deworming programs	Annually	Budget and Human, Financial resources
Strategic Priority 3: Integrate safety across NTD planning, implementation, and monitoring		
Update guidelines SOPs and tools on supply chain management	2023/2026	Budget and Human, Financial resources
Procure medicines for PCT NTDs	Annually	Budget and Human, Financial resources
Procure anti-venoms health facilities in at risk IUS	Annually	Budget and Human, Financial resources
Procure anti rabies health facilities in at risk IUS	Annually	Budget and Human, Financial resources
Conduct Mental health sensitization/counselling on relevant NTDs e.g leprosy, LF, trachoma trichiasis	Annually	Budget and Human, Financial resources
Integrate NTDs with other programmes like Malaria, EPI	Annually	Human, material, and financial resources
Conduct financial budgeting development with finance team	Annually	Human, material, and financial resources
To carry out pharmacovigilance of NTD drugs including drug resistance surveillance.	2023-2027	Human, material and financial resources, transport

3.1.3 PILLAR 3: Operating Models and Culture to Facilitate Country Ownership

To strengthen the management and operation capacities of the NTD programme, NTD focal persons at various levels needs to be appointed. This will help with the scaling up of interventions across the country. Further, NTDs have several factors that contribute to their transmission and persistence, which if not addressed effectively and adequately, will promote persistence of infection. The contributing factors usually are outside the health sector and multisectoral collaboration to address them is very important. Therefore, strengthening multisectoral collaboration through the implementation of the coordination mechanism at all levels is required to achieve the elimination targets set for the NTDs in Zimbabwe. The areas of intervention that will require multisectoral collaboration include resource and social mobilisation, vector control, access to safe water supply and sanitation. Health and hygiene education to improve knowledge, attitudes and practices should be promoted. Adequate sanitation and access to safe water supply should be aimed at in order to reduce contamination of the soil with STH eggs and of fresh water with *Schistosoma* eggs; and thus to reduce human contact with contaminated soil and water. The use of improved latrines in communities without the necessary infrastructure has proven effective in providing access to sanitation services, thereby reducing contamination of soil and water from improper sanitary practices. The provision of water supply, access to clean water must be enforced in all communities to reduces the contact of community with contaminated water as they will rely on tap water for purposes such as washing clothes, bathing and playing. Therefore, advocacy for provision of an adequate supply of sanitation facilities and potable water to communities becomes essential. These require multi-sectoral inputs from various departments and stakeholders within Zimbabwe (**Table 22**).

Table 24. Pillar 3. Operating Models and Culture to Facilitate Country Ownership: Strategic priorities and Key Activities

Pillar 3. Operating Models and Culture to Facilitate Country Ownership		
Strategic Priority 1: Continue to promote, and strengthen country ownership, and leadership through organizational structures at national and local government with dedicated funding		
Sensitize health care providers and other relevant stakeholders on NTDs	2023-2027	Human, material, and financial resources, transport
Develop sentinel sites and spot check protocol	2023	Human, material, and financial resources, transport
Strategic Priority 2: Empower local authorities in social mobilization, RCCE, behavioural change and building local support for NTD interventions		
Identify communication channels with key focus on NTDs messaging	2023-2027	Human, material, and financial resources
Conduct integrated community engagement, empowerment and ownership of NTDs activities in endemic districts	Annually	Human, material, and financial resources
Conduct monitoring and evaluation for action including collection and use of programme performance and verification of elimination, regular programme reviews, documentation, and reporting.	2023-2027	Human resource Expertise (NIHR, Research institutions, other stakeholders) Financial resource material and financial resources, transport
Training of VHW on pharmacovigilance of NTD drugs including drug resistance surveillance	2023-2027	Human, material and financial resources
Conduct community sensitization on pharmacovigilance of NTD drugs including drug resistance surveillance	2023-2027	Human, material and financial resources
Conduct progress review workshop at district level and provincial	2023-2027	Human, material and financial resources
Maintain and re-establish sentinel sites to obtain buy-in	2023	Human, material, and financial resources, transport

3.1.4 Pillar 4 : Strategic Activities and Performance Indicators

Multi-sectoral inputs from various departments and stakeholders are required. The Ministry of Health and Child Care will coordinate the overall prevention and control of schistosomiasis, STH, HAT, LF, leprosy and human rabies including health education, prevention campaigns, case management, surveillance and environmental health with the Laboratory Services/National Institute of Health Research/ Research groups in Universities for confirmation, monitoring of drug resistance and updating database for laboratory confirmed cases. The Ministry of Water Resources and Ministry of Local Government will ensure availability of safe water to the community. Having access to safe water will reduce the community's risk of infection with schistosomiasis and STHs; the community will no longer rely on water from the rivers and dams for domestic purposes. The Ministry of Primary and Secondary Education will play a major role in educating learners and discouraging risky behaviours such as indiscriminate defecation and swimming in dams and rivers that may expose them to the infection. The school systems will also support health in the regular deworming of students against schistosomiasis and STH (**Table 23**).

Table 25. Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the Elimination of NTDs: Strategic priorities and Key Activities.

Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the Elimination of NTDs		
Strategic Priority 1: Promote community participation, and ownership of the program for optimal use of available resources		
Develop a framework for community participation and ownership for programme implementation.	2023 – 2027	Human resources, Budget, & Guidelines
Create community support groups for morbidity management e.g. lymphedema, TT in endemic districts	2023 – 2027	Human resources, Budget, & Guidelines
Conduct capacity building for support groups on morbidity management including hygiene	2023 – 2027	Human resources, Budget, & Guidelines
Mobilize resources to be used by VHW from WARDCO and Health Centre Committees to promote uptake of NTDs interventions and ownership	2023 – 2027	Human resources, Budget
Engagement of community leaders, religious, teachers, journalists, traditional leaders, etc.	2023 – 2027	Advocacy and IEC materials,
Conduct advocacy with Local CBOs, and partners involved in developmental issues in the target areas.	2023 – 2027	Advocacy and IEC materials,
Strategic Priority 2: Promote improved communication, and awareness at the community level for a successful elimination of the endemic NTDs.		
Review of current NTDs IEC materials and surveillance materials (inclusive of all priority and non-priority NTDs)	2023-2027	Budget and Human, Financial resources
Develop communication strategy for NTDs, guidelines	2023 – 2024	Budget and Human, Financial resources
Development and production of NTDs IEC materials with participation of local community to enhance visibility of NTDs activities	2023-2027	Human resources, Budget, & Guidelines
Development of NTDs IEC materials in priority local languages with thrust on key messaging	2020 – 2027	Budget and Human, Financial resources
conduct health promotion activities at community level (e.g., development of messages and distribution through appropriate communication channels such as radio campaigns, TV, Roadshows , mass communication, social mobilization and door to door campaigns)	2023-2027	Human resources, Budget, & Guidelines
Strengthen Community engagement through community involvement in NTDs Programming (e.g surveillance)	2023 – 2027	Budget and Human, Financial resources
Conduct integrated RCCE on NTDS with other health programs	Quarterly	Annual RCCE campaign, Transport, IEC material
Develop IEC material on WASH/vector control and one health	2023	Human, material and financial resources
Community awareness on self-care and referral for relevant NTDs	Annual	Human, material, and financial resources

1.2 Section 3.2: Toward Programme Sustainability: Intensifying Coordination and Partnerships

The control of NTDs is within the mandate of the Epidemiology and Disease Control Unit (EDC) of the Ministry of Health and Child Care. Currently all NTDs are on the weekly disease surveillance reporting

system. A strategic advisory group was established and executed the national NTDs master plan drafting, provided oversight in the production of this national plan of action on NTDs, and will continue planning, monitoring and evaluation of the implementation. A taskforce specifically for NTDs has been functionally in place since early 2006. The current composition includes but is not limited to the following: Director Epidemiology and Disease Control Unit (**Figure 17**), Director NIHR, National NTDs Control Focal Person, Deputy Director Nutrition Unit, Deputy Director Community Nursing, WHO, UNICEF, Sightsavers, World Vision, WWH, Higherlife, University of Zimbabwe, Ministry of Education Primary and Secondary Education, Researchers from Universities, Department within the Ministry of Health and Child Care; Pharmacy, Information, Environment and Communication, Zimbabwe.

A number of key players must come together to support the Ministry of Health and Child Care to successfully sustain the implementation of the NTDs control and elimination program. The other key players include but are not limited to the Ministry of Agriculture Fisheries and Water Resources, and Ministry of Transport, Communications, Ministry of Women's Affairs, Ministry of Local Government and the national universities. School programmes ongoing include malaria, HIV awareness campaigns, school hygiene promotions including sinking of boreholes and construction of sanitary facilities in some districts with support from development partners that include UNICEF, WVI, WWH and World Food Programme. There is need for a comprehensive school based NTD control activities in Zimbabwe and to include detailed NTDs content school training curriculum.

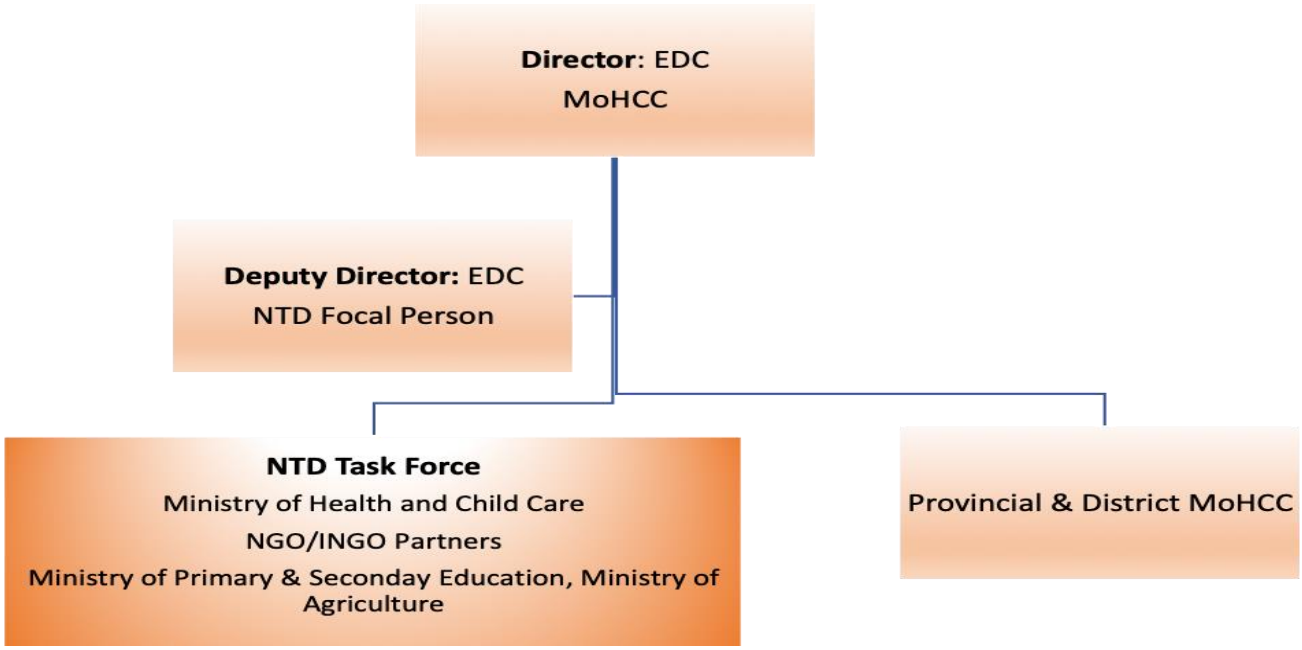


Figure 12. Programme coordination mechanism in the Ministry of Health and Child Care under the Epidemiology and Diseases Control and members of the NTDs Task Force.

Membership and Terms of Reference – Programme Coordination Mechanism

This section provides different committees and the membership of the implementing partners, donors such as WHO, Sightsavers, Higherlife, UNICEF (**Table 24**). The terms of references are guided by the specific NTD in each entity.

Table 26. Membership and Terms of Reference – Programme Coordination Mechanism

Entity	Membership	Terms of Reference
National NTD Steering Committee Ministry of Health and Child Care Departments – EDC,		
Meeting frequency: Quarterly Chair: Chief Director Public Health Host: Director EDC	Chief Director Public Health, Director EDC, NTD Co-ordinator, Director NIHR, Director Environmental Health, Deputy Director Health Promotion, Deputy Director Health Information, Academia, Partners, WASH Co-ordination	Review NTD PROGRAMME progress Advise on resource mobilization
Specific NTD sub-committees		
Trachoma		
Meeting frequency: Quarterly Chair: Director EDC Host: NTD Coordinator	EDC, WASH Coordination, Pharmacy, PHE rep, DHE rep, Partner Representatives, Environmental Health, Health Promotion, Health Information, Policy Planning, Monitoring and Evaluation, Partners, CSOs, PHPs, Professional Associations, Academia Semi-autonomous Institutions, Health Consumers	- Reviewing and tracking of the Trachoma Action Plan, as derived from the NTD Master Plan. - To develop, the Zimbabwe Trachoma elimination Dossier for presentation to WHO by 04/2024 • Monitoring and evaluation of the national Trachoma Action plan; including documentation of emerging best practices, human interest stories and lessons learnt • Identification, collaboration and coordination of all relevant stakeholders • Coordinating operational research on Trachoma, WASH and other determinants including behavioural • Developing a communication strategy for Trachoma elimination. • Lobbying for strengthening of systems and processes that ensure sustainable Trachoma prevention and control across all relevant sectors.
SCH & STH		
Meeting frequency: Quarterly Chair: Director EDC Host: NTD co-ordinator	EDC, WASH Co-ordination, Pharmacy, DHE rep, PHE rep, Partners, Health information, Health promotion, Ministry of Primary and secondary education, Veterinary Services, Academia, NIHR, policy Planning and Health Economics.	• Providing technical support in the development, review, implementation and monitoring of the national NTDs strategic plan, annual operational plans and all relevant guidelines and procedures • Analysing all available NTDs data (routine and survey) to produce recommendations of actions for review and approval by NTD TWG. • Participating in research related to NTD from protocol development to publication of research findings • Playing an advocacy and advisory role in SCH and STH control and elimination • To support the coordination of the stakeholders' activities working in SCH and STH domain towards a sustainable impact. • Review technical reports from disease PROGRAMMEs • Provide technical guidance on STH and SCH regarding mapping, re-mapping, interventions, input into dossier specific diseases • Follow up and act on NTD secretariat Undertakings & Actions • Identify and advocate for resource mobilization for NTD program (WASH BCC) • Establish and agree on NTD TWG policy of conducting meetings and ensuring regular and active participation
Rabies, Snake Envenomation, Anthrax		

Meeting frequency: Quarterly Chair: Director EDC Host: NTD co-ordinator	EDC, Pharmacy, Vet, Policy and Planning, PHE rep, DHE rep and Partners, CSO, Health Consumers, Zimbabwe National Parks and Wildlife Authority.	• Review technical reports from weekly disease surveillance • Development and review of policies, strategic plans, research and guidelines
Skin related NTDs (Scabies, Plague, Leprosy)		
Meeting frequency: Quarterly Chair: Director EDC Host: NTD co-ordinator	EDC, WASH Coordination, Pharmacy, DHE rep, PHE rep and Partners, CSO, Professional Associations, health Information, Health Promotion, NIHR Health Consumers, Academia M &E	• Review technical reports from weekly disease surveillance reports. • Giving technical guidance on scabies, plague and leprosy. • Development and review of policies, strategic plans, research and guidelines

Membership and Terms of Reference – Partnership

This section provides the partners in the country including the implementing partners, donors WHO, Sightsavers, Higherlife, UNICEF, private and public partnership, such as Ministry of Agriculture, Lands and Fisheries, Ministry of Primary and Secondary Education, Pharmacovigilance Center, or thematic partners such as One-Health partners or specific donors that support NTD or NTD-related activities at the sub-national level (**Table 25**).

Table 27. Partnership Matrix: List according to Provinces in Zimbabwe

Province	NTDs	Veterinary	WASH	IVM	One-Health	Education	Malaria
Harare/National	Sightsavers, Higherlife, WHO, world vision, UNICEF, Cater centre	MAAIF	UNICEF	ABT	FAO	UNICEF	PMI
Bulawayo	The Carter Center,	COVAB-Makerere	Water for People	PMI	WOAH	MOES	NMCP
Manicaland	RTI-Act to End NTDs	MOH-Dep VPH	IRC-WASH	VCD	GIZ	MOFPED	Malaria Consortium
Masvingo	Save the Children	ILRI	USHA	NMCP	AFROHUN		MOFPED
Mashonaland West	WI-HER		AMREF	ICIP	MAAIF		NMS
Mashonaland East	World Vision		PLAN International		MOH		
Mashonaland Central	Innovations for Tropical Disease Elimination (IFOTRODE)		UWASNET		ICRC		
Matebeleland North	End Fund for VL		World Vision		Makerere University		
Matebeleland South	SCIF DNDI, GIZ		SNV MOWE		UWA		
Chitungwiza	Sole Hope		Water Aid		MOFPED		

3.2 Assumptions, Risks and Mitigations

The NTDs prevention, control and elimination programme in Zimbabwe has been implemented as region or population targeted activities over the past 2 decades. The landscape is conducive for the implementation of a comprehensive control to elimination programme. The manpower is sufficiently primed for such programme following similar infection prevention and control activities over the past few years. Well designed and planned programmes is bound to be successful, though may be faced with some challenges (**Table 26**). Some of the risks are unavoidable and have appropriate mitigation strategies.

Table 28. Assumptions, Risks and Mitigations

Potential Risk	Before risk mitigation	Risk Mitigation	After risk mitigation

	Likelihood of occurrence	Impact	Score		Likelihood of occurrence	Impact	Score
	Certain =5 Likely =4 Possible =3 Unlikely =2 Rare =1	Severe =5 Major =4 Moderate =3 Minor =2 Insignificant =1	Likelihood x Impact		Certain =5 Likely =4 Possible =3 Unlikely =2 Rare =1	Severe =5 Major =4 Moderate =3 Minor =2 Insignificant =1	Likelihood x Impact
Risk type: Security and Asset Protection							
Security	3	4	12	Programme assets and medicines to be kept in secure storage rooms	3	3	9
Breakdown of vehicles	3	4	12	Budget for service and replacement	2	3	6
Fire outbreaks in offices and medical stores	3	4	12	Fire extinguishers at accessible points Installation of fire alarms Fire drills Electric connection to be secured appropriately	1	3	3
Risk Type: Community Sensitization and Inclusion							
Misconceptions in the communities	4	2	8	Community sensitization	2	2	4
Vulnerable groups (women and children) not able to access the interventions	3	4	12	Ensure inclusion is embedded in project design process	2	3	6
Risk Type: Operational and Community Engagement							
Delays in procured medicines, supplies and equipment	3	4	12	Timely procurement	2	3	6
Community fatigue over MDA distribution uptake and lack of thorough information	3	3	9	Public education Bring the service closer to the community through use of VHWs	2	2	4
Mis- and dis-information on the benefits of MDA medicines through social media	4	4	16	RCCE	3	3	9
Diseases outbreaks during the implementation of the NTDs activities eg malaria, COVID-19, Cholera	2	5	10	EPR	2	4	8
Competing priorities within MoHCC	2	4	8	Coordination of implementation of program activities	1	3	3
Risk Type: Financial risk							
Reduced financial and material support by the government to fund the NTDs activities.	4	2	8	Increased budget allocation and early disbursement of funds	3	2	6
Donor reduced support to the MDAs activities	3	5	15	Engage funding partners in NTDs	3	4	12
Risk Type: Environmental risk							
Program operations affected by natural disasters and unfavorable climatic conditions	2	4	8	Monitoring weather patterns and safe storage of program asserts and medicines	1	3	3

Climate change causing increase in cases	2	4	8	Climate resilience	1	3	3

Risk Rating (Likelihood x Impact)	
19 – 25	Severe
13 – 18	Major
7 – 12	Moderate
0 – 6	Minor

3.2.1 Mitigation

Managing risk means mitigating the threats or capitalizing on the opportunities that uncertainty presents to expected results. Failure to identify risks and failures to come up with risk mitigation strategies can and do kill projects. If no mitigation strategy can help, then *change* the strategy and project approach (**Table 27**).

Table 29. Steps to mitigate risk

Avoid	Change plans to circumvent the problem
Control	Reduce threat impact or likelihood (or both) through intermediate steps
Share	Outsource risk (or a portion of the risk) to a third party or parties that can manage the outcome.
Accept	Assume the chance of the negative impact
Monitor	Monitor and review process in which risk management is in place

3.3 Performance and Accountability Framework

The Zimbabwe road to NTD elimination vision for the country is population free of schistosomiasis, soil transmitted helminthiasis, leprosy and human rabies. Monitoring of the NTD programme is important to adjust as implementation progress and this should be continuous during the interventions especially treatment coverage and drug efficacy [28]. The programme will then be evaluated after several years of intervention to assess the impact of the interventions. When this is performed, the results are compared with the baseline data prior the interventions. The surveillance is core intervention when NTDs are targeted for elimination. This will enable early detection of re-emergence of cases following declaration of a disease eliminated and stoppage of intervention. This is a continuous process implemented in facilities and or laboratories for action. The programme will establish sentinel sites to monitor the re-emergence of the eliminated NTDs in the areas. A set of performance indicators have been developed that will be monitored to assess progress and impact of intervention for each strategic pillar and objectives.

Table 30. Performance and Accountability Framework

Pillar 1: Accelerate Programmatic Action		
Strategic priority 1: Scale up and sustain integrated preventive chemotherapy to achieve 100% geographic coverage and treatment access to SCH (54), STH (5), trachoma (49) and lymphatic filariasis (2).		
Performance Indicators	**Target**	**Frequency**
Number of HCW trained to deliver MDAs for PC NTDs,	5790	Annually
Number of VHW trained to deliver PC medicines	4000	Annually
Number of outstanding districts mapped	16 LF districts & 3 trachoma baseline	Annually
Proportion of key personnel trained in implementation of MDAs (Healthcare workers, School Health clubs, community health clubs).	75%	Annually
Proportion of MDAs conducted in endemic	100%	Annually
Number of quarterly and annual review meeting for implementation activities	40	Quarterly
Number of NTDs training manuals and guidelines developed	2	Annually
Strategic priority 2: Scale up integrated morbidity management of priority NTDs, LF hydrocele management, TT surgeries, complicated SCH (e.g FGS) surgery, scabies, and leprosy as well as case-based diseases management for Anthrax, HAT, snake bites, and rabies		
Proportion of Health Crae Workers Trained in Case Management to screen, diagnose, treatment, and self care of case management of NTDs in endemic districts.	75%	Annually
Number of trained surgical health care workers on relevant NTDs	50	Annually
Proportion of trained Health Care Workers on integrated treatment/management of NTD morbidities in endemic districts	75%	Annually
Proportion of lab personnel trained on integrated screening and diagnosis of NTDs	75%	Annually
Proportion of Health Care Workers training in active case detection and reporting in endemic districts	75%	Annually
Proportion of lab staff trained on integrated screening and diagnosis of NTDs in endemic districts	75%	Annually
Proportion of relevant stakeholders on identification and treatment of cases in endemic districts .	75%	Annually
Number of case definition developed with stakeholders	10	Annually
Proportion of health care workers, school communities, and community on NTDs with emphasis on the case definitions, symptoms and reporting in endemic districts	75%	Annually
Number of transmission CM NTDs surveys conducted	5	Annually

Strategic priority 3: Prioritize and strengthen monitoring and evaluation to track progress and decision making towards the 2027 goals		
Number of NTDs manual (contains* registers, tools, frameworks, SOPs) developed	1	Annually
Number of sentinel sites functional		Annually
Number of M & E and Health Information personnel trained in NTDs programing.	150	Annually
Number of baseline and impact assessments conducted	2	Annually
Number of operational surveillance systems for case finding laboratory confirmation and vector surveillance through integrated sentinel sites	1	Annually
Number of integrated surveillance data management systems for NTDs in DHIS2 developed	1	Annually
Number of expert integrated support supervisions on surveillance for NTDs at all levels conducted	20	Annually
Proportion of NTDs Integrated into the current notifiable medical conditions surveillance system	75%	Annually
Proportion of health care workers, and school health masters trained on NTDs	100%	Annually
Proportion of spot checks Identified in risk areas	75%	Annually
Number of coverage surveys conducted after MDAs	15	Annually
Number of cross-border activities to strengthen surveillance with neighbouring countries and provinces conducted	5	Annually
Strategic Priority 4: Ensure timely, safe and effective supply chain management of quality assured NTD medicines and other products up to the last mile		
Number of pharmacists trained in effective supply chain management in Endemic Districts	400	Annually
Number of requests and acquisition of essential NTD medicines and other relevant products done	5	Annually
Proportion of health facility that received medicines before implementation and have been appropriately stocked, 95%	80%	Annually
Proportion of adverse events following mass treatment reported and managed appropriate	100%	Annually
Number of drug efficacy surveys reviewed	2	Annually
Number of medicines inventories conducted	5	Annually
Percentage availability of vaccine	80%	Annually
Pillar 2. Intensify Cross-cutting Approaches		
Strategic Priority 1: Strengthen identified platforms with similar delivery strategies and interventions (MDAs, skin NTDs, Morbidity management, Risk Communication and Community Engagement (RCCE), WASH etc) for integrated approaches across NTDs		
Number of platforms established and sustained for multi-sectoral collaboration in WASH programme	3	Annually
No of times essential NTD medicines and other relevant products requested or acquired on time	4	Annually
Number of One Health Strategy case definition, common targets, strategies, and mechanism with NTDs integrated	1	Annually

Proportion of adverse events following mass treatment reported and managed appropriate	100%	Annually
Number of districts with meat inspectors reporting zoonotic NTDs	63	Annually
Number of campaigns which NTDs is involved e.g dog vaccination and or / awareness against rabies	20	Annually
Number of advocacy meeting conducted on integrated vector control	20	Annually
Number of guidelines updated (rabies, rHAT)	2	Annually
Number of advocacy meetings conducted on inclusion of NTDs into training curriculum in schools	5	Annually
Number of advocacy meetings on high-quality rabies vaccine bank and support manufacturing of vaccines locally conducted	3	Annually
Number of vaccinations administered		Annually
Number of experienced researchers participating in NTD activities (2 per state university, research institutions)	20	Annually
Strategic Priority 2: Mainstream delivery platforms within the national health system		
Number of Health monitoring card includes deworming	1	Annually
Number of deworming indicators included in DHIS2	1	Annually
Proportion children given deworming tablets at schools	75%	Annually
Strategic Priority 3: Integrate safety across NTD planning, implementation, and monitoring		
Number of integrated guidelines, SOPs and tools on supply chain management developed and adopted	1	2023
Number of procurement of medicines processes completed	5	Annually
Number of procurements of anti-venoms processes completed	5	Annually
Number of procurements of anti-rabies processes completed	5	Annually
Proportion of Mental health sensitization/counselling sessions conducted on relevant NTDs e.g leprosy, LF, trachoma trichiasis	80%	Annually
Number of programmes with NTDs integrated like Malaria, EPI eg in the distribution of mosquito nets	4	Annually
Number of trainings on financial budgeting development capacity conducted	4	Annually
Number pharmacovigilance of NTD drugs including drug resistance surveillance conducted.	4	Annually
Pillar 3. Operating Models and Culture to Facilitate Country Ownership		
Strategic Priority 1: Continue to promote, and strengthen country ownership, and leadership through organizational structures at national and local government with dedicated funding		
Proportion of health care providers and other relevant stakeholders sensitized on NTDs	80%	Annually
Sentinel sites and spot check protocol developed	1	Annually
Number of sentinel sites maintained and re-established to obtain buy-in		Annually
Strategic Priority 2: Empower local authorities in social mobilization, RCCE, behavioural change and building local support for NTD interventions		
Number of communication channels identified and strengthened with key focus on NTDs messaging	1764	Annually
Number of RCCE activities conducted (4 activities in each districts)	252	Annually
Number of periodic programme review meetings conducted	20	Annually
Number of VHWs trained on pharmacovigilance	110250	Annually

Number of community sensitization meetings on pharmacovigilance of NTD drugs including drug resistance surveillance	1260	Annually
Number of progress review workshops at district level (63) and provincial (10)	365	Annually
Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the Elimination of NTDs		
Strategic Priority 1: Promote community participation, and ownership of the program for optimal use of available resources		
Number of community participation and ownership framework developed	1	2023-2027
Number of Support groups for morbidity management (e.g. lymphedema (4), TT (23)) developed in endemic districts	27	2023 – 2027
Number of stablished groups which have capacity built for morbidity management including hygiene on a phased basis	54	2023 – 2027
Number of mobilized WARDCO and Health Centre Committees (HCC) to promote uptake of NTDs interventions and ownership	315	2023 – 2027
Number of community leaders, religious, teachers, journalists, traditional leaders, etc engaged in endemic districts.	945	2024 – 2027
Number of advocacy meetings with Local CBOs, and partners involved in developmental issues in the target areas.	1260	2023 – 2027
Strategic Priority 2: Promote improved communication, and awareness at the community level for a successful elimination of the endemic NTDs.		
Number of NTDs IEC materials reviewed	30	Annually
Proportion of health workers trained to deliver MDAs for PC NTDs, in endemic and implementing districts	80%	Annually
Number of NTD IEC materials developed and produced by local community	10	Annually
Number of NTD IEC materials in all local languages developed (4 types (pamphlets, banners, posters and brochures) of IEC materials produced in 4 languages)	16	Annually
Number of health promotion activities at community level (e.g radio campaigns, TV, Roadshows, and door to door campaigns during MDAs)	2 per community	Annually
Number of community engagement meetings through community involvement in NTD Programming on a phased basis	19	Annually
Number of awareness-campaigns in the endemic communities to enhance surveillance and reporting on a phased basis	19	Annually
Number of Surveillance IEC materials developed (4 types of IEC materials on surveillance)	20	Annually
Number of joint RCCE on NTDS campaigns conducted (4 types of IEC	20	Annually

PART 4: Budget Estimates and Justifications

4.1 Budget Estimates

This budget is a plan for future activities and is a key management tool. The Zimbabwe national NTD programme has produced a comprehensive budget in line with the NTD master plan proposed activities. The information contained in this section provide a multiyear NTD programme budget that is concise, comprehensive, realistic and cost-effective.

Table 31. Budgeting Activities

Strategic priority /Year	2023	2024	2025	2026	2027	Total Cost
Budget in USD						
Pillar 1: Accelerate Programmatic Action,						
Strategic priority 1: Scale up and sustain integrated preventive chemotherapy to achieve 100% geographic coverage and treatment access to SCH (54), STH (5), trachoma (49) and lymphatic filariasis (2).	3,960,240	3,328,705	3,328,705	3,328,705	3,539,205	**17,485,560**
Strategic priority 2: Scale up integrated morbidity management of priority NTDs, LF hydrocele management, TT surgeries, complicated SCH (e.g FGS) surgery, scabies, and leprosy as well as case-based diseases management for Anthrax, HAT, snake bites, and rabies	2,583,420	2,443,760	2,302,340	2,302,340	2,528,725	**12,160,585**
Strategic priority 3: Prioritize and strengthen monitoring and evaluation to track progress and decision making towards the 2030 goals	540,650	417,420	382,890	382,890	298,775	**2,022,625**
Strategic Priority 4: Ensure timely, safe and effective supply chain management of quality assured NTD medicines and other products up to the last mile	9,475	9,475	9,475	9,475	9,475	**47,375**
Pillar 2. Intensify Cross-cutting Approaches						
Strategic Priority 1: Strengthen identified platforms with similar delivery strategies and interventions (MDAs, skin NTDs, Morbidity management, Risk Communication and Community Engagement (RCCE), WASH etc) for integrated approaches across NTDs	242,811	69,540	69,540	169,540	234,175	**785,606**
Strategic Priority 2: Mainstream delivery platforms within the national health system	4,350	600	600	600	4350	**10,500**
Strategic Priority 3: Integrate safety across NTD planning, implementation, and monitoring	71,051	57,890	57,890	67,890	72,550	**327,271**
Pillar 3. Operating Models and Culture to Facilitate Country Ownership						**0**
Strategic Priority 1: Continue to promote, and strengthen country ownership, and leadership through organizational structures at national and local government with dedicated funding	153,620	82,980	82,980	82,980	144,365	**546,925**
Strategic Priority 2: Empower local authorities in social mobilization, RCCE, behavioural change and building local support for NTD interventions	4,179,625	5202985	5202985	4301020	5202985	**24,089,600**
Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the Elimination of NTDs						
Strategic Priority 1: Promote community participation, and ownership of the program for optimal use of available resources	4,031,250	417,660	417,660	417,660	3,765,705	**9,049,935**
Strategic Priority 2: Promote improved communication, and awareness at the community level for a successful elimination of the endemic NTDs.	3,389,432	3,276,620	3,148,680	3,145,680	3,148,680	**16,109,092**
Grand Total						**82,635,074**

4.2 Budget Justification

The budget is aligned according to the strategic objectives on a yearly basis for each pillar.

4.2.1 Pillar 1: Accelerate Programmatic Action,

The first year is composed of intensive activities that will involve scaling up MDA targeting schistosomiasis in 54 districts in specific hotspot wards which makes the cost slightly higher. The other NTDs on PCT target STH in 5 districts, trachoma 49 districts and lymphatic filariasis in 2 districts. The cost includes the requirement to sustain integrated preventive chemotherapy to achieve 100% geographic coverage and treatment access to the whole population in case by case basis .

Funding for priority NTDs that need integrated morbidity management eg the LF hydrocele management, TT surgeries, complicated schistosomiasis (e.g FGS,) surgery, scabies, and leprosy as well as case-based diseases management for Anthrax, HAT, snake bites, and rabies is requested throughout the implementation period. Usually these would be identified through the surveillances in endemic regions.

For the strategic priority 3 that will prioritize and strengthen monitoring and evaluation that is required to track progress and decision making towards the 2027 goals. Much of the monitoring foundation and structures will be established during year 1, 2023; with general implementation by the cadres in the following years.

The supply chain management of target NTD medicines and other products would have alternate purchase years with a reasonable procurement for availability of the medicines for the following year.

4.2.2 Pillar 2. Intensify Cross-cutting Approaches ,

The required resources will enable strengthening of delivery channels on the proposed activities on MDAs for PCT and morbidity management of diseases post mass treatment. There is a continuous activity on Risk Communication and Community Engagement. The success of the NTDs elimination roadmap requires continuous community engagement to inform targeted design and intervention.

The activities to achieve maximum benefits requires mainstreaming the health delivery systems to embrace the NTDs activities for maximum benefit. The stimulation can easily be achieved within the early stages of the elimination roadmap.

4.2.3 Pillar 3. Operating Models and Culture to Facilitate Country Ownership

NTDs have a huge impact on the country population especially the poor, such that investment and involvement of the country health system and delivery would alleviate suffering and contribute towards economic gains of the country. Allocation is made to continue promoting attention on NTDs and to advocate for country ownership. All sector leadership through the organizational structures at national and local government have to be sensitized continuously at strategic gatherings using dedicated funding.

Concerted effort is required to tackle NTDs from all fronts. Resources are required to empower local authorities in social mobilization, RCCE, behavior change and also to building local support for NTD interventions.

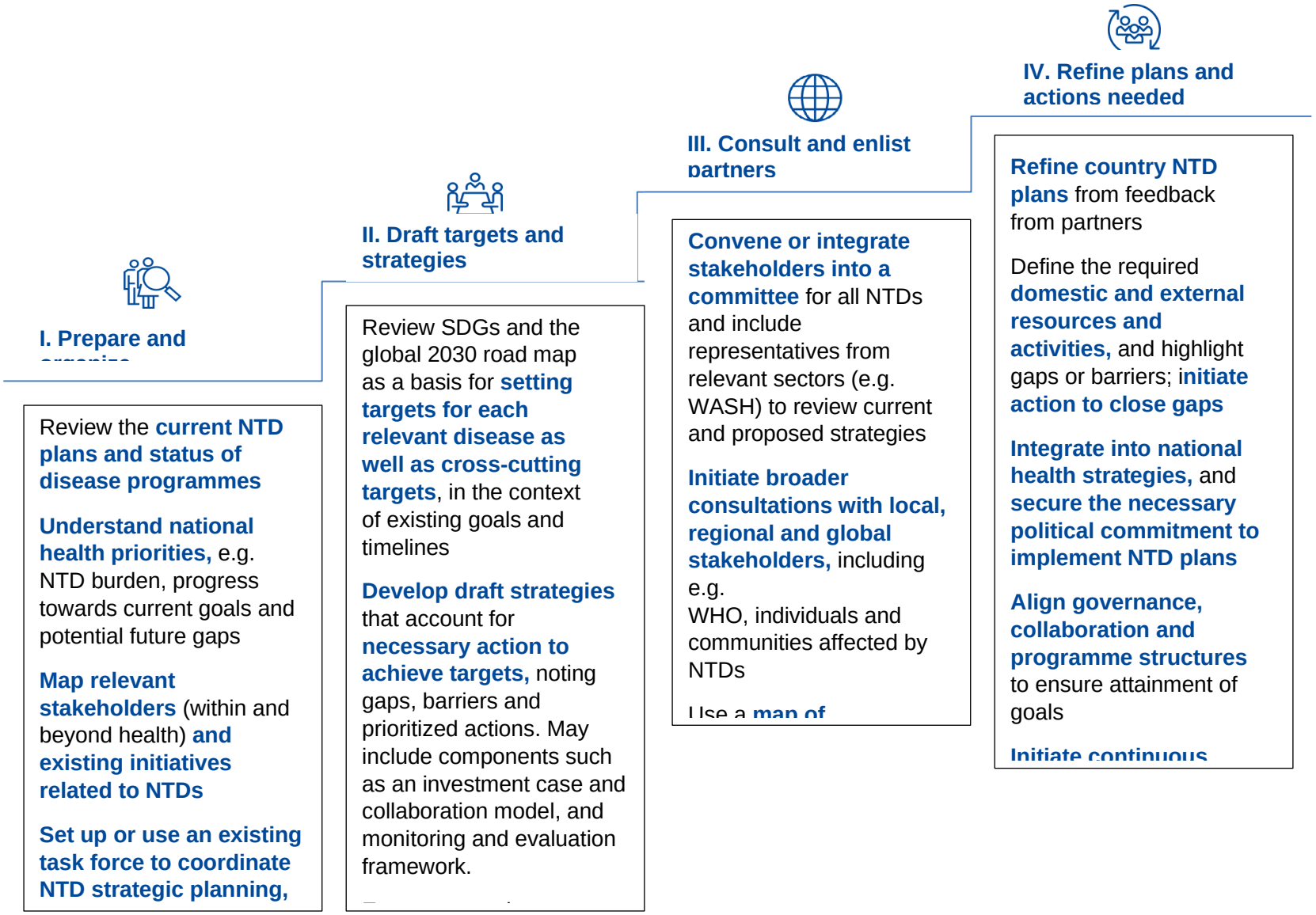
4.2.4 Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the Elimination of NTDs

Provision of health education and information that promote community participation and ownership of the program is critical and will therefore need resources. Additionally, promotion of improved communication and awareness at the community level for successful elimination of the endemic NTDs has to be adequately costed if the objective is to be achieved.

5.0 ANNEXES

- Steps in designing/reviewing a national NTD Master Plan
- Proposed road map targets, milestones and indicators
- Mainstreaming NTDs into national health systems
- Coordination with health ministries and other ministries and authorities
- Organisational chart of the MoHCC and the NTD National Programme
- Safety

ANNEX 1: Steps in designing/reviewing a national NTD Master Plan



ANNEX 2: Proposed road map targets, milestones and indicators

Table. Proposed road map targets, milestones and indicators[1]

Overarching global targets

Indicator	2030
Percentage reduction in people requiring interventions against neglected tropical diseases	90%
Number of countries having eliminated at least one neglected tropical disease	100
Number of neglected tropical diseases eradicated	2
Percentage reduction in disability-adjusted life years related to neglected tropical diseases	75%

Cross-cutting targets

Indicator		2030
INTEGRATED APPROACHES	Integrated treatment coverage index for preventive chemotherapy	75%
	Number of countries that adopt and implement integrated skin neglected tropical disease strategies	40%
	Percentage reduction in number of deaths from vector-borne neglected tropical diseases (relative to 2016) – to achieve WHO's global vector control response goal	75%
MULTISECTORAL COORDINATION	Access to at least basic water supply, sanitation and hygiene in areas endemic for neglected tropical diseases – to achieve targets 6.1 and 6.2 of Sustainable Development Goal 6	100%
	Share of the population at risk protected against catastrophic out-of-pocket health expenditure due to neglected tropical diseases – to achieve target 3.8 of Sustainable Development Goal 3	90%
	Share of countries with neglected tropical diseases integrated in national health strategies/plans	90%
UNIVERSAL HEALTH COVERAGE	Share of countries including neglected tropical disease interventions in their package of essential services and budgeting for them	90%
	Share of countries with guidelines for management of neglected tropical disease-related disabilities within national health systems	90%
COUNTRY OWNERSHIP	Share of countries reporting on all relevant endemic neglected tropical diseases	90%
	Share of countries collecting and reporting data on neglected tropical diseases disaggregated by gender	90%

Impact of integrated approaches on disease-specific targets

Disease	Indicator	2020	2023	2025	2030
TARGETED FOR ERADICATION					
Dracunculiasis	Number of countries certified free of transmission	**187** (96%)	**189** (97%)	**191** (98%)	**194** (100%)
Yaws	Number of countries certified free of transmission	**1** (1%)	**97** (50%)	**136** (70%)	**194** (100%)
TARGETED FOR ELIMINATION (INTERRUPTION OF TRANSMISSION)					
Human African trypanosomiasis (gambiense)	Number of countries verified for interruption of transmission	**0**	**0**	**5** (21%)	**15** (62%)
Leprosy	Number of countries with zero new autochthonous leprosy cases	**50** (26%)	**75** (39%)	**95** (49%)	**120** (62%)
Onchocerciasis	Number of countries verified for interruption of transmission	**4** (12%)	**5** (13%)	**8** (21%)	**12** (31%)
TARGETED FOR ELIMINATION AS A PUBLIC HEALTH PROBLEM					
Chagas disease	Number of countries achieving interruption of transmission through the four transmission routes (vectoral, transfusion, transplantation and congenital), with 75% antiparasitic treatment coverage of the target population	**0**	**4** (10%)	**10** (24%)	**15** (37%)
Human African trypanosomiasis (rhodesiense)	Number of countries validated for elimination as a public health problem (defined as <1 case/10 000 people/year, in each health district of the country averaged over the previous five-year period)	**0**	**2** (15%)	**4** (31%)	**8** (61%)
Leishmaniasis (visceral)	Number of countries validated for elimination as a public health problem (defined as <1% case fatality rate due to primary visceral leishmaniasis)	**0**	**32** (43%)	**56** (75%)	**64** (85%)

Note: In certain cases, reference to "countries" should be understood to signify countries, territories and areas.

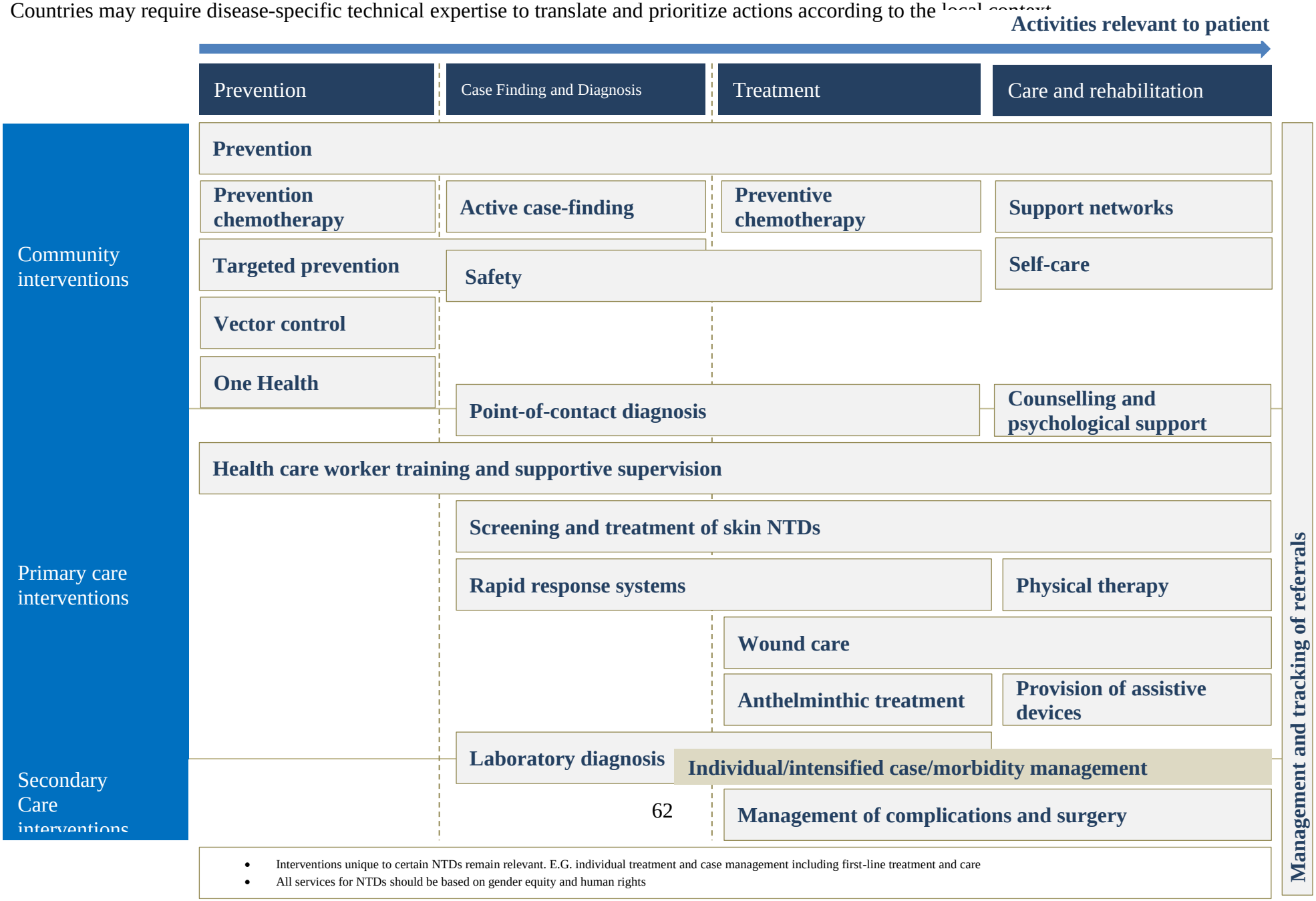
Table. Proposed road map targets, milestones and indicators[1] (cont'd)

Disease	Indicator	2020	2023	2025	2030
TARGETED FOR ELIMINATION AS A PUBLIC HEALTH PROBLEM					
Lymphatic filariasis	Number of countries validated for elimination as a public health problem (defined as infection sustained below transmission assessment survey thresholds for at least four years after stopping mass drug administration; availability of essential package of care in all areas of known patients)	**19** (26%)	**23** (32%)	**34** (47%)	**58** (81%)
Rabies	Number of countries having achieved zero human deaths from rabies	**80** (47%)	**89** (53%)	**113** (67%)	**155** (92%)
Schistosomiasis	Number of countries validated for elimination as a public health problem (currently defined as <1% proportion of heavy intensity schistosomiasis infections)	**26** (33%)	**49** (63%)	**69** (88%)	**78** (100%)
Soil-transmitted helminthiases	Number of countries validated for elimination as a public health problem (defined as <2% proportion of soil-transmitted helminth infections of moderate and heavy intensity due to *Ascaris lumbricoides*, *Trichuris trichuria*, *Necator americanus* and *Ancylostoma duodenale*)	**7** (7%)	**60** (60%)	**70** (70%)	**96** (96%)
Trachoma	Number of countries validated for elimination as a public health problem (defined as (i) a prevalence of trachomatous trichiasis "unknown to the health system" of <0.2% in ≥15-year-olds in each formerly endemic district; (ii) a prevalence of trachomatous inflammation—follicular in children aged 1–9 years of <5% in each formerly endemic district; and (iii) written evidence that the health system is able to identify and manage incident cases of trachomatous trichiasis, using defined strategies, with evidence of appropriate financial resources to implement those strategies)	**9** (14%)	**28** (44%)	**43** (68%)	**64** (100%)
TARGETED FOR CONTROL					
Buruli ulcer	Proportion of cases in category III (late stage) at diagnosis	**30%**	**<22%**	**<18%**	**<10%**
Dengue	Case fatality rate due to dengue	0.80%	**0.50%**	**0.50%**	**0%**
Echinococcosis	Number of countries with intensified control for cystic echinococcosis in hyperendemic areas	**1**	**4**	**9**	**17**
Foodborne trematodiases	Number of countries with intensified control in hyperendemic areas	N/A	**3** (3%)	**6** (7%)	**11** (12%)
Leishmaniasis (cutaneous)	Number of countries in which: 85% of all cases are detected and reported and 95% of reported cases are treated	N/A	**44** (51%)	**66** (76%)	**87** (100%)
Mycetoma, chromoblastomycosis and other deep mycoses	Number of countries in which mycetoma, chromoblastomycosis, sporotrichosis and/or paracoccidioidomycosis are included in national control programmes and surveillance systems	**1**	**4**	**8**	**15**
Scabies and other ectoparasitoses	Number of countries having incorporated scabies management in the universal health coverage package of care	**0**	**25** (13%)	**50** (26%)	**194** (100%)
Snakebite envenoming	Number of countries with incidence of snakebite achieving reduction of mortality by 50%	N/A	**39** (30%)	**61** (46%)	**132** (100%)
Taeniasis/cysticercosis	Number of countries with intensified control in hyperendemic areas	**2** (3%)	**4** (6%)	**9** (14%)	**17** (27%)

Note: In certain cases, reference to "countries" should be understood to signify countries, territories and areas.

ANNEX 3: Mainstreaming NTDs into national health systems

Countries may require disease-specific technical expertise to translate and prioritize actions according to the local context



ANNEX 4: Coordination with health ministries and other ministries and authorities

Health ministry

Activities of health ministry departments that are relevant for NTDs

Global vector control response

Use of repellents and traps, e.g. insecticide-treated bed nets, screens, insecticides or molluscicides, fogging

Environmental management to minimize mosquito habitats, including:

- **Housing improvements** (in collaboration with ministry of infrastructure), e.g. plans to build vector-free housing, including safe storage of water, sanitation, window screens, and ensuring air flow to prevent vector entry and to help to keep houses cool
- **Container management,** e.g. covering, emptying, cleaning and disposing of containers (e.g. old tyres)
- **Draining or treating stagnant water** (in collaboration with ministry of water and WASH)

Behavioural change, e.g. wearing long clothing

Use of other innovative approaches, e.g. release of modified, transgenic or sterile vectors, spatial repellents to stop vector entry into households

Mental health

Psychological support and counselling services for NTD patients

Routine assessment of mental health for patients with specific NTDs, particularly those with chronic conditions

Disability and inclusion

Treatment of disability and morbidity management, e.g. physical therapy **Provision of support services** and devices, e.g. walking devices and prosthetics **Training for self-management of disability** and self-care

Women's and child health

Awareness-building about diseases for which women and children are disproportionately at risk or for which there are particular manifestations in women (e.g. female genital schistosomiasis)

Use of pre- and post-natal contacts, e.g. in maternal health clinics, to deliver interventions, e.g. deworming tablets, and supplements (e.g. iron) for pregnant women and children to prevent anaemia

Pharmacovigilance

authority for drug safety and adverse event reporting investigation, and management. Expertise in communicating information on risk and in mitigating misinformation about adverse events

Official regulatory

Eye health

Promotion of eye care, e.g. face-washing, protecting eyes and eye examinations
Provision of treatment for eye conditions related to NTDs, including surgery when required

Nutrition

Access to better nutrition to strengthen immune systems and reduce susceptibility to infection, e.g. for visceral leishmaniasis for which malnutrition is a risk factor
Provision of food and supplements (e.g. iron and vitamin A) to combat common side-effects of NTDs, such as anaemia and nutritional impairment

Other disease programmes

Immunization programmes: joint delivery of preventive chemotherapy to pre-school-age children **Tuberculosis:** joint detection of paragonimiasis (foodborne trematodiases), leprosy and other mycobacterial diseases, e.g. Buruli ulcer
Malaria: joint diagnosis with human African trypanosomiasis, vector control against *Anopheles* mosquitoes
HIV/AIDS: education about risks, e.g. of coinfection with certain NTD

ANNEX 5: Organisational chart of the MoHCC and the NTD National Programme

ANNEX 6: Safety

Safety is critical for the success of programmes to control and eliminate neglected tropical diseases (NTDs). Attention to safety is also required to fulfil the core ethical obligation of public health programmes to 'do no harm' while delivering health benefits. Safety should be embedded in, and permeate, all aspects of NTD programmes, including training; supervision; drug supply and management; preventive chemotherapy; communication with communities; programme monitoring; and prompt SAE investigation and reporting.

Safety has long been a consideration for NTD programmes. For example, drugs that are donated for preventive chemotherapy are manufactured according to the highest standards of safety and quality. However, maintaining safety requires ongoing vigilance, particularly in administering preventive chemotherapy, which now reaches more than 1 billion persons each year. For example, deaths continue to be reported among children who choke on tablets during preventive chemotherapy.

Safety is not automatic. It must be considered, planned for, and integrated across all components of NTD programmes. Few NTD Master Plans currently include safety-related objectives or targets. As a result, safety has not received the attention it deserves. NTD programmes are not alone in this regard; in response to the growing problem of 'medical error,' WHO recently launched a world patient safety initiative to improve safety in all medical and public health settings (WHA72.6). Including safety as an integral part of NTD Master Plans can ensure that safety receives adequate attention in NTD programming. This annex provides guidance to NTD programme managers in addressing safety as they draft and implement national NTD Master Plans.

Organizational and systems preparedness

The WHO NTD Road Map, 2021-2030 addresses safety primarily in the context of safe drug management and response to adverse reactions. For example, Figure 6 in the NTD Road Map refers to "safe administration of treatment and diligent monitoring and response to adverse events" as a key dimension for assessing programme actions.

Safe drug administration and competent responses to adverse events require advance planning as well as organizational preparedness, both within and beyond the ministry of health. National pharmacovigilance centres represent a key, but often overlooked resource for NTD Programmes in planning for, and responding to, drug-related adverse events. Pharmacovigilance centres have regulatory authority and responsibility for investigating and reporting adverse events, and they can provide essential resources and expertise to NTD programmes when serious adverse events (SAEs) occur. Collaboration with national pharmacovigilance centres should be highlighted in NTD Master Plans. Relevant sections of the Master Plan Guidelines for such collaboration include: section 1.2.2 (health systems analysis); table 2 (health system building blocks); section 1.4.2 (performance of closely-related programmes); and Figure 9 (cross-cutting approaches to tackle NTDs). Pharmacovigilance agency representatives should be included in National NTD Technical Advisory Group (Figure 11).

A second high-priority area for preparedness is communications. Concern about adverse events is one of the main reasons for refusal to participate in preventive chemotherapy. When adverse events

– or even rumours of them – occur, clear, effective communication is essential. Increasingly, this involves social media. NTD Master Plans should specify the development and periodic review of a strategic communications plan, which addresses key safety messages during community mobilization; identifies spokespersons who can be trained and 'on ready' during mass drug administration; and coordinated responses to adverse events and other situations that cause community panic or threaten the program. Relevant sections of the Master Plan Guidelines include Table 14 (with the addition of risk and crisis communication) and Pillar 3 (country ownership).

Safe drug management and storage

Many NTD Master Plans address the need for safe management, storage, and shipment of NTD drugs, as does the 2021-2030 NTD road map. It is important that NTD Master Plans continue to highlight these factors. As preventive chemotherapy becomes increasingly integrated and drugs are co-administered, safe drug management is essential for preventing mix-ups and improper dosing.

Safety training and safe drug administration

Safe drug administration depends on the quality of the interaction between the CDD and persons participating in preventive chemotherapy. CDDs should understand that safety is as important as high drug coverage, and should be trained and skilled in ensuring correct dosing and preventing choking (such as insisting on observed treatment, crushing deworming tablets, and not forcing young children to take medicine against their will). CDDs should adhere to exclusion criteria (e.g., first trimester of pregnancy) and should know how to respond to choking events (e.g., Heimlich manoeuvre). Mass drug administration for onchocerciasis in areas endemic for loiasis presents additional challenges to prevent neurologic SAEs, and should be addressed in NTD Master Plans.

Managing adverse events

Inadequate or poorly-executed responses to SAEs pose a threat to NTD programmes. NTD Master Plans should include objectives and activities specifically directed at recognition, response, investigation, reporting – and ultimately, prevention – of SAEs. They can include process objectives for preparedness and response to adverse events, as well as targets for collaboration with national pharmacovigilance agencies, strategic communications planning, and stakeholder awareness of procedures for responding to SAEs. Zero choking deaths would be an example an outcome target.

Integrating safety into NTD Master Plans

There are many opportunities for integrating safety into NTD Master Plans, which is facilitated by the systematic approach recommended in this document for developing NTD Master Plans. A first step may be to include safety – 'do no harm' – as a guiding principle in Table 13.

In Part I of the document, NTD Situation Analysis, the SWOT analysis (section 1.5) should consider SAEs and other safety issues as potential threats to be addressed, and the health systems analysis (section 1.2.2) should include pharmacovigilance agencies.

In Part II, Strategic Agenda, safety may be considered as a programme goal, and specific targets established (such as no choking deaths). Two strategic pillars (section 2.4) are particularly relevant for safety: cross-cutting approaches and country ownership. Safety is an issue that cuts across all aspects of NTD programmes, and all diseases. GPW13 highlights "safe, effective, and affordable essential medicines and their correct administration and use" in UHC. In addition, systems for

identifying, responding to, reporting, and preventing SAEs and promoting drug safety are essential for country ownership of NTD programmes. Safety strategies and targets are also appropriate for specific diseases, e.g., for onchocerciasis control in areas endemic for loiasis (Table 11).
In Part III, Implementing the Strategy, pharmacovigilance centres should be included in plans for coordination (Figure 11). Safety can feature prominently in Section 3.3, on assumptions, risks (e.g., choking; addressing rumours), and mitigation; and in Section 3.4, on performance accountability. Specific process and outcome indicators should be developed that address the safety issues of highest priority to national programmes.

Conclusion

Addressing safety in NTD Master Plans will have far-reaching consequences for improving programme quality. Additional details on NTD programme safety can be found in the WHO document, *Safety in Administering Medicines for Neglected Tropical Diseases*, which outlines approaches to establishing and nurturing collaboration with pharmacovigilance agencies, developing preparedness and excellence in communications, and creating systems to detect, respond to, and prevent SAEs.

ANNEX 7: Supporting data-informed decision making

Good data are essential to track progress towards the milestones and goals set by the new WHO NTD Roadmap. Quality, accessible, timely, reliable disaggregated data are needed at every NTD programme stage and are key for responsive and efficient decision-making. They support planning and management of key activities and underpin progress monitoring for strategic priorities identified in Country NTD Master Plans. Developing a culture of data-driven programming also ensures strengthened accountability, boosting confidence and programme support. To assist countries with collecting and using data, ESPEN have developed two PC-NTD data platforms: ESPEN Survey Services and the ESPEN Portal.

ESPEN Survey Services facilitates the collection of standardised disease-specific epidemiological data, improving data quality and timeliness. This is built around the ESPEN Collect mobile application platform to collect, store and visualise real-time data. ESPEN Collect currently supports disease-specific surveys that collect data to populate the Joint Application Package, as well as PC coverage surveys.

ESPEN Portal (https://espen.afro.who.int) supports Member States in using PC-NTD for action by providing easy access to quality data products and tools. Many NTD programmes face multiple challenges around data access and use, including fragmented data management systems and limited capacity to bring together and analyse data. Through the ESPEN data portal, health officials and their partners can access disaggregated, longitudinal disease-specific and integrated datasets and maps, together with action-oriented analytics and tools – all developed from data provided by health ministries to ESPEN through WHO reporting processes.

This annex highlights some of the available ESPEN data resources of most relevance for NTD programme review and policy development, and suggests how these might support compilation of strategic, evidence based NTD Master Plans, in line with the WHO 2030 Roadmap.

★ AVAILABLE THROUGH YOUR ESPEN PORTAL COUNTRY PAGE:

(i) PC-NTD Progress Dashboards and comprehensive data repository: The ESPEN data team have compiled epidemiological and programmatic data submitted by health ministries through the Joint Application Package into a master database, linking IUs through time and across diseases. You can think of this as an alternative national NTD database, describing past and on-going programme activities. These data have been used to generate County Progress Dashboards for each disease, summarising progress along the elimination framework. Also available are IU-level maps and datasets showing prevalence data (from both baseline mapping and impact assessments, at IU and site level); current endemicity and co-endemicity status; PC coverage by year; and cumulative number of PC rounds.

→ These are all vital resources for firstly completing Sections 1.3 Gap Analysis and 1.4 Programme Context Analysis of the Master Plan document, and secondly informing the identification and development of Strategic Priorities (Section 2). They also provide the contemporary baseline and gap information required to set relevant targets in the Performance and Accountability Framework (Section 3.4).

(ii) Integrated WaSH data resource: Water, sanitation and hygiene (WaSH) are critical in the prevention and care of NTDs. Through your Country page, you can access information and interactive maps on access to water and sanitation at IU-level, highlighting areas of opportunity

for coordination between WaSH and NTD activities at local levels to maximise the effectiveness of NTD programmes. This is useful for better describing programme context within the Master Plan.

(iii) Forecasting dashboards: By combining information on programme context and current progress within a framework outlining required activities by programme stage, ESPEN have developed forecasts that project the expected trajectory of PC and impact assessment activities for each implementation unit through to 2030. Projections can be downloaded as a simple workbook or visualised through the ESPEN Portal country pages.

→ This key strategic tool provides valuable support for programmes to set realistic year targets for disease-specific milestones (Section 2.2.2) and identifying appropriate timeframes for conducting each key activity within the strategic priorities (Section 3.1). This resource also supports the development of a realistic multiyear programme budget, by clearly outlining expected activities by year (Part 4).

★ OTHER ESPEN RESOURCES:

(iv) ESPEN Survey Services: After programmes have used the information available from the forecasting dashboards to map out when disease specific impact assessments might be expected and where, ESPEN Survey Services can support the collection of high-quality epidemiological data. As well as assessing performance, these data can be used to adjust expectations on timeframes and indicate areas requiring investigation or increased investment.

(v) Aligned data tools: using modelling to support responsive implementation: The ESPEN forecasting tool provides a projection based on programmes where implementation has gone as planned, and prevalence followed the expected trajectory. NTD programs can however be affected by many factors that impact the likely success. Working with the NTD Modelling Consortium, ESPEN have made available computer models tailored to each country (and to each implementation unit) that can (i) support programmes in identifying in advance areas that may require intensified interventions, and (ii) investigate potential explanations for observed poor performance. These can be used to tailor intervention strategies to target potential problem areas more effectively and refine targets to account for these challenges.

Here were present a few case studies describing how this modelling tool may be used to inform action.

1. In a given setting, baseline prevalence surveys for SCH suggested very high prevalence in school-aged children for several IUs. For these IUs, will annual treatment of school-age children be enough to achieve elimination as a public health problem within 5-6 years?

For each IU, the modelling tool considers local transmission dynamics (informed by available baseline data) to project the likely impact of control activities. The better the baseline prevalence data, the more confidence we can be in these projections. Users can use the tool to study whether they might be expected to reach programme goals given standard interventions and can explore the effect of increasing the number of PC rounds per year or expanding to include other age groups. The results may suggest that in this setting, programme goals are very unlikely to be achieved in the stated timeframe unless treatment is expanded to adults.

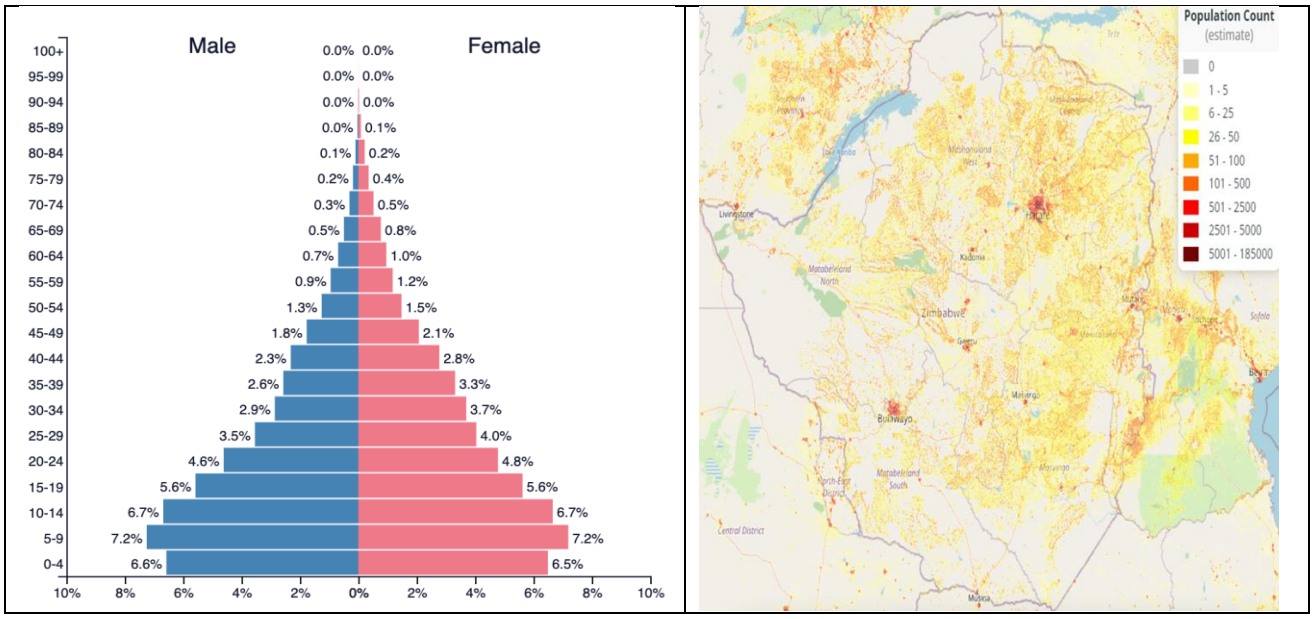
2. As a result of COVID-19, a round of trachoma PC was missed in all endemic IUs across the country. What effect might this have had on the programme, and is that effect likely to have been the same everywhere?

Occasionally missed rounds occur for diverse reasons. As the tool considers both the local transmission dynamics and history of control for each IU, it can provide an estimate of current endemicity. Users can use the tool to compare the expected IU prevalence with and without this missed round of PC (to assess the likely impact) and then explore potential mitigation strategies - such as adding an extra round next year or increasing programme coverage. For diseases like trachoma, STH and schistosomiasis the impact of a missed round may have a longer-term impact due to fast re-infection rates. This is particularly true in areas with high prevalence.

3. An IU has failed a pre-TAS survey, despite reporting 5 years of treatment at >90% population coverage. Why might this have happened?

Robust treatment coverage surveys can provide a useful indication of whether reported treatment rates are too high. In the absence of such data however, the modelling tool can be used to explore potential explanations by comparing the modelled prevalence trajectory with that seen from the pre-TAS survey data. For example, could differing patterns of treatment among different population groups have played a role? By comparing various treatment scenarios (for example, consistent low coverage in a large proportion of the population, such as adult males) programme managers can identify if specific actions may be required. These might include a concerted campaign to increase coverage in non-compliant groups.

ANNEX 8: Figure describes the total population distribution and the population density in Zimbabwe.



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