REPUBLIC OF KENYA

MINISTRY OF HEALTH

THE KENYA NATIONAL BREAKING TRANSMISSION STRATEGY

FOR

SOIL-TRANSMITTED HELMINTHIASIS, SCHISTOSOMIASIS, LYMPHATIC FILARIASIS AND TRACHOMA

2019-2023

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LIST OF ABBREVIATIONS AND ACRONYMS

ACSM	-	Advocacy, Communication, Community Sensitization and Social Mobilization
AIHD	-	African Institute for Health and Development
ALM	-	American Leprosy Mission
AMPATH	-	Academic Model Providing Access to Healthcare
AMREF	-	African Medical Research Foundation
APHRC	-	Africa Population Health Research Center
APOC	-	African Program for Onchocerciasis Control
ASAL	-	Arid and Semi-Arid Land
BCC	-	Behavior Change Communication
BMGF	-	Bill and Melinda Gates Foundation
CBO	-	Community-Based Organization
CBM	-	Christian Blind Mission
CDD	-	Community Drug Distributor
CECM	-	County Executive Committee Member
CHMT	-	County Health Management Team
CHV	-	Community Health Volunteer
CIDP	-	County Integrated Development Plan
CIFF	-	Children's Investment Fund Foundation
CLTS	-	Community-Led Total Sanitation
CLTS+	-	Community-Led Total Sanitation Plus
CME	-	Continuous Medical Education
CNTDC	-	County Neglected Tropical Diseases Coordinator
CoG	-	Council of Governors
CoK	-	Constitution of Kenya
CS	-	Cabinet Secretary
CSO	-	Civil Society Organization
DA	-	Diethylcarbamizine and Albendazole
DALYs	-	Disability-Adjusted Life Years
DEC	-	Diethycarbamazine
DHIS	-	District Health Information System
DOT	-	Directly Observed Treatment
DQA	-	Data Quality Assessment
DSRU	-	Disease Surveillance and Epidemic Response Unit
ECD	-	Early Childhood Development
END Fund	-	Ending Neglected Diseases Fund
ESPEN	-	Expanded Special Project for the Elimination of NTDs
FAQ	-	Frequently Asked Questions

FBO	-	Faith-Based Organization
F&E	-	Facial cleanliness and Environmental Improvement
FELTP	-	Field Epidemiology and Laboratory Training Program
FHF	-	Fred Hollows Foundation
FHI 360	-	Family Health International 360
GoK	-	Government of Kenya
GSK	-	GlaxoSmithKline
HIV	-	Human Immunodeficiency Virus
HKI	-	Helen Keller International
HMIS	-	Health Management Information Systems
HPU	-	Health Promotion Unit
IDA	-	Ivermectin, Diethylcarbamazine and Albendazole
IDM	-	Intensified Disease Management
IDMC	-	Internal Displacement Monitoring Centre
IDPs	-	Internally Displaced Persons
IEC	-	Information Education and Communication
IHS	-	Interconnected Health Solutions
IT	-	Information Technology
ITI	-	International Trachoma Initiative
ITN	-	Insecticide Treated Net
IUs	-	Implementation Units
IVM	-	Integrated Vector Management
JHPIEGO	-	Johns Hopkins Program for International Education in Gynecology and Obstetrics
KEMRI	-	Kenya Medical Research Institute
KEMSA	-	Kenya Medical Supplies Agency
KES	-	Kenya Shillings
KRCS	-	Kenya Red Cross Society
KTEP	-	Kenya Trachoma Elimination Program
LF	-	Lymphatic Filariasis
LVCT	-	Liverpool Voluntary Counselling and Testing
M&E	-	Monitoring and Evaluation
MALF	-	Ministry of Agriculture Livestock and Fisheries
MDA	-	Mass Drug Administration
MDP	-	Mectizan Donation Program
MENR	-	Ministry of Environment and Natural Resources
MMDP	-	Morbidity Management and Disability Prevention
MoE	-	Ministry of Education
MoH	-	Ministry of Health
MWI	-	Ministry of Water and Irrigation

NCAHU	-	Neonatal Child and Adolescent Health Unit
NGO	-	Non-Governmental Organization
NPELF	-	National Program to Eliminate Lymphatic Filariasis
NPHLS	-	National Public Health Laboratory Services
NSBDP	-	National School-Based Deworming Program
NTD	-	Neglected Tropical Disease
NTD-SC	-	Neglected Tropical Diseases- Support Centre
ODF	-	Open Defecation Free
OEU	-	Operation Eyesight Universal
PATH	-	Program for Appropriate Technologies in Health
PC	-	Preventive Chemotherapy
PHC	-	Primary Health Care
PS	-	Principal Secretary
QEDJT	-	Queen Elizabeth Diamond Jubilee Trust
S&A	-	Surgery and Antibiotics
SAC	-	School-Age Children
SAFE	-	Surgery, Antibiotics, Facial cleanliness & Environmental Im provement
SCH	-	Schistosomiasis
SCHMT	-	Sub County Health Management Team
SCI	-	Schistosomiasis Control Initiative
SCNTDC	-	Sub County Neglected Tropical Diseases Coordinator
SCT	-	Supervisors Coverage Tool
SDG	-	Sustainable Development Goal
SEP	-	Stakeholder Engagement Plan
SHNMU	-	School Health Nutrition and Meals Unit
SHP	-	School Health Program
SMS	-	Short Message Service
SOPs	-	Standard Operating Procedures
STH	-	Soil-Transmitted Helminthiasis
TAG	-	Technical Advisory Group
TAS	-	Transmission Assessment Survey
TF	-	Trachomatous Inflammation–Follicular
TFGH	-	Task Force for Global Health
TI	-	Trachomatous Inflammation–Intense
TS	-	Trachomatous Scarring
ToTs	-	Training of Trainers
TT	-	Trachomatous Trichiasis
TWG	-	Technical Working Group
UHC	-	Universal Health Coverage

UN	-	United Nations
UNICEF	-	United Nations International Children's Emergency Fund
VMGs	-	Vulnerable and Marginalized Groups
WASH	-	Water Sanitation and Hygiene
WATSAN	-	Water and Sanitation
WCBA	-	Women of Child Bearing Age
WHO	-	World Health Organization

FOREWORD

This National Breaking Transmission Strategy is aligned to the WHO-NTD Guidelines of 2012 which recommend: preventive chemotherapy; intensified disease management; integrated vector management; management of neglected zoonotic diseases and; provision of safe water, sanitation, and hygiene; as strategies having the greatest impact on NTD control.

It also speaks to the World Health Assembly resolution WHA66.12 of 27th May, 2013 which urges countries to expand and implement, as appropriate, interventions against Neglected Tropical Diseases. In particular, it takes into account the provisions of WHA50.29 on elimination of Lymphatic Filariasis, WHA54.19 on Schistosomiasis and Soil-transmitted Helminthiasis and WHA51.11 on global elimination of blinding Trachoma.

The strategy is also in line with the objectives of the Expanded Special Project for the Elimination of NTDs (ESPEN), which are to: Scale up treatments towards the achievement of 100% geographical coverage; scale down/stop treatments once transmission has been interrupted or control achieved; strengthen information systems for evidence-based action and; improve the effective use of donated medicines through enhancing supply chain management.

The 2nd Kenya National Strategic Plan for Control of Neglected Tropical Diseases 2016-2020, outlines the approach the national NTD program should adopt in its efforts to control and eliminate NTDs. The Plan states the Government of Kenya (GoK)'s aim of accelerating the reduction of disease burden and overall poverty alleviation through control, elimination and eradication of NTDs. It also lays out the operational framework proposed by the national NTD program to achieve these objectives.

The strategy is in line with SDG 3 which seeks to end the epidemics of AIDS, Tuberculosis, Malaria and NTDs by 2030 and SDG 6 which seeks to ensure availability and sustainable management of water and sanitation for all. Over and above the achievement of the national health goals, the GoK has prioritized Universal Health Coverage (UHC) as one of its Big 4 agenda over the 5-year period 2017-2022. The UHC agenda is key to NTDs and it is envisaged that concerted efforts by both the national and county governments and other implementing partners, will ensure that as UHC is achieved by 2022, the goal of this strategy will also be met.

Signed.

Sicily K. Kariuki, (Mrs.) EGH
CABINET SECRETARY

PREFACE

The Breaking Transmission Strategy (BTS) 2018-2023 reflects the commitment of the Government of Kenya (GoK) to achieving the global and national goals of control and elimination of four Preventive Chemotherapy (PC) Neglected Tropical Diseases (NTDs) endemic in the country – the Soil-Transmitted Helminthiasis (STH), Schistosomiasis (SCH), Lymphatic Filariasis (LF) and Trachoma. To make this possible, the NTD Program will invest in a strong coordination mechanism and expand partnerships at the global, national, county and community levels.

Given that the four target PC-NTDs are amenable to Water, Sanitation and Hygiene (WASH) interventions, a major focus of the proposed strategy will be to ensure adequate coordination of NTD and WASH activities. Integration and value for money will be optimized through developing and implementing joint plans, conducting monitoring and evaluation of the resultant interventions. The data/information gathered on the state of NTD-WASH interventions will be shared periodically to further strengthen collaboration between the NTD and WASH sectors. Although the mandate for WASH is partly vested in the Ministry of Water and Irrigation (MWI), the Ministry of Environment and Natural Resources (MENR) and MoH, it is envisaged that through advocacy, the WASH sector will appreciate and enhance its role in the control and elimination of NTDs.

Coordination of the BTS will be under MoH. Management structures, from the national to the county levels. These will be strengthened to ensure that the proposed interventions are effectively and efficiently implemented. In order to achieve the strategic priorities, there will be a need to support the functioning of the Secretariat through increased staff portfolio, human resource development and deployment of up-to-date infrastructure/equipment. Partnership is the main channel through which the targets outlined in this Strategy will be achieved, as it allows all relevant stakeholders to collaborate and coordinate their actions, while recognizing and tapping into each other's specific mandates and strengths. MoH, through the NTD program, will work towards expanding the partnership base and bringing on board additional strategic partners.

The aspiration of this strategy is to ensure that PC-NTD interventions are effectively and efficiently implemented and that the gains made are sustained after the five-year period. It is envisaged that within 5 years the Program will have broken the transmission of disease through the combined strategies of expanded Mass Drug Administration (MDA), WASH and Behavior Change Communication (BCC).

Signed.

Peter K. Tum., OGW
PRINCIPAL SECRETARY

ACKNOWLEDGEMENTS

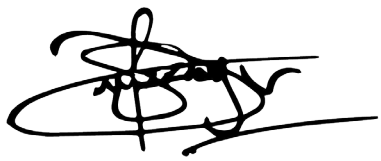
The MoH is grateful for the invaluable contributions of various stakeholders in the development of the Breaking Transmission Strategy 2018-2023. Special thanks are extended to the World Health Organization (WHO) for providing technical support and guidance, the Kenya Red Cross Society (KRCS) for convening and hosting the first and second stakeholders' meetings with the financial support of the Children's Investment Fund Foundation (CIFF). We are thankful to the African Institute for Health and Development (AIHD) for offering implementation support to the MoH during the Strategy development period. We highly appreciate the contribution of all the participants during these crucial meetings and follow-up input into the various drafts that have led to the finalized strategy.

We are grateful to the NTD Coordinators of Homabay, Narok and Kilifi Counties, and all the people who provided information on the status of the four PC-NTDs (STH, SCH, LF and Trachoma) in these counties. We appreciate the County leadership for being gracious enough to release the NTD Coordinators to be part of the process which facilitated the consultations in the three counties.

The following persons are specially appreciated for planning, consulting and drafting the Strategy: Dr. Sultani Matendechero, Head of the NTD program; Dr. Stephen Mwatha; Dr. Kefa Bota; Mr. Ernest Barasa; Mr. Wyckliff Omondi; Ms. Phyllis Munyiva; Mr. Blevin Ian; Ms. Donna Ogeto; and Mr. Michael Ofire (MoH); Dr. Joyce Onsongo (WHO Kenya Country Office); Ms. Lilies Njanga (CIFF); Ms. Sylvia Khamati and Mr. James Onsongo (KRCS); and Dr. Mary Amuyunzu-Nyamongo; Dr. Daniel Mwai; Ms. Alice Sinkeet; Ms. Brenda Maina; and Mr. Gavin Nyairo (AIHD).

Lastly, the Ministry is greatly indebted to the development partners, especially CIFF and the KRCS, for facilitating the development of this Strategy. We thank the officers representing these institutions for providing the much-needed technical inputs and logistical support to the team that was tasked with the development of the strategy.

Signed.



Dr. Kioko Jackson K., OGW, MBS
DIRECTOR OF MEDICAL SERVICES

EXECUTIVE SUMMARY

This strategy brings together the four PC-NTDs that benefit from MDA interventions in Kenya, the Soil-Transmitted Helminthiasis, Schistosomiasis, Lymphatic Filariasis and Trachoma. It seeks to introduce an integrated approach while recognizing the need to maintain disease-specific goals, objectives and strategies within the context of the overall NTD program. The synergy achieved is expected to yield a cost-effective and value for money approach that will maximize the use of limited resources while building synergies within the NTD and WASH sectors.

In order to effectively control and eliminate the four PC-NTDs within the proposed 5-year period, this strategy aims to increase access to all essential public health interventions, with a focus on: increasing coverage of mass drug administration (MDA) – both geographical and therapeutic – leading to rapid reduction in prevalence and intensity of disease; establishing effective collaboration between the NTD and Water, Sanitation and Hygiene (WASH) sectors, leading to sustainable implementation of adequate NTD-WASH interventions and; implementing Behavior Change Communication (BCC) interventions, leading to reduced reinfection rates post-MDA.

The ultimate goal of this strategy is to safely stop MDA following sufficient reduction in prevalence and intensity by 2023. This, it is envisaged, will be achieved through breaking their transmission through concerted and comprehensive efforts. The strategy has six objectives which are to: Increase MDA coverage in all endemic sub-counties; Expand NTD-WASH interventions; Mainstream BCC interventions; Intensify advocacy, coordination and partnerships in NTD control and elimination; Strengthen systems for monitoring, evaluation, surveillance and research and; Plan for results, resource mobilization and financial sustainability of the program.

Community based distribution will be used as the platform for expanded MDA implementation. This will include house-to-house distribution and fixed-point distribution for people who may not be at home during the MDA. The fixed service delivery points will include schools and other training institutions, health facilities, market places, beach halls, among other venues that will be considered socially and culturally appropriate by the local people. All distributions will be given by Directly Observed Treatment (DOT).

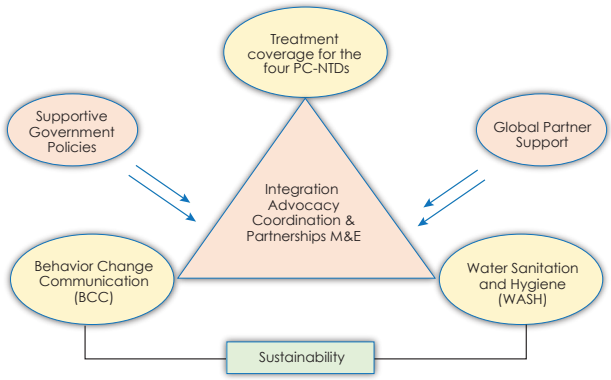
The monitoring and surveillance activities that will go beyond 2023 will be implemented and supported by the national and county governments.

INTRODUCTION

The Breaking Transmission Strategy (BTS) 2019-2023 reflects the commitment of the Government of Kenya (GoK) to achieving the global control and elimination targets for the four Preventive Chemotherapy (PC) Neglected Tropical Diseases (NTDs) endemic in the country – Soil Transmitted Helminths (STH), Schistosomiasis (SCH), Lymphatic Filariasis (LF) and Trachoma.

In order to effectively control and eliminate the four PC-NTDs within the proposed 5-year period, the Ministry of Health (MoH) plans to implement an integrated Strategy that will increase access to all essential public health interventions, with a focus on: increasing coverage of mass drug administration (MDA) – both geographical and therapeutic – leading to rapid reduction in prevalence and intensity of disease; establishing effective collaboration between the NTD and water, sanitation and hygiene (WASH) sectors, leading to sustainable implementation of adequate NTD-related WASH (NTD-WASH) interventions and; implementing behavior change communication (BCC) interventions, leading to reduced reinfection rates following reduction after MDA. The ultimate goal is to be able to safely stop MDA following sufficient reduction of prevalence and intensity, hence, interrupting the transmission of the diseases. To make this possible, the NTD Program will invest in a strong coordination mechanism and expand partnerships at the global, national, county and community levels, as illustrated in Figure 1.

Figure 1: Breaking Transmission Strategic Objectives



The Kenya NTD program has registered major successes including increased MDA coverage to almost all endemic areas. In addition, it has implemented morbidity management and disability prevention (MMDP) interventions for LF and Trachoma. The Program has, however, encountered various challenges that will be addressed through implementing this Strategy. These include: vertical disease programming; limited resources for NTD activities; inadequate participation of both National and County Governments in NTD activities; limited BCC interventions; and limited interaction with the WASH sector. The goal of this strategy is to break the transmission of select PC-NTDs through concerted and comprehensive efforts by 2023. The Strategy has six objectives which are to:

i. Increase MDA coverage in all endemic sub-counties;
ii. Expand NTD-related WASH (NTD-WASH) interventions;
iii. Mainstream BCC interventions;
iv. Intensify advocacy, coordination and partnerships in NTD control and elimination;
v. Strengthen systems for monitoring, evaluation, surveillance and research; and
vi. Plan for results, resource mobilization and financial sustainability of the program.

Community based distribution will be used as the platform for expanded MDA implementation. This will include house-to-house distribution and fixed-point distribution for people who may not be at home during the MDA. The fixed service delivery points will include schools and other training institutions, health facilities, market places, beach halls, among other venues that will be considered socially and culturally appropriate by the local people. All distributions will be given by Directly Observed Treatment (DOT).

The focus of the proposed interventions will be to ensure adequate coordination of NTD and WASH activities. Integration and value for money will be optimized through developing and implementing joint plans, close monitoring and evaluation of the interventions, and sharing the outcomes with key stakeholders. Although the mandate for WASH is partly vested in the Ministry of Water and Irrigation (MWI), the Ministry of Environment and Natural Resources (MENR) and the MoH, it is envisaged that through advocacy, the WASH sector will appreciate and enhance its role in the control and elimination of NTDs. Data will be gathered and shared periodically on the state of NTD-WASH interventions to further strengthen this collaboration. The coordination of the BTS will be under the MoH. Management structures, from the national to the county levels, will be strengthened to ensure that the proposed interventions are effectively and efficiently implemented. In order to achieve the strategic priorities, there will be a need to support the functioning of the Secretariat through increased staff portfolio, human resource development and deployment of up-to-date infrastructure/equipment. Partnership is the main channel through which the targets outlined in this Strategy will be achieved, as it allows all relevant stakeholders to collaborate and coordinate their actions, while recognizing and tapping into each other's specific mandates and strengths. Effective partnership will be achieved through strengthening coordination and collaboration. The MoH, through the NTD Program, will work towards expanding the partnership base and bringing on board additional strategic partners. The NTD Program will continue to rely on drug donations for the four PC-NTDs from the existing global NTD drug donation program. Supply chain management will be a key focus for the program. The process of application, procurement, storage and distribution of drugs will be carefully managed to ensure efficiency of use. The management of a joint drug inventory will be supported by the MoH through the Head of the NTD Program and the NTD Program Pharmacist.The aspiration of this strategy is to ensure that PC-NTD interventions are effectively and efficiently implemented and that the gains made are sustained after the five-year period. It is envisaged that within 5 years the program will have broken the transmission of disease through the combined strategies of expanded MDA, WASH and BCC. The monitoring and surveillance activities that will go beyond 2023 will be implemented and supported by the National and County Governments. The implementation budget for the entire 5-year strategy is currently estimated at KES. 1,991,680,000 (USD 19,916,800) while the estimated market value of medicines to be donated over the same period is KES. 50,178,000,000 (USD 501,780,000).

BACKGROUND AND JUSTIFICATION

Background

Neglected Tropical Diseases (NTDs) are a diverse group of communicable diseases that prevail in tropical and sub-tropical conditions. Examples of these diseases include: The Soil-Transmitted Helminthiasis, Schistosomiasis, Lymphatic Filariasis, Trachoma, Leishmaniasis, Leprosy, Cysticercosis, Dengue & Chikungunya, Dracunculiasis, Cystic Echinococcosis, Scabies, Rabies Snakebite Envenoming and Trypanosomiasis. More than 25 million Kenyans are infected by at least one NTD. Those affected by NTDs tend to be populations living in poverty, without adequate sanitation and in close contact with infectious vectors, domestic animals, and livestock.[1]

Most of these NTDs are not a direct cause of mortality, but they cause immense suffering and often life-long disabilities. NTDs are also known to impair growth and development in children. Although NTDs have devastating effects on the affected communities, they have not previously drawn much attention and actions towards their control and elimination. However, within the last decade, global efforts have been directed to the control and elimination of these diseases through partnerships between communities, governments, United Nations (UN) agencies, development partners and pharmaceutical companies. The control and elimination measures of some NTDs are based on Preventive Chemotherapy (PC) through MDA strategy. PC for NTDs is the use of anthelminthic drugs (and for trachoma an antibiotic) alone or in combination, as public health tools to control and/or eliminate the diseases. In PC, all individuals/group of individuals in endemic communities, areas, or implementation units are treated regardless of infection status. PC is commonly delivered through mass community-based distribution (refer to Annex 1 for a map of the distribution of the four PC-NTDs in the country).

It is notable that due to co-endemicity of some of the diseases, MDA for the specific diseases can be integrated or co-implemented for cost-effective programming. Despite notable achievements and progress towards controlling certain NTDs using evidence-based strategies (i.e. LF, STH, and SCH) in some instances, MDA activities are often poorly coordinated, small-scale, erratic and focused on individual diseases. Furthermore, there has been little or no integration of Water, Sanitation and Hygiene (WASH) activities, and limited use of NTD prevalence data for targeting WASH interventions in endemic populations.2

Justification for this Strategy

The GoK, has in collaboration with development partners and with the support of WHO, implemented MDAs for the four PC-NTDs in the endemic counties and sub-counties.3 The key challenges have been inconsistency in the distribution of drugs, inadequate adherence to treatment by some of the community members in the endemic areas, and inadequate coordination of control and elimination activities. However, given the global push towards effective control and elimination of PC-NTDs, the Government has made commitments to achieving the global control and elimination targets for the four PC-NTDs through adopting a breaking transmission approach. Breaking Transmission is aimed at reducing the level of infection, both prevalence and intensity, to a point where it is no longer possible for the diseases to be transmitted from one person to another.

To achieve breaking of transmission of the four PC-NTDs within a 5-year period (2018-2023), the MoH plans to implement the BTS through the engagement of key partners at the community, county, national and global levels. This process will entail ensuring that the program reaches all people at risk of infection through three key strategies: (i) expanded MDA coverage for all the diseases and in all endemic areas; (ii) investment in BCC; and (iii) close coordination and collaboration with the WASH sector. The BTS will be monitored closely to ensure that the set annual targets are met. In order to accelerate the achievement of the PC-NTD targets, while addressing the current challenges, the Government plans to:

1. Integrate NTD control and interventions, i.e. move from vertical to horizontal programming;
2. Community based distribution will be used as the platform for drug distribution for STH, SCH, LF and trachoma. This will include house-to-house distribution and fixed-point distribution for people who may not be at home during the MDA. The fixed service delivery points will include schools and other training institutions, health facilities, market places, beach halls, among other venues that will be considered socially and culturally appropriate by the local people The MoH considers it critical during this strategy period to target all groups at risk of infection who may have been missed in the previous treatment rounds.
3. Strengthen supply chain management to reduce the wastage of drugs from the currently observed 40% in Kenya, to the globally accepted maximum of 5% annually;
4. Strengthen county governments' engagement so as to sustain the interventions beyond the control and elimination period, considering that health is a devolved function under the current constitution; and
5. Conduct robust monitoring, evaluation, surveillance and research to inform the programming and generate evidence on the effectiveness of the interventions.

MoH will continue to rely on donations of medicines for MDA use while working with partners to support drug delivery and other aspects of the program. MoH will endeavor to set up a fundraising mechanism to ensure sustainability of the program. Technical, financial and logistical support will be needed by the NTD Program, and at all levels of implementation to ensure that the activities are effectively implemented and coordinated. There are several categories of populations that are hard to reach through MDA interventions. These groups, including fisher-folk, forest dwellers, etc. will require special focus and partnerships for them to be reached with information and services (Annex 2).

THE BASIS FOR THIS STRATEGY

Global Policy

Globally, this strategy is aligned to WHO NTD Guidelines of 2012.4 In its 2012 Roadmap for Implementation to Control NTDs, the WHO recommended the following strategies as having the greatest impact on control.

1. Preventive Chemotherapy: MDA is currently one of the most important tools available in the control of NTDs. It is especially useful against STH, SCH, LF and Trachoma because it is safe and effective given as single-dose. In addition, high quality medicines are readily available as donations by pharmaceutical companies for use on a global scale.
2. Intensified Disease Management: morbidity due to many NTDs is easily reduced with currently available treatment and disease management. Patients have better outcomes if they are identified and treated early, making case-detection and clinical management essential to NTD control.
3. Integrated Vector Management: propagation of NTDs can be slowed down by implementation of vector control activities such as using molluscicides on intermediate snail hosts of schistosomes and bed nets for mosquitoes in the control of LF.
4. Management of Neglected Zoonotic Diseases: animals are integral to the transmission of certain NTDs, often acting as reservoirs for the diseases. Providing veterinary public health and ensuring that people are staying away from potentially transmissive contact with animals is important.
5. Provision of safe Water, Sanitation, and Hygiene: the spread of many NTDs is partly or fully facilitated by poor hygiene practices and lack of safe drinking water. Providing WASH can limit disease spread and curb morbidity of NTDs.

This BTS is also in line with the objectives of the Expanded Special Project for the Elimination of NTDs (ESPEN), which are to:

- Scale up treatments towards the achievement of 100% geographical coverage;
- Scale down/stop treatments once transmission has been interrupted or control achieved;
- Strengthen information systems for evidence-based action; and
- Improve the effective use of donated medicines through enhancing supply chain management.5

National Policy

The 2nd Kenya National Strategic Plan for Control of the Neglected Tropical Diseases 2016-2020, outlines the approach the National NTD program should adopt in its efforts to control and eliminate NTDs.3 The Plan states the GoK's aim of accelerating the reduction of the disease burden and overall poverty alleviation through the control, elimination and eradication of NTDs. It also lays out the operational framework proposed by the National NTD program to achieve these objectives.

Over and above the achievement of the national health goals, the GoK has prioritized Universal Health Coverage (UHC) as one of its Big 4 agenda over the next 5 years (2017-2022).6 The focus for UHC is on the prevention of disease and primary healthcare as emphasized in the Alma-Ata principles. The interests in UHC are key to NTDs which are amenable to prevention activities.

It is envisaged that the concerted efforts by both the National and County Governments and other implementing partners, will ensure that UHC is achieved even before 2022[i].

Programmatic Considerations

Two main channels have been used to distribute drugs for the four main PC-NTDs in Kenya: (i) a house-to-house/mobile approach for LF; and (ii) a school-based/fixed-point approach for STH and SCH. A mixed approach involving the two channels is used for trachoma. However, surveys conducted by the Kenya Medical Research Institute (KEMRI) between 2013 and 2017 on STH and SCH indicated that although the program records high levels of achievement during and following treatment, these gains are eroded soon after, as illustrated in Figures 2 and 3.7,8

Figure 2: Schistosomiasis infection prevalence rates

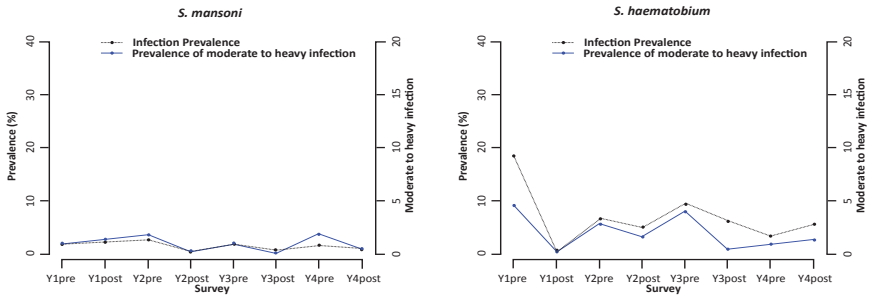
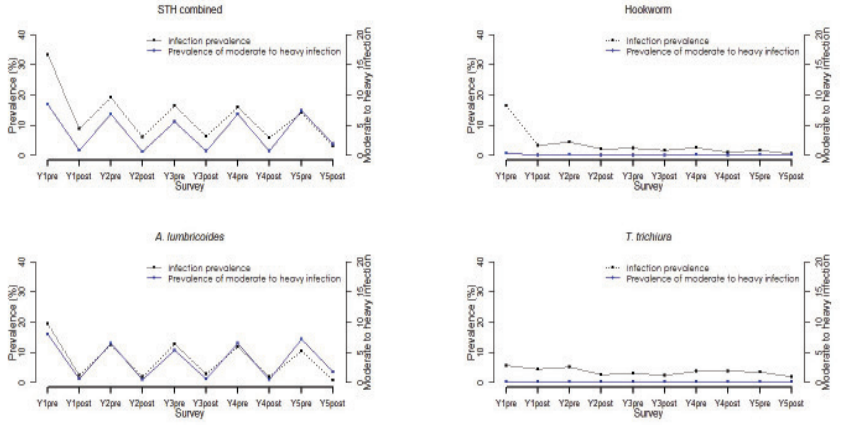


Figure 3: STH infection prevalence rates

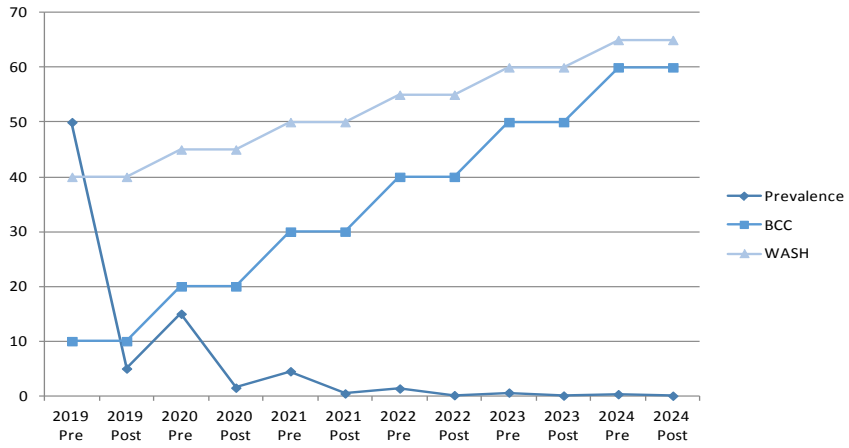


These graphs point to the need for a change in strategy to go beyond the schools to achieve a break in transmission. The re-infection observed through the pre-post assessments could be due to the fact that the school-based de-worming approach, which targets school-age children (SAC), leaves out a huge population in need of PC therapy in endemic communities. In addition, the re-infection could be due to continued contamination of the environment and prolonged egg survival in the soils.9 There is therefore a need for intensified implementation

i. *The big four agenda's focus is on: food security; affordable housing; manufacturing; and affordable healthcare*

of BCC and WASH interventions.
Figure 4 presents an illustration of how a combined approach of MDA, BCC and WASH is likely to lead to sustainable gains over the 5-year period of this strategy. For the sustainability of the control and elimination targets achieved, there will be a need for intensified WASH and BCC interventions alongside an increased coverage of MDA in all endemic communities.

Figure 4. BTS Strategic Direction (2018 - 2023)



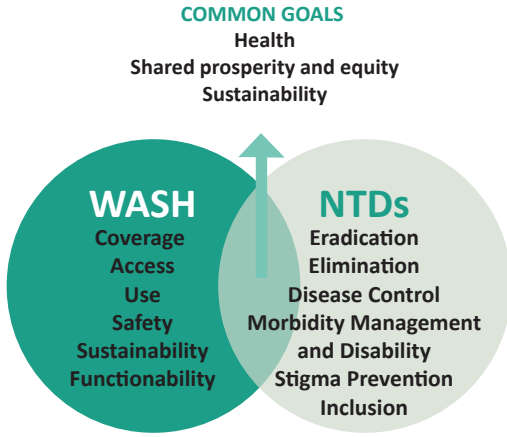
It should be noted that this is an ideal scenario that will require all stakeholders to work towards ensuring sustainability in the gains made during and soon after MDA. It is notable that WASH is a fundamental determinant of STH and SCH transmission. However, at national levels, WASH provision is separate from NTD control, which implies that better coordination and collaboration coupled with NTD guidance to the WASH sector are required to inform planning, resourcing, and targeting services towards endemic communities.10 The need to focus on multiple interventions is further justified by the recognition that long-term solutions to STH require improvements in WASH.[1]

The Role of WASH in PC-NTDs

The provision of safe Water, Sanitation and Hygiene is one of the five key interventions within the global NTD roadmap.11 However, the WASH component of the NTD strategy has received little attention and the potential to link WASH and NTDs has been largely untapped.2 It is however notable that access to safe water in rural and urban areas in Kenya is limited at 49% and 68% respectively, and is declining due to non-performance of existing schemes. Impact has been more limited for the poor as investments have tended to benefit the affluent. It is also evident that over 5.8 million Kenyans still engage in open defecation, a situation that is further compounded by inadequate provision and poor management of existing WASH facilities.12

The WASH sector is focused on Sustainable Development Goal (SDG) 6, the target being universal access to basic WASH in communities, schools and healthcare facilities by 2030.13 Achieving universal access requires a focus on the poorest and hardest to reach, who are often the same groups most affected by NTDs. Progress or lack of progress in NTD control efforts can therefore serve as a proxy for equity and effective targeting of WASH programs (Figure 5).

Figure 5: Convergence between NTDs and WASH



Source: Global WASH Strategy, 2015 2020, WHO

The key NTD-WASH prevention activities include: (i) access to and use of sanitation facilities in households and other settings (e.g. schools and health facilities) and safe management of fecal waste to reduce human excreta in the environment; (ii) safe water supply to prevent consumption of contaminated water, reduce contact with surface water, and enable personal hygiene practices; (iii) water resource, waste water and solid waste management for vector control and contact prevention; and (iv) hygiene measures such as hand-washing with soap, laundry, food hygiene, face washing and overall personal hygiene.14

The aim of treatment and care activities under the NTD-WASH nexus is mainly reduced severity of disability and suffering and improved quality of life. The key interventions include: (i) availability of water for facility-based care and self-care (especially for LF); (ii) hygienic conditions for surgical procedures (for hydrocele and TT surgeries); (iii) accessible water and sanitation services for individuals with physical impairments and caregivers; and (iv) measures to prevent stigma-based exclusion from water and sanitation services, including measures to enable personal hygiene and dignity.2

This BTS provides a framework for an integrated approach to dealing with both NTDs and WASH. A joint approach that addresses the cause and management of NTDs is likely to be more cost-effective in the long-term and more sustainable. It will also ensure that investments in WASH reach the needy, who are also the most at risk for NTDs. Beyond the objectives of each sector, collaboration between NTDs and WASH as envisaged in this strategy will also serve to achieve the common goals of equity and shared prosperity. It is envisaged that addressing these conditions in a synergistic manner will proffer sustained health benefits to the endemic communities and contribute to improved health and reduced poverty.

It is important to note that there is also a correlation between the burden of NTDs with socio-economic welfare. The counties with a high burden of NTDs are also among the poorest in the country as illustrated in the co-endemicity map (Annex 1).

SITUATION ANALYSIS OF THE FOUR PC-NTDS IN KENYA

The distribution of NTDs varies across the country with LF officially reported to be mainly endemic in the coastal region. SCH is distributed in the coastal, lower eastern and Lake Victoria regions; while STH is more widely distributed in most parts of the country except in the arid and semi-arid land (ASAL) regions. Trachoma is mainly found in the ASAL regions. It is important to note that NTDs are co-endemic in some parts of the country (Annex 1) that depicts the overlap between the four NTDs. However, it should be noted that there are variations in endemicity within the counties, with some sub-counties being endemic while others remain free of disease.

Achievements of the Control and Elimination Agenda

The four PC-NTDs are treated with drugs donated by different partners through the WHO and the International Trachoma Initiative (ITI). Treatment is administered annually through the use of community drug distributors (CDDs) and teachers for school-based deworming under the guidance of frontline health workers. Table 1 presents a summary of the target populations, sources of funding and achievements of the four PC-NTDs to-date.

Table 1: Treatment of NTDs by source of drug donations and achievements

Disease	Target population	Medicines used	Source of drug donations	Achievements
STH	5-14 years: school-age children	Albendazole	GlaxoSmithKline (GSK): donated through the WHO	-Reduced highest prevalence: 53% (Narok) to 43.1% (Narok) -This is according to the School Health Program
SCH	5-14 years: school-age children	Praziquantel	Merck: donated through the WHO	-Reduced highest prevalence: S. mansoni 12.6% (Busia) to 10.9% (Busia); and S. haematobium 17.8% (Kwale) to 9% (Kwale) -This is according to the School Health Program
LF	2 years and above	DEC and Albendazole	Eisai and GSK: donated through the WHO	-Increased therapeutic coverage from 65.3% to 78.3% (from 2015-2017) -Achieved 100% geographical coverage

Disease	Target population	Medicines used	Source of drug donations	Achievements
Trachoma	<6 months	1% Tetracycline eye ointment	Queen Elizabeth Diamond Jubilee Trust (QEDJT): through implementing partners	Reduced highest prevalence: TF 67.6% - 17.5% (Turkana West) and 30.5% - 19.88 % (Narok West); TT 7.9% (Tiaty) to 1.35% (Tiaty) -Achieved 78% therapeutic coverage -Achieved 100% geographical coverage
	6 months and above	Zithromax tablets, Zithromax pediatric oral suspension	Pfizer: donated through ITI	

STH and SCH:

The Kenya National School-Based Deworming Program (NSBDP) completed its first 5-year phase from 2012-2017 and is now continuing with a second 5-year phase (2018-2022). The program is implemented by the School Health Program (SHP) through a partnership between the Neonatal Child and Adolescent Health Unit (NCAHU) at MoH and the School Health Nutrition and Meals Unit (SHNMU) at the Ministry of Education (MoE). Its goal is to improve attendance of school and academic performance through reduction of the worm burden among school-age children.

The program has thus far been successful in contributing to reduction of: STH by 9.9 percentage points in Narok; S. mansoni by 1.7 percentage points in Busia and; S. haematobium by 8.8 percentage points in Kwale. These counties represent areas which had the highest prevalence at the time baseline and impact assessment as shown in table 1. The deworming interventions were delivered at a cost-effective amount of USD 0.46 per child treated. However, as shown earlier, high re-infection rates remain a challenge threatening the sustainability of the program's impact[ii]. The BTS will use a community-based platform to implement the expanded STH and SCH MDAs while maintaining schools as one of the fixed, service delivery points.[8]

Lymphatic filariasis:

The National Program to Eliminate LF (NPELF) has achieved 100% geographical coverage and reached a high proportion of people in endemic communities with MDA. Table 2 presents a summary of the MDA coverage in the endemic counties in the coastal region. It should be noted that by 2018, none of the endemic counties had achieved a five-year uninterrupted MDA, which is necessary for a program to break transmission of the disease.

ii. *The implementation of the MDA has financially and technically been supported by various partners including the Children's Investment Fund Foundation (CIFF), the END Fund, Evidence Action, Kenya Medical Research Institute (KEMRI) and the National and County Governments.*

Table 2: LF MDA coverage in Kenya (2002-2017) [iii]

County	Implementation Unit (IU)	MDA COVERAGES							
		2002	2003	2005	2008	2011	2015	2016	2017
Kilifi	Kilifi North	81.2	75	71.6	61.1	58.5	51	71	87
	Kilifi South	81.2	75	71.6	61.1	58.5	51	69	83
	Kaloleni	81.2	75	71.6	61.1	58.5	61	54	79
	Rabai	81.2	75	71.6	61.1	58.5	60	86	95
	Ganze	81.2	75	71.6	61.1	58.5	67	76	70
	Malindi		77.4	76.4	62.8	39	59	65	82
	Magarini		77.4	76.4	62.8	39	67	64	89
Kwale	Msambweni			70.8	64.3	68	73	68	70
	Lunga Lunga			70.8	64.3	68	73	65	69
	Matuga			70.8	64.3	68	77	80	65
	Kinango					74.4	89	63	82
Lamu	Lamu East					66.4	48	78	66
	Lamu West					66.4	49	69	81
Mombasa	Changamwe							58	75
	Jomvu							55	63
	Kisauni							51	76
	Nyali							80	79
	Likoni							51	60
	Mvita							42	89
Taita Taveta	Taveta						99.2	76	80
Tana River	Bura						47	47	96
	Galole						95	79	94
	Garsen					69	44	59	70

iii. *Note that this is comprehensive data from all the endemic counties*

Trachoma:

The existing control interventions focus on the SAFE strategy - Surgeries for TT, Antibiotic distribution, Facial cleanliness, and Environmental improvement. SAFE interventions or sections of the SAFE strategy have been on-going in all the 12 trachoma endemic counties between 2007 to date. Surveys: National baseline surveys have been conducted in 53 of the 59 suspected trachoma endemic sub-counties.

The remaining 6 sub-counties in Garissa county will be conducted in November-December 2018. Impact assessment surveys have been done at least once in 45 sub-counties out of the expected 48 that implemented full SAFE. Three sub-counties in Baringo county are due for impact assessment in November-December 2018. Impact surveys (TT only) have been conducted in 10 sub-counties in Kitui and Embu counties where surgery, F&E interventions were carried out. Surveillance surveys have been done in 3 sub-counties in Laikipia and 2 sub-counties in Narok county. Twelve sub-counties are due for surveillance surveys by June 2019.

Surgery: Between 2004 and September 2013, at total of 16,137 TT surgeries had been done. After a situational analysis ahead of the QEDJT 5-year program in September 2013, there was an estimated TT backlog of 41,501, out of which a total of 34,491 surgeries have been done, leaving a backlog of 7,010.

Antibiotics: All the 29 sub-counties requiring MDA have had at least 1 round of MDA with others ranging from 3 to more than 5 rounds. In the year 2019, 12 sub-counties will receive 1 round of MDA each then carry out impact surveys after 6 months. Between 2019 and 2021, 8 sub-counties will receive 3 rounds of MDA then impact assessment surveys.

Any MDAs beyond 2021 will be advised by findings of the scheduled impact assessment surveys. F&E: Over 43 boreholes have been sunk and are functional in Narok county. In Kajiado, Laikipia and Samburu water tanks for roof catchment have been installed in schools and leaky tins introduced.

Demonstration latrines have been constructed in Laikipia, Samburu, Narok and Kajiado sub-counties. The Unilever super school of 5 approach to facial cleanliness is in use in selected schools and villages in Turkana county. Health education and promotion is being done in selected schools and villages in all the other endemic counties. The CLTS plus approach is being implemented in selected villages in all 12 Trachoma-endemic counties.

Information, Education and Communication (IEC) materials have been developed, printed and distributed for use in all 12 endemic counties. Table 3 presents a summary of the MDA coverage in the endemic counties in the country.

Table 3: Trachoma MDA coverage in Kenya (2007-2018)

County	Sub county	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Turkana	Turkana North & Kibish					71.0	81.0	84.0	87.0		86.0		
	Turkana West					71.0	81.0	84.0	87.0		86.0		
	Kakuma Refugee Camp					71.0	81.0	84.0	87.0		86.0		
	Turkana Central					71.0	81.0	84.0	87.0		86.0		
	Loima					71.0	81.0	84.0	87.0		86.0		
	Turkana South					71.0	81.0	84.0	87.0		86.0		
	Turkana East					71.0	81.0	84.0	87.0		86.0		
West Pokot	Kacheliba						70.0	80.0	81.0				
	Kapenguria						70.0	80.0	81.0				
	Sigor						70.0	80.0	81.0				
	Pokot South						70.0	80.0	81.0				
Baringo	Tiaty						61.0	77.0	65.0	82.0		61.0	
Samburu	Samburu East			79.0	83.0	74.0	76.0	80.0					
	Sanburu North			79.0	83.0	74.0	76.0	80.0					
	Samburu West			79.0	83.0	74.0	76.0	80.0					
Marsabit	Laisamis						84.0	93.0	96.0				
	Saku						84.0	93.0	96.0				
Isiolo	Isiolo North							95.0	82.0	88.0			
	Isiolo South												81.1

County	Sub county	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Kajiado	Kajiado North	89.0	71.0	80.0	78.0	73.0	73.0	90.0					
	Kajiado Central	89.0	71.0	80.0	78.0	73.0	73.0	90.0					
	Kajiado East	89.0	71.0	80.0	78.0	73.0	73.0	90.0					
	Kajiado West	89.0	71.0	80.0	78.0	73.0	73.0	90.0					
	Kajiado South	89.0	71.0	80.0	78.0	73.0	73.0	90.0					
Narok	Narok North		83.0	74.0	62.0								
	Narok East		83.0	74.0	62.0								
	Narok South		83.0	74.0	62.0	78.0	83.0	94.0		88.0		87.0	
	Narok West		83.0	74.0	62.0	78.0	83.0	94.0		88.0		87.0	
	Trans Mara West/ Kilgoris							90.0	87.0	88.0			
Average Coverage		89.0	77.0	77.7	74.3	72.7	74.2	85.6	82.2	85.0	86.0	61.0	81.1

Challenges and Gaps in the Control and Elimination Agenda

(i) *Inadequate mapping of the various diseases across the country:* The mapping data being used to determine the areas targeted for treatment for some of the NTDs were generated in the early 2000s. Furthermore, the mapping exercises across the four PC-NTDs were incomplete, hence the need to remap the country to ascertain those areas endemic for the four PC-NTDs to ensure that there is 100% geographical coverage of all areas that qualify for MDA. For STH and SCH specifically, the mapping will focus on areas that are not currently treated through the NSBDP where routine evaluations have been conducted.

(ii) *Limited National and County Government ownership:* Most of the funding for MDA is by development partners and a majority of the County Governments do not have budgets set aside for NTDs. Furthermore, the local leadership is not adequately involved in the program activities, which poses a key sustainability challenge. The SHP's approach to MDA against STH and SCH is a shared activity between the School Health Nutrition and Meals Unit (SHNMU) in MoE and the Neonatal, Child and Adolescent Health Unit (NCAHU) in MoH.

(iii) *Inadequate budgets for undertaking the activities*: There is need for funding allocation by the National and County Governments to facilitate capacity building and refresher courses for CDDs including Community Health Volunteers (CHVs), teachers, village elders and other suitable community members as distributors and health promotion agents.

(iv) *Fragmented approach:* There is need to integrate NTD interventions within MoH and with other ministries including those in charge of Water and Irrigation, Education, Environment and Agriculture, among others. This integration should be done in a coordinated manner to ensure synergy among the partners including Community-Based Organizations (CBOs), Faith-Based Organizations (FBOs), and county and national governments. Moving forward, county NTD taskforces will be formed in every county, drawn from different stakeholders - national and county governments and partners - to spearhead the MDA campaigns and all other NTD control interventions.

(v) *Inadequate investment in social mobilization and BCC:* The role of social mobilization in increasing coverage for MDAs[iv] is well documented.15 However, resources are required to conduct effective social mobilization and BCC. While materials and strategies for social mobilization have been developed for disease-specific interventions (i.e. STH, SCH, and LF), the existing structures and approaches should be augmented. Additional communication materials for use during social mobilization need to be developed, pre-tested, translated and distributed in a timely manner.

(vi) *Inadequate number of trained personnel at all levels:* There is inadequate capacity at the NTD program at the national level and in all counties to implement NTD activities proposed in this strategy. Part of the activities on human resource strengthening will entail undertaking a needs assessment and ensuring both the program and county offices are sufficiently resourced to implement the NTD activities. Elevating the competencies and capacity of existing staff will be undertaken alongside deployment of new staff.

Opportunities for Integration with Other Health Programs

There are various interventions in the country that provide opportunities for integration with NTD activities, including joint drug delivery, social mobilization, BCC and support supervision platforms. Some of these activities target specific populations, hence the need to assess how to effectively cover the populations targeted for MDA within a specific area and period.

1. *Malezi Bora:* The Malezi Bora week aims to increase the utilization and improvement of delivering routine, evidence-based health and nutrition services for children, expectant women and breastfeeding mothers in Kenya. It is possible for the NTD program, the county governments and implementing partners to collaborate with the Malezi Bora program in social mobilization, BCC and information sharing on NTD-WASH and specific disease prevention activities.

2. *Malaria Program:* The Malaria program has mapped households as a baseline for the provision of mosquito nets (the latest survey was conducted in February 2018)[v]. This information could be used to determine the denominator of the target populations for MDA. Further, there is evidence that areas with effective malaria programs have lower levels of LF. In addition, the social mobilization structures used by the program could serve as channels of communication on NTDs, BCC and WASH interventions.

3. *Immunization campaigns:* the mobilization activities for these campaigns, which are better resourced than the NTD program activities, could also be used to sensitize the communities on NTDs, BCC and WASH interventions.

4. *Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) interventions:* Agencies, such as Program for Appropriate Technology (PATH), JHPIEGO, FHI 360, Liverpool Voluntary Counselling and Testing (LVCT), AMPATH, among others, have networks of CHVs, and robust and tested BCC tools that could be used to enhance implementation of NTD activities. Since these institutions are often involved in high burden counties, it is important to identify which of them are active in NTD endemic areas and foster partnership through the Stakeholders Engagement Plan (SEP) discussed under the section on partnership further below.

iv. The country is also in the process of re-mapping for onchocerciasis that was considered hypo-endemic by the African Program for Onchocerciasis Control (APOC) in 1995.

v. This study was funded by UNICEF and conducted in partnership with County Governments in endemic areas.

BREAKING TRANSMISSION STRATEGIC OBJECTIVES

Vision, Mission, Goal and Guiding Principles

VISION:
A healthy nation free from Neglected Tropical Diseases (NTDs).

GOAL:
To control and eliminate target NTDs in Kenya through comprehensive and integrated efforts by 2023.

GUIDING PRINCIPLES:
For this Strategy to be effectively implemented, the following principles will be embraced by all partners:

- Equitable and inclusive distribution of health services and interventions in line with the UHC agenda;
- Public participation, people-centered and multi-sectoral approaches to planning, implementation and review;
- Community social accountability and active public involvement;
- Efficiency in the application of information technology;
- Effective coordination anchored on productive engagements between and among the national and county governments and implementing partners; and
- Strategies that embrace cost effectiveness and value for money.

Strategic Objectives
This strategy brings together the four PC-NTDs that benefit from MDA interventions in Kenya. It recognizes the need to maintain the disease-specific goals, objectives and strategies within the context of the overall NTD program, while ensuring synergy between the interventions. Integration for this strategy is positioned as a cost-effective and value for money approach that will maximize the use of limited resources while building synergies within the NTD and WASH sectors.

This strategy has six objectives:

i. To increase MDA coverage in all endemic sub-counties;
ii. To expand NTD related WASH (NTD-WASH) interventions;
iii. To mainstream BCC interventions;
iv. To intensify advocacy, coordination and partnerships in NTD control and elimination;
v. To strengthen systems for monitoring, evaluation, surveillance and research; and
vi. To plan for results, resource mobilization and financial sustainability of the program.

A range of interventions are outlined per the key objectives with an understanding that some of the activities will be cross-cutting while others will be specific to the disease entities. Since the distribution and co-endemicity of the diseases vary by county and even within counties, it is anticipated that the counties will, in consultation with the NTD program, select actions that are relevant to their contexts. Further, it is envisaged that most of the activities will build on on-going interventions with anticipated increased urgency to achieve the targets within the set timelines.

STRATEGIC OBJECTIVE 1
TO INCREASE MDA COVERAGE IN ALL ENDEMIC SUB-COUNTIES

This strategy will adopt and work towards the achievement of the global and national targets set for the four PC-NTDs as outlined in Table 4. It will initially focus on 28 counties with known disease prevalence and will expand or contract based on the mapping activities planned in the first year of implementing this strategy.

Table 4: Targets for the four PC-NTDs

No.	Disease	Target date	Indicators
1.	STH	Elimination and control by 2023	-100% geographical coverage -At least 75% therapeutic coverage -Prevalence < 2% -Elimination possible in a number of sub-counties while in others, focus will be on control pending effectiveness of engagement with WASH players and implementation of BCC
2.	SCH	Elimination and control by 2023	-100% geographical coverage -At least 75% therapeutic coverage -Prevalence < 2% -Elimination is possible in coastal, eastern and central regions while in Nyanza and western the focus will be on control pending discussions and coordinated action with neighboring countries
3.	LF	Elimination by 2023	-Use of DEC and Albendazole (DA) or Ivermectin, DEC and Albendazole (IDA) in the endemic counties as appropriate -100% geographical coverage -At least 65% and 80% epidemiological coverage for DA and IDA respectively -MMDP: to clear the backlog of 4,500 estimated hydrocele cases by 2020 -Prevalence < 1% among children 6-7 years -Tana River and Taita Taveta counties are due for Pre-TAS which will determine whether to stop MDA or not
4.	Trachoma	Elimination by 2023	-100% geographical coverage -At least 80% therapeutic coverage -TT surgeries: to clear backlog of 7,000 by 2020 -TF < 5% among children 1-9 years at an IU/district level -TT < 1/1000 in whole population or < 2/1000 among adults 15 years and above -At least 80% clean faces among children 1-9 years -At least 85% access to sanitation by communities

Individual Disease Approaches

STH and SCH: The major shift in the elimination and control approaches of these two NTDs will be from using a school-based platform to community-based MDA with households serving as a mobile distribution platform and schools, other training institutions, market places, health facilities and other venues serving as fixed service delivery points. This change in strategy is informed by WHO (2017) which guides on the use of multiple interventions and an expanded target population to include:

- preschool-age children;
- school-age children;
- adults considered to be at risk, including groups with occupations involving contact with infested media (mainly soil and water), such as farmers, fishermen, irrigation workers, or women performing domestic tasks;
- women of child bearing age; and
- entire communities living in highly endemic areas.

While chemotherapy with Praziquantel (for SCH) and Albendazole (for STH) is an important component of any STH/SCH control program, there will be an enhanced focus on other operational components including provision of potable water and adequate sanitation, hygiene education, and snail control, which are critical to control and elimination. Further, there will be concerted efforts to seize every opportunity to mainstream BCC in ongoing interventions.

Within the scope of this strategy, the activities for addressing STH and SCH will include:

- Re-mapping to determine the actual endemicity/prevalence of STH/SCH;
- Dissemination of mapping results at global, national, county and community levels for ownership, planning and for decision making;
- Training of frontline healthcare workers, CDDs and CDD supervisors on serious adverse events, Advocacy, Communication and Social Mobilization (ACSM), MDA, Standard Operating Procedures (SOPs), etc.;
- Conducting ACSM on a continuous basis but with intensification prior to and during MDAs;
- Scaling-up geographical coverage to 100% of qualifying endemic areas after mapping;
- Conducting post-treatment surveillance;
- Strengthening supply chain management with a focus on the drugs and other supplies;
- Mainstreaming BCC interventions in all NTD control and WASH activities; and
- Sharing information on Integrated Vector Management (IVM) and WASH.

Lymphatic Filariasis: The aim is to stop the spread of LF and alleviate suffering among patients. The current national targets for LF are: (i) achieve epidemiological coverage of at least 65% and 80% for DA and IDA respectively in each of the endemic sub-counties where LF is of public health importance; and (ii) intensify MMDP activities in the endemic areas. It has been determined nationally that scaling-up these strategies is feasible and cost-effective.

There are ongoing efforts to accelerate the achievement of the LF elimination agenda by use of triple drug therapy - Ivermectin, DEC and Albendazole (IDA). In Kenya, this approach is being piloted in Lamu county and Jomvu sub-county of Mombasa county in 2018 to provide evidence on whether it is feasible for expansion to other sub-counties as necessary. The approach during

this strategy period will include conducting pre-Transmission Assessment Surveys (pre-TAS) and Transmission Assessment Surveys (TAS) in some of the Implementing Units (IUs) including Tana River and Taita Taveta counties, and intensifying MDA in high prevalence sub-counties.

The key activities for addressing LF within this strategy period will include:

- Country-wide re-mapping to determine the actual endemicity/prevalence of LF in areas where transmission status is uncertain/disputed;
- Re-drawing the endemicity map and dissemination of the results at the global, national, county, sub-county and community levels;
- Training of frontline healthcare workers and CDDs on MD A, e.g. on the disease, medicines (incorporating IDA as necessary), data management and reporting, BCC, supervision, etc.;
- Conducting continuous health promotion and BCC activities across the country, which will entail the production, distribution and evaluation of LF IEC materials;
- Strengthening supply chain management for medicines and other materials used during MDA and assessments.
- The use of IDA in areas that qualify for its implementation, will accelerate the attainment of the elimination target;
- Scaling up of treatment to 100% geographical coverage of all qualifying endemic counties and sub-counties;
- Identifying and building the capacity of county and sub-county healthcare workers on hydrocelectomy and lymphoedema management in order to make the interventions more accessible to the people in their communities in a timely manner;
- Counselling and rehabilitating LF patients;
- Conducting health promotion campaigns on mosquito control with an emphasis on households to clear stagnant water in their compounds and to sleep under Insecticide Treated Nets (ITNs);
- Conducting mid-term and other sentinel site/Transmission Assessment Surveys (TAS) in order to initiate pre-TAS and TAS processes in areas that no longer require treatment;
- Conducting post-treatment surveillance in qualified areas; and
- Developing LF dossier towards certification of elimination.

Trachoma:

The current WHO recommended elimination plan for trachoma is through the SAFE strategy, which is a combination of interventions implemented as an integrated approach. Trachoma assessment surveys are focused on children (1-9) years old for TF and individuals aged 15 years and above for TT. Kenya has been implementing the surgery and antibiotics (S&A) components since 2007 with documented success, such as 100% geographical coverage. However, in 2017, the country embarked on integrating the F&E components that largely rely on WASH activities. The current national targets for Trachoma are: (i) clearance of the backlog of TT surgeries; and (ii) use of Community-Led Total Sanitation plus (CLTS+) approach, that largely depends on F&E.[vi]

vi. It should be noted that at the time of developing this Strategy, Zithromax that had been donated by donors had been held at the airport depot for over 10 months (October 2017 – August 2018) due to clearance issues. Such incidences must be forestalled if the objectives stated in this Strategy are to be met.

Activities for eliminating trachoma proposed for the strategy period include:

i. Mapping and conducting baseline surveys in areas such as Garissa county, suspected but not currently listed to be endemic for trachoma;
ii. Re-drawing the trachoma map and disseminating the mapping results at the national, county, sub-county and community levels;
iii. Distributing Zithromax through integrated MDA to all qualifying, affected sub-counties;
iv. Conducting continuous health promotion and BCC activities country-wide through producing and distributing Information, Education and Communication (IEC) materials and tracking the effectiveness of the BCC campaigns;

Integrated Approach to STH, SCH, LF and Trachoma

For the effective implementation of this strategy, there are several areas of integration that will be pursued and effected for more efficiency and to ensure sustainability of the gains made beyond 2023, as illustrated in Table 5.

Table 5: Value addition for integrated approach

No.	Focus	Key area	Activities
1.	Costs saving measures	Advocacy	-Design advocacy materials jointly -Conduct joint visits and use the same forums to disseminate information on NTDs, WASH and BCC for specific diseases -Use the same people to share information
		Procurement and distribution of drugs	-Joint application for drugs -Shared drug inventories -Shared distribution systems (same trucks, same storage facilities and same distributors, etc.)
		Community sensitization and social mobilization	-Joint community visits -Joint training forums for CDDs and other volunteers -Joint structures to be used for community sensitization
		Drug administration	-Same distribution channels – distribution of LF, trachoma, STH and SCH tablets at the same time where there is co-endemicity and distribution is feasible -Share the same supervisors to monitor the drug distribution -One report on the distribution process and outcomes
		Leveraging on human resources and infrastructure	-One stop point for NTDs at the county level (county NTD coordinator) and national level (NTD program) -Joint training for CDDs and other implementers -Use existing structures for drug delivery

No.	Focus	Key area	Activities
2.	Reporting	Training and facilitation for reporting	-Train drug distributors on joint reporting -Design comprehensive template for reporting on NTDs -Facilitate the linkage between the CDDs and frontline health facilities to ensure apt reporting -Support supervision for all the diseases
		Joint Request for select PC Medicines/ Joint Reporting Form/Trachoma Elimination Monitoring Form	-Use the joint drug request and reporting forms (designed by WHO and ITI) for PC-NTDs -Prepare joint reports for sharing at global, national and county levels
		Feedback	-Joint reports -Joint feedback forums
3.	Technology and innovation	Digitization of data collection tools and records	-Facilitate the transfer of the current paper-based data on NTDs to a digital platform -Design a platform for data management for NTDs -Generate joint reports on NTDs
		Use of mobile phones	-Develop mobile platforms for data capture -Invest in m-Platforms/m-Health to ensure continuous communication among key partners on NTDs

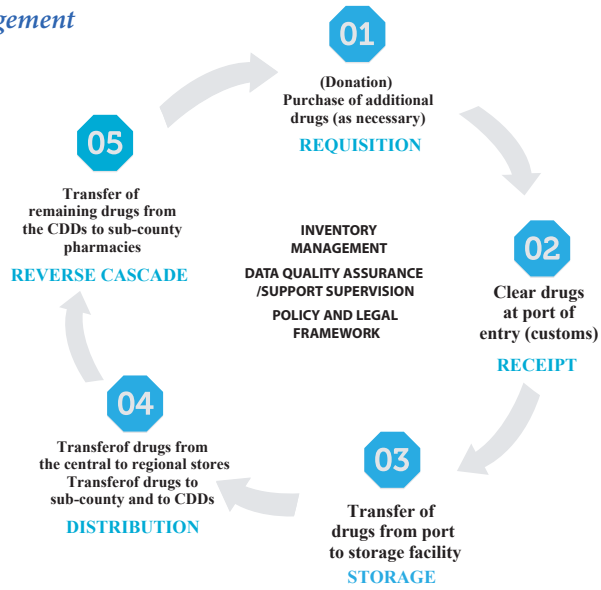
Operations research:
Questions relevant to implementation of interventions and attainment of goals will be identified and answered through careful design of operational research activities involving close engagement of the program and the research community. The findings of such research activities will be given priority in efforts to continuously fine-tune policy and in informing future strategic planning processes.

Supply Chain Management
Building a strong backbone for supply chain systems will contribute to strategic objectives 1, 5 and 6. The continued loss of donated drugs through inefficient systems is estimated at about 40%. This will be mitigated through closing all loopholes and ensuring close monitoring of all aspects of the supply chain. Some factors contributing to these losses include those listed below.
No defined logistics system design and standard SOPs: there are fragmented elements of the supply chain to accommodate multiple deployments focused on individual diseases and a campaign focused approach to service delivery, resulting in duplication of investments.

Poorly developed national logistics information management system: This limits data visibility leading to poor quantification of commodities, poor coordination and sub-optimal planning and execution.
Poor inventory management practices at all levels: This results in stock outs, ineffective use of resources and wastage, particularly for campaigns. The BTS envisions an integrated supply chain system which is agile - where logistics functions are performed quickly, accurately and effectively hence products and information move swiftly through the supply chain. To achieve

this, the program will ensure alignment of objectives across all levels (national, county, sub-county, facility) for consistency in direction within the supply chain; cultivate streamlined processes where aspects that hinder flow of information and commodities are eradicated; develop clear visibility of information throughout the supply chain; foster a collaborative environment where clear roles and responsibilities of all players are clearly specified with clear end to end connection of processes. The BTS will focus on developing a supply chain that can efficiently and effectively deliver commodities to beneficiaries where and when they are needed at the right cost. The program will leverage Information Technology (IT) to ensure that the supply chain cost/technology inefficiencies are minimized. Further, the program will advocate for the national and county leadership to allocate resources for NTDs to ensure that medicines donated for the program are cleared, distributed and accounted for fully. Initial priority objectives for Kenya's NTD supply chain strategy have been identified as shown in Figure 6.

Figure 6: Supply chain management



In summary, the critical objectives for strengthening the supply chain include:

- Building human capacity in supply chain management at all levels, but specifically at the service delivery or community level;
- Strengthening planning and management of NTD drugs and other commodities at national and sub-national levels;
- Strengthening NTD program commodity governance and accountability systems between levels - national, sub-national, facility and community;
- Developing a landscape of supply chain providers within the country that the NTD program can tap into to maximize reach and performance;
- Strengthening the management of NTD shipments - drugs, diagnostics, and vector control compounds;
- Enhancing data visibility and building program and healthcare worker capacity for data use and managing, monitoring and continuously improving the national NTD supply chain; and
- Enhancing new public-private partnerships.

STRATEGIC OBJECTIVE 2
TO EXPAND NTD–WASH INTERVENTIONS

A focus on WASH and NTDs

Collaboration between WASH and NTD implementers can greatly improve the lives of the populations affected by NTDs.2 Synergies between the NTD and WASH sectors will be created through collaborative planning, delivery and evaluation of the interventions, strengthening and sharing of evidence, and using monitoring tools to improve equitable access to health services while targeting the most vulnerable and underserved populations. It should be noted that both health and water are devolved functions, hence counties have a key role to play in the proposed activities.

The recognition of WASH as an integral part of any NTD intervention requires that there be a focus on access to clean and safe water. Currently, access to water is variable within the country and among counties, with the poor in urban areas and people in ASALs having limited access.16 Consequently, there is a need for special efforts to be made to address the deficit in water access. The key activities during this strategy period will include:

- Building partnerships with WASH partners in the endemic counties and communities to ensure that the WASH interventions respond to the NTD needs;
- Advocating for increased access to water and improved sanitation and hygiene promotion in schools and communities, including market places and public institutions. This would require an assessment of the situation in each school and community as a baseline to this strategy;
- Advocate for resource allocation through encouraging county governments to include NTD related WASH interventions in their County Integrated Development Plans (CIDPs) and other development agenda;
- Tap into the on-going upscaling of access to water through sinking boreholes and other reclamation activities to build an additional focus on NTDs; and
- Build partnerships/consortiums with NGOs/CSOs and FBOs to support NTDs and WASH in a coordinated manner.

Advocacy:

It is anticipated that MoH will seek and develop partnerships with the WASH sector mainly through advocacy. Mandates for WASH rest primarily with the Ministry of Water and Irrigation, which is responsible for SDG 6 that seeks to ensure that the country meets its WASH targets. It is notable that water is also a devolved function, hence, the county governments will be key partners in the implementation of this objective. Other partners that have a long history of intervening on WASH in Kenya include UNICEF, World Vision, CARITAS, WATSAN, among others and efforts will be made to work with them on developing and addressing the linkages between WASH and NTDs.

Advocacy activities with the WASH sector will target identified areas of need and emphasize the mutual benefits of linking WASH and NTDs. Efforts will be invested in generating indicators that illustrate the impact/outcomes of WASH interventions on NTD prevention and control (see the monitoring and evaluation framework below). Sharing data between the WASH and NTD implementers will be a key instrument for advocacy at the county and national levels.

STRATEGIC OBJECTIVE 3: TO MAINSTREAM BEHAVIOUR CHANGE COMMUNICATION INTERVENTIONS

Deliberate efforts will be made to mainstream BCC interventions in the implementation of NTD control and NTD-WASH activities. In addition, independent investment will be made in providing extra messaging around behavior change with respect to prevention, diagnosis and early management of NTDs. The communication materials to be developed for implementing the various activities outlined in this strategy will be nuanced on the needs of the various diseases and geographic contexts, including those highlighted below:

- Accept preventive chemotherapy through MDA and come out in large numbers to take medicines whenever they are offered;
- Debunk myths around MMDP and association of chronic diseases to factors such as witchcraft so that uptake of interventions is maximized;
- Promote CLTS+ and School-Led Total Sanitation initiatives which promote increased use of toilets and improved hygiene in schools and other institutions of learning, market places, health facilities, households and communities;
- Use of locally improvised hand-washing facilities. For instance, the Yegon hand washing system that is user-friendly under the motto of "leaving no one behind";
- The program will support the certification of villages that have been rated as Open Defecation Free (ODF) to generate positive motivation for other communities to conform. The certification event, which is normally a big ceremony where the county officials, key partners, and community members participate, will serve as an advocacy forum for WASH and NTDs;
- Integrate key messages in school health education sessions through the school health clubs and other structures;
- Promote proper disposal of infant/child feaces, especially in pastoral communities where this is not considered an issue of concern; and
- Promote regular washing of clothing and beddings with soap to prevent further spread of disease.

The BCC will be provided to all stakeholders at all levels during every opportunity that presents itself for such dissemination. This will include county, sub-county, community level and household/individual level advocacy activities in the run-up to MDA and MMDP activities. In the spirit of collaboration, efforts will be made to promote the provision of BCC for NTD during implementation of activities by other programs and stakeholders, which may involve contact with significant proportions of community members.

This Strategy will provide for engagement of MoE with the view of introducing specific BCC messaging in regular school curricula so that these can be carried to the community by pupils and students. The Health Promotion Unit (HPU) in MoH will be engaged and closely involved in all BCC initiatives with the view of fully transferring such responsibility for provision of NTD related BCC interventions to the HPU within the duration of this strategy. Concerted efforts will also be made to establish continuous engagement with the media houses, including print media, radio, television and social media platforms to rapidly expand the reach of BCC messaging for NTD control/elimination related intentions. To target the youth and other

community members, the use of platforms such as Twitter, WhatsApp, Instagram, Facebook, among others, will be explored and used accordingly.

Community sensitization and social mobilization activities

There is evidence that communities are critical to the success of any public health program aimed at reducing exposure to, controlling or eliminating disease.17,18 Communities have knowledge and resources that can be tapped into for enhancing program success. There are also beliefs and practices among community groups, which can be detrimental to any health project that need to be addressed as part of programming. The current top-down approach to MDA, although effective in the short-term, is not sustainable. It is therefore important for BCC and advocacy campaigns to be used to educate, create awareness and demystify NTDs.

The implementation of this objective will seek to leverage on existing health promotion and communication frameworks. The HPU of MoH will be a key partner since it has the capacity and structures at the national and county levels that will be used to generate content, develop, produce and disseminate communication materials. Partnerships with other agencies, including CSOs, CBOs and FBOs with expertise in advocacy and BCC will be explored and utilized to ensure that communities are well informed about NTDs and WASH.

The key community sensitization and social mobilization activities proposed in this strategy period include to:

- Customize IEC materials to resonate with local culture, language, religion and social dynamics to encourage behavior change, e.g. educate communities on open defecation, hand-washing before food preparation, after toilet use, before and after eating, etc.;
- Encourage the use of Continuous Medical Education (CME) platforms to propagate the BCC agenda;
- Hold targeted workshops and community meetings to improve the level of ownership, knowledge and awareness among community members, local opinion leaders, religious leaders, program implementers, government officials and other stakeholders;
- Engage communities through participatory community approaches for ownership and the sustainability of interventions. The process of implementation will consider the use of innovation at the community level, e.g. the super school of five (handwashing and face washing practices) program, yegon and leaky tins to prevent NTDs;
- Develop and produce a social mobilization package to be disseminated through print media, social media, Short Messaging Service (SMS), Television/FM radio talk shows, posters, roadshows, town-criers, billboards, flyers, chiefs' barazas, religious gatherings, among others to educate people on NTDs and WASH;
- Support the training of local artisans to design/adapt latrines and multiple user hand washing systems that are amenable to the needs of the targeted populations;
- Implement health promotion campaigns on vector control; and
- Support the development and/or adaptation of mobile phone platforms for CDDs/CHVs and response to Frequently Asked Questions (FAQs) on both NTDs and WASH.

STRATEGIC OBJECTIVE 4
TO INTENSIFY ADVOCACY, COORDINATION AND PARTNERSHIPS IN NTD CONTROL AND ELIMINATION

High Level Advocacy

The sustainability of the gains made through this BTS will be dependent on the investments made by both the national and county governments. As illustrated earlier, as the Strategy rolls out during the five years, MDA investments will reduce progressively while WASH and BCC activities will be scaling up with the active support of the county governments. WASH is a devolved function which will require the county governments to provide leadership in this area. The national government has a full-fledged HPU with officers in each county that will be engaged and resourced to support the county-level NTD control activities.

The key high-level advocacy activities planned for this Strategy period include:

- Hold consultation meetings with policy makers at the national level, including MoH, Senate and Parliamentary Health Committees, the Council of Governors (CoG), and the County Executive Committee (CEC) Members for Health Forum of the CoG. The aim of these consultations will be to sensitize them on the BTS and seek their support in policy making;
- Hold consultation meetings at the county level in endemic counties with the Governors, CECs for Health and their teams, County Assembly and other key players in the health sector, on the importance of investing in WASH and NTDs;
- Engage with the media on advocating for WASH and NTDs. This will require working with the technical team at the NTD Unit to develop content and engage with the policy makers to speak up on WASH and NTDs; and
- Identify key areas that require policy reforms and enforcement, such as access to WASH facilities in schools and other learning institutions, health facilities, market places, households, etc. and work together with the policy makers at the county level for implementation.

Coordination

The achievement of the strategic objectives will rely heavily on how MoH will bring all the pieces together while focusing on the people in endemic communities. One of the key challenges facing NTD policy-makers and stakeholders in Kenya is the fragmentation of programming, which has led to duplication and inconsistencies in the operation and implementation of interventions throughout the country. Therefore, it is vital to streamline and coordinate this programming and to bring stakeholders together in an effective partnership to agree on the way forward for NTD interventions at the national and county levels.

The coordination activities outlined for this strategy period include:

i. Establishing a coordination section within the NTD program that will ensure all activities identified in this strategy for joint implementation are conducted in a coordinated manner;
ii. Develop a coordination platform that will be easily accessible to all parties to the strategy including the national and county governments, departments and officers responsible for each component of the strategy, and development partners supporting the implementation of the strategy;

iii. Organize forums at the national and county levels where partners will be engaged in discussions on the strategy, identify areas of need and report back on the agreed milestones and challenges; and

iv. Keep the global community informed about progress being made in Kenya towards elimination and control of the PC-NTDs.

The control and elimination goals set in this strategy will need to be monitored closely, while communication with all the stakeholders will be key to ensuring that they inform and are informed about the interventions. There is a need for the endemic counties to partner with other implementing agencies to have a consolidated approach to addressing NTDs and WASH. This would include developing linkages between WASH, health and education implementers at the county, sub-county and community levels to enhance synergies in their activities.

Partnership Development and Management

Partnership is the main vehicle through which the targets set in this strategy will be achieved because it will allow all health sector players to collaborate and coordinate their actions, recognizing each other's mandates, strengths and limitations. MoH, through the NTD Program, will work towards expanding the partnership base and bringing on board additional strategic partners. It will facilitate the development of a SEP that will be used to ensure that partner activities are coordinated and there is continuous information flow. A communication plan will also be developed as part of the SEP. There will be an NTD Forum held annually that will bring together all partners in Kenya to discuss NTD interventions and monitor progress towards achieving control and elimination targets. Table 6 presents a preliminary list of categories of partners that will need to be consulted upon, reviewed and updated periodically.

Table 6: Partnerships in NTD interventions

Name	Key areas of partnership
Ministry of Health (including the various departments, divisions, programs and units)	-Coordinated approach within the Ministry with the various departments, divisions, programs and units performing their roles, including the HPU, Malaria Program, Vector Control, School Health Program, Disease Surveillance Unit, Ophthalmic Services Unit, National Public Health Laboratory Services, Field Epidemiology and Laboratory Training Program, Zoonotic Diseases Unit, Division of Environmental Health, Community Health and Development Unit, Health Management & Information Systems, Monitoring and Evaluation Unit, Nutrition Unit etc.
National Government Ministries	-Those with mandates that have direct impact on NTDs including Water, Education, Finance, Agriculture, Livestock & Fisheries, Environment among others -Sensitization of key stakeholders within these ministries to understand and support the NTD elimination and control agenda

Name	Key areas of partnership
Semi-Autonomous Government Agencies (SAGAs)	-These include KEMRI that has a key role to play in research, monitoring, evaluation and surveillance; the Pharmacy and Poisons' Board (PPB) whose mandate includes regulation of medicines and other health technologies; and KEMSA which is important in all aspects of the supply chain
County Governments	-Departments involved in NTDs and WASH with the recognition that WASH and health are devolved functions
Development partners	-The program depends on drug donations and technical assistance from development partners. It is envisaged that this support will continue and the technical elements will be intensified as the country moves towards certification of elimination of the PC-NTDs -These include: WHO, ITI, Mectizan Donation program (MDP), CIFF, QEDJT, END Fund, Bill and Melinda Gates Foundation (BMGF), Task Force for Global Health (TFGH), the NTD Support Center (NTD-SC), PFIZER Inc., GSK, Merck KGaA and EISAI pharmaceuticals among others
Implementing partners	-There are several organizations that implement specific aspects of LF, trachoma and STH/SCH control/elimination, including technical support to the NTD Program, BCC, social mobilization and drug distribution. These partners will adopt the provisions made in this BTS and work towards collectively achieving the strategic objectives. -These include; Sightsavers, Fred Hollows Foundation (FHF), Operation Eyesight Universal (OEU), Christian Blind Mission (CBM), African Medical Research Foundation (AMREF) - Health Africa, KRCS, Evidence Action, AIHD, Interconnected Health Solutions (IHS), PATH, American Leprosy Mission (ALM).
Research and Academia	-Operational and implementation research that informs policy and programming will be required, hence the need to work with universities, and other academic institutions to provide answers to specific programmatic questions
CSOs	-They provide health services and have vast experience in BCC in some of the endemic counties and would be key allies in the implementation process e.g., African Population Health Research Centre (APHRC).
Communities	All endemic communities for the four PC-NTDs will be key in the entire planning, implementation, monitoring and evaluation processes

In addition to the identified government agencies, the NTD program will nurture relationships with national, regional and global partners. The WHO national, regional and global offices play a critical role in galvanizing other international partners to support NTD activities and it remains a key partner for the program. In addition, other UN agencies working in the country, including UNICEF, will be enlisted as key partners for the success of this strategy.

Partnership with communities will be nurtured and sustained through working with and strengthening community networks. The county, sub-county and ward/location leadership will be key in this endeavor. Working with FBOs, CBOs and opinion leaders at the community levels will ensure that the NTD program taps into the vast local resources.

STRATEGIC OBJECTIVE 5
TO STRENGTHEN SYSTEMS FOR MONITORING, EVALUATION, SURVEILLANCE AND RESEARCH

Monitoring and Evaluation

The M&E program officer at the NTD program will work closely with other stakeholders including KEMRI, National Public Health Laboratory Services (NPHLS), Disease Surveillance and Epidemic Response Unit (DSRU), M&E Unit, HMIS, among others to monitor and evaluate all aspects of the Program as summarized in Table 7. The last STH plan had a robust component for surveillance and M&E that would be expanded and improved upon during this strategy period drawing from the lessons learned.

Table 7: Monitoring and evaluation activities

No.	Area of focus	Key activities
1.	Tools	-Develop joint protocols for use by the different NTD implementers -Enforce data quality assurance (DQA) -Create platforms and invest in real time data capture and reporting using m-Health technology
2.	Geographical coverage	-Conduct coverage assessments during and after MDAs -Implement the Supervisors Coverage Tool (SCT) for NTD interventions
3.	Epidemiological / Therapeutic / Program coverage	-Establish coverage following each round of treatment - this will be done through reviewing treatment records and medicine inventory
4.	Prevalence and intensity surveys	-Specifically for STH/SCH this will be done mid-term and end-term to determine the intensity and prevalence of infection
5.	Training	-Identify training needs at the national, county and sub-county levels -Develop training curricula -Conduct training -Evaluate the outcomes of the training activities
6.	Advocacy activities	-Document the type and number of activities implemented -Assess the outcomes of the advocacy interventions
7.	BCC/social mobilization	-Document the type of materials and channels used -Assess the outcomes of the social mobilization activities
8.	Supply chain management	-Assess the systems in place and identify gaps if any -Assess the effectiveness of the system
9.	WASH interventions	-Document the types of activities in place at baseline, mid-term and end-term -Assess the contribution of WASH to NTD control and elimination
10	BCC interventions	-Assess the behavior of communities on NTD-WASH at baseline, mid-term and end-term -Evaluate the effectiveness of the BCC activities

No.	Area of focus	Key activities
11.	IVM interventions	-Document the activities taking place in the endemic counties for the four PC-NTDs -Monitor the work of the different partners involved in IVM -Share results of IVM activities
12.	Coordination meetings	-Hold quarterly review meetings -Document all meetings including lists of participants and the meeting outcomes -Monitor the implementation of agreements / action points
13.	Research	-Integrate operational research relevant for all planned activities -Monitor the progress of the integrated approach by conducting baseline, midterm and impact evaluations on WASH and NTDs
14.	Dissemination	-Share findings at the various levels – community, county and national levels -Develop and utilize diverse dissemination platforms including workshops, activity reports and publications.

Surveillance

The Program will put in place and/or strengthen the following as part of a robust surveillance plan:

- Active and passive surveillance systems in partnership with DSRU;
- Data management which will entail tool development, distribution and analysis;
- Utilization of existing databases such as the National Integrated NTD Database (NIND), the District Health Information Systems II (DHIS II), among others;
- Selection of indicators and establishment of robust reporting systems; and
- Consolidation and sharing of relevant data from other implementers working on nutrition, mother and baby wellness clinics, school health program, malaria program, etc.

STRATEGIC OBJECTIVE 6 TO PLAN FOR RESULTS, RESOURCE MOBILIZATION AND FINANCIAL SUSTAINABILITY

Structures for Implementing the Strategy

This strategy will be implemented by MoH through the NTD program. The Head of the NTD program will be the focal point for all the activities with the support of officers assigned to each of the diseases and those with specific cross-cutting roles (e.g. M&E, resource mobilization, communication, etc.). County-level NTD coordinators will be the contact persons in their respective counties and will oversee program implementation in the IUs under their jurisdiction. The implementation of this strategy will be structured as shown in Figure 7.

Figure 7: Structure for implementing the BTS

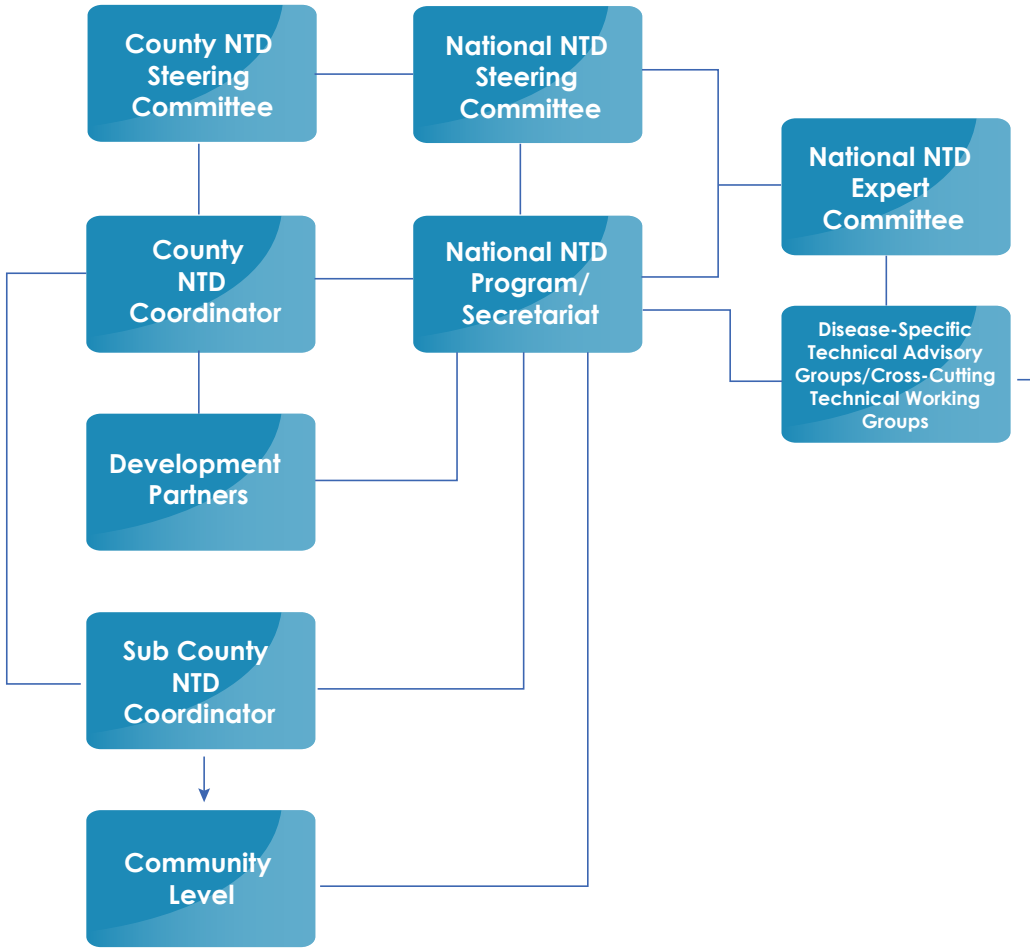


Table 8 provides a summary of the key responsibilities for each of the functions illustrated in Figure 7. It is anticipated that the NTD team will develop these functions in more detail and assign responsibilities once the strategy rolls out.

Table 8: Roles, responsibilities and functions: BTS governance and coordination mechanisms

Position	Roles
The National NTD Steering Committee	-This Committee will have a maximum of 12 members representing relevant line ministries at the national level, implementing partners and other key stakeholders in line with the WHO recommended structure. The committee will monitor progress on the implementation of NTD interventions. It will meet bi-annually under the chairmanship of the CS for health or his/her designate. These meetings will ensure coordination of the interventions, strengthen surveillance and response systems, resource mobilization and prioritization of activities.
NTD Expert Committee	This Committee, which is comprised of 15 members from different sectors, was gazetted in August 2018. The committee will have disease specific Technical Advisory Groups (TAGs) and cross-cutting Technical Working Groups (TWGs) which will perform the role of sub-committees. It will provide technical support to the NTD secretariat and the national NTD steering committee. The committee will meet quarterly. It will provide oversight and support the effective management for the implementation of an integrated NTD control and elimination program. It will also be responsible for assessing national progress towards the realization of the objectives of this strategy.
The NTD Program/ Secretariat	The purpose of the program is to coordinate the delivery of NTD control interventions at the national level while increasing efficiency in the implementation of outlined interventions. It will also be responsible for linking MoH with other ministries, development partners, donors, CSOs and other key stakeholders working in NTD-WASH. The secretariat will be responsible for organizing the Annual NTD Forum that will bring together representatives from the endemic counties, national and international experts and partners to review the status of NTD implementation. This forum will also provide an opportunity for the NTD partners to plan and prioritize key activities.
County NTD Steering Committee	-This Committee will have a maximum of 12 members representing relevant line ministries at the county level, implementing partners and other key stakeholders. The committee will monitor progress on the implementation of NTD interventions at county level. The committee will meet bi-annually under the chairmanship of the CEC for health or his/her designate. These meetings will ensure coordination of the interventions, strengthen surveillance and response systems, resource mobilization and prioritization of activities.
County NTD coordinator	In each of the NTD endemic counties, there will be a County NTD Coordinator CNTDC). S/he will be responsible for the day-to-day implementation of the NTD interventions and resource mobilization at the county level. The coordinator will work closely with the County Health Management Teams (CHMTs) and Sub-county Health Management Teams (SCHMTs), key line Ministries (Water, Education, Environment), TWGs, Steering Committees and Taskforces.

Position	Roles
Sub-County NTD coordinator	The sub-county NTD coordinator (SCNTDC) will work closely with SCHMT to perform the following roles: 1. Oversee the treatment, prevention and control of NTDs at sub-county level; 2. Lead on health promotion activities. 3. The sub-county teams will conduct, in collaboration with CHVs, CDDs, chiefs, village elders and other key partners, health talks, community dialogues and outreaches for behavior change, among others; and 4. Build capacity of the CHVs, and CDDs.
Communities	The community members will be empowered to participate in planning, implementing, monitoring and evaluating NTD interventions. The engagement of the communities will ensure increased ownership and sustainability of interventions. Emphasis will be placed on the use of existing community structures to ensure continuous and rigorous social mobilization and community awareness on NTDs and WASH.

Development and Enforcement of Policies, Strategies, Guidelines and Workplans

It is anticipated that the implementation of this strategy will need to be supported through development and/or enforcement of policies, strategies and guidelines. Although there are national policies on NTDs, WASH and school health19 it may be necessary for counties to domesticate these through their county assemblies in the form of county level strategies or guidelines. It is also anticipated that the counties will operationalize this strategy to ensure that it fits within their annual work-plans.

Annual work-plans will be developed by the NTD program and shared with all the key partners for them to also plan and align their activities and support. The work-plans will be posted on the MoH webpage to ensure broader reach. The partnership platform, developed as part of the SEP, will also be used to ensure that all the partners are adequately informed about the plans and processes.

Human Resources and Secretariat Support

The NTD program will need to be strengthened in order for it to deliver on this strategy. Officers will be assigned to each of the diseases - STH, SCH, LF and Trachoma. There will also be a need to recruit a WASH coordinator and a BCC coordinator. These officers will bring a focus on the strategic objectives while the NTD program manager will ensure there is an integrated approach. The officers at the secretariat and at the county levels will benefit greatly from exchange visits to other countries, especially those implementing IDA for LF. Further, there will be a need to enhance their capacities through technical assistance as they begin to put elimination committees in place and to prepare the relevant dossiers for validation and certification of elimination.

Resource Mobilization

One of the key challenges facing the attainment of PC-NTD targets is inadequate resources. Although the NTD activities will in the short-term continue to rely on donor funds, donated drugs and technical assistance, it is anticipated that in the next two years (or by mid-term) both the national and county governments will be allocating budgets for NTD activities. Partnerships (discussed earlier) will remain a key strategy for resource mobilization and program implementation.

The key elements for resource mobilization are listed below.

i. ***Development of a resource mobilization plan:*** This will require designating an officer to be responsible for resource mobilization. This officer will be the main contact between the program, donors and implementing partners. It is recommended that all NTD resources be put in one basket for ease of management.
ii. ***Management of drug donations and supplementary purchase of drugs:*** currently the drugs used for MDA are donated by partners for public health use. However, as the NTD interventions expand to populations that are currently not covered by donated drugs (such as WCBA, pre-SAC, etc.), there will be a need to ensure that the gaps in drugs are met through additional purchases.
iii. ***Human resources for NTDs:*** the staff currently in the program are stretched and with gaps in capacity to perform the expected tasks. Therefore, as this strategy rolls out there will be a need to increase the number of staff and the skill set. For instance, there will be a need to have an officer responsible for each disease (STH, SCH. LF and Trachoma), M&E and resource mobilization/communication/partnership management. The NTD program plans to work closely with the various partners to provide secretariat support, which will include hiring and/or secondment of staff to the program to accelerate the achievement of the set NTD targets.
iv. ***Infrastructural support:*** strengthen the Secretariat by ensuring that the NTD program has an office, furniture, adequate equipment and internet connectivity. A budget will be set aside to ensure that the office is fully functional.
v. ***Advocacy campaigns:*** these will be conducted with the county governments to ensure that NTDs and WASH are prioritized in their plans. It is anticipated that the counties will include NTDs in their annual workplans since most have finalized their CIDPs for the year 2017-2022.

It is recommended that a percentage of in-country NTD programmatic budgets be dedicated and synergized with externally funded WASH resources, to specifically address WASH requirements. Unless this is deliberately done, the NTD focus will not sufficiently shift from drug administration approaches. The allocation of NTD resources for WASH will mainly be for planning, information sharing and advocacy meetings rather than on actual WASH infrastructure.[9]

Financial Sustainability

The successful control and elimination of the PC-NTDs will depend on the willingness of both the national and county governments to invest in the health sector, and specifically in NTDs. It is therefore critical for the two governance structures to own and drive the NTD agenda. This will be achieved through the following:

- The implementation of this strategy through the provided NTD coordination mechanism at the national and county levels;
- Engagement with the CoG, the CECs for Health and county level multi-stakeholders to support this strategy;
- Development and management of partnerships with implementing agencies, funders, private sector, pharmaceuticals, research and academia;

- Advocacy for the introduction of health and hygiene education in school curricula; and
- Strengthening NTD advocacy by identifying goodwill ambassadors who will act as agents of change.

Social Accountability

Evidence from communities implementing MDAs shows that interventions are more successful in those communities with active participation and ownership.20 With the understanding that the last mile will be attained when all eligible community members consume the NTD drugs during several rounds of MDA, there is a need to build community ownership and active participation in all MDA processes. Community members know each other and they know who participates and who abstains from MDA. They also have mechanisms through which they can encourage and/or sanction members who are not compliant, hence the need for this program to support the communities through a social accountability approach.21

Social accountability in this strategy is defined as the *'processes and mechanisms through which users of health services engage with the health system in a manner that ensures the duty bearers (MoH, healthcare providers, local governments responsible for health, etc.) are responsible for their actions and face some sanctions if services are judged to be below the required standard.'* Therefore, within this strategy period, there will be efforts to engender 'mutual accountability' which will require each community member to be part of the last mile in order to control and eliminate the PC-NTDs. The process will entail gaining an understanding of the community members' interactions and how best to utilize these to increase their involvement in MDA and in supporting the CDDs/CHVs more specifically.

Steps for implementing social accountability in the delivery of NTD drugs will include:

- Identifying and addressing the barriers to the delivery and consumption of NTD drugs;
- Analyzing the context and consulting with stakeholders on the appropriate social accountability mechanisms;
- Selecting the interventions for addressing the identified concerns while taking into consideration the constraints and opportunities from context analysis and internal capacity and experience; and
- Developing an M&E plan to document the best practices, which will then be packaged and shared broadly.

MONITORING AND EVALUATION FRAMEWORK

Table 9 provides a summary of the key indicators to be measured during the 5-year period. In each annual planning period, the program team will review progress and make detailed monitoring plans. The plan will be evaluated mid-stream (during the 3rd year of implementation) and at the end of the 5-year period as part of the review and planning process and to draw lessons for future programming.

Table 9: KM&E Indicators

Indicator	Years					Sources of data	Means of verification
	Year 1	Year 2	Year 3	Year 4	Year 5		
Geographical coverage for all four PC-NTDs	100%	100%	100%	100%	100%	MDA reports	DQA
Epidemiological coverage for LF in IDA implementing IUs and Trachoma in all IUs	≥80%	≥80%	≥80%	≥80%	≥80%	MDA reports	DQA
Epidemiological coverage for LF in DA implementing IUs	≥65%	≥65%	≥65%	≥65%	≥65%	MDA reports	DQA
Therapeutic coverage for STH and SCH	≥75%	≥75%	≥75%	≥75%	≥75%	MDA reports	DQA
Proportion of households with access to safe water	≥49%	≥55%	≥65%	≥75%	≥85%	MDA reports	Validation exercise
Proportion of households with access to toilets	≥60%	≥67.5%	≥75%	≥82.5%	≥85%	MDA reports	Validation exercise
Number of NTD-WASH advocacy meetings held at national level	4	4	4	4	4	Meeting reports	Meeting minutes
Proportion of NTD training and advocacy activities in which BCC mainstreamed	20%	35%	50%	65%	80%	Activity reports	Training material
Proportion of households aware of BCC mainstreaming in school curricula	60%	65%	70%	75%	80%	MDA reports	Validation exercise
Number of NTD-BCC advocacy meetings held	4	4	4	4	4	Meeting reports	Meeting minutes
Number of patients received Hydrocele surgery interventions	≥1000	≥1000	≥1000	≥1000	≥500	Hospital records	DQA

Indicator	Years					Sources of data	Means of verification
	Year 1	Year 2	Year 3	Year 4	Year 5		
Number of patients received Lymphoedema care interventions	≥1000	≥1000	≥1000	≥1000	≥1000	Hospital records	DQA
Number of patients received Trachomatous Trichiasis surgery interventions	3000	2500	1500	0	0	Outreach reports	DQA
Number of National NTD Steering Committee meetings held	2	2	2	2	2	Meeting reports	Meeting minutes
Number of National NTD Expert Committee meetings held	4	4	4	4	4	Meeting reports	Meeting minutes
Number of National NTD Secretariat (Implementation Team) meetings held	12	12	12	12	12	Meeting reports	Meeting minutes
Number of stakeholders attending the Annual NTD Forum	150	200	250	300	350	Forum report	Registration forms
Number of County NTD Steering Committee meetings held	56	56	56	56	56	Meeting reports	Meeting minutes
Number of IUs implementing LF pre-Transmission Assessment Surveys (pre-TAS)	11	8	0	0	0	Pre TAS reports	Validation exercise
Number of IUs implementing LF Transmission Assessment Surveys (TAS)	4	11	8	0	0	TAS reports	Validation exercise
Number of IUs implementing STH and SCH mapping/baseline surveys	122	0	0	0	0	M&E reports	Validation exercise
Number of IUs implementing STH and SCH mid-term surveys	0	0	0	168	0	M&E reports	Validation exercise

Indicator	Years					Sources of data	Means of verification
	Year 1	Year 2	Year 3	Year 4	Year 5		
Number of IUs implementing Trachoma Baseline Surveys	6	0	0	0	0	M&E reports	Validation exercise
Number of IUs implementing Trachoma Impact Assessment	25	0	0	8	0	M&E reports	Validation exercise
Number of IUs implementing Trachoma Surveillance Surveys	11	0	0	0	0	M&E reports	Validation exercise
Number of papers published	2	4	6	8	10	Publications	Journal review
Proportion of findings translated into policy documents	0	100%	100%	100%	100%	Policy documents	Document review
Number of staff members deployed to the NTD program on annual contract	4	4	4	4	4	Engagement contract	Annual program HR report

ESTIMATED COST OF IMPLEMENTING THE BTS OVER THE 5-YEAR PERIOD

This strategy aims to ensure that NTD interventions are effectively and sustainably financed from a range of sources. Deliberate efforts shall be made to ensure that both the national and county governments shall move towards providing part of the funding as the strategy matures through its five-year lifetime. This will be approached in an incremental manner such that a maximum budgetary allocation will be achievable by the end of year five, which will be deployed to finance the sustainability pieces, post-breaking transmission point. Government support will include multi-year budget commitments based on periodic budgeting and ring-fenced funding to finance cross-sectoral and coordinated interventions. Non-state actors, including the private sector, development partners, community groups, and CSOs will augment these resources.

Table 10: Cost of implementing a minimum package of services in the BTS strategy (in USD)

Activities	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
National coordination and advocacy meetings	132,800	132,800	132,800	132,800	132,800
Production of training and promotional materials	658,500	577,900	577,900	577,900	577,900
Production of data collection materials	121,300	36,600	36,600	36,600	36,600
Supply Chain - Distribution of Drugs and Supplies	58,300	58,300	58,300	58,300	58,300
National training of trainers (ToTs)	30,300	30,300	30,300	30,300	30,300
County advocacy and sensitization meetings	35,900	35,900	35,900	35,900	35,900
County level training of Sub county teams and CDD Supervisors	105,800	105,800	105,800	105,800	105,800
Sub county advocacy and sensitization meetings	101,600	101,600	101,600	101,600	101,600
Community level training of CDDs	749,700	749,700	749,700	749,700	749,700
Community awareness creation and social mobilization	98,300	98,300	98,300	98,300	98,300
Mass media sensitization and communication.	17,800	17,800	17,800	17,800	17,800
National launch of integrated annual MDA	5,200	5,200	5,200	5,200	5,200

Activities	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Mass Drug Administration (MDA) implementation	1,482,500	1,482,500	1,482,500	1,482,500	1,482,500
Supervision of MDA	148,300	148,300	148,300	148,300	148,300
Data management	50,500	50,500	50,500	50,500	50,500
Post MDA review meetings	52,300	52,300	52,300	52,300	52,300
Conduct mapping of STH and SCH to determine endemicity and prevalence	-	30,000	50,000	-	-
Human resource for NTDs	120,000	120,000	120,000	120,000	120,000
Secretariat support	82,900	6,400	6,400	6,400	6,400
Monitoring and Evaluation	-	230,000	240,000	75,000	-
Grand total	**4,052,000**	**4,070,200**	**4,100,200**	**3,885,200**	**3,810,200**

Table 11. The estimated cost of strategic commodities donated for implementation of the BTS strategy (in USD)

Item	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Albendazole	24,400,000	24,400,000	24,400,000	24,400,000	24,400,000
Praziquental	2,240,000	2,240,000	2,240,000	2,240,000	2,240,000
Ivermectin	37,630,000	37,630,000	37,630,000	37,630,000	37,630,000
Diethylcar-bamizine	80,000	80,000	80,000	80,000	80,000
Zithromax	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000
Total	**100,350,000**	**100,350,000**	**100,350,000**	**100,350,000**	**100,350,000**

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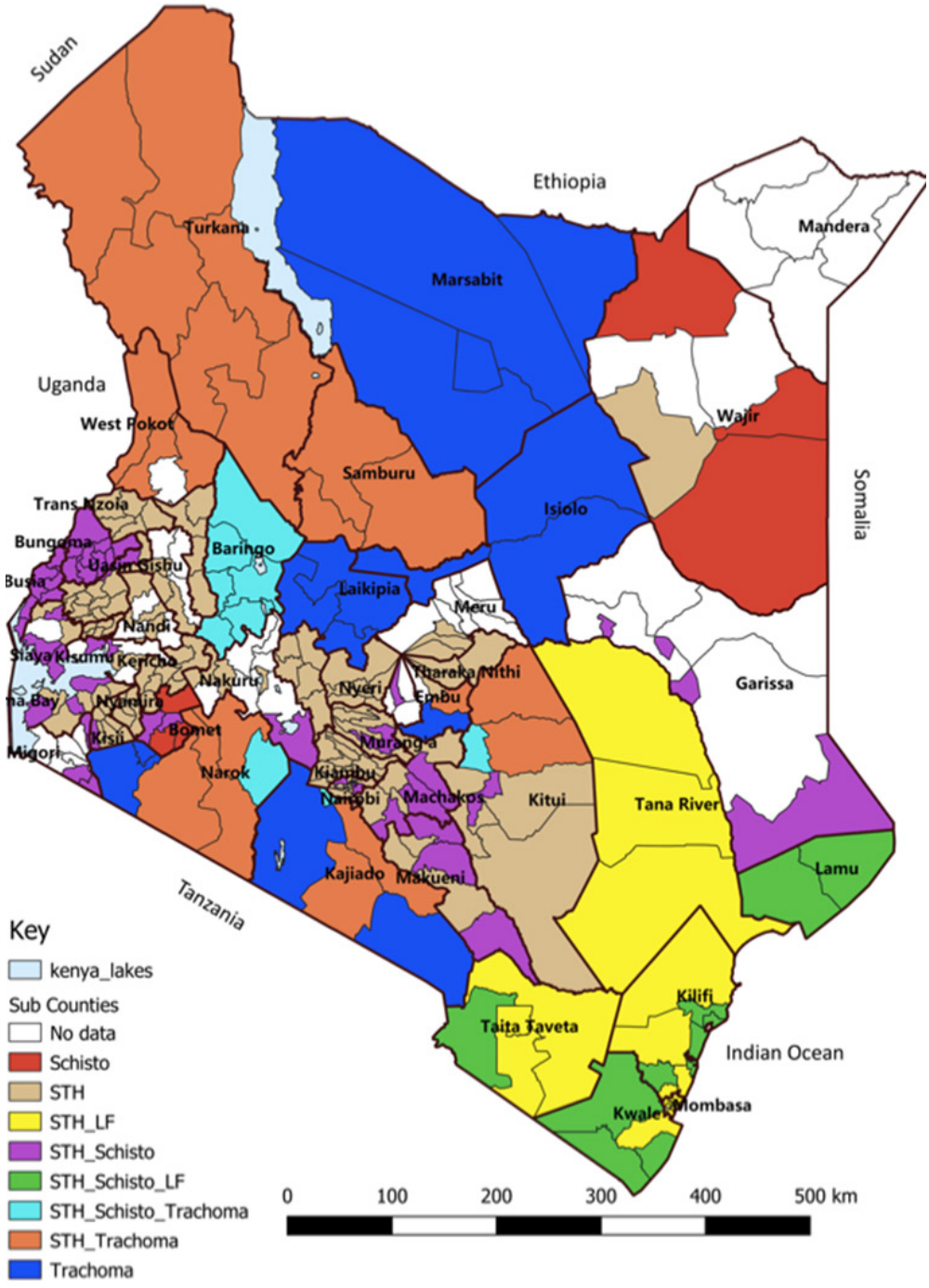
ANNEX 1
MAP SHOWING NTD OVERLAP IN KENYA



ANNEX 2
SPECIAL GROUPS FOR NTD MITIGATION

No.	Group	Key characteristics
1	Nomadic populations	-They move frequently -Low levels of literacy -A large proportion of the children may be out of school -Cultural beliefs and social practices that may be at variance with treatment
2	Island groups (Homa Bay and Lamu counties)	-Difficult to reach due to the distances and location -A substantial proportion of the children may be out of school -Marginalization by the National and County Governments which may have led to apathy
3	Fisherfolk (along the ocean and the lakes)	-They are rarely at home – they work odd hours and could easily be missed during the MDA period
4	Out of school/pre-schoolers	-They may be uncomfortable coming to school for treatment -Early Childhood Development (ECD) enrolment currently is at about 52%, which implies that a substantial number of children aged 2-5 years are at home
5	Street children	-They are hard to reach and are highly exposed to the risk factors -Most are out of school -It was estimated in 2007 that there were 250,000-300,000 children living and working on the streets across Kenya with more than 60,000 of them in Nairobi [7]
6	Prisoners	-They are locked up and there is need for special permission to access them -There are an estimated 55,900 prisoners, as at March 2018 , in the country[8]
7	Refugees/ Internally Displaced Persons (IDPs)	-They live in camps, where prevention and control of NTDs may not be a priority -Need for special permissions to access the camps -Currently it is estimated that there are 486,460 refuges - as at the end of January 2018 - in the country[9] and 159,000 IDPs (IDMC, 2017) [10]
8	Vulnerable and Marginalized Groups (VMGs) including the Ogieks, Sengwers, Waatha, El Molo, among others	-These groups tend to lead a more traditional way of life, including the management of disease -They are removed from mainstream governance and use their own structures to manage their community affairs

GLOSSARY OF TERMS

Breaking Transmission: Reduce the level of infection, both prevalence and intensity, to a point where it is no longer possible for the diseases to be transmitted from one person to another. Continued intervention measures are required to maintain the reduction.

Control: Reduction of the level of infection, both prevalence and intensity, to a point where it is no longer possible for the infection to produce manifest as morbidity and result in mortality. Control may or may not be related to global targets set by World Health Organization (WHO).

Elimination as a public health problem: This is a term related to both infection and disease. It is defined by the achievement of measurable global targets set by WHO in relation to a specific disease. When reached, continued actions are required to maintain the targets and/or to advance the interruption of transmission. The process of documenting elimination as a public health problem is called validation.

Endemic: The constant presence of a disease or infectious agent within a given geographic area. It may also refer to the usual prevalence of a given disease within such an area.

Eradication: Reducing the incidence of a disease to zero worldwide, such that further control measures are unnecessary. It implies the total interruption of transmission.

Expanded Mass Drug Administration for Soil Transmitted Helminths (STH): Increased treatment coverage from the traditional practical target of school age children (SACs) to include pre-SACs, women of child bearing age (WCBA), special groups, among other at-risk populations in communities living within endemic areas.

Geographic coverage: The proportion of all endemic implementation units reached during mass drug administration (MDA).

Incidence rate: The number of new cases of a specified disease during a defined period of time divided by the number of persons in a stated population in which the cases occurred.

Prevalence rate: The total number of people sick or portraying a certain condition in a stated population at a particular time or during a stated period of time, regardless of when that illness or condition began, divided by the population at risk of having the disease or condition at the point in time midway through the period in which they occurred.

Surveillance: The continuing scrutiny of all aspects of occurrence and spread of a disease that is pertinent to effective control.

Therapeutic coverage: The proportion of targeted population reached with treatment during MDA.

[7] *A study commissioned by the Consortium of Street Children (CSC) http://www.smilefoundationkenya.com/background/statistics-of-street-children.html*
[8] *http://www.prisonstudies.org/country/kenya*
[9] *http://www.unhcr.org/ke/figures-at-a-glance*
[10] *http://www.internal-displacement.org/countries/kenya*