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THE REPUBLIC OF UGANDA MINISTRY OF HEALTH



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Abbreviations & Acronyms

Acronym	Word	Acronym	Word	
ADR	Adverse Drug Reactions	IDSR	Integrated Disease Surveillance and Response	
BUD	Buruli Ulcer Disease	IFOTRODE	Innovations for Tropical Disease Elimination	
CDDs	Community Drug Distributors	IRS	Indoor residual spraying	
СМ	Case management	ITN	Insecticide-treated net	
CMD	community medicine distributor	IU	Implementation Unit	
CMS	Centimeters	IVM	Integrated vector management	
CNS	central nervous system	LF	Lymphatic filariasis	
COs	Clinical Officers	MDA	Mass drug administration	
CFA	Circulating Filarial Antigen	MDT	Multi-Drug Therapy	
DHT	District Health Team	МОН	Ministry of Health	
DMS	District Medicine Supervisors	MTC	Medicines and Therapeutic Committee	
DHIS2	District Health Information System 2	MMDP	Morbidity management and disability prevention	
DHO	District Health Officer	NDA	National Drug Authority	
DNDi	Drugs for Neglected Tropical Disease Initiative	NGOs	Non Governmental Organisations	
DNO	District Nursing Officer	NPC	National Pharmacovigilance Centre	
DPNM	Department of Pharmaceuticals and Natural Medicines	NPC	National Pharmacovigilance Centre	
Dra	Dracunculiasis	NRH	National Referral Hospitals	
DRC	Democratic Republic of Congo	GDP	Gross Domestic Product	
DSA	District Stores Assistant	GNP	Gross National Product	
ESPEN	Expanded Special Project on Elimination of Neglected Tropical Diseases	HAT	Human African Trypanosomiasis	
FAO	Food and Agriculture Organisation	HMIS	Health Management Information System	
HC	Health Center	HRH	Human resource for Health	

HDPs	Health Development Partners	TBD	To Be Determined	
HIV	Human Immune deficiency virus	TCC	The Carter Centre	
NTD	Neglected tropical diseases	TIPAC	Tool for Integrated Planning and Costing	
NTLP	TB and Leprosy Programme	RRHs	Regional Referral Hospitals	
ОН	One Health	RTI	Reseacrh Triangle International	
PCR	polymerase chain reaction	SBCC	Social and Behaviour Change Communication	
PCT	Preventive chemotherapy	TOR	Terms of Reference	
PEST	Political, Economic, Social and Technological Analysis	TT	Trachoma Trichiasis	
PHC	Primary Health Care	UBOS	Uganda Bureau of Statistics	
PZQ	Praziquantel	UHC	Universal Health Coverage	
SCIF	Schistosomiasis Control Initiative Foundation	URTI	upper respiratory infection	
SDGs	Sustainable Development Goals	VHTs	village health teams	
STD	Sexually Transmitted Diseases	VL	Visceral Leshmaniasis	
STH	Soil-transmitted helminthiasis	WASH	Water, sanitation and hygiene	
SWOT	Strengths, weaknesses, opportunities, and threats	WHO	World Health Organization	

TAS Transmission Assessment Survey

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 incidence 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 incidence 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.

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.)

Acknowledgment

The Ministry of Health (MoH) would like to express its appreciation to all stakeholders who supported the process of developing the Neglected Tropical Diseases (NTD) Master plan 2023–2027 through technical and financial support. The development process was consultative and included a wide range of stakeholders from ministries, agencies and departments of government, development partners, local governments and NTD implementing partners, at both national and sub-national levels. This participatory process cultivated an understanding of sustainability, defined, and endorsed by all stakeholders, that supported us in developing this Uganda NTD master plan 2023-2027. Interfacing with diverse stakeholders enabled us to unlock previously unidentified constraints, resources and factors that hinder NTD sustainability efforts.

We would therefore, like to acknowledge and thank all the stakeholders that were involved in the consultative process (see Annex 8). The development of this plan would not have been possible without the generous financial and technical support from World Health Organization (WHO/ESPEN). On behalf of the Government of Uganda, I thank the World Health Organization (WHO) Uganda Country Office for providing in country technical support during the consultation and Master plan development process.

Special thanks and recognition go to the National Taskforce under the guidance of the Acting Assistant Commissioner Health Services – Vector Borne and NTDs Division and National NTD Manager, who led the writing and review of this NTD Master plan.

Foreword

The overall goal of the Uganda NTD Master Plan 2023-2027 is to bring together other sectors and partnerson board to strengthen mechanisms that will enable the Ministry of Health to sustain NTD efforts and strengthen the health system to provide sustainable, accessible, equitable and quality NTD services to the population. As we remain focused on advancing national progress towards achieving the World Health Organization's (WHO's) control and elimination goals for these NTDs, this master plan focuses on efforts to mainstream NTD Programmes into national governance, financing, planning and service delivery components of the health system, for ownership at national and subnational levels. Incorporation of NTD priorities into routine government planning, implementation and monitoring will be essential to the sustainability of the NTD Programme in Uganda. However, this will require targeted advocacy, alignment with broader health, multi-sectoral policies and strategies as well as national domestic resource mobilization and allocation towards NTDs.

Therefore, to promote and achieve sustainability, the Ministry of Health is committed to investing in mainstreaming NTD control and elimination activities into the national health systems through other health Programme areas, such as WASH, Malaria control and other relevant sectors, including education, water, sanitation, and use of already existing platforms like One Health.

The process of developing this Master plan was participatory, involving key stakeholders through physical and virtual engagement. This Master Plan was developed using WHO guidelines and the estimated total cost of implementing the Programme is summarized into 4 pillars over a period of five years. These pillars include Accelerating pragmatic action, intensifying crosscutting approaches, Operating models to facilitate country ownership and strengthening resource mobilization and Inter-sectoral collaboration for control and elimination of NTDs. These summaries key priority areas for intervention by the NTD Programmed.

To achieve the NTD objectives, strong partnerships with other sectors – including Education, Water and Environment, Agriculture, Development partners, Civil society organizations, Sanitation, Malaria and the affected communities – is required.

I wish to express my appreciation to all who participated in the development of this Uganda NTD Master Plan 2023-2027, with special appreciation to the Division of Vector Borne& NTDs and WHO/ESPEN for providing financial, and technical support. I look forward to the successful implementation of the NTD master plan 2023-2027

Hon. Dr. Jane Ruth Aceng Acero Minister

Executive Summary

The 2023-2027 Uganda comprehensive multi-year plan for the control of Neglected Tropical Diseases (NTDs) is a key instrument for successful planning and implementation of sustainable NTD Programmes in Uganda. Also known as the NTD Master plan, it addresses all components of the NTD Programmes relevant to the country. This plan provides the goal, vision and mission of the NTD Programme as well as the 5-year strategy derived from a robust situation analysis of the on-going Programme status, gaps and priorities identification. The new plan takes into consideration the 2021 - 2030 WHO NTD Global Roadmap, as well as considerations for safely undertaking NTD activities in a new era post COVID-19.

The previous Uganda Master Plan which expired in December 2022 was implemented from 2017-2022 and with emphasis on elimination of targeted NTDs, the country is opportune to again review and revise the Master Plan to ensure success in the efforts to control and eliminate NTDs.

The new 2023 - 2027 NTD Master Plan was developed from the experience garnered during the course of implementation of the expired country Master Plans, taking into cognisance the fundamental shift advocated by the new 2021 – 2030 WHO NTD Global Roadmap. Further guidance was provided by the Master Plan Guidelines, WHO Afro Region (2021) to support countries in both the planning and implementation of NTD strategies nationally.

The Master Plan is divided into four sections:

- **NTD Situation Analysis**, which describes the environment within which the NTD Programme will be developed and implemented, including the national environmental and contextual factors that are critical in understanding the distribution of NTDs and their control.

- **Strategic Agenda: Purpose and Goals**, which provides an overview of the targets and milestones for all NTDs that are endemic in the countries, determined through consultation with stakeholders in the country including central and sub-national governments, scientific and research groups, nongovernmental organizations, implementing partners, donors and private sector organizations.

- **Implementing the Strategy: NTD Operational Framework,** which aims to ensure three fundamental shifts in the approach to tackling NTDs: an increased accountability for impact by using impact indicators instead of process indicators; a 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 a change in operating models and culture to facilitate greater ownership of Programmes by countries.

- **Budgeting for Impact: Estimates and Justifications**, a key management tool in planning and implementing activities

This document is the national guide for NTD Programme iteration in Uganda, in line with WHO Roadmap 2021-2030 and the ESPEN Strategic Framework 2025. Its successful implementation will contribute to the collective effort of Member States in the WHO region for Africa to eradicate NTDs.

Introduction

Uganda has a high burden of Neglected Tropical Diseases (19 NTDs) that affect mainly the rural poor resulting in reduced socio-economic productivity, hence affecting the development of these populations. They include Lymphatic Filariasis (Elephantiasis), Schistosomiasis (Bilharzia), Soil-transmitted helminthes (Intestinal Worms), Onchocerciasis (River blindness), Trachoma, Human African Trypanosomiasis (Sleeping sickness), Visceral Leishmaniasis (Kala-azar), Plague, Buruli Ulcer Disease (BUD), Rabies, Scabies, Tungiasis (Jiggers), Podoconiosis (non-filarial Elephantiasis), Echinococcosis, Cysticercosis, Brucellosis, Fascioliasis, snake bite envenoming and Leprosy. In addition to these, Uganda is in the post-certification phase for Guinea worm (Dracunculiasis).

There has been global and regional commitments for addressing NTDs as reflected in the London Declaration on NTDs, the WHO Regional Committee Resolutions on NTDs, the Addis Ababa Commitment, the Accra Urgent Call to Action on NTDs, and more recently the Kigali Declaration on NTDs.

NTDs control is part of the Uganda National Minimum Health Care Package as highlighted in the Health Sector Strategic and Investment Plan III, and its direct impact on Sustainable Development Goals (SDGS). The major focus of the Master Plan 2023-2027 therefore, is to scale up the NTD control efforts with the eventual aim of achieving prevention, control and elimination of these diseases in line with the World Health Organization (WHO) roadmap for elimination of NTDs from Africa 2021-2030.

This Master Plan outlines specific measurable targets for 2027 in the elimination and control of all NTDs in Uganda, as well as cross-cutting targets aligned with whose Thirteenth General Programme of Work 2019-2023, and the SDGs. It also discusses challenges encountered during the implementation of the previous Master Plan 2018-2022 which was largely donor driven. This Master Plan emphasizes government ownership, updates the status of NTDs in the country and re-strategizes interventions to address areas that require concerted efforts. Key thematic areas include One Health approach through enhanced collaboration and coordination, NTD integration into Primary health care system, Gender and Equity inclusion, Sustainability plan, local resource mobilization, School health among others.

The country has undertaken an evidence-based appraisal of Uganda's NTDs situation and identified gaps. Strategic priorities and activities were developed with a view to strengthening programme performance for better outcomes and impact. Progress in implementing planned activities as well as the programme performance and outputs will be monitored regularly and evaluated at appropriate intervals by the government. This Master plan will serve as a framework for coordination, harmonization, and alignment of both central and sub-national governments, as well as partners. Therefore, consensus on the content and budget estimate will enhance commitment and accountability among all stakeholders for success in resource mobilization. The integration of NTDs into the national health system is critical, and therefore, the NTD Master Plan should be reflected and integrated into the national health development plans.

PART 1: NTD SITUATION ANALYSIS

Section 1.1: National Priorities and the National, Regional and Global NTD Commitments

Uganda has a high burden of Neglected Tropical Diseases (NTDs). These diseases affect mainly the rural poor and result in reduced socio-economic productivity, hence affecting the development of these populations as well as national development. The NTDs in the country include Lymphatic Filariasis (Elephantiasis), Schistosomiasis (Bilharzia), Soiltransmitted helminthes (Intestinal Worms), Onchocerciasis (River blindness), Trachoma, Human African Trypanosomiasis (Sleeping sickness), Visceral Leishmaniasis (Kalaazar), Plague, Buruli Ulcer Disease (BUD), Rabies, Scabies, Tungiasis (Jiggers), Podoconiosis (non-filarial Elephantiasis), Echinococcosis, Cysticercosis, Brucellosis, Fascioliasis, Leprosy and snakebite envenoming. Guinea worm disease (Dracunculiasis) has been eliminated and Uganda is in the post-certification phase. Currently, there are on-going efforts to prevent, control and eliminate these NTDs in the country with varying degrees of success. NTD control is part of the Uganda National Minimum Health Care Package as highlighted in the Health Sector Strategic and Investment Plan III. Control and elimination of NTDs will contribute to improved health and socioeconomic situation of the affected populations and addressing NTDs directly impacts on outcomes on Sustainable Development Goals (SDGS).

There have been global and regional commitments for addressing NTDs as reflected in London declaration on NTDs, WHO Regional Committee Resolutions on NTDs, Addis Ababa Commitment, Accra Urgent Call to Action on NTDs, and more recently the Kigali declaration on NTDs.

The major focus of the Master Plan 2023-2027 is to scale up the NTD control efforts with the eventual aim of achieving prevention, control, elimination and/or eradication of these diseases in line with the World Health Organization (WHO) roadmap for elimination of NTDs from Africa 2021-2030.

Following several years of implementation with support of partners, there has been remarkable progress in the control and elimination of NTDs. For example, since 2007, the country was certified Guinea Worm free with no ports of indigenous cases and in 2022, Uganda was also certified for elimination of gambiense HAT as a public health problem.

There is also remarkable progress towards elimination of other NTDs, for example Onchocerciasis, where mass treatment has been stopped in 36 districts; all the 70 LF

endemic districts no longer need MDAs and only 5 out of the (52)endemic districts currently require one or two more rounds of MDA for Trachoma.

Drawing from the NTD roadmap 2021- 2030 therefore, this plan emphasizes three fundamental shifts in programme approaches to improve successful implementation. It addresses challenges encountered during the implementation of the previous Master Plan which was largely donor driven to ensure government ownership and hence sustainability

The three basic shifts are:

1) Increasing accountability for impact by using impact indicators instead of process indicators

2) Moving away from siloed disease specific programmes to mainstream into national health systems and intensifying cross cutting approaches centered on the needs of people and communities, and

3) Changing operating models and culture to facilitate greater ownership of programme by shifting from externally driven partner and donor funding to country ownership and financing.

The purpose of this NTD master plan (2023-2027) is to provide a national tool for all stakeholders implementing NTD interventions in Uganda. The focus of the master plan is to review and update the status of NTDs in the country and re-strategize interventions to address areas that require concerted efforts that will enable the achievement of prevention, control, elimination and /or eradication of these diseases in line with World Health Organisation (WHO) NTD road map 2021-2030.The country undertook an evidence-based appraisal of Uganda's NTDs situation and identified gaps. Strategic priorities and activities were developed with a view to addressing these gaps in order to strengthen and hasten programme performance for better outcomes and desired impact.

Section 1.2: National Context Analysis

1.2.1 Country Analysis

Uganda is a land-locked country located in East Africa, between Latitude 4012'N and 1029'S; Longitude 2903'E and 3500'E. It is bordered by Kenya to the East, Tanzania and Rwanda to the South, Democratic Republic of Congo to the West and South Sudan to the North. The country covers an area of approximately 241,550.7 km2 with water bodies covering 36.902.9 km2 (15.3%), swamps covering 4,840.6 km2 (2.0%) and land area covering 199,807.4 km2 (82.7%) while 12% is forest reserves and game parks (UBOS, 2020). Uganda has mostly a tropical climate characterized by stable rainfall patterns. However, the effects of climate change have turned the seasons around with the country experiencing shorter or longer rains and harsher droughts – especially in the eastern and north-eastern Uganda. This favors the occurrence of most NTDs.

Political, Economic, Social and Technological Analysis: In the process of developing this third National NTD Master plan, an analysis of the political, economic, social and technological environment in which the Plan will be implemented was conducted in the context of the SDGs and universal health coverage in order to set the socio-economic assumption for the Strategic Plan. The PEST figure below shows the summary of the findings in each of these intervening areas.

<u>P</u>olitical

Government policy, political stability or instability, bureaucracy etc can impact negatively on the NTDs programme

Lack of proper reflection of NTDs in key documents (Health Investment Plan III,

> National development plan may affect implementation by not being

<u>S</u>ocial

> Attitudes and shared beliefs about a range of factors including health leads to Poor health seeking behaviour and poor treatment compliance

High population growth and demographics, family size/ structure, migration and lifestyle trends.

Some communities and religious cults still have bad beliefs against NTDs and thus may affect interventions like MDA leading to low up take bance persistence and recrudescence in

Figure 1: The PEST Analysis

Economic

High inflation rates have impacted on the livelihoods of people causing more poverty

Interruptions in international trade has resulted into Low supply of essential commodities

> The current economic stress due to COVID-19 pandemic and emerging threats like new outbreaks, has led to re-

<u>T</u>echnological

Technology and communications infrastructure, access to technology, emerging technologies, automation, legislation around technology, research and innovation, etc.

> New technological advances like mobile phones and social media platforms can support NTD implementation (sensitisation, and reporting of results)

1.2.2. Health Systems Analysis

Health system goal and priorities

Uganda's Health goal is to attain a good standard of health for all people in Uganda in order to promote healthy and productive lives. The country's vision is to have a healthy and productive population that contributes to socio-economic growth and national development. In this regard, the health system is provided through public-private partnerships. Government plays a key role supported by partners.

The top ten health problems seen in health facilities in Uganda include: malaria (48.4%), upper respiratory infection (URTI) (15.5%), HIV (6.2%), Intestinal worms (4.5%), skin

diseases (2.9%), acute diarrhoea (2.5%), pneumonia (2.4%), gastro-intestinal disorders (1.9%), eye conditions (1.8%) and STDs (1.6%). Although NTDs are not among the routinely reported diagnosed health problems, they cause significant morbidity and socio-economic burden.

Analysis of the overall health system

The analysis of the health system is 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 (figure 2). It provides key information for detailed planning of the Programme in as far as sourcing of funds, coordination at various levels, custodianship of the Programme, Programme integration, and service delivery among others. Health system performance in delivering personal and population-based services to those in need, health system equity in terms of access, coverage, safety, quality of health services, distribution and utilization of resources, and impact on health indicators, such as reduction in the infant mortality rate and maternal mortality rate are discussed in this section. NTDs interventions depend for the most part on communities, and in this document therefore, community based services have been included to provide a better understanding of the main challenges and strengths and for community ownership of Programme. These are summarised in table 1.



Figure 2: The WHO Six Building Blocks

NTDs affect mainly people living in rural communities and the first medical contact for these people in these communities is the village health team (VHT) who double as a

community medicine distributor (CMD) for the NTD Programme. Members of the VHT are volunteers from their respective communities. They distribute selected medicines, advice and educate communities on health issues, and refer patients to health centers. This is a non physical structure in the health care delivery system at community level. It is supported by Local council 1 political and administrative structure.

According to the Ugandan government's health policy (MOH, 2010a), every parish is supposed to have at least one health centre II facility, which runs an out-patient clinic serving a few thousand people, and should be able to treat common diseases like malaria, diarrheal diseases, upper respiratory tract infections and offer EPI, ante-natal, post-natal and maternity services. A HC II facility is headed by an enrolled nurse, working with a midwife. A HC III facility, headed by a Clinical Officer and with a functional laboratory, should be found in every sub-county in Uganda.

At the County level, there is a HC IV facility with an out-patient clinic and inpatient wards for men, women, and children. It has two Medical Officers and Clinical Officers, a laboratory technician and a theatre for surgeries such as caesarean sections, and hydrocelectomies. To support TT surgeries, the programme has ophthalmic clinical officers trained in specialized TT surgeries and supervised by consultant ophthalmologists. Another level of healthcare is a general hospital which serves the entire district and is usually headed by a Medical Superintendent. All the health services in a district are coordinated by a District Health Officer, working closely with the District Health Team (DHT), District Leadership and Ministry of Health headquarters.

There are 16 Regional Referral Hospitals (RRHs) which should have all the services offered at district hospitals plus specialized clinics – such as eye care clinics, dermatology, gynaecology and obstetrics, pediatrics, dental health, mental health and other services. Referral hospitals are usually headed by Directors who are specialists like consultant physicians or even surgeons. At the top of the healthcare structure are the national referral hospitals (NRH), which should have all the services offered at a RRH, plus training and conducting operational research. There are four NRHs (Mulago, Butabika, Kawempe and Kiruddu) and 16 RRHs as of July 2022 (Ministry of Health, Uganda http://health.go.ug/).

Health System Building Blocks				
Service delivery	Uganda has significantly improved access to health services over the past 10 years. For example, most Ugandans (86%) now live within 5 Km of a health facility. Despite this progress in service availability, significant challenges remain to improve the quality- of-service delivery. The challenges include inadequacy of medicines, sundries and other consumables due to limited funding. Others include inadequate primary care services at lower levels; low staffing levels and poor maintenance of physical infrastructure for public health facilities including medical			

Table 1: Six Health System Building Blocks

	equipment. There are pertinent challenges to health infrastructure that include spatial inequality in health facility population coverage, distance to health facilities, which poses a barrier to healthcare access to some segments of the population, and limited functionality and availability of necessary infrastructure at the health facility level. There is inadequate maintenance of the existing physical infrastructure for public health facilities including medical equipment.
Health workforce	In the last 10 years, there has been a positive trend in staffing levels of health workers. The increase has partly contributed to the improvement in equitable distribution of health workers in the country with many rural districts having better staffing levels than urban districts. This trend is attributed to the increase in the production of health workers, and strengthened regulatory capacity for Health Professional Councils to monitor registration and licensure of health workers. Also, there has been improvement in availability of data on the public sector health workforce. Opportunities for growth included the availability of bonded scholarships to support training of medical specialists in the critical areas and continued contracting of critical health workers on temporary basis by Health development partners (HDPs). However, the Human resource for Health (HRH) shortage and distribution of health workers (doctors, pharmacists, and other cadres) continue to remain major obstacles to access to quality health care in remote and hard-to-reach areas. The wage bill limits the ability of the public sector to fill its vacant positions and to absorb the increasing numbers of health workers in the public sector continues to be a key challenge. There is increased stock of qualified health professionals available for employment in the health sector contributed by both public and private institutions and partly facilitated by availability of scholarships for medical specialists in the critical areas. Despite this, HRH shortage and poor distribution remain major obstacles to limit attraction and retention of health workers in the public sector. Staff absenteeism remains a challenge to health services delivery despite efforts, such as the establishment of the Integrated Human Resource Information System.
Health information	There is a well-established and functional system for collection, processing, storage, retrieval and dissemination of health information for decision-making despite some challenges. The system has progressively developed in Uganda from completely paper-based system to electronic or computer-based system,

	which is used to routinely monitor the disease burden. A significant number of public health facilities (98%) use the system to make timely reports on monthly basis. Comparatively, reporting in the private sector is less than 25% despite the fact that all public and private health facilities are mandated to report health data through the national health management information system (HMIS). This is attributed to fewer trained staff and lack of regular supervision of the private health facilities. The country has had regular national health surveys to inform policy and decision making. Despite this progress, the Uganda's HIS still has some internal gaps and limitations; not all NTDs are captured. The system is faced with data in-put challenges including inaccurate and inadequate segregation of data at entry; reporting challenges such as limited access to real-time information and poor dissemination among the stakeholders. In addition, there is still poor utilization of information attributed to inadequate skills by decision makers and health workers to analyze and use health information. Another challenge is that the system does not capture adequately qualitative indicators on interventions that address structural and behavioral barriers on routine basis. The indicators for measuring sector performance and productivity are also not comprehensive to track progress with the Universal Health Coverage (UHC) goal.
Medical products	Management of medicines and medical products has improved significantly in recent years due to strong leadership and regulation within MoH, and NDA, as well as strengthened supply chain management system by the NMS and JMS. However, the sector is still faced with challenges that include limited supervision and distribution of pharmacies in the rural communities with an over concentration in urban centres. In addition, antibiotics are widely available without prescription and there are currently no systems in place to control the use of antibiotics or for routine surveillance of antimicrobial drug resistance in either the public or private sector. Indigenous and complementary medicines, though widely used in Uganda, are insufficiently regulated. On a positive note, the long awaited Indigenous and Complementary Medicines Act was enacted in 2020 to provide a regulatory framework for traditional herbalists and integrate indigenous and other essential health supplies. The percentage of health facilities having over 95% availability of a basket of commodities is still low at 46% (2019/20). More so, the pharmaceutical space is facing a significant human resources challenge and the domestic manufacturing industry is still low despite incentives in place including preferential rate in public

	procurement. However, the health sector is still faced with challenges that include limited supervision and distribution of pharmacies in the rural communities with an over concentration in urban centers.
Health financing	There is high-level political good-will and commitment to increase funding for health. A Health Financing Strategy 2015–2025 was developed to provide a road map for health financing functions in the sector. In the Ministry of Health Strategic Plan Budget 2020-2025, Uganda plans to progressively increase funding for health from 1880 billion in 2022 to 2011 billion in 2025 with reducing the burden of NTDs as one of the major drivers for this. Despite this, the health sector is under-financed, which leads to inadequate HRH, inadequate health infrastructure development and lack of medicines and other health supplies. The sector is heavily dependent on external, development partner resources and out-of-pocket (OOP) payments from households to fund essential programmes and is well below international targets for health sector financing. The external aid to the sector is increasingly becoming unpredictable and is likely to significantly reduce in the coming years. Moreover, the in-country funding estimates indicate that a significant percent of donor support to the health sector has been in form of off-budget, which affects the intended equity and efficiency of the fiscal transfer allocations. The off-budget support to the health sector was estimated at 54% between 2008/09 and 2017/18 of the donor assistance. Thus, Uganda is taking bold steps that will gradually transition MoH away from reliance on donor funding. Furthermore, the progress in establishing a legal framework for health insurance through the NHIS is still slow; this would help to reduce high OOP payments and increase equity. Also, while the UNMHCP has been useful in prioritizing the available resource envelope, it has not been able to influence significantly, an increase in overall financial resource allocation to the health sector. On the contrary, there is often reprioritization with an explicit and implicit rationing process within the package of services and across population coverage due to the inadequacy of the resources to support the UNMHCP. Such
Leadership and governance	The vision of the Ministry of Health is a "responsive, resilient and people-centered health system that promotes the health and wellbeing of all people in Uganda". The key oversight functions of the health sector are managed through the Minister and the Ministers of State. Duties of these have been defined by Government. The Permanent Secretary coordinates resources for effective management of Health Funds. The Permanent

Secretary will work through the Office of the Director General Health Services (DGHS) for guiding technical direction. The DGHS coordinates technical functions for delivery of Health. The MoH headquarters was restructured in 2018 and now comprises 20 departments headed by Commissioner under four directorates. The Ministry of Health is currently undergoing a restructuring process which is supportive of the NTD Programme. There is an NTD National Coordinator at the MoH, the Assistant Commissioner Health Services, Vector Borne and Neglected Tropical Diseases, who chairs the NTD Secretariat. The Secretariat brings together managers of the disease-specific and representation from development Programmes & implementing partner organizations. In order to have a smooth coordination of the Programme, there is an NTD Technical committee chaired by the Commissioner, Environmental Health Department (EHD)

Government is responsible for both service delivery, and stewardship functions in the Health Sector. The Ministry of Health has a Master plan (2017 – 2022) for Neglected Tropical Diseases which has been guiding efforts towards control, eradication and elimination of NTDs in the country that expires at the end of 2022. NTDs have been incorporated in the Ministry of Health Strategic Plan 2020 – 2025 with clearly spelt out activities to achieve progress on NTD control. There are relevant health policies and regulations in place, which have been developed through a participatory process. The National Drug Authority (NDA) provides oversight, regulation and management of health products and medicines. The NDA is also responsible for pharmacovigilance and for investigation, analysis, and reporting of serious adverse events (SAEs). The NDA ensures that the imported medicines for treatment of NTDs are safe and issues a certificate to that effect. It is also tasked with investigating any reported SAEs during the course of medicines administration for the NTDs.

The Ministry of Health coordinates and collaborates with the Ministries of Education, Water and Environment, Agriculture, Animal Industries and Fisheries, Tourism among others to ensure delivery of NTD interventions. The Trypanosomiasis Control Council coordinates an inter-ministerial team that implements different components of the interventions aimed at control and elimination of Trypanosomias is in both humans and animals. Furthermore, the disease burden in Uganda is largely due to the social determinants of health requiring a multi-sectorial approach yet the current response is mainly focused on the health sector. The drivers of the high disease burden extend beyond the health sector service delivery system; they include access to safe water,

sanitation and hygiene which either predispose or worsen the NTD situation in the affected communities. Thus, this calls for a strong multi-sectorial collaboration as a pillar for health promotion and primary prevention to accelerate the attainment of UHC as well as, Vision 2040.
The stewardship function is exercised by the Ministry of Health and district health leadership, while the service delivery function is exercised by general hospitals through lower level health facilities. The Ministry of Health lays emphasis on responsiveness to the requirements of the NHPII1 and HSDP. The organization is such that there is a clear communication linkage among the national, regional and district levels for ease planning, operations, monitoring and evaluation.
At the district level, the DHO is in charge of all health services with his/her team, addressing both the management and governance issues. At the Regional Referral Hospital level, the management function is held by the Hospital Director who reports directly to the Director General of Health services. The role of the RRH is to provide specialist clinical services for the health region.

Section1.3. Gap Assessment

Uganda has eliminated two NTDs; the country has been certified Drancunculiasis free and to have eliminated Gambiense sleeping sickness as a public health problem. Several milestones have been achieved in the control of many NTDs. However, there are still gaps, some of which are disease specific. These gaps are summarized in the section 1.5.2 below and include gaps in the:

Supply chain management where NTD supplies and medicines are not integrated into the MoH's routine supply chain;

Service delivery where there is siloed programme with partial integration of NTD services in clinical and lab services;

Health care financing with inadequate commitment and declining central level NTD budgets;

> NTD indicators which are partially captured in the HMIS with parallel NTD Programme reporting channel;

Ministerial Policy Statement and the Health Budget Framework Paper 2019/20 which did not prioritize NTDs; and

> Multi-sectoral collaboration and coordination of stakeholders which is weak at all levels.

Section1.4. Programmed Context Analysis

1.4.1. Current NTD Programmed Organization and Status

1.4.1.1 Lymphatic Filariasis

In Uganda Lymphatic Filariasis (LF) due to Wuchereria bancrofti is a major public health and socio-economic problem affecting more than 16.4 million people in 6 out of the 116 districts in the country as at 2017. The epidemiology and geographical distribution of LF in Uganda was assessed to guide the planning for the control and elimination of the disease in the country (Onapa et al., 2001; 2005). Baseline epidemiological studies conducted in three districts (Katakwi, Lira and Soroti) revealed Circulating Filarial Antigen (CFA) prevalence of 18 to 30% in the general population (Onapa et al 2001). Chronic manifestations including hydroceles and elephantiasis of the legs were rampant at above 20% in adult. The principal vectors were Anopheles gambianse and An. funestus group. Starting 2001, a country-wide survey was conducted among school age children in 76 locations scattered in all over the 56 districts. At each site, the school children were tested for W. bancrofti specific CFAs using the rapid immunochromatographic test (ICT). Test results indicated CFA of 0.4% to 30% among the school population. The survey showed that W. bancrofti infections were concentrated in a large focus covering most of the districts to the east and north of Lake Kyoga and in the northern part of the Albert Nile basin. A smaller focus was found in Bundibugyo and Ntoroko districts bordering the Democratic Republic of Congo.

In 2009/2010, the LF distribution map was refined with financial support from the NTD Control Programme RTI using funds from USAID. The surveys were conducted in areas which either had doubtful CFA results or had CFA prevalence rates near the lower threshold level of 1%. Mapping has been completed and the number of implementation units stands at 70 districts. All the districts have stopped MDA and are now under surveillance as a last step towards certification for elimination. Chronic manifestation due to LF (hydrocele and elephantiasis) were assessed in 9 districts of Lango (Lira, Otuke, Amolatar, Oyam,Dokolo, Kole, Kwania, Apac, Alebtong) and 5 districts of Teso region (Katakwi, Kalaki, Soroti, Amuria and Kapelebyong). Capacity building, social mobilization, hydrocoelectomy and morbidity management have been initiated in the named districts.



Figure 3: LF status from Baseline to 2020

1.4.1.2 Onchocerciasis

This disease is also known as River blindness. It is caused by filarial worms; *Onchocerca volvulus* transmitted to humans through the bite of Simulium flies. Onchocerciasis causes severe itching and skin rashes in early stages. In the late stages, the disease causes lizard skin, leopard skin, hanging groins, dwarfism, visual impairment or total blindness and when the brain gets involved, it can lead to epilepsy. It is locally known as *Obukamba* in Runyankore-Rukiga, *Ekisararo* in Lunyoro-Lutoro and *Mino* in Luo among others.. Onchocerciasis is associated with nodding sydrome and epilepsy.

In Uganda, Onchocerciasis was endemic in 48 districts where over 7.8 million people were at risk of acquiring the infection. Currently the at risk population is in two foci covering 12 districts with total population of over 1.7 million (UOEEAC report 2022). The major vector species are Simulium naevei and S. damnosum with the former being more predominant. The disease was endemic in the western axis of the country bordering DRC, northern part of Uganda up to the border with RSS, around Mount Elgon in the east and in districts along the source of River Nile.. In these areas, the nodule prevalence rate was found to be in the range of 10% to 100% (Ndyomugyenyi, 1998; Katabarwa et al., 1999a). Control of onchocerciasis started in 1950 by spraying DDT on the Nile and achieved the disease elimination in Victoria Nile focus in 1970s. The National onchocerciasis control program was formed in 1993 to start country wide mapping and control using annual mass treatment with ivermectin. Onchocerciasis Elimination policy launched in 2007, adopted semi-annual community directed mass treatment with ivermectin (CDTI) and vector control strategies to stop O. volvulus transmission in the country. Out of the 17 foci in the 48 districts, 15 foci in the 36 districts have interrupted transmission (undergoing post treatment and post elimination surveillance) and interventions are still ongoing in the remaining 12 districts. S. neavei has been eliminated in six isolated foci.

As Uganda moves towards elimination of Onchocerciasis, with stoppage of MDA in some districts, the programme must address the following challenges:

- Disease elimination in trans-boundary transmission zones shared with DRC in Lhubiriha and RSS in border districts of Madi Mid-North focus.
- Continuous influx of refugees from endemic areas of DRC and RSS into Uganda. Such populations can be reservoirs *O. volvulus* and constitute a potential threat for recrudescence in foci where the vector was not eliminated. There is therefore need for the program, to apply for extra mectizan to treat refugees from endemic areas.
- Vector control by larviciding was halted due to lack of funding and this has led to increase in population of *S. damnosum* flies along large rivers in Northern Uganda. The program has to scale up slash and clear on small rivers which meet criteria for the intervention and advocate for restoration of larviciding.
- Declining spirit of voluntarism in community mass treatment responsible for the growing demand for monetary incentives and high attrition rate of CDDs.
- > Ivermectin is not included on the Ministry of health list of essential medicines.
- Lack of funding to train clinicians and lab personnel in districts to enhance onchocerciasis disease suspicion and testing for sustainable surveillance in the post elimination phase.



Figure 4: Oncho. Endemicity at Baseline (2007) and 2022

1.4.1.3 Trachoma

Trachoma is the world's leading cause of preventable blindness of infectious origin. It is caused by *Chlamydia trachomatis* and repeated infection results in inversion of the eyelashes, causing damage to the cornea. It is spread through direct personal contact, shared towels and clothes, and flies that come into contact with the eyes or nose of an infected person. In its early stages, trachoma causes conjunctivitis which presents as mild irritation of the eyes and an eye discharge. With repeated infection, and if not treated, the disease progresses causing scarring of muscles of the eyelids. This leads to eye lashes turning inwards and touching the eye ball, a condition referred to as trichiasis. The eye lashes brush and scratch against the cornea. This continued irritation turns the cornea cloudy leading to corneal scarring and loss of vision. Women are more likely to be infected and develop blinding trachoma than men due to their close contact with children who are the most at risk group.

Trachoma is eliminated with the "SAFE" strategy. SAFE consists of: Surgery to correct trichiasis; Antibiotics to treat infection; Facial cleanliness and Environmental improvements to limit transmission.

Trachoma was endemic in 61 districts with 10. 8 million people at risk of infection. Currently, transmission of trachoma is ongoing in the districts of Nabilatuk, Amudat, Nakapiripirit, Moroto and Buliisa with 633,585 people at risk of infection. About 40,000 surgeries for Trachomatous Trichiasis have been carried out with an estimated 10,000 cases left.

Currently, only five (5) districts (Buliisa, Amudat, Moroto, Nakapiripirit and Nabilatuk) are still undergoing MDA and surgeries are being conducted for the Trachomatous Trichiasis backlog. Border districts are showing recrudescence, suspected to be due to migrations across the borders from Kenya and Democratic Republic of Congo.

As we get to the elimination stage there is need for; i) a more concerted effort to equip endemic districts with sufficient capacity to manage residual cases of Trachomatous Trichiasis for surgery, ii) collaboration with the water and education sector including related Non-Governmental Organizations (NGOs), and iii) synchronize Mass drug administration with Kenya to treat nomadic populations simultaneously across borders.

Baseline prevalence map of TF in children 1 -9 years, 2007 versus current trachoma prevalence, 2022.



Figure 5:TF Prevalence in Children 1-9 years in 2007 and in 2022.

1.4.1.4 Schistosomiasis

Schistosomisias also known as Bilharzia, due to infections with *S. haematobium* or *S. mansoni*, causes urinary and intestinal Schistosomiasis respectively. Intestinal Schistosomiasis due to *S. mansoni* is endemic in 96 districts while urinary Schistosomaisis due to *S. haematobium* is endemic in 3 districts of Apac, Kole and Oyam. The vectors of Schistosomiasis in the country are *Biomphalaria sudanica*, *B. choanomphala*, *B. pfeifferi*, *B. Stanleyi* and *B. Smithi*for *S. mansoni* and *Bulinus globosus* and *B. truncatus* for *S. haematobium*. *S. mansoni* infections are more common, especially in communities living near large water bodies such as Lakes Victoria, Albert and Kyoga, along River Nile, in some irrigation



Figure 6: Schisto. Endemicity

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Schemes and paddy fields as well as in several valley dams in different parts of the country. Country-wide, 96/146 districts are affected by Schistosomiasis with an estimated 7.4 million people affected and 15.7 million at risk of the infection. Out of the 96 endemic districts, 26 are of low endemicity (prevalence between 1-9.9%), 25 are of moderate

endemicity (prevalence between 10-50%) and 45 are of high endemicity (prevalence >50 Table 2: Schistosomiasis Endemicity (JRSM 2023 Unpublished)

Endemicity	Number of districts	Targeted population(SAC)	Sum of Adults SCH	Total population
Non endemic	50	0	0	13,722,656
Low (<10%)	26	1,097,969	0	6,973,119
Moderate (10- 50%)	25	1,342,037	735,816	7,061,588
High (>50%)	45	3,247,887	9,291,295	17,833,585
Total	146	5,687,893	10,027,111	45,590,948

The target of the Bilharzia Programme is control and where feasible elimination.

1.4.1.5 Soil-Transmitted Helminths

In Uganda, STH due to *Ascaris lumbricoides* (roundworm), *Trichuris Trichiura* (whipworm), *Ancylostoma duodenale* and *Necator Americanus* (hookworms) are endemic in all the 146 districts. Hook worm is the most widely spread while Ascaris and Trichuris Trichuria exhibit the highest burden in the districts of western Uganda. Infection of STH is due to ingestion of foods contaminated with eggs of the above mentioned worms. Hookworm infections occur through penetration of human skin by infective larvae.

Morbidity due to STH presents as anemia, stunted growth, absenteeism from school, poor cognitive development and rectal prolapse.

Current interventions include deworming using Albendazole/Mebendazole targeting school aged children (5-14 years), preschool aged children (1-4 years) and pregnant mothers. The program also carries out health education to advocate for behaviour change and proper disposal of feaces.

Challenges include poor sanitation, hygiene and access to safe drinking water

1.4.1.6 Human African Trypanosomiasis (HAT)

Human African Trypanosomiasis (HAT) commonly referred to as sleeping sickness is caused by two trypanosome sub-species, namely, *Trypanosoma brucei gambiense* (Gambian sleeping sickness) and *T.b. rhodesiense* (Rhodesian form of sleeping sickness). The Gambian form of sleeping sickness is chronic while the Rhodesian one is acute. HAT is transmitted by tsetse flies (Genus: Glossina) and the common vectors in Uganda are *G.fuscipes*, *G. pallidipes* and *G. brevipalpis*.

Sleeping sickness symptoms usually occur within weeks to months for Rhodesian form of HAT while this may take months to years for the chronic Gambian form of HAT. The symptoms and signs of sleeping sickness are used to raise clinical suspicion; however, a definitive diagnosis is only made after thorough laboratory examination for presence of trypanosomes.

Patients can present with a chancre, intermittent fever, headaches, enlarged lymph glands, extreme fatigue, muscle and joint pain. In addition, often patients will have had a history of taking anti-malarial drugs and/or antibiotics and will have sought medical attention/care from a number of facilities including alternative medicine practitioners and herbalists.

As the disease progresses, the parasites cross the blood-brain barrier into the central nervous system, leading to central nervous system (CNS) clinical signs such as: somnolence/insomnia, progressive mental confusion, slurred speech, personality/ behavioral changes, difficulty in walking and if untreated, the patient lapses into coma and eventual death.

HAT is endemic in 43 districts and mainly affects the rural poor. It is estimated that about 9.9 million people are at risk of infection (7.8 million in South East focus and 2.1 million in the North West focus). Uganda has both forms of HAT occurring in 2 geographically distinct foci. The Gambian form predominantly occurs in Acholi and West Nile sub-regions of the country. This focus borders Democratic Republic of Congo (DRC) to the west and the Republic of South Sudan to the north, both of which are highly endemic for HAT. Human beings are the main reservoir for this form of HAT. On the other hand, *Trypanosoma brucei rhodesiense* was originally limited to the south eastern region of the country but has now spread to Lango and Teso sub-regions with possibility of overlap (Picozzi et al., 2005). This focus shares a border with Western Kenya. Cattle are the main reservoir for this acute form of HAT.

1.4.1.7 Visceral Leishmaniasis.

In Uganda, Visceral Leishmaniasis (VL) locally known as Termes in the Karamoja subregion is a public health problem. It is caused by *Leishmani adonovani* which is transmitted by sand flies, *Phlebotomus martini*. The disease is characterized by fever that does not respond to anti-malarials; enlarged spleen; anaemia; severe wasting and body weakness. Up to 90% of untreated cases eventually die due to organ failure, anaemia and secondary infection. The VL parasites also cause Post Kala-azar Dermal Leishmaniasis (PKDL), which manifests as skin disfigurement. Co-infection of VL and HIV produces severe illness that is difficult to manage. People of all ages are at risk of infection but teenage males are at greater risk of infection due to their outdoor activities.

Transmission of VL in Uganda is reported to be anthroponotic (Mukhtar, et al., 2000) whereas in neighbouring Kenya, dogs and jackals are known to be reservoirs of infection (Mutinga et al, 1980; Ngoka & Mutinga, 1977). A study by Kolaczinski et al (2007)

demonstrated that termite mounds are important vector breeding and resting sites for sand fly vectors. Some of the risk factors for VL infection include: sitting on termite mounds and sleeping outdoors. In Uganda, VL was first reported in the 1950s (Waykoff, 1969), but no control measures were put in place at the time. Little is known about the endemicity and magnitude in Uganda. Initially, the disease was thought to be endemic in Pokot county of Amudat district only, but review of the records at Amudat Hospital revealed that the disease is endemic in 9 districts of Karamoja sub-region and neighbouring Kenya.



Figure 7: VL Endemicity; Primary and Relapse cases

Since 2017, VL cases have been increasing due to intensified mobilization and treatment services in the region. In 2022, 300 people were confirmed VL cases.

1.4.1.8 Plague

Plague is a zoonotic disease affecting rodents and transmitted by fleas from rodents to other animals and to humans. It is caused by a bacterium *Yersinia pestis*. The rodents involved in the transmission cycle of plague are *Rattus rattus*, *R. norvegicus* and *Arvicanthisniloticus*, which are the common domestic and peri-domestic rodents. This is transmitted to humans through the bite of an infected flea or a bite of an infected rodent

or direct contact with infected individuals and/or contaminated materials. In Uganda, the flea species most important in the transmission of the disease are *Xenopsylla cheopis* and *Xenopsylla brasiliensis*. There are three clinical forms of plagues, namely: (i) Bubonic plague, characterised by painful swelling of the lymph nodes and buboes (eruptions on the skin) (ii) Pnuemonic plague characterized by severe pneumonia, bloody sputum and can be passed on from person to person (iii) Septicemic plague characterized by bleeding from body openings, nausea, vomiting, fever and chills.

Major epidemics of human plague were recorded numerous times in the last six decades (Hopkins, 1949; Msangi, 1975; Akiev, 1982). Most of the cases and epidemics have occurred in Nebbi, Arua and Zombo Districts of North-western Uganda. Outbreaks occurred in 1982, 1986, 1993, 2000 and 2001 with many reported deaths (Kilonzo, 1999; WHO 2003). The factors that favour plague epidemics are suitable environmental conditions of rats and fleas, movement of populations from infected to uninfected areas, storage of food in houses, cultural beliefs on causes of plague which lead to delay in seeking treatment, hence the disease progressing from one form to another.

Local health records indicated that there were 1,610 cases of plague between 1989 and 2003 in North-western Uganda. Eighty-seven percent of the cases were bubonic, 6.2% pneumonic and 5.3% septicemic. The overall mortality rate was 25.9% out of which 52.8% were due to pneumonic form, 40.5 % due to septicemic and 6.7% due to bubonic form.

Mapping to determine populations at risk is not yet done and capacity to identify the vectors and animal hosts is not in place. There is need to sensitize communities on the epidemiology of the disease for effective control.

1.4.1.9 Buruli Ulcer Disease (BUD)

Buruli Ulcer Disease (BUD), caused by *Mycobacterium ulcerans* is a re-emerging disease. The disease is the third most common mycobacterial infection after tuberculosis and leprosy. It is the most poorly understood of the three human mycobacterial diseases. The disease affects men and women equally. About 75% of affected persons are children below 15 years and 90% of the lesions are on the limbs; mostly lower limbs. There is little seasonal variation in the incidence of the disease. It was first described in Uganda in 1897 by Sir Albert Cook among patients from Buruli County, the current Nakasongola district. In addition, 39 patients living close to River Nile were registered in Madi district in 1963 (Lunn *et al* 1965). More cases were found in Maruzi County near Masindi Port and Koch Goma of Nwoya district. *M. ulcerans* is a mycobacterium that lives freely in the environment (e.g. rivers, swamps, wetlands, in small aquatic arthropods, biofilms) from where transmission to humans occurs through unknown mechanism. The exact mode of transmission is still unknown.

BUD mainly affects the skin and causes a deep undulating ulcer resulting in disfigurement. It is managed by using antimicrobials and surgery (skin grafting). Secondary infections complicate could result in sepsis and loss of limbs. Physiotherapy

is required to restore the functionality of affected limbs. Buruli ulcer imposes a serious economic burden on the affected household and on health systems that are involved in the diagnosis of the disease and treatment. Although the disease was initially identified in Buruli (Nakasongola district), previous survey found no BUD cases in this district. Some cases of the disease, however, were recorded in Adjumani, Nwoya and Moyo districts.

1.4.1.10 Podoconiosis

Podoconiosis or non-filarial elephantiasis is a non-infectious disease caused by exposure of bare feet to red clay soil derived from volcanic rocks containing high quantities of aluminium and silicon compounds (Price, 1976). Although the condition has been known for more than a millennium, it has been neglected and less researched. Of recent, Podoconiosis has been classified as neglected tropical disease by World Health Organization (www.podo.org). The disease manifests with progressive disfigurement of the limbs, abnormal enlargement of the fore feet, oedema, skin markings, rigid toes and hard skin nodules.

The disease mainly affects poor agricultural communities, who do not wear protective shoes and/or wash the mud off their feet using soap and water after exposure. In Uganda, non filarial elephantiasis of the lower limbs was first documented by Lowenthal in 1934. The number of cases in Uganda is unknown. It is associated with highland areas. Onapa et al (2001) revealed Podoconisosis prevalence of 4.5 % in Kween area of Kapchorwa. This study, showed podo distribution in 45 districts, in five endemic regions – (Karamoja, Mt Elgon, Kigezi, Rwenzori and Zombo areas). No antigens of LF parasites were detected in the participants. Surveys conducted by NTD Control Programme in Busiriba and Ntara sub-counties of Kamwenge district in 2012, showed a prevalence of 7.2% (MoH reports 2012). The socio-economic impact of the disease is high; out of 10 patients, 7 to 9 belong to the economically active age group. Podoconiosis is a stigmatizing disease that leads to social exclusion of individuals and their families. Fortunately, since 2022 occurrence is almost gone and we expect zero coverage for all indicators this year. However, IFOTRODE will conduct country mapping of Podoconiosis in 2023. It is hoped that the MoH will follow up the IFOTRODE mapping by appropriate budgeting from FY 2023/24 annual MoH budget onwards as well as train health workers in the management of Podo.

1.4.1.11 Rabies

Rabies is a viral disease that is caused by the Rhabdovirus. It has a high case fatality rate in humans and animals. The disease affects all warm blooded animals. In many developing countries, including Uganda, rabies is mainly transmitted through the bite of infected dogs but other animals such as foxes, jackals, vampire bats, cats and mongoose can also transmit the disease. It is estimated that every year, 55,000 humans and countless dogs die from rabies, mostly in Africa and Asia (<u>http://www.who.int/rabies/bmgf</u> <u>who project/en/index.html</u>). The disease presents in two forms: an acute Encephalitis form, which is rapidly fatal and paralysis form that affects the muscles and characterized by hydrophobia. The disease is managed by using anti-rabies vaccine that can be given pre or post-exposure.

It is widely acknowledged that this is a gross underestimation of the actual number of cases since many rabies cases are not reported either because they die at home, outside a health facility or the disease is mis-diagnosed and under-reported. The population of dogs in Uganda is estimated at 3 million while that of cats stands at about 640,000. With the poor veterinary care given to these animals, these pets pose a big risk factor in rabies transmission. Over 95% of rabies cases in Uganda originate from rabid dog bites.

A study carried out in Uganda to determine the profile of patients presenting at health centres with animal bites indicated that most patients bitten by dogs are children of 5-19 years. This age group is at a greater risk of developing rabies in the absence of treatment due to location of the bites they receive (Févre et al 2005). Rabies continues to escalate across Africa and Asia as a result of inadequate awareness by communities and low prioritization by the responsible sectors.



In Uganda, rabies has become endemic in most parts of the country. In some districts there are epidemics as a result of occasional spill over from the wildlife reservoirs to the domestic dogs and humans. The presence of many free-roaming and unvaccinated pets (dogs and cats) poses a major risk factor and contributes, significantly, to the spread of rabies to the human population through bites of rabid dogs and cats.

1.4.1.12 Tungiasis

Tungiasis is also commonly known as jiggers, "nvunza or nyende" in eastern Uganda. It is an inflammatory skin disease caused by a small female ecto parasitic flea, *Tunga penetrans* which breeds in dust existing in homestead compounds and unswept houses. The flea is the smallest in the world and can only jump up to 20 Cms high; therefore it mainly affects feet and those people who sleep on the ground. The flea eggs hatch in dust and the larvae can only survive where there is dust.

The female flea becomes a jigger after it bites and burrows into the victim skin mainly for purposes of reproduction. While in the skin, the eggs develop after mating and are responsible for the inflammation of the affected part swelling of the body of the jigger. The toes, sole, lateral rim of the foot and heel are predilection sites. Most of lesions occur at the feet. Itching and local irritation occurs as the female fleas develop fully and increase their body volume by a factor of 2000 within two weeks. Due to bacterial super-infection of the lesions, abscesses, suppuration or lymphangitis can develop. Multiple lesions and intense local inflammation restrict mobility. If not well managed, jigger infection may lead to secondary infection and cause death. One of the main risk factors is sharing habitation with animals such as pigs.

In Uganda, the disease outbreak came to light in 2010 when deaths were reported in Bugiri district. Since then there has been a series of activities that have led to the proper understanding and recognition of jiggers as a neglected tropical disease. The disease is endemic in the whole country. It is estimated that over 6 million people are at risk and at least 2.4 million have jiggers. However, 50% of total cases in Uganda come from Busoga and Karamoja Sub regions. Household surveys in Busoga region by Ministry of Health found jiggers prevalence of 40.6%. There is no official documentation of previous mapping of this disease but from 2014 a figure of 17 (10 Busoga and 7 Karamoja district) was being used as these are areas that publicly expressed concern by then. Ifotrode plans to expand school and community awareness and control Programme in Napak district in 2023.

1.4.1.13 Guinea Worm

Guinea worm disease was at one time highly endemic in Uganda. The disease is caused by a nematode worm *Dracunculus medinensis*, thus the name Dracunculiasis. The disease was found to be associated with fresh water copepods of the genus Mesocyclops. The adult female worm forms a blister on the leg and foot, through which the worm emerges on contact with water and starts to release millions of larvae into the water. The larvae enter fresh water copepods; develop to infective stage (L3) within the copepod. The copepods containing L3 larvae are ingested when unfiltered or unboiled water is consumed by unsuspecting humans. On reaching the human host, the larvae mature into adults, mate, the male dies and the female grows to almost one meter in length, and moves down to the lower extremities, ready to release L3 larvae into the water. There are no cases since 2007 reported through HMIS.

1.4.1.14 Taenia Solium (Cysticercosis)

Cysticercosis/Taeniosis is emerging as a serious public health and veterinary problem in many developing areas of the world. Caused by a pork tapeworm, *Taenia solium*, this zoonotic disease forms cysts in humans and pigs that can lead to epilepsy and death in humans. It has been estimated that worldwide there are at least 50 million people who

have epilepsy(Leonardi and Ustun 2002) with 20%-50% of all late-onset epilepsy globally being caused by *Taenia solium* (Bern, Garcia et al. 1999). Porcine cysticercosis makes pork unsafe to eat and reduces the value of pigs. It occurs where sanitation is poor, meat inspection is inadequate and pigs range freely, and so it is strongly associated with poverty. Although theoretically easy to control and declared eradicable, cysticercosis remains neglected primarily due to lack of information and awareness about the burden of the disease leading to a perception that it is of little importance in endemic areas. This false perception of little or no burden coupled with the fact that the disease is zoonotic leading to confusion as to which sector should be responsible for addressing the problem (i.e. health or agriculture) has resulted in cysticercosis remaining one of the most neglected of the neglected tropical diseases.

The magnitude of human cysticercosis (taeniosis) in Uganda is not known because no study has been made to determine its distribution, prevalence and incidence. However, isolated studies indicate that porcine cysticercosis is a serious problem particularly in rural areas in Lira, Apac, Kamuli, Kaliro and Nakasongola districts. Most of these studies were based on abattoir surveys. This implies that the reported disease prevalence could be lower than what actually exists.

A survey conducted in northern Uganda in 1999 indicated that 34-45% of the slaughtered pigs were infected (Saimo and Lubega; personal communication). Cysticercosis pigs have been observed among the pigs offered for slaughter in Wambizi abattoir in Kampala (Phiri *et al.*, 2003; Kisakye and Masaba; 2002). Another study on porcine cysticercosis was performed in Kamuli and Kaliro districts in Eastern Uganda based on lingual palpation and pork inspection (Waiswa*et al.*, 2009). By then, the current Buyende district was still part of Kamuli and Kaliro district had just been cut off. Results indicated that the prevalence of porcine cysticercosis was 8.5% among the 480 pigs examined but, there was no data on human taeniasis. In another study in 2010 in the same region but extending to neighbouring districts, using the antigen ELISA test on 437 pigs, the seropositivity rate ranged from 5% to 30% (Nsadha*et al.*, 2010). These districts; Busia, Kayunga, Kaliro, Apac, Kamuli and Kaberamaido had the highest pig population and they were the major suppliers of pigs for pork in the urban settings (MAAIF, 2007). Kamuli district had highly significant prevalence of cysticercosis than any other district (P < 0.01).

In another study, (Katabarwa*et al* 2008) conducted a nodule prevalence survey in 4 Onchocerciasis sentinel communities in Moyo in extreme north and Kanungu in extreme south of Uganda. Seven (33.3%) of the excised onchocercomas (nodules) in Moyo district and 4/6 nodules excised in Kanungu district turned out to be cysts of *T. solium*. They concluded that *T. solium* might be very common in the whole country and it is likely to be the main cause of epileptic seizures commonly reported in onchorcerciasis foci in the country but to date this claim has not been substantiated.

1.3.1.15 Echinococcosis /Hydatidosis

Echinococcosis, or Hydatid disease, is a parasitic infection caused by tapeworms of the genus *Echinococcus*, a tiny tapeworm just a few millimeters long. Echinococcosis is a zoonosis, a disease of animals that affects humans. The parasite is transmitted to dogs when they ingest the organs of other animals that contain hydatid cysts. The cysts develop into adult tapeworms in the dog. Infected dogs shed tapeworm eggs in their feces which contaminate the ground. Sheep, cattle, goats, and pigs ingest tapeworm eggs in the internal organs. The most common mode of transmission to humans is by the accidental consumption of water, or food that has been contaminated by feces of an infected dog. *Echinococcus* eggs that have been deposited in soil can stay viable for up to a year.

The disease is most commonly found in people involved in raising sheep, as a result of the sheep's role as an intermediate host of the parasite and the presence of dogs that eat the offal of infected sheep. The disease presents with formation of cysts on internal organs especially the liver. The true distribution and magnitude of the disease in Uganda is not well documented, but is likely to be associated with nomadic communities. According to a recent small scale survey, the prevalence of cystic echinococcosis in pastoralist communities in North Eastern Uganda was 3% (Othieno *et al*, 2016). In the past, surgery was the only treatment for cystic echinococcal cysts. Chemotherapy, cyst puncture, and per cutaneous aspiration, injection of chemicals (PAIR) and re-aspiration have been used to replace surgery as effective treatments for cystic echinococcosis. However, surgery remains the most effective treatment to remove the cyst and this intervention can lead to a complete cure. Preventing dogs from feeding on the carcasses of infected sheep, control of stray dogs, avoiding consumption of food/water contaminated with dog feces and proper hand Washing are the key measures to prevent echinococcosis. However, there is no current intervention for this disease in Uganda.

1.4.1.16 Brucellosis

Brucellosis also known as "Mediterranean fever" or "Malta fever" is a zoonotic disease which affects both human and animals. It is caused by infection with *Brucella species* and *B. melitensis* is the most virulent and invasive type. Brucellosis is endemic in the Mediterranean countries, North and East Africa including Uganda, the Middle East, South and Central Asia, and South and Central America. Livestock are a source of infection to humans through consumption of raw meat and unpasteurized dairy products or from direct contact with infected secretion and excretion from animals. Surveillance of brucellosis in both cattle and goats is important.

Human-to-human transmission occurs rarely, through blood transfusion or sexual contact. Diagnosis of the disease is still a challenge in Uganda, but the most accurate methods are use of polymerase chain reaction (PCR) techniques and blood culture. The disease is often under diagnosed and frequently under-reported. In Uganda, the distribution and magnitude of Brucellosis is unknown but is believed to be common among cattle keepers. World Health Organisation recommends use of antibiotics such as streptomycin and
doxycycline for treatment of brucellosis. Avoiding consumption of under cooked meat and unpasteurized dairy products are key public health practices to prevent the disease.

1.4.1.17 Leprosy

Leprosy is a chronic infectious disease of the skin and peripheral nerves usually presenting with skin lesions and nerve enlargement. The condition is caused by *Mycobacterium leprae*. The mode of transmission is uncertain, but is believed to be spread by droplet inhalation or ingestion of infected fluid through sneezing or coughing during prolonged and close contact with untreated leprosy patient. The disease mainly presents with hypopigmented skin lesions with loss of sensation, enlarged or tender peripheral nerves at the site of predilections. Leprosy is a special public health problem, owing to the permanent disabilities it causes as well as social consequences such as discrimination and stigma.

Presently, the country has a combined TB and Leprosy Programme (NTLP). Leprosy and TB services have been integrated into the general health care services in Uganda and each of the districts has a leprosy control focal person and the district is the operational level of the Programme. All registered patients are treated with Multi-Drug Therapy (MDT).

Although implementation of MDT has resulted in a rapid decline of the number of registered leprosy cases, new cases have continued to be reported annually and there still exists backlog of grade 2 disabilities. The proportion of child leprosy case for 2021 was 12% signifying ongoing transmission. In 2021, a significant proportion (21%) of new and relapse cases have grade 2 disability at



106a-LC01b. New Cases 2021 1 - 15.6 (92) 15.6 - 30.2 (2) 30.2 - 44.8 (0) 44.8 - 59.4 (0) 59.4 - 74 (1) the time of diagnosis signifying late diagnosis. Other leprosy control activities such as follow up, case detection and rehabilitation are no longer as active as they used to be and some centers which used to specialize in the management of cases have either been closed or they are not as active as they used to be hence the importance

of including leprosy under the NTD Programme. In addition, there are very few health workers still with adequate skills to

diagnose and manage leprosy patients either because of low numbers of cases detected or due to high attrition of experienced health workers. Some cases are diagnosed late, when they are already in grade two leprosy disability grading. Although WHO elimination target of 1 case per 10,000 populations has been achieved at national level since 1994 the country, it is pertinent to note that some districts might not have attained the elimination target especially those in West Nile region.

Below is the map showing distribution of leprosy cases for 2021. The total number of cases reported in 2021 was 388.

1.4.1.18 Scabies

Scabies is reported in the HMIS, therefore baseline data on the number of affected districts can be obtained, however, there is need for country mapping. Scabies often occurs in epidemics. The most commonly affected districts are in Karamoja and in other districts that are challenged by water and poor hygienic practices.

1.4.1.19 Fascioliasis

Many studies have documented the prevalence of the infection in domestic and wild populations across Sub-Saharan Africa(Mas-Coma, 2004) however there is scanty data availability on human prevalence across the Sub-Saharan African region.

Fasciola parasites are often maintained in non-human hosts; including domestic and wild animals such as buffaloes, chimpanzees, cattle, sheep, pigs, and goats (Obanda et al 2019). In Uganda, studies have dated Fascioliasis infections way back in 1972 (Ogambo-Omgoma 1972) high prevalence of bovine fascioliasis was found at low and high altitude(Howell et al., 2012). In another study, fascioliasis infection was associated to economic losses in abattoirs in Lira (Opio et al 2021). However, no studies have been performed to highlight this in human populations. The epidemiological trend tends to show a spatial element due to the free living stages of F.gigantica as well as the intermediate host snails-Lymnaeid (Rahman et al 2017; Chowdhury et al 1994) and the influence of climatic (Khatun et al 2015) and environmental conditions (Rahman et al 2017; Charlier et al 2011). To date there is no study on the spatial distribution in domestic animals in Uganda based on the national level data has been published. There is need to understanding the distribution of the disease and the need to identify the clusters, hotspots, risk factors and risk mapping areas that are vital to focus on the scarce resources for treatment and control. There is an ongoing research by Adriko et al that will establish this across the six districts in Uganda including Hoima/Bulisa from Albertine Basin, Mayuge and Jinja from Victoria Basin and in Apac and Lira from Kyoga Basin.

This is in response to the call for research concerning control and prevention of neglected zoonotic tropical diseases by the World Health Assembly. It is hoped that the findings will provide evidence for the policy-makers in Uganda to appreciate the problems associated with fascioliasis infections and design fascioliasis interventions. In will also spur policy makers incorporate evidence-based Fascioliasis data, as part of the overall NTD data, into the national Strategic Plan, and allocate budget for identified interventions.

Table 3: National Population Data, Schools and Health Facilities at District Level

Region	District	Number of villages	Total Population	Under Fives (Pre school)	5-14 Years School Age)	No. of Primary	No. of Per	ipheral He	alth facilities
							Regional	General	HCs
							Referral	Hospital	
							Hospital		
Central	27	4,063	12,530,156	1,779,286	3,784,107	5,155	32	53	1,434
Eastern	40	12,079	11,907,162	1,690,819	3,595,963	7,345	34	30	990
Northern	41	17,071	9,459,164	1,343,200	2,856,667	4,562	43	27	786
Western	38	8,884	11,694,466	1,660,616	3,531,726	3,673	4	34	1,214
Total	146	42,097	45,590,948	6,473,921	13,768,463	20,735	113	144	4,424

Table 4: Known Disease Distribution in the Country

	Region	Total			
Diseases	Central	Eastern	Northern	Western	(overall)
LF	0	27	41	2	70
Oncho	0	5	21	20	46
SCH	16	34	29	17	96
STH	27	40	41	38	146
TRA	0	17	41	3	61
BUD	1	0	4	0	5
НАТ	5	23	15	0	43
Leishmaniasis	0	3	9	0	12
Podoconiosis	4	8	2	12	26
Rabies	27	40	41	38	146
Tungiasis	0	37	38	35	110
Snakebite envenoming	27	40	41	38	146
Brucellosis	27	40	41	38	146
Plague	0	0	3	0	3
Cysticercosis	27	40	41	38	146
Scabies	27	40	41	38	146
Leprosy	12	6	23	9	50

1.4.2 NTD PROGRAMME Performance

Uganda NTD master plan 2017-2022 was a useful guide for annual planning, implementation, monitoring and evaluation. Significant progress has been made in improving the quality of life and livelihoods of people living in NTD-endemic areas.

LF: MDA has been stopped in all 70 endemic IUs. The last transmission assessment survey (TAS 3) indicated marked reduction in endemicity. Morbidity management and disability prevention (MMDP) due to LF has been initiated in 14 districts.

Onchocerciasis: Of the 17 foci in the 49 districts, 15 foci in the 36 districts have interrupted transmission and are undergoing post elimination surveillance. Interventions are still ongoing in the remaining 13 districts. S. neavei has been eliminated in 5 isolated foci in Western Uganda.

<u>**Trachoma</u></u>: Fifty-five (55) out of the 60 districts have achieved elimination of blinding trachoma following impact assessment studies which showed only 5 districts with a TF prevalence \geq5%. During the last 5 years, about 2,000 Trachoma Triachiasis (TT) surgeries were conducted leaving a back log of about 10,000 TT cases still in 60 districts. The surgeries are provided by 20 TT surgeons and 3 Consultant Ophthalmologists.</u>**

<u>Schistosomiasis</u>: During the last five years, MDA was conducted in all 96 districts and achieving 75% program coverage. The Programme is currently conducting precision mapping to inform next programming at lower level. Precision mapping for Schistosomiasis in 78 districts have been completed.

<u>Soil-Transmitted Helminthes</u>: Impact surveys of STH in 5 districts showed reduction to less than 10% prevalence in 3 out of the 5 endemic districts.

Currently, the remaining endemic districts for PC- NTDs are 5 districts for trachoma, 13 districts for river blindness, 96 districts for Bilharzia while STH still exists in all the districts.

Uganda has achieved elimination of sleeping sickness due to T. gambiense and is Guinea worm free.

The Programmed has initiated treatment of VL cases in Karamonja region. Another treatment center was established in Moroto district.

New vector control innovations including slash and clear have been initiated in three districts to suppress vector populations

There has been no mapping of many case management NTDs including Cysticercosis, Echinococcosis, Brucellosis and Leprosy. The status of mapping of the NTDs as of December 2020 is shown in Table 5.

Endemic NTD	Total # Districts	No. of endemic districts	No. of districts mapped or known endemicity status	No. of districts remaining to be mapped or assessed for endemicity status
Lymphatic Filariasis	146	70	70	0

Table 5: NTD Mapping Status (JRSM 2023 HMIS and published research papers)

Trachoma	146	61	61	0
Schistosomiasis	146	96	96	0
Soil Transmitted Helminthiasis	146	146	146	0
Onchocerciasis	146	47	47	0
HAT	146	43	43	0
Leishmaniasis	146	12	9	3
Leprosy	146	46	46	0
Dracunculiasis	146	30	46	Yes
Podoconiosis	146	Unknown	0	Yes
Tungiasis	146	Unknown	0	Yes
BUD	146	Unknown	0	Yes
Plague	146	3	3	0
Cysticercosis	146	Unknown	0	Yes
Brucellosis	146	Unknown	0	Yes
Echinococosis	146	Unknown	0	Yes
Rabies	146	Unknown	0	Yes
Scabies	146	Unknown	0	Yes

1.4.3. Performance of the other Programmes that are Closely Related to NTD Programme.

	Magguita			Other Vectors			
	Mosquitoes			Snails	Black fly	Sand fly	Tsetse fly
	LF Dengue Malaria		Schisto	Oncho	Leish	НАТ	
ITN	Х	Х	Х			Х	-
IRS	Х	Х	Х			Х	
Space spraying					Х		
Larviciding	X	X	X		X		
Traps/Targets							х

Table 6: Vectors and Associated NTDs

Prevention/treat ment of breeding sites	Х	Х	х	x	x	??	
Slash and clear					Х		
River dosing							

One-Health

'One Health' is an approach to designing and implementing Programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes. The 'One Health' approach is critical to addressing health threats in the animal, human and environment interface.

The ministry of health recognized the importance of multidisciplinary and multi-sectoral coordination and collaboration in the prevention, preparedness, detection and response to shared public health threats (mainly zoonotic diseases) way back in the 1980s, when the veterinary public health unit was established in the ministry. Following an increasing trend in shared public health threats (zoonotic diseases, anti-microbial resistance, biosafety, biosecurity concerns, food safety just to mention but a few and in view of the fact that silo/compartmentalized approaches to solving these threats had proved futile, the government through the ministries of Health, Agriculture, Animal Industry and Fisheries, Ministry of Water and Environment and Uganda Wildlife Authority, an agency of the ministry Tourism, Trade, Wildlife and Antiquities signed a memorandum of understanding that eventually led to the establishment of the National One Health Platform to oversee the implementation of One Health (OH)in the country. The NOHP is working on the coordination strategy but because it involves multiple sectors, it is envisaged to be in the office of the prime minister. Leadership is on an annual rotational basis by the directors of the key ministries with each ministry having 2 institutional representatives to the One Health Coordination Office which serves as the secretariat of the technical arm of the platform- the One Health Technical Working Group. The division of Veterinary Public Health and Zoonoses of the department of integrated epidemiology, surveillance and public health emergencies coordinates OH in the Ministry of Health.

One Health Approaches in Uganda

There are a number of One Health approaches being implemented in Uganda and many of the guiding documents are being developed using a One Health approach and examples include:

1. The National Action Plan on Health security which emphasizes multi-sectoral collaboration, coordination and communication in handling shared public health threats such as zoonoses, food safety

2. Integrated Disease Surveillance and Response (IDSR3^{rd Edition}) Technical Guidelines that emphasizes the OH approach. Public health emergency preparedness and response

structures at both national and sub-national levels are multi-sectoral and multidisciplinary. The National Task Force, the National Rapid Response Teams and their equivalents at sub-national level are also multi-sectoral and multidisciplinary in composition.

3. The National Action Plan on Anti-Microbial Resistance. Awareness creation and AMR surveillance coordinated across sectors.

4. Sectors are also working together to create platforms, systems that will facilitate faster communication/data sharing

5. The country also developed a list of 7 priority diseases using the OH approach.

6. The Multi Hazard Emergency Preparedness and Response Plan- Development and roll out

7. Other activities include Joint risk assessments and response in zoonotic disease outbreaks such as anthrax, CCHF,RVF,EVD etc, compilation of reports such as the SPAR, development of EPR plans, conducting After Action Reviews, Inter Action Reviews

8. Disease diagnostics and use of the hub system for sample transportation

Diseases and Conditions covered less than One Health

Uganda developed her Priority Zoonotic Diseases list in 2017. The list has 7 diseases which include:

- 1. Rabies
- 2. Anthrax
- 3. Viral Haemorrhagic Fevers(EVD, MVD, CCHF, RVF)
- 4. Brucellosis
- 5. Severe Acute Respiratory Syndrome
- 6. Human African Trypanosomiasis
- 7. Plague

B. This list can always be updated from time to time bearing in mind the emergency of emerging and re-emerging zoonoses such as Covid19 for instance. Other diseases and conditions include cholera, flooding etc

Opportunities for NTDs

Four of the NTDs are on the list of the country's priority zoonotic diseases list. So opportunities for complementarity (resources, data sharing)

WASH

The MoH recognised the importance of provision of WASH services on elimination of NTDs. As a result the GoU developed national framework on WASH and NTDs (2021) as commitment to put in place the organizational and financial measures for close cooperation between multiple sectors on WASH for the prevention and care of NTDs.

The objectives of the national framework for WASH and NTDs are:

• To achieve and sustain the disease control and elimination targets set out in the National NTD Master Plan and the global NTD road map

• To achieve the strategic objectives set out in the Uganda NTD Master Plan on transmission control, disease management, and inter-sectoral collaboration through a health systems strengthening approach and in line with national health plans

• To achieve the national WASH targets in accordance with the National Development Plan and the SDGs

The framework defines the key measures required by all institutions and organisations working towards NTD control and elimination in Uganda. The National Framework document represents a commitment by the Government of Uganda to put in place the organizational and financial measures for close cooperation between multiple sectors on WASH for the prevention and care of NTDs. It defines the key measures required by all institutions and organisations working towards NTD control and elimination in Uganda. These include participation in joint, cross-sectoral planning, from the local to the national level that will result in improved access to WASH services in areas that have been deprived of such services and that consequently carry the heaviest burden of disease and its economic consequences.

The burden of NTDs is driven by low levels of access, coverage and use of safe water and sanitation services in homes, communities and public spaces, while the severity of several diseases in affected individuals can be greatly impacted by lack of such services. For that reason, the prevalence of NTDs represents an important indicator of gaps and inequalities in service provision in Uganda. Resource allocation to the district level in Uganda is not currently informed by disease information. The need to use such information has been acknowledged, but lack of harmonised data collection systems and data collection and reporting capacity at the district level hampers the ability to do so. The process of developing this framework included an in-depth data collection process to gather information at the district level on the distribution of disease in Uganda (based on indicators defined by WHO), alongside access to water, sanitation and hygiene facilities in households and schools (based on nationally-defined indicators).

A decision matrix (Annex I)(based on a tool developed by the WHO and NNN) was developed in which all data was presented, grouped into thresholds of low, medium, high and very high prevalence, NTD risk (number of diseases prevalent in a district – i.e. disease co-endemicity) and low, medium and high access to WASH facilities and rates of open defecation. The data allows stakeholders to assess the districts in highest need of WASH investment for disease control, care and elimination, as well as for broader health and development needs.

WASH and NTDs Coordination Key Principles:

Collaboration on WASH and NTDs is guided by the following principles:

• Accountability: collaboration is undertaken with the explicit purpose of a shared vision of improving the health and wellbeing of all Ugandans in accordance with national targets and plans. • Transparency: successful collaboration is dependent on openness and sharing of information, plans, technical expertise, opportunities for improvement and any challenges and threats to the delivery of the shared vision.

•*Respect*: all actors acknowledge the targets, structures, guidelines and policies set out by each sector, and work to strengthen these through a collaborative approach.

•*Inclusion*: all actors are guided by the fundamental importance of this collaboration for addressing inequalities and exclusion, and seek to engage all key stakeholders, including affected individuals and communities, in this initiative.

• **Commitment**: all actors are committed to this endeavour and will allocate the needed time, participation and resources.

Key Actions to Develop and Sustain WASH-NTDs Collaboration in Uganda

• Establish a formalised national level working group or forum for coordination of WASH and NTDs that includes all relevant ministries and implementing partners

• Designate staff from all relevant ministries and departments to attend planning meetings at all administrative levels

• Agree a Memorandum of Understanding on WASH and NTDs to formalise collaboration between ministries

• Develop a list of WASH partners operating in each district with support from UWASNET and the DWSCC

• Identify and define shared indicators relevant to all actors in order to monitor progress and address problems

- Undertake regular meetings and information sharing on a quarterly basis at a minimum
- Allocation funds at the sector and district levels in accordance with agreed actions

• Strengthen DWSCC and ensure participation in DWSCC meetings by district NTD focal persons

• Include NTD prevalence as part of the criteria of prioritization of WASH/education resource allocation (currently diarrhoea, dysentery, cholera)

• Ensure accountability and transparency in all WASH and NTD Programmes by stakeholders

• Institute joint monitoring activities

PHARMACOVIGILANCE

Pharmacovigilance is the process of **monitoring the effects of drugs**, both new and existing ones. This includes collecting data, analyzing it, and taking steps to prevent any negative effects.

Pharmacovigilance is under the Department of Pharmaceuticals and Natural Medicines (DPNM) in the ministry of health. DPNM works hand in hand with NDA which is a regulatory body in Uganda. DPNM plays a key role in ensuring that all the health facilities in Uganda are encouraged to report Adverse Drug Reactions (ADR) using the Pharmacovigilance forms.

Since the inception of Pharmacovigilance in 2005, in order to strengthen pharmacovigilance at Regional Referral Hospital level pharmacovigilance was adopted as a sub-committee of the Medicines and Therapeutic Committee (MTC).

Mandate

The national drug authority which is the National Pharmacovigilance centre derives its mandate from the National Medicine Policy 2015 which **aims to contribute to the attainment of a good standard of health by the population of Uganda**, through ensuring the availability, accessibility and affordability at all times of essential drugs of appropriate quality, safety and efficacy, and by promoting their rational use.

Position within the government of the National pharmacovigilance Centre

Who should report ADRs?

All Health care providers (clinicians, dentists, pharmacists, nurses etc), and consumers (in the future) should report.

 Responsibility of pharmacovigilance centre (NPC) for investigating and reporting serious adverse events (SAEs):

Following the establishment of the national Pharmacovigilance centre (NPC), there was country wide sensitization of health workers and distribution of adverse drug reaction forms. This followed establishment of the regional Pharmacovigilance centers hosted by regional referral hospitals in the country. To date there are 17 regional Pharmacovigilance centers overseen by coordinators who are tasked to do the following:

1. Develop and implement a plan for strengthening PV within the hospitals and catchment facilities, and coordinate all on-going Pharmacovigilance activities in the hospital and the catchment facilities.

2. Support health workers/facilities by availing reporting tools, organizing trainings/capacity building, retrieving filled ADR reports from the catchment facilities and send to the National Pharmacovigilance center (NPC). The coordinator will ensure catchment facilities have functioning Pharmacovigilance Systems. The National Pharmacovigilance center has supported the regional centers by providing regular logistical support, mentorship and supervision in order to build their capacity to carry out Pharmacovigilance activities. This function is now being done by DPNM through support from the Global fund. DPNM has already developed a pharmacovigilance work plan and

framework. Ten (10) centers were visited during this period. Trainings of new staff, delivery of reporting material, and retrieval of safety reports were done.

Awareness of agreed-upon processes and procedures for responding to SAEs

STRENGTHENING ADR REPORTING FOR DOCTORS AND STUDENTS

Development of Pharmacovigilance skills during the formative years of medical training is prerequisite to instilling a reporting culture. To this end, NDA carried out trainings and awareness sessions in 9 (nine) institutions in South Western Uganda (Mbarara University, Kisiizi Nursing School and Kabale Nursing School) and Northern Uganda (Gulu University, Gulu School of Clinical Officers, Lacor School of Nursing, and Gulu Institute of Health Sciences). Mutual opportunities for collaborating with Pharmacovigilance centres on planning for safe preventive chemotherapy; goal-setting; establishing processes for SAE management and investigation; risk communication, and training all stakeholders to respond to SAEs. Together with DPNM ,NDA has always participated in the pharmacovigilance activities.

In Uganda the National Pharmacovigilance system exists at all levels of health service delivery in Uganda. Pharmacovigilance is under the division of quality assurance in the ministry of health. Since its inception in 2005, at Regional referral Hospital level pharmacovigilance is a sub-committee of the Medicines and Therapeutic Committee (MTC).

Key Cadres at district level include District Health Officer (DHO), District Nursing Officer (DNO), District Medicine Supervisors (DMS), District Stores Assistant (DSA), District surveillance focal person, Clinical Officers (COs), Health Unit Management Committees, Village Health Team (VHTs) and the focal person for NTDs. Partnership of medicine support exists through WHO, Mectizan Donation Programme, GSK Pharmaceuticals, RTI/ENVISION, Sightsavers, Schistosomiasis Control Initiative Foundation (SCIF), ENDFUND, The Carter Center, Pfizer, Johnson and Johnson, International Trachoma Initiative and Drugs for Neglected Tropical Disease Initiative (DND*i*)

NTD	Date Programme started	Total districts targeted	No. districts covered (geograp hical coverage [*])	Total population in target districts	Total population that stopped MDA or case managed	No.(%) districts that have stopped MDA	Key strategi es used	Key partners
LF	2001	70	70	18,382,345	18,382,345	70	MDA, MMDP	WHO, RTI Act to End- Ntds,

Table 7: Summary of Interventions Information on Existing NTD Programmes

								Sightsavers, ASCEND
Onch o	1993	43	43	3,941,346	9,519,330	31	MDA,Health Education, Vector control	WHO, ESPEN, TCC, Act to End-NTDs
SCH	2003	96	96	31,868,292	0	0	PHASE	WHO, SCI, Act to End NTDs-East,
STH	2003	146	146	45m	0	0	MDA,Health Education	WHO, SCI, Act to End NTDs-East
TRA	2006	51	51	653,507	15,489,889	0	SAFE	WHO,
НАТ	1987	43	43	9.9m	NA	NA	Surveillance, Case management , Vector & Animal reservoir Control	WHO,FIND, LSTM,
Leish mania sis	2010	9		1.3m	NA	NA	Surveillance, Case management	

Section 1.5: Building on NTD Programme Strengths

1.5.1. Opportunities and Threats

OPPORTUNITIES

• Strong political commitment at national and district level for the control and elimination of NTDs.

• Availability of international guiding goals and guidelines like "eliminate NTDs by 2030" in the SDGs and recent launch of the new WHO NTD road map 2021–2030.

• National and local WASH platforms that contribute immensely to the control and elimination of NTDs.

• Established collaboration with international donors and implementing partners coupled with strong commitment of NTD stakeholders (drug donation for PC NTDs, strong partnerships with nongovernmental organizations and provision of operational costs).

• Political will from the government of Uganda, through Ministry of Health, supports control of NTDs. This strong political will is evidenced by presentation of cabinet white paper on NTDs control that received overwhelming support from cabinet.

• Representation in the One Health Technical Committee

THREATS

- Cross boarder transmission of NTDs from neighboring countries.
- Traditional beliefs that limit uptake of control interventions leading to continued transmission and infection.

• High operational costs in hard-to-reach communities like islands during delivery of interventions.

• Inadequate sanitation and hygiene in endemic areas leading to high re-infection levels (prevalence and intensity).

• High PZQ refusal due to Severe adverse events (more so in 5-6 years/first time experience) Size and taste of the Tablets.

• Influx of refugees and high population migrations from highly endemic countries to non/low endemic areas where they introduce the disease.

• Lucrative economic water related activities (e.g. snail shell collection) that are a source of constant infections.

• Lack of Pediatric Praziquantel for Pre-school age children.

• Impact of the effects of climate change on the gains so far achieved and occurrence of new infections

1.5.2. Strengths and Weaknesses STRENGTHS

• Geographical coverage with PC of the target populations in all endemic implementation units.

• Committed expertise in the technical advisory groups at national and international levels.

• Availability of several guiding documents like advocacy tool, M&E and sustainability plan within the NTD Control Programme that gives directions towards elimination.

• Inclusion of key NTDs performance indicators into the National HMIS and DHIS2 systems of the ministry of health.

• Strategic integrated delivery of PC interventions in all NTD co-endemic communities.

• Scaled up interventions to refugees, hard to reach communities and low endemic districts in case of Onchocerciasis and Schistosomiasis respectively enhanced equitable access of interventions and services.

• Availability of a functional NTD secretariat at the national level that sits every quarter and presence of NTD cadres at sub national levels across the country-important in the delivery of control interventions.

• Recent training of TT and Hydrocelectomy surgeons in trachoma and LF endemic districts has enhanced morbidity management respectively.

• Enhanced health worker capacities in the diagnosis and management of Visceral Leishmaniasis and LF lymphoedema in endemic districts.

• Availability of up to date precision mapping of Schistosomiasis data from most districts to guide on the delivery of control interventions.

• Improved treatment coverage in post conflict districts of northern Uganda.

• Annual register updates have enabled the programme to attain improved population figures for proper planning in most communities except in fishing villages.

• Availability of second treatment center for VL in the country has enhanced management.

• Availability of technical personnel at national and district levels to manage implementation of NTD

WEAKNESS

• Inadequate operational research on most NTDs especially those whose Programmes have not been established (BUD, Echinococcosis, cysticercosis).

• Health workers not re-oriented on NTDs diagnosis, management and reporting.

• Some NTD Indicators not integrated in HMIS reporting system of ministry of Health.

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- Poor NTD data collection, management and reporting.
- Inadequate government support and ownership
- Incomplete mapping of some of the NTDs especially CM NTDS.

• None availability of snake anti-venom and delay in cases reporting to the health facility

• Low awareness by the community on the NTDs management.

• Unpredictable funding leading to delays in the delivery of interventions to beneficiary communities.



Figure 10: The SWOT Analysis

Table 8: Gaps and Priorities

Gaps
Planning.
Inadequate government support and ownership of NTDs control interventions.
Inadequate understanding of the endemicity and distribution of some case management NTDs
Limited reflection of NTD in the overall health policies and priorities at national and district levels
Coordination and Management

Poor integration of the NTD medicines and supplies into the mainstream routine MoH supply chain processes at the national level

Poor integration of NTD services into the existing health service delivery model (facility versus community based),

Inadequate cross-border collaboration (with Kenya, TZ, DRC, South Sudan) to address the risk of recrudescence.

Inadequate reporting (low reporting rates) of NTD data integrated in HMIS from districts.

Partnerships

Weak Inter sectoral collaboration –WASH platform, linkage of NTD interventions to one health; Inadequate multi-sectoral collaboration and weak coordination structures with key stakeholders, especially at the district level

Inadequate integration of gender equity and social inclusion (GESI) considerations into NTD programming in Uganda.

Implementation of interventions

Inadequate skills set in health workers coupled with poor health infrastructure thus emasculating some population sub-groups from accessing needed health care services.

Low community awareness of NTDs coupled with misconceptions and negative attitudes to some NTDs

Inadequate coverage of many CM-NTDs

Surveillance

NTD data not fully incorporated into the health management information system (HMIS), weak surveillance system and inadequate utilisation of NTD data

Post treatment surveillance still inadequate

PRIORITIES

Planning

Advocate for increased government support for NTDs

Conduct mapping to establish the exact prevalence and magnitude of unmapped NTDs such as Tungiasis and Podoconiosis

Fully integrate all NTD services into the existing healthcare system

Coordination and Management

Increase domestic financing for NTD programming

Improve coordination at the national level – advocate for NTDs to be a Division in the MOH

Integrate NTD MDA and case management medicines and supplies into the MoH's routine supply chain management practices

Strengthen laboratories in frontline health facilities for diagnosis of Bilharzia & STH and other NTDs. Enhance health worker capacities for the management of NTDs.

Partnerships

Enhance NTD Programme ownership and accountability at national and sub national levels .

Strengthen NTD Programme, multi-sectoral collaboration and coordination mechanism at national and district levels to enhance the efficiency and impact of the NTD Programme.

For sustainability, Districts should incorporate all NTD control activities into health service delivery system, plan and budget.

Implementation of interventions

. Initiate vector control interventions across NTDs including Larval Source Management with Malaria Division

Improve social mobilization of communities in endemic IUs.

Build the capacity of health workers to manage NTDs at different levels of the healthcare system

Integrate GESI into NTD PROGRAMME implementation in Uganda to achieve sustained elimination and control of NTDs.

Surveillance

Strengthen community surveillance for case management NTDs e.g. HAT and VL.

Strengthen post intervention surveillance on NTDs that have stopped PC.

Integrate NTD data into the HMIS/District Health Information System 2 (DHIS2) to reduce data fragmentation and generate reports for strategic planning and decision making and strengthen the routine surveillance system for NTDs in Uganda

PART2 Strategic Agenda: Purpose and Goals

This section is intended to provide an overview of the targets and milestones for all NTDs that are endemic in the countries, which would be determined through consultation with stakeholders in the country including central and sub-national governments, scientific and research groups, nongovernmental organizations, implementing partners, donors and private sector organizations. The strategic agenda of the national NTD Programmes should articulate the overall Programme vision, mission, and goals. It should also delineate the strategic goals, major Programme focus, and strategic milestones. In addition, the strategic priorities and strategic objectives should indicate the main 'pillars of excellence' as well as the continuous improvement objectives that the Programme seeks to achieve during the life cycle of the master plan.



Figure 11: Hierarchy of Objectives for National NTD Programme

Section 2.1: NTD Programme Mission and Vision

Table 9: Vision and Mission					
Vision	•	Uganda free of Neglected Tropical Diseases (NTDs)			
Where we need to go					

Mission	• To provide cost-effective, sustainable, equitable, pro-
What we exist to do	poor and community-owned interventions for the prevention, control and elimination and/or eradication of targeted NTDs through an integrated NTD control PROGRAMME.

Goal: Accelerate the reduction of the disease burden through the control, elimination and eradication of targeted NTDs and contribute to increased productivity, poverty alleviation, and better quality of life of the affected people in Uganda.

Section 2.2: Milestones and Targets

The overarching and cross-cutting targets, derived from the NTD Global Roadmap 2021–2030 will help in integration, coordination and country ownership and equity. Targets for sectors such as WASH, safety, and vector control are based on established targets and disease-specific targets for 2025 and milestones for 2023 and 2027 set for each of the endemic diseases for one of the following: eradication, elimination (interruption of transmission), elimination (as a public health problem) or control.

2.2.1. Targets

Overarching targets

Below are the overarching targets:

Overarching targets

- 75% reduction in disability adjusted life years related to Neglected tropical diseases
- Eliminate Trachoma, Lymphatic Filariasis and Onchocerciasis by 2025

Cross-cutting Targets

The figure below shows some examples of cross-cutting targets. (For the expanded list of indicators of cross-cutting targets see the NTD Global Roadmap 2021–2030, page 15).

INTEGRATED APPROACHES	 Epidemiological surveillance, including active and passive case-finding, detection and disease mapping Training and capacity-building for health workers and community volunteers on screening and treating skin NTDs Promotion of implementation research and innovations to improve the efficiency of integrated approach to skin NTDs Social mobilization and community health education to build awareness about skin NTDs and encourage early reporting and treatment-seeking Management and care of skin NTDs, e.g. through referrals (e.g. for mental health), training in self-care, provision of rehabilitation services (e.g. physical therapy, counselling), reducing stigmatization Integrated planning, monitoring and evaluation of skin NTD programmes. Implement integrated WASH and SBCC strategies; Integrate Malarial control and NTDs
MULTI-SECTORIAL COLLABORATION	 NTD programme to share micro-mapping data on endemicity of WASH-related NTDs with the ministry of water and sanitation. Joint building of evidence and awareness on the mutual benefits of collaboration between WASH and NTDs. Joint awareness-raising and behavioural-change promotion, e.g. promoting WASH practices during MDA campaigns, including NTD-specific messages in WASH activities in households or schools. Jointly tracking progress and impact with harmonized monitoring and evaluation and frameworks to inform decision-making and joint planning, gauge effectiveness of interventions, and document benefits for use in advocacy. Dedicated committee or task team at national and/or local level (within cross-sector coordination platforms), with clear assignment of roles in coordinating activities among stakeholder groups.
COUNTRY OWNERSHIP	 NTDs integrated into national health strategies/plans Including NTD interventions in package of essential services and budgeting for them Reporting on all relevant endemic NTDs through the existinh HMIS Systems for identification, management, reporting and analysis of SAEs established and coordinated across NTD programmes and national pharmacovigilance centers. Convene or integrate stakeholders into a committee for all NTDs and include representatives from relevant sectors (e.g. WASH) to review current and proposed strategies Define the required domestic and external resources and activities, and highlight gaps or barriers; initiate action to close gaps Integrate into national health strategies, and secure the necessary political commitment to implement NTD plans
UNIVERSAL HEALTH COVERAGE	 Proportion of the population at risk protected against out-of-pocket health payments due to NTDs Expand access to antiparasitic medicines for acute and chronic cases of the eligible population Increase workforce awareness and training to diagnose and treat cases and monitor advances Build capacity to increase awareness and capacity to diagnose and treat Target active screening of high-risk population group Increase rates of detection, confirmation of diagnosis, access to health care and notification of infected people

Figure 12: Examples of Cross-cutting Targets

Disease-Specific Targets

The disease-specific targets for the NTDs in Uganda are shown in table below.

Table 10: Disease -Specific Targets

NTDs Targeted for Eradication

Dracunculiasis (Guinea Worm)	To maintain zero indigenous cases ha been certified Guinea worm free.	ving 2	027	Case containment, community based surveillance.	
Targeted for Eliminati	on (Interruption of Transmission)				
HAT(Gambiense)	Maintain zero indigenous cases	2027	Veo bas	ctor control, community sed surveillance.	
Onchocerciasis	Interruption of transmission of OV in 80% of endemic Districts	2027	MD Hea Veo	PA, alth Education, ctor Control	
Leprosy	All endemic Districts achieve zero new indigenous leprosy cases	2027	Act cor	ive surveillance htact tracing,	
			reh	abilitation.	
			Cap	bacity building	
			l ar	geted Preventive Proventive	
Targeted for elimination	on as a public Health problem				
Lymphatic Filariasis	-Uganda is validated as having eliminate LF as a public health problem (defined as infection sustained below TAS thresholds for at least 4 years after stopping MDA; availability of essential package of care in all areas with known patients)	2027	MM Vec SB Su	IDP ctor control. CC, irveillance	
	-All endemic Districts manage disability and inclusion of persons with LF				
HAT(rhodesiense)	Elimination as a public health problem(defined as < 1 case / 10 000 people per year, in each health district of the country averaged over the previous 5- year period)	2027	Case detection by passive active screening, ca management, vect control, commun sensitisation a mobilization, anim reservoir control		
Leishmaniasis (visceral)	Elimination of VL as a public health problem(defined as < 1% case fatality rate due to primary disease)	2027	Capacity building, Mappin Early diagnosis a treatment, Integrated vec management and Soc mobilization		
Rabies	Achieve Zero human deaths from Rabies	2027	- V cat	accination of dogs and	

			 Strengthen policy environment for the prevention and control of human and dog rabies. Implementation of Pre and Post-exposure prophylaxis To conduct and maintain high quality community based surveillance Community sensitisation in the prevention and control of rabies -Health promotion and education
Schistosomiasis	Elimination of Schisto as a public health problem (defined as < 1% proportion of heavy intensity infections) in 80% of endemic Districts.	2027	PHASE
Soil- Transmitted Helminths	Elimination of STH by 60% of endemic Districts as a public health problem (defined as < 2% proportion of soil- transmitted helminth infections of moderate and heavy intensity due to A. lumbricoides, T. trichuria, N. americanus and A. duodenale)	2027	 I.Mass Drug Administration with Albendazole or Mebendazole in school- aged children and high risk communities. I.Health education and promotion for behavioural change I.Advocacy for improvement of hygiene and sanitation.
Trachoma	Elimination as public health problem(m (defined as (i) a prevalence of trachomatous trichiasis "unknown to the health system" of < 0.2% in \ge 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 trachomatous trichiasis cases, using defined strategies, with evidence of appropriate financial resources to implement those strategies)	2027	SAFE strategy full geographical approach for case identification and management, Develop and operationalize transition planning for management of incident cases.
NTDs targeted for con	trol		
Buruli ulcer	Zero cases in category 111 (late stage) and prevention of disabilities due to BUD	2027	Early case detection and treatment, Community

			involvement and Health education
Echinococcosis	Intensified control in hyper endemic Districts	2027	Early case detection and treatment, Community involvement and Health education
Snake bite Envenoming	Reduce morbidity and mortality due to snake bites by 50%	2027	Case management, community awareness, provision of anti-venom.
Scabies	50% of endemic Districts implement scabies management protocols	2027	Health Education, Improvement of personal and environmental Hygiene
Cysticercosis	100% To reduce morbidity and mortality due to cysticercosis	2027	Community awareness, case management
Plague	To prevent and control endemic human plague	2027	Case detection, Case management, Vector Control, Reservoir Control, Health promotion and education
Podoconiosis	50% of endemic Districts implement tungiasis management protocols	2027	Conduct epidemiological mapping, Ensure access to preventive packages at all levels,
			Establish patient lead treatment groups, Enhance partnership with public and private sector.
			and Advocacy and community sensitization
Tungiasis	To prevent and control Tungiasis	2027	-Mapping to assess the distribution & magnitude of the disease
			-Capacity building on vector control treatment and rehabilitation.
			Advocacy and community mobilization
			-Personal and Environmental hygiene

2.2.2. Milestones for PCT NTDs

Table 11: Milestones for Elimination / Control of NTDs (2023-2027)

Elimination of Lymphatic Filariasis as a public health problem

Indicators	2022	2023	2024	2025	2026	2027
Number of LF endemic districts	70	70	70	70		
Number of LF districts requiring MDA	0	0	0	0		
Number of districts that passed TAS1 and stopped MDA	70	70	70	70		
Total population in districts that stopped MDA for LF						
Population requiring MDA (preventive chemotherapy)	0	0	0	0		
Proportion of target IUs (districts) conducted and passed TAS 1	70 (100%)					
Proportion of target IUs (districts) conducted and passed TAS 2	65(92 %)	70(10 0%)				
Proportion of target IUs (districts) conducted and passed TAS 3	49 (70%)	49 (70%)	46 (65%)	70 (100%)		
Proportion and number of IUs where there is full coverage of morbidity- management services and access to basic care	21(32 %)	21(32 %)	33(50 %)	49(75 %)	6 0(90 %)	66(100 %)
Percentage of IUs started passive surveillance or post-validation surveillance	0%	25%	50%	75%	90%	100%
Number of cases of Lymphatic Filariasis reported through DHIS2	TBD	TBD	TBD	TBD		
Number of cases of hydrocele worked on	1499	2249	3374	5061	7592	11388
Number of patients trained in lymphoedema management	2028	3200	4076	4452	5 328	5830
Number (proportion) of IUs where 75% of hydrocele cases benefitted from appropriate surgery	18 (25%)	18 (25%)	35 (50%)	35 (50%)	7 0(100 %)	70(100%)
Number (proportion) of IUs (districts) with full coverage of morbidity management services and access to basic care	18 (25%)	18 (25%)	35 (50%)	35 (50%)	7 0(100 %)	70(100%)
Present "the dossier " for verification of absence of LF transmission	0(0%)	0(0%)	0(0%)	1(100 %)		

Elimination of Schistosomiasis as a public health problem: 2023-2027

Indicators	2022	2023	2024	2025	2026	2027
Number of districts begun implementation of school- based/community-based treatments in Endemic districts	96 (100%)					
Number of districts validated for elimination of Schistosomiasis as a public health problem	0	0	0	0	0	39 (43%)
Proportion of districts achieving Program overage 75% or more in SAC	100%	100%	100%	100 %	1 00%	100%
Proportion of districts achieving program coverage 75% or more in High-risk adults	100%	100%	100%	100 %	1 00%	100%
Proportion of districts achieving program coverage 75% or more in Pre-SAC	0	0	0	0	1 00%	100%
Number (proportion) of endemic districts achieving elimination of morbidity	0	14 (16%)	14 (16%)	14 (16%)	1 4 (16%)	
Percentage of districts diagnosing and treating urinary Schistosomiasis	0	0	0	1	2	4
Percentage of districts diagnosing, and treatment services of intestinal Schistosomiasis reported	10%	30	40	50%	7 0%	80%
Number (proportion) of endemic districts implementing MDA	96 (100%)	96 (100 %)	96 (100 %)	96 (100%)	9 6 (100 %)	96 (100%)
Number (proportion) of districts achieving100% geographical coverage in SCH endemic districts	96(100 %)	96(10 0%)	96(10 0%)	96(1 00%)	9 6(10 0%)	96(100%)
Number (proportion) of districts conducted 3-5 years of consecutive treatments in all endemic districts with district coverage of more than 75%	N/A	N/A	N/A	N/A	N /A	96 (100%)
Number (proportion) of endemic districts achieving moderate morbidity control	37 (41%)	37 (41%)	37 (41%)	37 (41%)	3 7 (41%)	37 (41%)
Number (proportion) of endemic districts achieving advanced morbidity control	39 (43%)	39 (43%)	39 (43%)	39 (43%)	3 9 (43%)	39 (43%)

Elimination of STH as a public health problem: 2023-2027

Number (proportion) of districts implementing school based/community-based treatments in endemic districts	146 (100%)	146 (100%)	146 (100%)	146 (100%)	14 6 (100%)	146 (100%)
Number (proportion) of districts achieving100% geographical coverage in STH Endemic districts	0	5	10	50	7 0	146
Number of districts conducted impact assessment activities after at least 4 years of consecutive treatments	0	10	40	50	80	146
Number of endemic districts achieving moderate morbidity control	0	5	10	25	70	120
Number of endemic districts achieving advanced morbidity control	0	0	5	10	2 5	50
Number of endemic districts achieving elimination of morbidity	0	0	0	0	5	45
Number of districts validated for elimination as a public health problem	80%	80%	80%	80%	80 %	80%
Proportion of districts achieving Program overage 75% or more in Pre-SAC	80%	80%	80%	80%	80 %	80%
Proportion of districts achieving program coverage 75% or more in SAC	80%	80%	80%	80%	80 %	80%
Proportion of districts achieving program coverage 75% or more in women of reproductive age (WRA)	146 (100%)	146 (100%)	146 (100%)	146 (100%)	14 6 (100%)	146 (100%)

Elimination (Interruption of Transmission) of Onchocerciasis: 2023-2027

Indicators	2022	2023	2024	2025	2026	2027
Completed mapping of OV and the population at risk	39(100 %)	39(100 %)				
Number of endemic districts requiring MDA	13(%)	13(%)	5	3	3	3
Number of districts that conducted an impact survey after the recommended number of rounds of MDA	7	7	2			
Number of districts that stopped MDA and started post-treatment surveillance	4	4	11	11	15	
Number of districts started post-elimination surveillance	endem ic- (13+4)	endemi c- (13+4)	Endem ic+4- 13			
Number of districts that achieved the minimum elimination threshold	0	0	0	Endem ic- (13+4)	Endem ic- (13+4)	Ende mic+4- 13)

Estimated number of individuals in the country requiring preventive chemotherapy (PC) for Onchocerciasis	TBD	TBD	TBD	TBD	TBD
Number of districts requiring PC	TBD	TBD	TBD	TBD	TBD
Proportion of districts achieving effective (> = 80%) therapeutic coverage	1	1	1	1	1
Number (proportion) of IUs where treatment has been stopped					41 (100%)
Number of districts verified for interruption of transmission	TBD	TBD	TBD	TBD	TBD
Number (proportion) of IUs where Onchocerciasis has been eliminated (for WHO indicator: Number of countries verified for interruption of transmission)					41(1 00%)
Number of districts that have stopped MDA for 100% of the population requiring PC for Onchocerciasis					41
Number (proportion) of foci conducted and passed epidemiological and entomological assessment (7 more foci expected to complete three years of post- treatment surveillance (PTS) between 2021 – 2026	3 (43%)	7 (100%)			
Number of suspected Oncho cases confirmed and reported through HMIS	TBD	TBD	TBD	TBD	TBD
Number of foci with active breeding of black flies	TBD	TBD	TBD	TBD	TBD
Number (proportion) of IUs with the right, adequate tools and logistics for epidemiological surveillance/evaluation	41(100 %)	41(100 %)	41(100 %)	41(1 00%)	41 (100%)

Elimination of trachoma as a public health problem: 2023-2027

Indicators	2022	2023	2024	2025	2026	2027
Geographic coverage of antibiotic MDA in all eligible districts	5	5	0	0	0	0
Proportion of districts that require F&E interventions for trachoma elimination as a public health problem	90%	90%	100%	100 %	100%	100%
Number of TT cases receiving accelerated TT surgery and management	4602	4602	2722	900		
Geographic coverage of TT surgery in all eligible districts	15	15	30	45	48	

Number of trachoma endemic districts that cleared the remaining TT back log	7	13	17	11	48	
Proportion of districts that require antibiotic MDA for trachoma elimination as public health problem that achieve \geq 80% therapeutic coverage.	5/51	5/51	2/51	0	0	
Number of districts that assessed impact of trachoma of the recommended rounds of antibiotic treatments	49	49	51	0	0	0
Number of districts that assessed surveillance survey after stopping MDA	46	46	46	49	51	
Number of post-operative trichiasis cases at 6 months among people who had trichiasis correction surgery in the past.	<10%	<10%	<10%	<10 %	<1 0%	0
Number of districts with a prevalence of TT "unknown to the health system" of < 0.2% in adults aged \ge 15 years (~1 case per 1000 total population)	46	46	49	51	51	
Number of formerly trachoma-endemic districts with a prevalence of follicular trachomatous inflammation < 5% in children aged 1–9 years	44	47	48	50	51	51
Submit "the dossier " for verification of absence of Trachoma transmission	0	0	0	0	0	1(100 %)
Proportion of school children under 9 years with clean faces (free of nasal and ocular discharge) among all children at school	85%	85%	90%	95%	100%	

Table 12: Milestones for the Elimination/Control of Case Management NTDs

Control of Leishmaniasis: 2023–2027		
	Control of Leishmaniasis	: <mark>2023–2027</mark>

Indicator	2022	2023	2024	2025	2026	2027
Number of highly endemic districts with active VL case detection	9	9	9	12	12	12
Number of districts with passive VL case detection	9	9	9	12	12	2
Number of VL diagnostic centres	50	70	90	110	134	134
Number of VL treatment centres	2	2	2	2	5	5
Number of VL treatment centres that provide combination therapy (Meltifosine plus AmBisome) for VL–HIV co-infection	0	2	2	2	5	5
Number of studies of chemical sensitivity in sand flies	0	0	1	0	0	0

Number of districts that implement vector (sand fly) control	0	0	0	3	5	9
Case fatality rate due to primary VL	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
PKDL cases detected (VL post-treatment follow-up 3 years) and treated	0	0	0	0	0	0
Proportion of target population who know the main signs and symptoms of VL (SBCC outcome)	TBD	0.3	0.5	0.6	0.75	

Elimination of HAT: 2023–2027

Indicator	2022	2023	2024 2	2 025	2026	2027
Number of districts verified for interruption of transmission of HAT(gambiense)						
Number of new reported cases of human African trypanosomiasis (<i>T.b. gambiense</i>)	0	0	0	0	0	0
Number of new reported cases of human African trypanosomiasis (<i>rhodesiense</i>)	TBD	TBD	TBD	TBD	TBD	TBD
Number of deaths reported due to sleeping sickness	TBD	TBD	TBD	TBD	TBD	TBD
Screening coverage of at risk population in endemic communities (%)	0.8	0.8	0.8	0.8	0.8	
Number of vector control activities done in collaboration with MAAIF	7	7	7	7	7	7
Number of case diagnostic centres active for HAT (rhodesiense)diagnosis in endemic districts (active status to be based on availability of supplies for diagnosis & technical expertise (clinical and lab staff trained at least once in past 2 years	147	147	147	<mark>147</mark>	147	147
Number of case management centres active(withcapacity)forHAT(rhodesiense)diagnosis & treatment	11	<mark>11</mark>	<mark>11</mark>	<mark>11</mark>	<mark>11</mark>	
Number of case diagnostic centres active for HAT(gambiense)diagnosis in endemic districts (active status to be based on availability of supplies for diagnosis & technical expertise (clinical and lab staff trained at least once in past 2 years	55	55	55	<mark>55</mark>	55	
Number of case management centres active (with capacity) for HAT (gambiense)diagnosis & treatment	4	<mark>4</mark>	<mark>4</mark>	<mark>4</mark>	<mark>4</mark>	

Elimination (Interruption of Transmission) of leprosy: 2023-2027

Indicator	2022	2023	2024	2025	2026	2027

Number of districts mapped/assessed for endemicity						
Proportion of index leprosy cases in which cases are line listed and screened	25%	30%	40%	70%	100%	
Number of new cases of leprosy reported	500	400	300	200	100	60
Proportion of new leprosy cases with grade 2 disability (G2D) per one million population	15%	12%	10%	5%	3%	
Proportion of new paediatric leprosy cases with G2D per one million population	12%	8%	5%	3%	2%	1%
Proportion of endemic districts that have achieved WHO elimination target prevalence of 1 case per 10,000 populations						
Proportion of health facilities with at least one health care worker trained	30%	50%	100%			100%
Number Health workers capacity build on leprosy case management						
Proportion of screened and eligible contacts who receive single dose rifampicin	15%	20%	20%	25%	50%	95%
Proportion of distrcts effectively implementing electronic based surveillance system	40%	50%	60%			100%
Control of podoconiosis: 202 <mark>3</mark> –202 <mark>7</mark>						
Indicator	2022	2023	2024	2025	2026	2027
Number (proportion) of endemic districts that provide lymphoedema morbidity management and disability prevention services	5	10	15	20	20	20
Percentage of lymphoedema cases managed	10%	20%	40%	60%	80%	100%
Number (proportion) of endemic districts with mapping completed to determine distribution and magnitude of the disease	5 (19%) already done	10	15	20	<mark>40</mark>	
Number of districts with effective diagnosis and treatment capacity	10	10	20	30	40	
Number of cases of Podoconiosis cases managed and reported	TBD					
Number of health workers in endemic districts who are trained on management of podoconiosis, and providing healthcare in endemic districts.	250	500	750	1000	1000	<mark>1000</mark>
Proportion of endemic districts with at least one podoconiosis patients' association	0%	5%	25%	50%	75%	100%
Percentage of individuals with proper, regular foot hygiene practice in endemic district	0%	5%	25%	50%	75%	100%
Percentage of individuals with proper, regular shoe-wearing in endemic district	0%	5%	25%	50%	75%	100%

Elimination of Guinea-worm disease: 202<mark>3</mark>–2027

Indicator	2022	2023	2024	2025	2026	2027
Proportion of endemic districts that have interrupted GWD transmission	100%	100%	100%	100%	100%	100%
Number of rumours of guinea worm reported	0	0	0	0	0	0
Number of suspected cases of guinea worm investigated	0	0	0	0	0	0
Number of cases of guinea worm reported	> 80%	> 80%	> 80%	> 90%	> 90%	100%
Percentage of health workers knowledgeable about GWD (100%)	> 100%	> 100%	> 100%	> 100%	> 100%	100%
Control of scabies: 2023–2027						
Indicator	2022	2023	2024	2025	2026	2027
Number of districts with known scabies burden	Not mapped	50%	80%	100%	100%	100%
Proportion of endemic districts that have integrated skin NTDs and scabies management in the essential health services package	NA	25%	NA	60%	100%	100%
Number of endemic districts using MDA intervention	40	60	80	100	136	136
Number of cases of scabies reported	25,000	50,000	75,000	100,000	125,000	150,000
Elimination of rabies: 202 <mark>3</mark> -2027						
Indicator	2022	2023	2024	2025	2026	2027
Number of cases of rabies reported	TBD	TBD	TBD	TBD	TBD	
Number of animal bites by dogs reported	13,900	6950				
Reported number of human deaths from rabies	486	200	100	0	0	
Number of districts having reached 70% vaccination coverage of dogs in high-risk areas (data collection challenge**)	50	70	100	120	146	
Number of districts having reduced mortality due to dog transmitted human rabies by 50%	50	70	100	120	146	
No of persons receiving PEP after dog bites	50% 70%	70%	80%	100%		

Control of plague: 202<mark>3</mark>–2027

Indicator	2022	2023	2024			2025	2026	2027
Number of cases of plaqu	ie reporte	d	30	70	120	180	200	250
Number of plaque-related	deaths r	eported	0	0	0	0	0	0

Number (proportion) of endemic districts with effective diagnosis and treatment capacities for plague	3	3	6	6	6	6
Percent of target population who recall hearing or seeing specific messages on plaque (SBCC outcome)	20%	30%	50%	70%	80%	

Control of Snake bite Envenoming: 202<mark>3</mark>–2027

Indicator	2022	2023	2024		2025	2026	2027
Proportion of people endemic districts w knowledge on snakeb envenoming and mana (SBCC outcome)	in ith ite ge						
Number (proportion) districts with mappi completed	of ng						
Number of cases snakebites reported	of						
Number of snakebite- related deaths reported		0	0	0	0		0
Number of districts achieved reduction of mortality and morbidity by 50%							
Number of effective treatments for snakebite envenoming available nationally	TBD	TBD	TBD	TBD	TBD		
Proportion of people in endemic districts with knowledge on snakebite envenoming and manage (SBCC outcome)	TBD	20%	30%	40%	50%		

Control of Cysticercosis/Taeniais: 202<mark>3</mark>–2027

Indicator	2022	2023	2024	2025	2026	2027
Number of districts with mapping completed						
Number of people at risk of cysticercosis						
Number of cases of cysticercosis reported						

Number of endemic districts with intensified control for *T. solium* in hyperendemic areas

Control of Tungiasis: 202<mark>3</mark>–2027

Indicator	2022	2023	2024	2025	2026 2027
Number of districts with mapping completed	146				
Number of cases of Tungiasis (Jiggers) reported	TBD	TBD	TBD	TBD	TBD
Number of school and community based PROGRAMMEs established to control jiggers (for SBCC)	TBD	10	30	40	50
Number of school/community based awareness campaigns conducted in endemic districts (for SBCC)	TBD	10	30	40	50
Proportion of people in endemic districts who know the causes, prevention and control measures of jiggers (SBCC outcome)	0.2	0.3	0.5	0.7	0.8

Control of Buruli ulcer: 202<mark>3</mark>–2027

Indicator	2022	2023	2024	2025	2026	2027
Number (proportion) of endemic districts with mapping completed	5 (100%)					
Number of districts with effective diagnosis and treatment capacity						
Number of cases of BUD reported	TBD	TBD	TBD	TBD	TBD	
Proportion of cases in Category III (late stage) at diagnosis	TBD	TBD	TBD	TBD	TBD	
Proportion of confirmed cases who have completed a full course of antibiotic treatment	1	1	1	1	1	

Proportion laboratory-o cases	confir	of med	1	1	1	1	1
Number trained diagnosis/n of BUD	of nanag	HCWs on gement	25		25		25

Control of Echinococcosis: 2023–2027

Indicator	2022	2023	2024		2025	2026	2027
Number of districts with mapping completed	146						
Number of people at risk of echinococcosis	TBD						
Number of cases of echinococcosis reported	TBD	TBD	TBD	TBD	TBD		
Number of districts with intensified control for cystic echinococcosis in hyperendemic areas	TBD	TBD	TBD		TBD	TBD	

Control of scabies: 2023–2027

Indicator	2022	2023	2024	2025	2026	2027
Proportion of districts with known scabies burden	0	20	50	80	110	146
Proportion of endemic districts that have integrated skin NTDs and scabies management in the essential health services package	0	20	50	80	110	146
Number of endemic districts using MDA intervention	0	20	50	80	110	146
Number of cases of scabies reported	0	20	50	80	110	146

Control of podoconiosis: 202<mark>3</mark>–202<mark>7</mark>

Indicator		2022	2023	2024	2025	2026	2027
Number of districts that lymphoedema management disability services	endemic provide morbidity and prevention	0	10				

Percentage of lymphoedema cases managed	0					
Number of endemic districts with mapping completed to determine distribution and magnitude of the disease	0	45	45	45	45	45
Number of districts with effective diagnosis and treatment capacity	0	10	45	45	45	45
Number of cases of Podoconiosis cases managed and reported	0	10	45	45	45	45
Number of health workers in endemic districts who are trained on management of podoconiosis, and providing healthcare in endemic districts.	0					
Number of endemic districts with at least one podoconiosis patients' association	0	10	45	45	45	45
Percentage of individuals with proper, regular foot hygiene practice in endemic district	0	0	30	100	100	100
Percentage of individuals with proper, regular shoe- wearing in endemic district	0	0	30	100	100	100
Control of Tungiasis	: 202 <mark>3</mark> –2	2027				
Indicator	2022	2023	2024	2025	2026	2027
Number of districts with mapping completed	0	17	149	149	149	
Number of cases of Tungiasis (Jiggers) reported	0	17	50	100	149	
Number of school and community based Programmes established to control jiggers (for SBCC)	0	17	50	100	149	
Number of school/community based awareness campaigns conducted in endemic districts (for SBCC)	0	17	50	100	149	

Number of people in endemic districts who	0	17	50	100	149
know the causes, prevention and control measures of jiggers (SBCC outcome)					

Table 13: Milestones for Health Systems Strengthening for NTDs Elimination/Control

Milestones for Health System Strengthening for NTDs Control and Elimination

Indicator	2022	2023	2024	2025	2026	2027
Insecticide susceptibility testing of vectors of VBDs and malaria vectors (including vectors of jiggers and Schistosomiasis) conducted to establish baseline status (IVM)	Yes	Yes	Yes	Yes	Yes	
National IVM implementation guideline in place (IVM)	Yes	Yes	Yes	Yes	Yes	
Number (and percentage) of villages in which communities have been mobilized for vector control. (IVM)	TBD	TBD	TBD	TBD	TBD	
Number of cross-border collaborations on VBD control and IVM established and planned meetings conducted as scheduled (IVM)	TBD	TBD	TBD	TBD	TBD	
National policy on pesticide/ insecticide management in place (IVM)	Yes	Yes	Yes	Yes	Yes	
National strategic and implementation plan on IVM in place (IVM)	Yes	Yes	Yes	Yes	Yes	
Number (and percentage) of staff trained in IVM	TBD	TBD	TBD	TBD	TBD	
National entomological surveillance system strengthened and integrated with health information systems to guide vector control (IVM)	Yes	Yes	Yes	Yes	Yes	
Percentage of targeted sentinel sites with functional vector surveillance and insecticide resistance monitoring (IVM)	80%	100%	100%	100%	100%	
Number of operational research outcomes on vector control that have been utilized by implementation programme (include insecticide resistance monitoring) (IVM)	1	2	2	2	2	
Proportion of target health facilities (in endemic districts) with capacity to diagnose and treat NTDs (disaggregated by NTD)	50%	60%	70%	80%	100%	
Number of healthcare workers (by cadre) with capacity to diagnose and treat NTDs	TBD	TBD	TBD	TBD	TBD	
Number and type of NTD medicines and supplies included on the Essential Medicines and Supplies Kit for Uganda	TBD	TBD	TBD	TBD	TBD	
Proportion of (NTD endemic districts) districts ordering medicines and supplies recommended for NTDs through the MoH Supply Chain Management System	10%	30%	50%	70%	100%	
Pharmacovigilance: Number of NTDs-related adverse drug reactions reported	NA	NA	NA	NA	NA	
Number of NTD-related KAP studies done to assess outcome of IEC/SCBCC interventions and inform SBCC strategy		2		2		
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Number of multi-sectoral interventions undertaken with MoES, MoWE, and MAIIF	3	3	3	3	3	
Number of cross border meetings held	1	1	1	1	1	
Proportion of districts with functional cross border committees	30%	50%	70%	90%	100%	
Proportion of border districts mapped for NTDs	30%	50%	70%	90%	100%	
Number (proportion) of cross-border districts that conducted synchronized PC-NTD MDA	30%	50%	70%	90%	100%	
Number (proportion) of cross border districts sharing complete and timely data	30%	50%	70%	90%	100%	

Table 14: Milestones for Sustainability of NTD Programme Gains Ensured

Milestones for S	Sustainability of NTD	Programme	Gains I	Ensured
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Indicator	2022	2023	2024	2025	2026	2027
Number of sustainability assessments conducted, using the WHO sustainability assessment tool	100%	100%	100%	100%	100%	
Proportion of districts that periodically track and report on NTD allocations and spending	50%	100%	100%	100%	100%	
Annual proportion of budget allocation to NTDs by central and local governments from domestic resources.	TBD	TBD	TBD	TBD	TBD	
Proportion of individuals who report receiving the prescribed NTD medicine, both at the health facility and during outreaches	80%	1 00%	1 00%	100%	100%	
Percentage of health facilities in NTD endemic districts providing all the NTD services assigned in the minimum service package, according to level	80%	100%	100%	100%	100%	
Proportion of target health workers from selected health facilities in NTD endemic districts trained on the management of NTDs (content appropriate to their cadre and level of facility)	50%	80%	100%	100%	100%	
Proportion of district health data staff trained on the updated DHIS2 section on NTDs and how to generate reports for NTD budget advocacy	50%	1 00%	1 00%	100%	100%	
188. <i>Information systems:</i> Proportion of selected health facilities with values for NTDs indicators in expected monthly reports.	50%	100%	100%	100%	100%	
189. <i>Information systems:</i> Proportion of NTD endemic districts with evidence of use of NTD data from DHIS2 to inform policy, planning, budgeting, and implementation	50%	1 00%	1 00%	100%	100%	
Number of targeted evidence-based advocacy sessions conducted for policy makers	2	2	2	2	2	

Proportion of recommendations implemented out of the advocacy campaigns	50%	100%	100%	100%	100%
Proportion of districts, including NTD related activities, in their work plans and budgets	50%	1 00%	100%	100%	100%
Proportion of NTD endemic districts with functional multi- sectoral NTD coordination committees	50%	100%	1 00%	100%	100%
Proportion of recommendations of multi-sectoral national and district coordination committees that are implemented	50%	100%	1 00%	100%	100%
Number of NTD interventions jointly implemented by multi- sectoral stakeholders	4	4	4	4	4

Section 2.3: Guiding Principles

The following guiding principles have been identified as core to the coordination framework for achievement of the goals of the NTD Programme especially: Government ownership and leadership, evidence- based, consultative processes, transparency, inclusiveness and community engagement.

Table 15: Guiding Principles

Guiding principles	
	• National and sub-national leadership and government ownership.
	Commitment to multi-sectoral collaboration and sharing.
	• Mutual accountability and transparency of both government and partners.
	Community involvement and participation
	Gender equity and social inclusion
	Resilient and Sustainable health systems.
	 Safety: 'Do no harm' while providing health benefits
	Leave no one behind (LNOB)
	• Commitment to the global road map 2021 – 2030 to for NTD goals and target.
	Equitable access to quality services.

Section 2.4: Strategic Pillars and Strategic Objectives

2.4.1. Programme Strategic Pillars

After extensive deliberation and analyses, four strategic priorities or pillars (Figure 6) were identified for accelerating progress toward the envisaged strategic goals of the NTD program in Uganda. The pillars will support national efforts to achieve the targets

2.4.2 Strategic Priorities

Strategic Pillar	Priorities
Pillar 1: Accelerating PROGRAMMATIC action	Scale up or down integrated PC to achieve 100% geographic and treatment coverages at WHO minimum coverage threshold for trachoma, STH, SCH and ONCHO.
	Enable early detection and prompt treatment or case management of NTDs
	Prioritize and strengthen monitoring, evaluation and learning.
	Strengthen vector control and environmental management
	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, SBCC, WASH etc) for integrated approaches across NTDs
	Strengthen the NTDs pharmaceutical supply chain management system.
	Mainstream delivery platforms within the national health system
	Integrate safety across NTD planning, implementation, and monitoring
Pillar 3: Operating Models and culture to facilitate	Promote and strengthen country ownership and leadership through organizational structures at national and sub-national governments with dedicated funding.
country ownership	Empower local governments and authorities in social mobilization, risk and crisis communication, behavioral change and building local support for NTD interventions
Pillar 4: Strengthen Resource	Promote community involvement and ownership of the Programme for optimal use of available resources.
Mobilization,	Promote improved communication and awareness at the community level for a successful elimination of the endemic NTDs.
Coordination and Communication for the	Improve advocacy and NTD Programme communication at all levels
elimination of NTDs	

Table 16: Strategic Priorities for the Elimination of Neglected Tropical Diseases



Figure 13: Strategic Pillars



Figure 14: Programme Strategic Agenda Logic Map Template

PART3.

Implementing the Strategy: NTD Operational Framework

In line with the 2021- 2030 NTD Global Roadmap, this strategic plan is geared towards ensuring three fundamental shifts in the approach to tackling NTDs: **first**, increase accountability for impact by using impact indicators instead of process indicators, as reflected by the targets and milestones in Part II and accelerate programmatic action; **secondly**, 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 **thirdly**, change operating models and culture to facilitate greater ownership of Programmes by countries.

Section 3.1: Strategic priorities and Key Activities

	Activities	Timeline	Resources needed
Strategic Pillar 1. A	ccelerating programmatic action		
Priority 1: Scale up or down integrated PC to achieve 100% geographic coverage at WHO minimum coverage threshold for trachoma, STH, SCH and ONCHO.	integrated Mass drug administration of Schistosomiasis and STH	2023-2027	Human resources &Medicines, transportation, and other logistics resources;
	Mass drug administration for STH in high endemic areas	2023-2027	Human resources &Medicines, transportation, and other logistics resources;
	Mass drug administration for trachoma	2023-2027	Human resources &Medicines, transportation, and other logistics;
	Mass drug administration for Onchocerciasis	2023-2027	Human resources &Medicines, transportation, and other logistics;
	Cross border activities for trachoma, Onchocerciasis and Visceral Leishmaniasis and between Uganda, Kenya, Democratic republic of Congo, and republic of Southern Sudan	2023-2027	Human resources &Medicines, transportation, and other logistics;
	Intensified social mobilization and behaviour change communication for PC NTDs	2023-2027	Human resources, transportation, and other logistics;
	Scale up integrated MDA for Trachoma Oncho and Schistosomiasis among refugees	2023-2027	Human resources &Medicines, transportation, and other logistics

Table 17: Strategic Pillar 1-4 Activities, Timelines and Resources Needed

Priority 2 Enable early detection and prompt	Scale up passive case identification, referral and management CM NTDs	2023-2027	Human resources & material resources; Budget
treatment or case management of NTDs	Strengthen diagnostic and therapeutic capacity of HFs	2023-2027	Human resources &Medicines, transportation, and other logistics
	Develop and implement guidelines for integrated skin NTD management (LF, Podoconiosis, Oncho, Leprosy)	2023-2027	Human resources & material resources; Budget
	Strengthen integrated management of NTDs in Health facilities	2023-2027	Human resources &Medicines, transportation, and other logistics
	Conduct Morbidity and case management of all qualifying NTDs	2023-2027	Human resources &Medicines, transportation, and other logistics
Priority 3: Prioritize and strengthen monitoring,	integrated monitoring, supervision and PROGRAMME performance review of NTDs	2023-2027	Human resources Transport and other logistics
evaluation and learning.	Update NTD PROGRAMME monitoring and evaluation framework.	2023-2027	Human resources & material resources; Budget
	Mapping of CM-NTDs among refugee populations	2023-2027	Human resources & material resources; Budget
	Conduct impact and transmission assessment surveys for NTDs (LF, trachoma, SCH, STH, Oncho)	2023-2027	Human resources & material resources; Budget
	Establish Post MDA surveillance for LF, Oncho and trachoma	2023-2027	Human resources & material resources; Budget
	Ensure NTD data quality and use.	2023-2027	Human resources & material resources; Budget
	Prepare dossiers for districts that have achieved elimination thresholds for target NTDs.	2023-2027	Human resources & material resources; Budget
	Conduct operational research.	2023-2027	Human resources & material resources; Budget
	Conduct rapid investigations on disease-specific failures.	2023-2027	Human resources & material resources; Budget
	Establish an effective archiving plan for both electronic and paper based data and information on NTDs	2023-2021	Human resources, computers& material resources
	Enhance integration of NTDs reporting into DHIS2 system.	2023-2027	Human resources & material resources; Budget
Priority 4: Strengthen	scale up larviciding in all districts co-endemic with malaria	2023-2027	Human resources & material
vector control and environmental	Scale up Oncho vector control activities such as slash and clear and river dosing.		resources; Budget
	Identify and map hotspots for vector control (snails, mosquitoes, sand flies, jiggers etc)	2023-2027	Human resources & material resources; Budget
	Strengthen integrated vector control within existing vector- borne disease control programmes (MAAIF, Malaria Programme, Environmental Programme)	2023-2027	Human resources & material resources; Budget
	Upgrade, accreditation and equipping of the VCD Molecular laboratory to a status of a referral laboratory for vector borne diseases.	2023-2027	Human resources & material resources; Budget
	Support development of locally made molluscicide for bilharzia snail control.	2023-2027	Human resources, trial logistics, transportation, and other logistics

	Coordination with community and local government authorities on environmental management and vector control	2023-2027	Human resources resources; Budget	&	material		
Priority 5: Ensure timely, safe, and	Plan for procurement of NTD medicines and commodities.	2023-2027	Human resources resources; Budget	&	material		
effective supply chain management of quality assured NTD Medicines and other products up to the last mile	Workshop on NTD logistics and supply chain management	2023-2027	Human resources resources; Budget	&	material		
	Train and follow up Health workers to report and managed SAEs.	2023-2027	Human resources resources; Budget	&	material		
	Ensure timely requisition and delivery of NTD medicines into the country up to the last mile	2023-2027	Human resources resources; Budget	&	material		
Pillar 2. Intensify Cross-cutting Approaches							
Priority 1: Strengthen identified platforms	Scale up integrated SBCC interventions for NTDs in routine health services.	2023-2027	Human resources resources; Budget	&	material		
with similar delivery strategies and interventions (MDAs,	Develop and implement guideline on integrated skin NTD management.	2023-2027	Human resources resources; Budget	&	material		
skin NTDs, Morbidity management, SBCC,	Update training manual on MDAs for PC-NTDs	2023-2027	Human resources resources; Budget	&	material		
integrated approaches across NTDs	Develop an integrated manual on treatment and Management of CM-NTDs	2023-2027	Human resources resources; Budget	&	material		
	Integrated training in CM-NTDs	2023-2027	Human resources resources; Budget	&	material		
	Integrated training PC-NTDs	2023-2027	Human resources resources; Budget	&	material		
	Establish WASH-NTD collaboration	2023-2027	Human resources resources; Budget	&	material		
	Coordination meetings with WASH partners	2023-2027	Human resources resources; Budget	&	material		
	Coordination meetings with One Health Platform	2023-2027	Human resources resources; Budget	&	material		
	Coordinate with One Health Risk communication platform	2023-2027	Human resources resources; Budget	&	material		
	Incorporate NTD prevention, control and management in pre-service training of mid-level health-care providers.	2023-2027	Human resources resources; Budget	&	material		
Priority 2: Strengthen the NTDs	Promote inclusion of NTD medicines on the essential medicines list	2023-2027	Human resources resources; Budget	&	material		
pharmaceutical supply chain management system.	Ensure zero severe adverse events in all MDA campaigns.	2023-2027	Human resources resources; Budget	&	material		
-	Update and use SOPs for supply chain management of NTD pharmaceuticals.	2023-2027	Human resources resources; Budget	&	material		
	Promote inclusion of NTD medicines on the essential medicines list	2023-2027	Human resources resources; Budget	&	material		
	Procure medicines for Schistosomiasis, STH (Praziquantel)	2023-2027	Human resources resources; Budget	&	material		
	Procure Antivenom	2023-2027	Human resources resources; Budget	&	material		
	Provide and avail Antirabies vaccine to all districts from HCIVs	2023-2027	Human resources resources; Budget	&	material		

	Strengthen a timely, effective NTD logistics supply chain management system (quantification, request, stock monitoring and reporting of commodities).	2023-2027	Human resources resources; Budget	&	material
Priority 3: Mainstream delivery platforms	Align NTD reporting in HMIS by training Biostatisticians, NTD Focal Persons and MoH Resource centre staff	2023-2027	Human resources resources; Budget	&	material
within the national health system	Advocate for inclusion of NTDs in key MoH documents (policy statement	2023-2027	Human resources resources; Budget	&	material
	Hold meetings with National Medical Stores and National Drug Authority	2023-2027	Human resources resources; Budget	&	material
Priority 4: I:ntegrate safety across NTD	Ensure inclusion of NTDs in the national One Health platform.	2023-2027	Human resources resources; Budget	&	material
implementation, and monitoring	Strengthen multisectoral WASH-NTD coordination at all levels.	2023-2027	Human resources resources; Budget	&	material
-	Strengthen cross-border collaboration.	2023-2027	Human resources resources; Budget	&	material
	Ensure implementation of coordinated vector control.	2023-2027	Human resources resources; Budget	&	material
	Disseminate guidelines on CM-NTDs	2023-2027	Human resources resources; Budget	&	material
	Develop guidelines on CM-NTDs	2023-2027	Human resources resources; Budget	&	material

Pillar 3. Operating Models and Culture to Facilitate Country Ownership

Priority 1: Pror strengthen ownership leadership organizational	omote and country	Advocacy meetings at National Level	2023-2027	Human resources & material resources; Budget
	and through	Form an advocacy committee on NTDs	2023-2027	Human resources & material resources; Budget
structures at and local gov	national ernment	Advocacy meetings at sub national Level	2023-2027	Human resources & material resources; Budget
	runung	NTD secretariat meetings	2023-2027	Human resources & material resources; Budget
	NTAC (Technical & Advisory committee) meetings202Steering committee meetings202Disease specific expert meetings: Oncho, Schisto/STH, etc202Technical Working group meetings202LF dossier review meeting202Annual Oncho meeting202Oncho dossier review meeting202	2023-2027	Human resources & material resources; Budget	
		Steering committee meetings	2023-2027	Human resources & material resources; Budget
		Disease specific expert meetings: Oncho, Schisto/STH, etc	2023-2027	Human resources & material resources; Budget
		Technical Working group meetings	2023-2027	Human resources & material resources; Budget
		LF dossier review meeting	2023-2027	Human resources & material resources; Budget
		Annual Oncho meeting	2023-2027	Human resources & material resources; Budget
		Oncho dossier review meeting	2023-2027	Human resources & material resources; Budget
		Trachoma dossier review meetings	2023-2027	Human resources & material resources; Budget
		World NTD celebrations	2023-2027	Human resources & material resources; Budget

	Identify NTD champion	2023-2027	Human resources resources; Budget	&	material
	Ensure an NTD staffing structure with earmarked budget at all levels of the health system.	2023-2027	Human resources resources; Budget	&	material
	Deployment of NTDs PROGRAMME staff at each level as per the approved structure.	2023-2027	Human resources resources; Budget	&	material
Priority 2: Empower local government and authorities in social mobilization, risk and crisis communication, behavioural change and building local support for NTD interventions	Training Workshop on planning and resource mobilisation for NTDs at National and sub-national levels	2023-2027	Human resources resources; Budget	&	material
	Disseminate planning guidelines for NTDs at national and subnational levels	2023-2027	Human resources resources; Budget	&	material
	Engage community leaders in NTD activities (senstization)	2023-2027	Human resources resources; Budget	&	material
	Develop SBCC toolkit to empower community leaders.	2023-2027	Human resources resources; Budget	&	material
	Cultivate and incubate community led innovations for NTDs.	2023-2027	Human resources resources; Budget	&	material

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

Priority 1: Promote community involvement and ownership of the	Strengthen capacity for accountability by providing up- to-date reports on use of finance and other resources in NTD Programmes	2023-2027	Human resources resources; Budget	&	material
Programme for optimal use of available resources	Advocate for NTDs support at national and district level	2023-2027	Human resources	&	material
	-Involve development partners, traditional and religious leaders and celebrities to promote NTD interventions		resources; Budget		
	Develop integrated IEC materials in various local languages on all existing NTDs and train VHTs at local level to implement control interventions the endemic communities				
	Conduct extensive SBCC awareness campaigns	2023-2027			
	Breakfast meeting with MPs on health committee/social services	2023-2027	Human resources resources; Budget	&	material
	Share annual updates on NTDs with MoH- Top leadership and Sector Working Groups, District level	2023-2027	Human resources resources; Budget	&	material
	Organize regional and district planning workshops on NTDs	2023-2027	Human resources resources; Budget	&	material
	Involve development partners in the planning, implementation and review of the progress				
	Promote GESI frame work to support NTD implementation	2023-2027	Human resources resources; Budget	&	material
	Include in and align NTD Strategic Plan and budget with national planning and budgeting, and ensure Government budget allocation for NTD Programmes	2023-2027	Human resources resources; Budget	&	material
Priority 2: Promote improved communication	Community sensitisation meetings on NTDs	2023-2027	Human resources resources; Budget	&	material
and awareness at the community level for a successful elimination of	Media, posters, talk shows community dialogue	2023-2027	Human resources resources; Budget	&	material
the endemic NTDs.	Sensitization meetings with local leaders on NTDs	2023-2027	Human resources resources; Budget	&	material

	Train media personnel on NTDs for accurate reporting	2023-2027	Human resources & material resources; Budget
	Conduct Drama and NTD documentary shows in	2023-2027	Human resources & material
	schools and communities		resources; Budget
	Commemorate international (World NTD, Leprosy, Sight	2023-2027	Human resources & material
	day, tollet use day)		resources; Budget
	Involve District leadership in awareness raising	2023-2027	Human resources & material
			resources; Budget
	Promote research on innovative and cost-effective ways of controlling NTDs for sustainability	2024-2026	
Priority 3: Improve	Ensure domestic resource mobilization from	2023-2027	Human resources & material
advocacy and NTD Programme communication at all levels	mobilization strategy		resources; Budget
	Design an NTD communication strategy targeting all NTD stakeholders including all health care providers and communities		

Section 3.2: Toward Programme Sustainability: Intensifying Coordination and Partnership



Figure 15: Programme Coordination Mechanism

Entity	Membership	Terms of Reference			
National NTD Steering Committee					

Meeting frequency: One/ a year Chair: Director General Host: MoH/Partners National NTD Secretariat	DG, Director Public Health, Commissioner, EHD, ACHS(VB&NTDs, ACHS(Sanitation 8 Hygiene, Partners	Review NTD PROGRAMME progress Advise on resource mobilisation
Meeting frequency: Quarterly Chair: ACHS(VB&NTDs/NTD coordinator) Host: MoH/Partners	Commissioner, EHD, ACHS(VB&NTDs, ACHS(Sanitation & Hygiene, PMs and MoH staff, and Partners	Review individual progress of each disease Advise on administrative issues regarding NTD PROGRAMME Provide a platform to address a way forward regarding NTD PROGRAMME implementation
Meeting frequency: Twice a year Chair: Host: MoH/Partners National NTD Technical We	Director PH, Commissioner, EHD, ACHS(VB&NTDs, ACHS(Sanitation & Hygiene, PM and Partners orking Group	Review technical reports from disease PROGRAMMEs Provide technical guidance on specific diseases regarding mapping, re-mapping, interventions, input into dossier specific diseases
Meeting frequency: Once a month Chair: Host: MoH/Partners	Commissioner, EHD, ACHS(VB&NTDs, ACHS(Sanitation & Hygiene, PM, Pharmacy, DHO rep and Partners Representatives from MoH, HDP, CSO, PHPs, Professional Associations Semi-autonomous Institutions, Health Consumers	Review technical reports from disease PROGRAMMEs Provide technical guidance on specific diseases regarding mapping, re-mapping, interventions, input into dossier specific diseases Development and review of policies, strategic plans, research and guidelines Follow up and act on NTD secretariat Undertakings & Actions Identify and advocate for resource mobilization for NTD program Establish and agree on NTD TWG policy of conducting meetings and ensuring regular and active participation

Figure 16: Membership and Terms of Reference -Programme Coordination Mechanism

State	NTDs (List)	Veterinary (List)	WASH (List)	IVM (List)	One-Health (List)	Education (List)	Malaria (List)
	Sightsavers	MAAIF	UNICEF	ABT	FAO	UNICEF	PMI
	The Carter Center	COVAB- Makerere	Water for People	PMI	WOAH	MOES	NMCP
	RTI-Act to End NTDs	MOH-Dep VPH	IRC-WASH	VCD	GIZ	MOFPED	Malaria Consortium
	Save the Children	ILRI	USHA	NMCP	AFROHUN		MOFPED
	WI-HER		AMREF	ICIP	MAAIF		NMS
	World Vision		PLAN International		МОН		
	Innovations for Tropical Disease Elimination (IFOTRODE)		UWASNET		ICRC		
	End Fund for VL		World Vision		Makerere University		
	SCIF		SNV		UWA		
	Sole Hope		Water Aid		MOFPED		
	DNDI		GIZ				
	MOFPED		MOWE				
			МОН				
			MOFPED				

Table 18: Partnership Matrix

Section 3.3: Assumptions, Risks and Mitigations

Table 19: Risk Criteria Assessment

Potential Risk	ntial Before risk mitigation			Risk Mitigation	After risk mitigation			
	Likelihood of occurrence	Impact	Score		Likelihood occurrence	of	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							
Floods	3	5	15	Control	4	2	8
Drought	3	4	12	Control	3	2	6
Insecurity	1	4	4	Monitor	1	1	1
Seasonal population movements/ Migration	3	3	9	Avoid	2	2	4
Pandemic (COVID-19 & Ebola)	3	4	12	Control	1	1	1
Over reliance on donors	4	3	12	Control	3	3	9
Cattle raids	3	3	9	Control	3	3	9
Refugee influx	3	3	9	Share	3	3	9
Risk Type							

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

MITIGATION

Table 15: Steps to mitigate ris	sk
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

Section 3.4. Performance and Accountability Framework

Table 20: Performance Indicators for Pillars 1 to 4

Performance Indicators for Pillar 1	: Accelerating Programme	Action	
Strategic Priority	Performance Indicators	Target	Date
Strategic priority 1 : Scale up integrated preventive chemotherapy to achieve 100% geographic coverage and treatment access to lymphatic Filariasis and	No of IUs that conducted effective rounds of integrated SCH/STH MDA (75% treatment coverage)	96 IUs	2023 – 2027
Onchocerciasis.	N0 of IUs that conducted MDAS for STH in high endemic areas	10	2023-2027
	No of IUs that conducted effective MDA rounds for Trachoma (80% treatment coverage)	5	2023-2027
	No of IUs that conducted effective MDA for Onchocerciasis(85% treatment coverage)		2023-2027
	N0 of cross border meetings held	40	2023-2027
	No of integrated cross border MDAs conducted for Trachoma	10	2023-2027
	N0 of cross border meetings held Onchocerciasis	10	2023-2027
	N0 of refugees treated	15	2023-2027
	N0 of MDAs for trachoma, Oncho and SCH held in refugee settlements		2023-2027
Strategic priority 2: Enable early detection and prompt treatment or	N0 of districts reporting at least 1 case management NTDs	146	2023-2027
case management of NTDs	N0 of guidelines developed for integrated NTD management	13	
	No of health workers trained in integrated management of case NTDs	5000	2023-2027
	No of morbidity cases managed	0	2023-2027
Strategic priority 3: Priorities and strengthen monitoring, evaluation	No of supervisory reports submitted	20	2023-2027
and learning.	No of annual and midterm review meetings held	5	2023-2027
	No of refuge settlements with known NTD endemicity	10	2023-2027
	No of impact and transmission assessment surveys conducted	50	2023-2027

	No of coverage evaluation surveys conducted	30	2023-2027
	No of baseline surveys for NTDs with unknown endemicity	10	2023-2027
	N0 of districts scaling down STH interventions	20	2023-2027
	No of districts scaling down SCH MDA interventions	38	2023-2027
	Proportion of districts passing passed TAS	80%	
	Proportion of districts achieving established threshold targets after coverage evaluation surveys.	80%	2023-2027
2trategic priority 4: Strengthen vector control and environmental management.	Total N0 of districts where larviciding was conducted annually for five years	20	2023-2027
	No of districts enrolled and performing slash and clear for control of black flies	14	2023-2027
	N0 of districts enrolled and performing river dosing for control of black flies	14	2023-2027
	N0 of integrated vector control activities between VCD and other partners under the partnership matrix	25	2023-2027
	No of accreditations received for the molecular laboratory	5	2023-2027
	No of functional departments in the molecular Laboratory fully equipped including the insectary	5	2023-2027
	No of local effective vector control innovations introduced and deployed for sustainability	5	2023-2027
	No of bylaws introduced community and local authorities on environmental management and vector control	10	20233-2027
Strategic priority 5: Ensure timely, safe, and effective supply chain management of quality-assured NTD Medicines	Proportion of NTD medicines and commodities procured and distributed by government	50	2023-2027
and other products up to the last mile	Proportion of NTD medicines and commodities donated by partners	50	2023-2027
	Proportion of medicines/	100%	2023-2027

	commodities delivered timely in the country and health facilities		
	Proportion districts reported and managed SAEs with reports submitted to the NDA and the NTD secretariat.	100%	2023-2027
	proportion of SAEs investigated and concluded	100%	2023-2027
	Proportion of distributed medicines utilized before expiry	100%	2023-2027
Performance Indicators for Pillar 2	2: Intensifying Cross-cutting	g Approaches	
Strategic Priority	Performance Indicators	Target	Date
Strategic priority 1: Strengthen identified			
platforms with similar delivery strategies and interventions (MDAs, skin NTDs, Morbidity management, SBCC, WASH etc) for integrated approaches across NTDs	Number of people who have acquired relevant knowledge on control preventive measures for various NTDs	146IUs	2023-2027
	Availability of the guidelines for skin NTDs		
	Number of districts / persons trained, existing training materials available	146 IUs	
	Number of coordination meetings conducted	15 meetings	
Strategic priority 2: Strengthen the NTDs pharmaceutical supply chain management system.	NTD drugs included in the EML		2023-2027
	Number of technical support supervision visits conducted		
	Procurement of NTD medicines by NMS		
	Number of persons trained, existing training materials available	1460	
	Proportion of districts/health facilities tracking NTD medicines	140IUS	
Strategic priority 3: Mainstream delivery platforms within the national health system	Number of NTD indicators reported through HMIS for respective districts		2023-2027

	Number of biostaticians trained on NTD DHIS2 reporting		
	Number of sensitization and planning meetings held with relevant stakeholders		
Strategic priority 4: Integrate safety across NTD planning, implementation, and monitoring	Number of cross border meetings held	05 meetings	2023-2027
	Number of IUs implementing integrated vector control		
	Number of districts/health facilities provided with guidelines		

Performance Indicators for Pillar 3: Operating Models and culture to facilitate country ownership

Strategic Priority	Performance Indicators	Target	Date
Strategic priority 1: Promote and strengthen country ownership and leadership through organizational structures at national and local	Number of Advocacy meetings with key stockholders at the national level	At least 4 meetings.	2023 & 2026
government with dedicated funding	Number of Advocacy committee on NTDs in place	One committee	2023
	Number of Advocacy meetings at regional Level (Southwestern, Western, Central, Eastern, Karamoja, Northern & West Nile)	14 meetings	2023 & 2026
	NTD sustainability plan to with newly WHO recognized NTDs updated	1 sustainability meeting	2023/2024
	Disseminate the NTD sustainability plan at National and sub national levels	TBD	2024/2025
	Well attended NTD secretariat meetings	Quarterly meetings every year	2023-2027
	Number of NTAC (National Technical & Advisory committee) meetings	Two meetings every year	2023-2027
	Number of steering committee meetings	Once a year	2023-2027
	Number of well attended disease specific expert meetings held for each NTD in Uganda	Depends on the NTDs	2023-2027
	Technical Working group meetings held	Once every month	2023-2027
	Number of LF dossier review meeting held		
	Annual Oncho meeting done	Once every year	2023-2027
	Number of Oncho dossier review meeting held	Every after 2 years	2024, 2026
	Number of Schisto/STH meetings held	One per year	2023-2027

		Number of annual Podoconiosis meeting	One per year	2023-2027
		Number of well attended Trachoma dossier review meetings held	Every after 2 years	2024, 2026
		Number of World NTD celebrations held	Once every year	2023-2027
		Number of staff employed at all levels of the health system in place	TBD	2023
		NTDs PROGRAMME staff at each level as per the approved structure deployed	TBD	2023
Strategic priority 2: Enhance and empower local government authorities in social mobilization, risk and crisis communication, behavioural change and building local		Number of Training Workshop on planning and resource mobilisation for NTDs at National and subnational levels	One national and 7 regions	2023/2024
support for NTD interventions		Number of disease specific guidelines for NTDs developed	Based on the # of NTDs affecting Uganda	2023/2024
		Dissemination of planning guidelines for NTDs at national and subnational levels	TBD	2023/2024
		Number of community leaders/influencers in NTD activities engaged	Two per village	2023-2027
		Number of SBCC toolkits developed	One per disease	2023/2024
		Number of community leaders/influencers reached with SBCC toolkit	Two per village	2023/2024
			TBD	2023-2027

Performance Indicators for Pillar 4:Strengthen Resource Mobilization, Coordination and Communication for the elimination of NTDs						
Strategic Priority	Performance Indicators	Target	Date			
Improve advocacy and NTD Programme communication at all levels	Number of advocacy meeting at national, health regions and districts	2 and 16 respectively	2023-2027			
Promote community involvement and ownership of the Programme for optimal use of available resources	No. of VHTs and H/Ws trained in NTD interventions		2023-2027			
Train all health workers and VHTs on PCT and CM NTDs	No. of disease champions(Leprosy)/ volunteers trained		2023-2027			
Improve multi-sectoral coordination and joint implementation in the different Ministries (MOH, MAAIF,MOE, Ministry of Gender and Labour), development partners (RTI, TCC, SSI GLRA)	No. of coordination meetings	1 per year	2023-2027			
Strengthen capacity for accountability by providing up-to- date reports on use of finance and other resources in NTD	No. of activity and accountability reports	Quarterly reports	2023-2027			
Involve district leadership in planning and follow up	Joint budget conferences conducted	Biannual	2023-2027			
	Comprehensive annual reports	1	2023-2027			
Commemorate international (World NTD, Leprosy, Sight day, toilet use day)	No. of Radio talk and TV shows No. of newspaper supplements	146 Radio talk shows, at least 5 TV talk shows	2023-2027			
Build capacity for increased case identification and referral CM NTDs	No of Community health care workers trained		2023-2027			
Promote research on innovative and cost-effective ways of controlling NTDs for sustainability	No. of articles published in peer reviewed journals	18	2023-2027			
Integrate WASH strategy into NTD Program activities	Latrine coverage No of protected water sources	Proportion of households with a latrine At least one protected water source in every village	2023-2027			
Development of integrated IEC materials on all existing NTDs and train VHTs at local level to implement control interventions the endemic communities	No. of workshops for development of IEC conducted No. of IEC materials developed in different languages and disseminated No. of VHTs trained	3	2023-2027			
Advocate for inclusion of NTD indicators into the DHIS2/HMIS	No. of meetings held		2023-2027			

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PART 4 Budgeting for Impact: Estimates and Justifications

The new NTD Master Plan in its part 4 provides a comprehensive annual budgetary estimate and the total budget over the five years of implementation. This budget estimate was generated with a key management tool named -Tool for Integrated Planning and Costing (TIPAC). The estimated total cost of delivering quality NTD interventions based on the activities listed under the operational framework of this multiyear Plan is **36**, **478**,**884** USD. This (2023-2027) budget estimate, a consensus of the NTD Stakeholders is comprehensive, concise, cost-effective and accurate. It is hoped that a judicious implementation of this budget will accelerate the achievement of the vision of an NTD-free Uganda. The summary of the details of the 5-year budget is shown in table 20 below.

Table 21: Budgeting Activities: Five –year Cost Projections

	Budget							
Pillar /Strategic priority	2023	2024	2025	2026	2027	TOTAL		
Pillar 1. Accelerating programmatic action								
1. Scale up or down integrated PC to achieve 100% geographic coverage at WHO minimum coverage threshold for trachoma, STH, SCH and ONCHO.	3,893,272	3,352,168	3,433,929	3,536,840	3,642,937	17,859,145		
2. Enable early detection and prompt treatment or case management of NTDs	916,603	409,116	421,386	433,928	446,945	2,627,978		
3. Prioritize and strengthen monitoring, evaluation, and learning.	384,877	217,896	227,632	43,421	43,421	917,247		
4. Strengthen vector control and environmental management.	1,285,526	1,287,524	907,359	921,199	726,267	5,127,875		
5. Ensure timely, safe, and effective supply chain management of quality assured NTD Medicines and other products up to the last mile	90,000	22,895	90,000	22,895	22,895	248,684		
Sub-total pillar 1	6,570,278	5,289,599	5,080,305	4,958,282	4,882,465	26,780,930		
Pillar 2. Intensify cross-cutting approaches								
1. Strengthen identified platforms with similar delivery strategies and interventions (MDAs, skin NTDs, Morbidity management, SBCC, WASH etc) for integrated approaches across NTDs	250,566	453,744	442,841	258,946	66,816	1,472,913		
2. Strengthen the NTDs pharmaceutical supply chain management system.	553,026	535,263	535,263	535,263	535,263	2,694,079		

3. Mainstream delivery platforms within the national health system	32,421	25,579	6,842	0	6,842	71,684
 Integrate safety across NTD planning, implementation, and monitoring 	137,862	118,125	138,211	106,579	106,579	607,355
Sub-total pillar 2	973,875	1,132,711	1,123,157	900,788	715,500	4,846,031
Pillar 3. Operating Models and culture to facilitate country ownership						
1. Promote and strengthen country ownership and leadership through organizational structures at national and local government with dedicated funding	261,117	235,759	244,275	181,022	172,696	1,094,870
2. Empower local government and authorities in social mobilization, risk and crisis communication, behavioural change and building local support for NTD interventions	183,395	179,447	96,316	64,211	64,211	587,579
Sub-total pillar 3	444,512	415,207	340,591	245,233	236,907	1,682,449
Coordination and Communication for the elimination of NTDs						
Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the elimination of NTDs 1. Promote community involvement and ownership of the program for optimal use of available resources	435,116	701,221	635,432	435,116	114,300	2,321,184
Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the elimination of NTDs 1. Promote community involvement and ownership of the program for optimal use of available resources 2. Promote improved communication and awareness at the community level for a successful elimination of the endemic NTDs.	435,116 173,211	701,221 143,737	635,432 173,211	435,116 143,737	114,300 173,211	2,321,184 807,105
 Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the elimination of NTDs 1. Promote community involvement and ownership of the program for optimal use of available resources 2. Promote improved communication and awareness at the community level for a successful elimination of the endemic NTDs. 3. Improve advocacy and NTD Programme communication at all levels 	435,116 173,211 1,658	701,221 143,737 34,553	635,432 173,211 1,658	435,116 143,737 1,658	114,300 173,211 1,658	2,321,184 807,105 41,184
Pillar 4. Strengthen Resource Mobilization, Coordination and Communication for the elimination of NTDs 1. Promote community involvement and ownership of the program for optimal use of available resources 2. Promote improved communication and awareness at the community level for a successful elimination of the endemic NTDs. 3. Improve advocacy and NTD Programme communication at all levels Sub-total pillar 4	435,116 173,211 1,658 609,984	701,221 143,737 34,553 879,511	635,432 173,211 1,658 810,300	435,116 143,737 1,658 580,511	114,300 173,211 1,658 289,168	2,321,184 807,105 41,184 3,169,474

ANNEXES

Annex 1: Steps in Designing/reviewing the National NTD Master Plan

Prepare an organize	nd	Draft strategies	targets	and	Consult partners	and	enlist	Refine plans and actions needed
Review the current NTD plans and status of disease Programmes		Review SDGs map as a basis targets for each relevant disease targets, in the c existing goals a	and the global 2 for setting e as well as cross ontext of nd timelines.	2030 road	Convene or in stakeholders i committee for include repr relevant secto WASH, to revi and proposed	tegrate nto a all NTD: esentati rs like iew curre strategio	s and ves from ent es	Refine Uganda NTD plans from feedback
Understand national health priorities like N burden, progress towa current NTD goals potential future gaps	NTD ards and	Develop draft s necessary actio noting gaps, actions. May include compon an investment of collaboration monitoring and Framework.	strategies that ac n to achieve targ barriers and eents such as ase and odel, and evaluation	ccount for ets, prioritized	Initiate broade consultations regional and g stakeholders, WHO, individu communities a NTDs in Ugan	er with loca lobal including ials and affected l da.	al, 9 by	Define the required domestic and external resources and activities, and highlight gaps or barriers; initiate action to close gaps
Map relevant stakeholders (within and beyond health) and existing initiatives related to NTDs	5)	Ensure strategie aligned with bro national health	es are ader strategies		Use a map of and feedback their roles and	stakehol to identi I resourc	lders fy æs	Integrate into national health strategies, and secure the necessary political commitment to implement Uganda NTD plans
Set up or use an existing task force to coordinate NTD strategic planning, including representatives from lo levels and other sectors	ocal							Align governance, collaboration and Programme structures to ensure attainment of goals

Initiate continuous learning and adapt the strategy

Annex 2: Proposed Road Map Targets, Milestones and Indicators Table. Proposed road map targets, milestones and indicators¹ (cont'd)

Disease	Indicator	2020	2023	2025	2030
TARGETED FOR ELIMI	NATION 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 CONT	ROL				
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, chromo- blastomycosis 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, re	ference to "countries" should be understood to signify countries, territo	ries and are	as.		

Annex 3: Mainstreaming NTDs into national health systems Countries may require disease-specific technical expertise to translate and prioritize actions according to the local conte

Activities relevant to patient

	Prevention	Case Finding and Diagnosis	Treatment	Care and rehabilitation			
	Prevention						
	Prevention chemotherapy	Safety		Support networks			
Community interventions	Targeted prevention			Self-care			
	Vector control						
	One Health						
		Point-of-contact diagnos	sis	psychological support e			
	Health care worker tra	ining and supportive super	vision	t			
		Screening and treatmen	t of skin NTDs	d ti			
Primary care interventions		Rapid response systems		Physical therapy o			
			Wound care	e			
			Anthelminthic treatment	Provision of assistive devices			
		Laboratory diagnosis	dividual/intensified case/m	orbidity management			
Secondary Care			Management of complica	tions and surgery			
	Interventions unique to ce All services for NTDs shou	certain NTDs remain relevant. E.G. individual treatment and case management including first-line treatment and care and be based on gender equity and human rights					

Annex 4: Coordination with health and other Ministries and Authorities

Health related sector	Role of health related sector
Ministry of Finance, Planning and	- Mobilization of resources
Economic Development	- Rational allocation of resources to different sectors according to
	government priorities.
Ministry of Water and	 Mapping availability of water sources for all health facilities.
Environment	- Development of water sources (drilling bore holes, provision of piped
	water in urban areas, protection of springs, water for production – valley
	dams, rain water harvesting)
	- Provision of sanitation services in rural growth centers & urban areas
	and communal toilets.
	- Control and enforce sustainable use of the environment (EIA, avoid
	pollution, ensure sustainable use of wetlands)
	- Support communities to plant trees (a forestation)
Ministry of Agriculture, Animal	- Production of food – (both plant and animal sources of food)
ndustry and Fisheries	- Control of zoonotic diseases: rabies control, HAT-vector control, avian
	influenza prevention programme
	- Preservation and storage of food items (food security)
Ministry of Gender, Labour and	- Community mobilization for health promotion
Social Affairs	- Mainstreaming gender in plans and activities of all sectors including
	engendering the budget
	- Advocacy and prevention of gender based violence
	- Develop policies for social protection of the vulnerable groups
Vinistry of Land, Housing and	 Setting and enforcing standards for buildings
Jrban Development	
Vinistry of Works and Transport	- Construction and maintenance of roads for accessing health facilities
	to facilitate access and referral of patients
Ministry of Communication and	Establishment of communication network to facilitate communication (e-
СТ	governance, telemedicine, telephone, radio call)
Vinistry of Education and Sports	- Education of the population to read, write and interpret information for
	healthy life styles, e.g. education of the women is very critical for
	improving maternal and child health.
	- School Health Education Programmes covering among others NTDs
	like schistosomiasis, STH, LF, trachoma and river blindness.
	- MDA in schools and institutions
	- Training of health workers
	- Research and Development
Vinistry of Public Service	- Maintenance of payroll of civil servants (health workers inclusive)
	- Provide hard-to-reach allowances
	 Ensure entry on to the payroll of new recruits
Ministry of Local	- Recruitment, deployment and retention of health workers (PHC and
Government/District Local	general hospital) at district level
Governments	- Delivery of health services
	 Supervision and monitoring of health service delivery
Vinistry of Trade and Industry	- Setting and enforcing standards for manufactured and imported goods
	e.g. insecticides, ITNs LLINs, enforcing salt iodination

Partners

Annex 5: Organisational Chart of MoH and the NTD National PROGRAMME

Figure 1: Minstry of Health Macro Structure March 2018



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 fulfill 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 Severe Adverse Effects(SAEs) 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 Drug Authority provides resources for planning and responding to drug-related adverse events.NDA, in collaboration with health facilities and other agencies provides essential resources and expertise to NTD Programmes when serious adverse events (SAEs) occur.

We shall collaborate with NDA in the implementation of this master plan. Relevant sections of this Master Plan provides guidelines for this collaboration; section 1.2.2 (health systems analysis); table 2 (health system building blocks); section 1.4.2 (performance of closely-related Programmes); and Pillar 2 (crosscutting approaches to tackle NTDs). Also, NDA representatives should be included in National NTD Technical Advisory Group (Figure 15).

A second high-priority area for preparedness is communications. A concern about adverse events is one of the main reasons for refusal to participate in preventive chemotherapy. When adverse events – or even rumors of them – occur, clear, effective communication is essential. Increasingly, this involves social media. This NTD Master Plan specifies 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.

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).

Managing adverse events.

Inadequate or poorly-executed responses to SAEs pose a threat to NTD Programmes. This NTD Master Plan has objectives and activities specifically directed at recognition, response, investigation, reporting – and ultimately, prevention – of SAEs. They include process objectives for preparedness and response to adverse events, as well as targets for collaboration with NDA, strategic communications planning, and stakeholder awareness of procedures for responding to SAEs

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 towards safety is the – 'do no harm' – as a guiding principle for the implementation of this Master Plan.

In Part I of the document, NTD Situation Analysis, the SWOT analysis ,SAEs and other safety issues as potential threats are addressed, and in the health systems analysis (section 1.2.2), NDA is mentioned as the agency responsible for investigating SAEs.

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. WHO's Thirteenth General Practice of Work (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.

In Part III, Implementing the Strategy, Dais included in plans for coordination (Figure 11). Safety features 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 this NTD Master Plan 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 National Drug Regulatory authorities, 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. Good 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.

DHIS2 facilitates the collection of standardized disease-specific epidemiological data, improving data quality and timeliness. Standard indicators developed jointly by the division

WHO also supports the ESPEN Portal (https://espen.afro.who.int) 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 ministry to ESPEN through WHO reporting processes.

↔ AVAILABLE THROUGH YOUR ESPEN PORTAL COUNTRY PAGE:

PC-NTD Progress Dashboards and comprehensive data repository: The ESPEN data team has compiled epidemiological and programmatic data submitted by health ministry 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).

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 maximize the effectiveness of NTD Programmes. This is useful for better describing Programme context within the Master Plan.

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).

 \leftrightarrow 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.

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 modeling 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 modeling 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

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