SCHOOL AGE CHILDREN RECEIVING PRAZIQUANTEL IN SAMAYA TOWN, KARENE DISTRICT-HKI/SIERRA LEONE

ACT TO END NEGLECTED TROPICAL DISEASES | WEST

Landscape Analysis:

Sierra Leone

Country Sustainability Profile
Date: November 5, 2020

USAID FROM THE AMERICAN PEOPLE

Act to End NTDs WEST

fhi360 THE SCIENCE OF IMPROVING LIVES

ACKNOWLEDGMENTS

The Sierra Leone landscape analysis was written by Aimee Desrochers, Helen Keller International; AnnaMaria Shaker, Deloitte; Marie Sy, Deloitte; Arielle Dolegui, World Vision; and Stephen Omunyidde, World Vision.

We would like to acknowledge the valuable contributions made to this guide by Sarah Craciunoiu, Achille Kabore, Ernest Mensah, Bolivar Pou, Katherine Sanchez, Justin Tine, Daniel Tesfaye, and Eric Weber of FHI 360; Steven Reed and Mary Hodges of Helen Keller International; Jessica Chiu, Courtney Johnson, Courtney Keene, and Johnathan Pearson of Deloitte; and Johnathan Bangali and Kyle Jacobsen of World Vision; Dr. Ibrahim Kargbo-Labour, Neglected Tropical Diseases Program, Senegal Ministry of Health and Sanitation and Dr. Sartie Kenneh, Disease Prevention and Control, Senegal Ministry of Health.

This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the sole responsibility of the Act to End NTDs | West Program, led by FHI 360 in partnership with Helen Keller International, Health and Development International, Deloitte, World Vision, Americares, and The AIM Initiative under Cooperative Agreement No. 7200AA18CA00011 and do not necessarily reflect the views of USAID or the United States Government.

Recommended Citation:
Desrochers A, Shaker A, Sy M, Dolegui A, and Omunyidde S. 2021. *Sierra Leone Sustainability Profile: Landscape Analysis Report*. Washington, DC. USAID's Act to End Neglected Tropical Diseases (NTDs) | West Program/FHI 360.

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
ALB	Albendazole
NC	Ante-natal and post-natal care
APOC	African Program for Onchocerciasis Control
BCC	Behavior Change Communication
CDC	U.S. Centers for Disease Control and Prevention
CDD	Community Drug Distributor
CHW	Community Health Worker
CMO	Chief Medical Officer
CST	Coverage Survey Tool
DHMT	District Health Management Team
DHIS2	District Health Information System
DMO	District Medical Officer
DPC	(Directorate of) Disease Prevention and Control
DPHC	Directorate of Primary Health Care
DPPI	Directorate of Policy, Planning, and Information
DQA	Data Quality Assessment
DSA	Disease Specific Assessment
EPA	Environmental Protection Agency
EU	Evaluation Unit
FAA	Fixed Amount Award
FAO	Food and Agriculture Organization (of the United Nations)
FAQ	Frequently Asked Questions
FGD	Focus Group Discussions
FHCI	Free Healthcare Initiative
FTS	Filariasis Test Strip
FY	Fiscal Year
GDP	Gross Domestic Product
GNI	Gross National Income
GOSL	Government of Sierra Leone
HDs	Health Districts
HDI	Human Development Index
HKI	Helen Keller International
HMIS	Health Management Information System
HSE	(Directorate of) Health Security and Emergencies
HSS	Health System Strengthening
IM	Independent Monitoring
INDB	Integrated NTD Database
ITI	International Trachoma Initiative

IVM	Ivermectin
KII	Key Informant Interview
LF	Lymphatic Filariasis
M&E	Monitoring and Evaluation
MAF	Ministry of Agriculture and Forestry
MBSSE	Ministry of Basic and Senior Secondary Education
MDA	Mass Drug Administration
MIC	Ministry of Information and Communication
MOF	Ministry of Finance
MOFED	Ministry of Finance and Economic Development
MOHS	Ministry of Health and Sanitation
MOLGRD	Ministry of Local Government and Rural Development
MWR	Ministry of Water Resources
NACP	National HIV/AIDS Control Program
NGO	Non-Governmental Organization
NLTCP	National Leprosy and Tuberculosis Control Program
NMCP	National Malaria Control Program
NOCP	National Onchocerciasis Control Program
NSAHP	National School and Adolescent Health Program
NTD	Neglected Tropical Diseases
NTDP	National NTD Program
OCP	Onchocerciasis Control Program
ONA	Organizational Network Analysis
ONS	Office of National Security
OV	Onchocerciasis
PCT	Preventive Chemotherapy and Transmission Control
PHU	Peripheral Health Unit
PMI	President's Malaria Initiative
Pre-TAS	Pre-Transmission Assessment Survey
PZQ	Praziquantel
SAC	School-Aged Children
SAE	Severe Adverse Event
SCH	Schistosomiasis
SCM	Supply Chain Management
SDG	Sustainable Development Goal
SIZ	Special Intervention Zone
SLPB	Sierra Leone Pharmacy Board
SMM	Sustainability Maturity Model
STH	Soil-Transmitted Helminths
TAC	Technical Advisory Committee
TAS	Transmission Assessment Survey

TB	Tuberculosis
TIPAC	Tool for Integrated Planning and Costing
TOR	Terms of Reference
TWG	Technical Working Group
UHC	Universal Health Coverage
UN	United Nations
VAS	Vitamin A supplementation
UNDP	United Nations Development Programme
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

Sierra Leone has made significant progress in the fight to eliminate and control neglected tropical diseases (NTDs). There is still significant work to do, however, as four of the chemotherapy preventable NTDs remain endemic across the country: onchocerciasis, lymphatic filariasis, schistosomiasis, and soil-transmitted helminthiasis. Sierra Leone has achieved significant reductions in prevalence of the four NTDs and over 70% mass treatment coverage. Sierra Leone's goals are sustained elimination of lymphatic filariasis and onchocerciasis and sustained control of schistosomiasis and soil-transmitted helminthiasis.

This document was prepared by the USAID-funded Act to End Neglected Tropical Diseases | West program (Act | West). It synthesizes the assessments, analyses, key findings, and recommendations related to strengthening and integrating Sierra Leone's Neglected Tropical Disease Program (NTDP) into national financial, governance, information systems and service delivery structures. The purposes of this country profile are to: 1) establish a baseline of shared information on NTD sustainability and 2) promote coordinated assistance supporting NTD sustainability efforts in Sierra Leone.

The NTDP and Act | West partners identified opportunities to enhance collaboration and coordination in NTD programming, including leveraging the decentralized health structure to integrate NTDs into existing coordination structures at the district level. The NTDP will establish the Partners Network Forum as a cross-sector collaboration mechanism for NTDs at the national level. NTD strategies are driven by the NTD Master Plan, which will be revised to cover the period 2021 – 2025. The NTDP aims to advocate for the integration of NTDs across health and non-health sector policies and strategies. The assessment of operational capacity noted that in-service training equips district health workers with core NTD preventive and palliative care competencies, but similar competencies are not yet implemented in non-health sector programming. The NTDP possesses the technical capacity for NTD surveillance and is well positioned to establish effective post-MDA surveillance systems. The NTDP is working to include NTD indicators into the District Health Information System 2 (DHIS2). Developing, documenting, and implementing a data management plan with clear procedures and governance will be crucial to standardizing data collection, reporting, and storage. Through strong collaborative frameworks, the NTDP could leverage multiple service delivery platforms for mutually beneficial service integration and program implementation. While currently the NTDP does not have a dedicated government budget, it has identified the need for financial needs analysis and data integration to drive advocacy to close funding gaps. The NTDP aims to develop an advocacy plan with messaging tailored for key stakeholders and to build relationships with champions for NTD programming.

This profile provides a holistic snapshot of the status, strengths, challenges, and future priorities related to NTDs and NTD programmatic sustainability in Sierra Leone.

INTRODUCTION

Neglected tropical diseases (NTDs) impact over 1.5 billion people across 140 countries, exposing and exacerbating structural inequities and cyclical poverty. National NTDPs, with support from global initiatives and donor financing, have made significant progress over the last decade leading to global declines in the disease burden for five of the NTDs responsive to Preventive Chemotherapy (PCT): lymphatic filariasis (LF), trachoma, onchocerciasis (OV), schistosomiasis (SCH), and soil-transmitted helminths (STH). Several countries have already met or are near to meeting disease elimination targets set by the World Health Organization (WHO) and the United Nations (UN) Sustainable Development Goals (SDGs). As countries approach NTD elimination and control targets, the operational and financial sustainability of national NTDPs has become an increasingly important part of the global conversation. Today, most NTDPs are housed within the Ministry of Health but largely funded by donors, creating a parallel system that puts long-term sustainability at risk. In 2020, the WHO incorporated an NTD sustainability framework into a new 10-year NTD 2030 Roadmap, calling for better integration of NTDPs into national financial, governance, and service delivery structures. NTD sustainability also aligns with the SDGs, including global efforts to provide Universal Health Coverage (UHC) and USAID's Journey to Self-Reliance framework.

In Sierra Leone, the NTDP within the Ministry of Health and Sanitation (MOHS) has achieved significant advances in the control and elimination of NTDs. The NTDP has focused on four of the five PCT-responsive NTDs (i.e., OV, LF, SCH, and STH) since its establishment in 2007. Trachoma is not endemic in Sierra Leone. LF and OV are targeted for elimination, and SCH and STH for sustained control. The NTDP aligns its policies and strategies with WHO guidelines and global development targets.

The Act | West program, which works closely with the national NTDPs of 11 countries in West and Central Africa (Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Ghana, Guinea, Mali, Niger, Senegal, Sierra Leone, and Togo), focuses on the following three priorities in Sierra Leone:

1. Elimination of LF and OV
2. Promotion of nationally-owned disease control programs (i.e., STH and SCH), primarily through integration of mass drug administration (MDA) into existing delivery platforms
3. Strategic efforts to strengthen NTD programs within the national governance processes of appropriate government agencies

This document is a structured synthesis of assessments, analyses, key findings, and next steps to advance NTD sustainability (priorities 2 and 3) based on collaboration between Sierra Leone's NTDP and Act | West. The document is divided into three main sections: 1) Country Background, 2) Methodology, and 3) Key Findings. The Country Background provides a brief snapshot of the status of NTDs and NTD sustainability, a high-level overview of USAID's Act | West program, the specific objectives of the document, and details on the geographic, demographic, socio-economic, and health sector contexts of NTDs in Sierra Leone. The Methodology section details the various data collection, syntheses, analyses, validation and dissemination approaches, methods, and tools used. Lastly, the Key Findings section, which is organized in alignment with the six sustainability outcomes from USAID's Framework and Strategy for Promoting Sustainable NTD Control and Elimination (Coordination, Policy, Operational Capacity, Information Systems, Services, and Financing), includes key insights, results, and next steps to advance sustainability.

Country Profile Objectives

The main objective of this document is to highlight contextual factors that can influence and facilitate the mainstreaming of NTDP functions into national policies, planning, monitoring and financing systems for long-term NTD sustainability. More specifically, the purpose of this document is to:

- Raise awareness about the state of NTDs and NTDP sustainability in Sierra Leone
- Serve as a resource for the NTDP, the MOHS, and other government stakeholders addressing NTDs or other relevant issues/sectors in Sierra Leone
- Serve as a resource for USAID, other donors, and donor-funded programs addressing NTDs or other relevant issues/sectors in Sierra Leone
- Inform and facilitate coordinated interventions by the NTD donor and partner community in Sierra Leone

COUNTRY BACKGROUND

Since the end of the country's 11-year civil war in 2002, Sierra Leone has made significant progress in post-conflict recovery towards greater peace and stability. Since 2002, Sierra Leone has held four peaceful elections and transitions of power, restored basic services, rebuilt key infrastructure, among other post-conflict milestones (African Development Bank [AfDB] 2015). In March 2014, the UN Peacebuilding Mission was closed and replaced with a development mission, marking the gains that Sierra Leone had achieved. Between 1990 and 2018, Sierra Leone's Human Development Index (HDI) value increased by 62.2%, gross national income (GNI) per capita increased by 24%, and life expectancy and mean years of schooling increased (UN Development Programme [UNDP] 2019). However, due to the country's weak post-conflict health system and infrastructure (Kevany et al. 2019), the Ebola Outbreak in West Africa from 2014 to 2016 significantly affected Sierra Leone and slowed its economic growth, health care delivery services, and other social sector and development progress. Until the outbreak in May 2014, Sierra Leone was striving to attain middle-income status by 2035 (World Bank 2019). Sierra Leone had the highest number of total Ebola cases in the world (14,124 cases suspected, probable, or confirmed) and the highest number of laboratory-confirmed cases globally (8,706), and the country suffered 3,965 deaths (U.S. Centers for Disease Control and Prevention [CDC], n.d.). As a result of the outbreak, Sierra Leone lost 50% of its private sector workforce (CDC, n.d.) and experienced increased food insecurity, fiscal deficits, and youth unemployment as well as an estimated $2.2 billion USD loss in gross domestic product (GDP) (Kum et al. 2019). The health system faced a 23% decrease in service delivery (CDC, n.d.). Despite all the human and financial losses, the MOHS in Sierra Leone focused its post-Ebola priorities on strengthening the health system's capacity to safely detect and prevent diseases as well as implement surveillance and security responses (Stan, 2017). Today, Sierra Leone has an HDI value of 0.438, ranking 181 out of 189 on the HDI and categorizing the country as having low human development (UNDP 2019). Furthermore, more than half of the population is under the poverty line (World Bank 2019).

Though compliance with MDA campaigns has weakened post-Ebola (NTDP 2016), Sierra Leone has made significant progress towards achieving its NTD elimination and control goals since the end of the crisis. Sierra Leone achieved national control for STH prevalence (<20%), though pockets of moderate prevalence exist in six of 14 districts, with high prevalence in isolated communities where access to clean water and sanitation is very poor. Control of SCH has been achieved in three of the seven endemic districts and prevalence has been remarkedly reduced in the remaining four districts. LF MDA campaigns have stopped in nine of 14 districts, and eight of these districts have since passed their second Transmission Assessment Surveys (TAS 2). Finally, no new cases of blindness from OV have been reported in over 10 years.

The following sections provide an overview of Sierra Leone's demographic, geographical, administrative, and socioeconomic contexts and how they affect NTD prevalence and programming in the country.

Geographical, Administrative and Demographic Contexts

The administrative divisions, geography, and demographics of Sierra Leone have implications on (1) how NTD interventions are organized, managed, and implemented and (2) NTD prevalence in certain areas and the population's risk of exposure to NTDs.

Sierra Leone's health system and NTD programming are organized and implemented in line with the government's administrative divisions. Sierra Leone is divided into five key areas: Northern Region, Southern Region, Eastern Region, North West Region, and the Western Area. Regions are divided into 16 health districts: four in the Northern Region, four in the Southern Region, three in the Eastern Region, three in the North West region and two in the Western Area. Each health district has a District Health Management Team (DHMT) led by a District Medical Officer (DMO), who coordinates all health services, including the NTDP's activities. Within each DHMT, there is a focal person for each disease program, including NTDs. As of 2016, there were 1,258 peripheral health units (PHUs) staffed by health workers and approximately 29,000 volunteer Community Drug Distributors (CDDs) (USAID End NTDs in Africa, 2016). CDDs are critical to the implementation of NTDP activities in rural areas (USAID End NTDs in Africa, 2016), which is a continued implementation practice from the National Onchocerciasis Control Program (NOCP), out of which the NTDP was established in 2007. The 14 districts outside of the Western Area are composed of 149 chiefdoms, which encompass approximately 14,413 villages and communities (USAID End NTDs in Africa 2016). Chiefdoms are headed by local paramount chiefs, while non-rural communities in the Western Area are led by councilors and traditional healers; engagement with the leaders of these respective sub-divided areas is critical to NTDP activities in rural areas (see 'Socioeconomic Context on NTDs' below for further information).

Certain aspects of Sierra Leone's demographics affect how NTD interventions are implemented. Sierra Leone's population was approximately 7.65 million in 2018, with an estimated population growth rate of 2.1% annually and an approximately even split between genders (50.1% females and 49.9% males) (World Bank, n.d.). In 2015, children under five years of age made up 13% of the population, while 27% of the population was composed of school-aged children (SAC) between five and 15 years (Statistics Sierra Leone 2015).[1] Sierra Leone's primary education net enrollment rate in 2016 was reported at 98.1%, and in 2018, the secondary education net enrollment rate was 41.8% (UN Educational, Scientific, and Cultural Organization [UNESCO] Institute for Statistics [UIS], n.d.). Notably, national control for STH prevalence was achieved by targeting pre-school aged children (beginning in 2006), all Sierra Leoneans over five years (in 2008), SAC (between 2009 and 2014), and all pregnant women during antenatal visits.

Approximately 59% of Sierra Leone's population live in rural areas, and 41% live in urban areas (Statistics Sierra Leone 2016). In addition, the Western Area has rapidly growing non-rural communities. This is notable, given that NTDs predominantly affect people living in rural and urban slum areas, where access to healthcare, clean water, and proper sanitation is limited. Much of the population is transient, as some people relocate for mining jobs, others are involved in the significant nomadic economy, and still others belong to cross-border migrant populations. Migration patterns vary drastically year to year, affecting NTD prevalence by district and targeted program interventions. For example, districts bordering Liberia and Guinea have an 11% higher baseline LF prevalence compared to other districts (NTDP 2016).[2]

[1] Population data by age is based on the 2015 census data released by Statistics Sierra Leone; as of this writing, 2020 census data has not yet been made publicly available. UNESCO UIS data estimates that in 2018, Sierra Leone's population ages 14 years and younger (i.e., children under five and SAC) represents 41% of the total.
[2] See "Master Plan, 2016-2020." Information related to migration patterns in Sierra Leone and impacts on NTDs in the country were corroborated in interviews with the NTDP.

Socioeconomic-Context Relevant to NTDs

Similarly, socioeconomic factors in Sierra Leone have implications on (1) the population's risk of exposure to NTDs and (2) whether the endemic population seeks medical treatment for NTDs.

Sierra Leone's GDP is 4.09 billion USD and annual GDP growth is 3.4% (World Bank, n.d.). The agriculture, forestry, and fishing sectors are the most dominant industries contributing 41 to 50% of GDP (Statistics Sierra Leone 2018). Crop farming is prevalent in Sierra Leone, with most household members participating in some form (Statistics Sierra Leone 2016), which is notable given that crop farming increases Sierra Leoneans' exposure to vectors that transmit NTDs. Until 2014, mining of iron ore and diamonds was the second largest sector, contributing 29.8% to GDP, but mining declined sharply in 2015, due to fluctuations in outputs (Statistics Sierra Leone 2016). Nevertheless, mining is relevant to NTDs, given that intestinal and urinary forms of SCH are prevalent particularly in mining areas in the northeastern region of Sierra Leone.

Certain inaccurate beliefs rooted in social or traditional norms prevent some parts of the endemic population in Sierra Leone from understanding the causes of NTDs and from seeking proper treatment (NTDP 2016). According to interviews with the NTDP, there is a lack of understanding around how NTDs spread; they are often attributed to witchcraft or other supernatural forces. This belief is supported by many traditional healers.

To address this lack of awareness, the NTDP recently began collaborating with traditional healers, engaging and training them as CDDs in MDA campaigns.[3] This engagement has improved the buy-in of traditional healers to NTD programming. Similarly, the NTDP recently began collaborating with Focus 1000, a local non-governmental organization (NGO), to address challenges in health communications, particularly with nomadic communities (such as the Fula tribe), where according to traditional practices, leaders must give consent before community members will take medicines. Focus 1000 has helped the NTDP to engage influential individuals, such as community leaders or chiefs, in such traditional communities.

According to Act | West's qualitative Gender Equity and Social Inclusion (GESI) analysis, gender plays a role in NTD treatment and MDA. Act | West found that although Sierra Leone has gender-related policies and laws, these have not been implemented fully. In addition, MDA coverage targets are disaggregated by gender but not by disability. In 2019, topics relating to gender were first included in training of trainers; this training was cascaded to MDA supervisors in 2020 and to CDDs in 2021. Currently, the government does not have a policy on gender equity and social inclusion in the workforce or for health volunteer cadres. Such a policy could help address barriers restricting women from serving as CDDs. Moreover, limited incentives for CDDs represent a barrier to women, who tend to have limited access to effective forms of transportation (e.g., motorcycles, bicycles) and who have caretaking responsibilities at home. In certain instances, female CDDs reported experiencing sexual harassment, especially while working in communities with which they were less familiar. Furthermore, gender disparities exist in power dynamics and decision-making. For instance, in the Fulani tribes, there has been resistance to taking NTD drugs in the past due to traditional gender norms. Women felt they could not take the drugs in the absence of their husbands because they had not received permission. In addition, some men told their wives not to

[3] Information around efforts to address traditional and social norms affecting NTD prevention and treatment were gathered during interviews with the NTDP.

take the drugs because they feared the drugs would cause sterility and because they distrusted people who didn't belong to their ethnic group. In Sierra Leone, women are responsible for caring for the children and family members who are ill and carry many other responsibilities. If a woman is infected with an NTD and has disabilities, her husband may abandon her because she would not be able to fulfill her caretaking and household responsibilities.

Health Policy and NTD Management

Sierra Leone formed the NTDP in 2007 by expanding the NOCP to include LF, SCH, and STH. The NTDP falls under the purview of the Directorate of Disease Prevention and Control (DPC) within the MOHS (Figure 1). Under the DPC, there are three additional national control programs for malaria, HIV/AIDS, and leprosy and tuberculosis (TB). The DPC, along with the Directorates of Primary Health Care (DPHC), Environmental Health and Sanitation, and Food and Nutrition, reports to the Deputy Chief Medical Officer (CMO) 2 for Public Health. The DPHC oversees the DHMTs; given the decentralized health system, there is an NTD focal person on each DHMT.

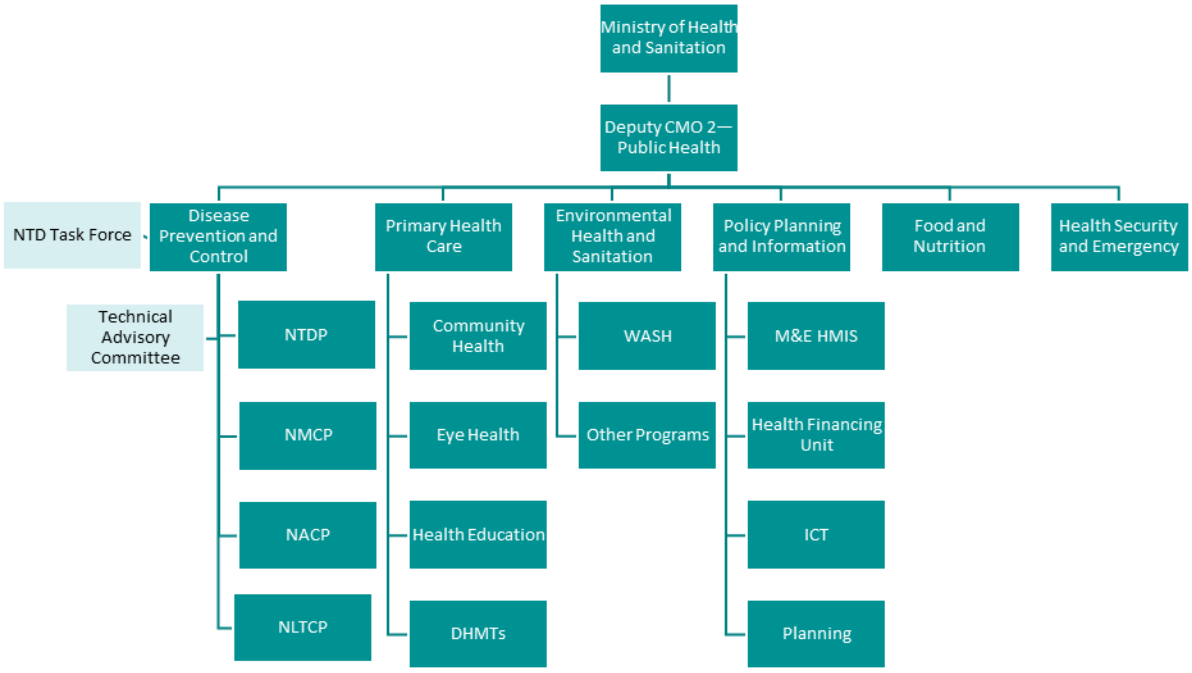

Figure 1. Sierra Leone Ministry of Health and Sanitation Organizational Structure

In 2010, the Free Health Care Initiative (FHCI) was announced. The FHCI provides free healthcare for pregnant women, lactating mothers, and children under five (Wakabi 2010; Donnelly 2011). The Basic Package of Essential Health Services 2015–2020 outlines the essential health services of the health system (MOHS 2015). Following the 2014–2016 West African Ebola outbreak, the National Health Sector Recovery Plan emphasized the importance of water, sanitation, and hygiene (WASH) and infection prevention and control in the health sector. It identified five key result areas: patient and health worker safety; the health workforce; essential health services; community ownership; and information and surveillance. The MOHS National Health Sector Strategic Plan 2017-2021 sets the long-term vision for a well-functioning national health system that delivers efficient and high-quality healthcare and is accessible, affordable, and equitable for all Sierra Leoneans (MOHS 2017). The eight guiding pillars of the plan are leadership and governance, service delivery, human resources for health, health financing, medical products and health technologies, health information systems and research, health security and emergencies, and community

engagement and health promotion. Sierra Leone's Medium-Term National Development Plan 2019-2023 identifies the need for health care improvement as Strategic Objective 1.3 (Government of Sierra Leone [GOSL] 2019).

Disease Status and Challenges for NTD Elimination and Control

Sierra Leone has achieved significant advances in the fight against NTDs. The government has aligned national policies and strategies with WHO guidelines for NTD response, as well as other global development targets, such as the SDGs. The WHO Country Cooperation Strategy 2017-2021 for Sierra Leone includes the prevention, management, and control of NTDs under one of the four strategic priorities: reduction of morbidity and mortality from major communicable and non-communicable diseases (WHO Regional Office for Africa 2017). As of 2016, the country reached mass treatment coverage of 71% for SCH, 97% for STH, 78% for LF, and 79% for OV (Uniting to Combat NTDs 2016).

HIGHLIGHTS ON PCT NTD ELIMINATION AND CONTROL STATUS

Lymphatic Filariasis

Mapped between 2007 and 2008, LF was endemic in all 14 districts of Sierra Leone and co-endemic with OV in 12 districts. In 2008, the NTDP expanded MDA using ivermectin for OV and albendazole for LF from six to all 12 co-endemic districts (Hodges et al. 2012). Between 2008 and 2010, the NTDP reported 65% epidemiological coverage, 80% program coverage, and 100% geographic coverage (Koroma et al. 2013). In 2013, a pre-transmission assessment survey (pre-TAS) was conducted in the 12 districts that had received at least five effective rounds of LF MDA. Eight of the 12 districts qualified for a TAS, and the four remaining districts required two additional rounds of LF MDA (Koroma, Sesay, Conteh, Paye, et al. 2018). The survey found that the overall microfilaremia prevalence was 0.54%, compared to 2.6% at baseline. To date, nine out of 14 districts are in the final surveillance stage towards LF elimination, and the remaining five districts have made significant progress towards elimination.

Onchocerciasis

WHO, UNDP, the World Bank, and the Food and Agriculture Organization (FAO) launched the Onchocerciasis Control Program (OCP) in West Africa in 1974. In 1989, they extended it to include Sierra Leone, and they ended it in 2002, after 10 of the 11 supported countries had eliminated OV as a public health problem (WHO and OCP 2002). Civil conflict in Sierra Leone — the 11th country — had resulted in limited, disrupted treatment and prevention activities. OV control activities resumed in Sierra Leone under the African Program for Onchocerciasis Control (APOC), which managed the Special Intervention Zone (SIZ) Program (2003–2007) for enhanced community directed treatment with ivermectin (WHO 2012; WHO and APOC 2012). The Sierra Leone NOCP began as a vertical program in 1989, focusing on larvicide and ivermectin distribution by mobile teams. Since 2005, it has been working to eliminate OV through MDA. The NOCP expanded to become the integrated NTDP in 2007.

OV is endemic in 12 of the country's 14 districts (Western Area Rural and Urban are not affected). Sierra Leone will continue MDA for OV through 2023, or later, if needed (Koroma, Sesay, Conteh, Paye, et al. 2018). A 2010 survey showed district-level prevalence was between 8% and 28% for OV, a significant improvement from the 2005 estimate of 40% prevalence (MOHS 2016). By 2010, after five annual rounds of MDA, microfilaremia prevalence in 39 sentinel villages had decreased by 60.26%, from a baseline of 53.1% (Koroma, Sesay, Conteh, Koudou, et al. 2018). No new cases of blindness related to OV have been reported in over 10 years. The data from the recent OV survey conducted in 2020 have not yet been analyzed, due to the COVID-19 pandemic.

Schistosomiasis

SCH was highly-to-moderately endemic in seven districts, as measured between 2008 and 2010, with an overall prevalence of 45%. In the seven districts with high prevalence (Kono, Koinadugu, Kenema, Kailahun, Bo, Bombali, and Tonkolili), MDA with praziquantel was initiated in 2010, resulting in a reduction in prevalence of 15% (MOHS 2016). The results of a 2016 national school-based survey of SCH prevalence led to recommendations for the NTDP to (1) continue and intensify annual MDA in Bombali, Kailahun, Kenema, Koinadugu, and Tonkolili districts, and to switch to biennial MDA in Bo and Kono districts; (2) further coordinate SCH control efforts with WASH activities to maximize program impact; and (3) further investigate factors hindering program impact and make necessary adjustments in MDA strategy (Bah, Paye, et al. 2019). Control of SCH has been achieved in three of the seven endemic districts and prevalence has been remarkedly reduced in the remaining four districts (from high to moderate).

Soil-Transmitted Helminths

Sierra Leone has achieved national control for STH prevalence (<20%). STH was mapped in school-aged children in 2008 across all 14 districts.[4] The mapping found endemic STH among SAC in all 14 districts, with a prevalence of between 20% and 50% (Koroma et al. 2011), even though continuous deworming campaigns had begun at schools in 2007. Isolated communities with poor access to clean water and sanitation continued to have high prevalence rates. By 2016, however, just six districts (Bombali, Bonthe, Koinadugu, Moyamba, Pujehun, Tonkolili) had greater than 20% prevalence, and prevalence ranged from 8.2% to 34.7% across all districts (Bah, Bah, et al. 2019). This was achieved by targeting (1) pre-school aged children (12-59 months of age) beginning in 2006, (2) everyone over the age of five years in 2008, (3) SAC between 2009 and 2014 (ad hoc dependent upon funding), and (4) all pregnant women during antenatal visits.

Trachoma

Trachoma is no longer a public health problem in Sierra Leone. A 2008 trachoma prevalence survey found that district prevalence rates did not warrant MDA (Koroma et al. 2011). Since Sierra Leone is classified as non-endemic for trachoma, the country does not support MDA and is now in the surveillance phase.

[4] The provinces of Sierra Leone are divided into 16 districts, as of July 2017. Previously, the country was divided into 14 districts.

METHODOLOGY

This section describes the various methodologies used by Act | West partners over the past two years to assemble, process, and validate the information shared in this document. Given that this is a synthesis of several approaches and methods, the descriptions provided below are brief summaries, divided into 1) Health Systems Strengthening (HSS) Analysis Methodology and 2) Cross-Sector and Barrier Analysis Methodology, with additional details included in the appendices.

Health Systems Strengthening Analysis Methodology

HSS Desk Review: In January 2019, Act | West began the data collection process by examining existing literature, gray literature and data sources (e.g., budgets, prevalence data). Methods included review of relevant websites (e.g., USAID, WHO) and literature/documentation relevant for the country (e.g., NTD Master Plan, END in Africa Final Report). Topics covered with this data collection method included country background, geographic administration, relevant socio-contextual factors, gender dynamics, disease epidemiology, and available information on the NTDP. This desktop scan was summarized and vetted internally within the Act | West consortium for accuracy.

HSS Key Informant Interviews: Act | West conducted a series of in-country interviews with key stakeholders to complement the HSS desk review with information not readily available online or in documents. These interviews were conducted in August 2019 with individuals selected for their roles within the NTDP or for their unique perspectives on the program. The specifically designed interview questions covered topics such as NTDP financing and financial management, monitoring and evaluation (M&E), HMIS integration, disease surveillance, data management, human resources for health, strategic planning, and advocacy efforts. A full list of the stakeholders interviewed is available in the appendices.

Financial Data Collection: In August 2019, Act | West supported the NTDP in collecting and entering NTD financial data into the Tool for Integrated Planning and Costing (TIPAC), which was previously developed by USAID and the ENVISION Program with contributions from WHO. This was completed over the course of a three-day 'TIPAC Data Entry' workshop, with the participation of key NTDP staff. During the workshop facilitators provided an overview of the TIPAC, including objectives of its use, a description of the data entry modules, and the data sources needed to update the tool. Act | West discussed the value of the TIPAC, highlighted how the tool can benefit the NTDP to engage key stakeholders to mobilize resources, and facilitated a discussion to identify members of the NTDP who would oversee entering and updating data in the tool. Once key program staff were confirmed, Act | West supported them in identifying, collecting, entering, and cleaning data on program costs and funding received from various donor programs for Fiscal Year 2018. Program costs captured in TIPAC are related to strategic planning, advocacy, mapping, M&E, drug logistics, social mobilization, training, MDA registration, drug distribution, case management, and vector control. The dual objectives of this approach were to 1) identify key financial data for the NTDP in preparation for financial analysis, and 2) do so in a way that develops the critical competencies necessary for the NTDP to repeat this activity independently and use other financial management tools in the future.

The outputs of the financial data collection and entry into TIPAC helped the NTDP conduct a full financial needs analysis and identify funding gaps in the FY18 budget, which are captured in the "Key Findings: Financing" section of this profile. The process of collecting financial data highlighted how the NTDP currently stores, tracks, and uses relevant financial data; present internal roles, responsibilities, and access to programmatic cost data; and existing capacity to collect, clean, and enter data into a financial analysis

tool. These findings informed the financial needs analysis and guided self-assessment workshops (described below) and are captured in the "Key Findings: Financing" section of this profile.

Financial Analysis: Based on the financial data entry, in September 2019, Act | West supported the NTDP with financial data analysis using TIPAC. This was done in a three-day workshop with key NTDP staff participants. Act | West partners provided an overview of the automatically generated reports available in the TIPAC and facilitated a discussion on data usage, primarily for out-year budgeting and advocacy.

The workshop highlighted if and how the NTDP currently uses financial data to identify funding gaps for resource mobilization advocacy as well as the NTDP's existing understanding of the national budget process and capacity to engage in budget advocacy. The financial needs analysis conducted during the workshop also revealed the program's overall costs, funding sources, and funding gaps; activity-specific costs and funding gaps; and target populations for NTD interventions, including the costs per person for each disease. The results of the financial needs analysis informed other activities within the Act | West program, namely the Guided Self-Assessment and Sustainability Planning, and are captured in the "Key Findings: Financing" section of this profile.

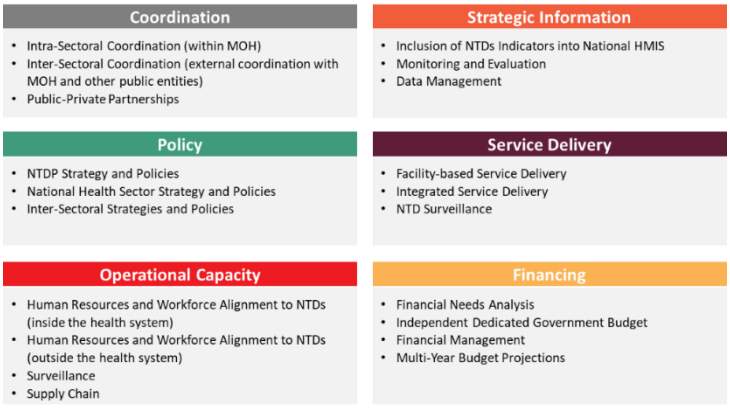

Figure 2. Domains and parameters in the SMM align to USAID's six sustainability outcomes

NTDP Guided Self-Assessment: Act | West developed the Sustainability Maturity Model (SMM) as an approach for both measuring and articulating gains in sustainability and facilitating country-ownership. The SMM is an Excel-based tool that allows NTDPs to self-assess their overall state of sustainability across USAID's six sustainability outcomes. Each outcome domain is composed of several unique parameters that describe the domain's core functions (see Figure 2). For each domain and parameter, the SMM outlines four stages of maturity for sustainability and articulates clear descriptions of what sustainability looks like at each stage. The SMM's domains, parameters, and maturity stages are tailored to NTDs and the country context and, in turn, enable NTDPs to self-assess and specify sustainability priorities more effectively. In January 2020, the NTDP completed the SMM during a three-day, "Guided Self-Assessment Workshop" facilitated by Act | West. The workshop was tailored to the Sierra Leone context based on the desk review, interviews, and cross-sector and financial needs analyses previously conducted by Act | West partners. Throughout the workshop, the NTDP staff used the SMM to assess where the NTDP currently resides in the maturity stages, where it can feasibly progress in three to five years, and the milestones necessary to move from the current to target stage of maturity. This process entailed participants individually scoring the current state of the program for each parameter in the SMM, then discussing to reach consensus around a current state score reflective of their collective knowledge. During the facilitated discussion, the participants explained why they selected a specific score and heard their colleagues' reasoning and experience. After agreeing on a current state score, the NTDP staff repeated this exercise to determine target states to aspire to for each parameter. Then, they identified key milestones for moving from the current to target state. Once all the parameters in a domain had been scored, the NTDP prioritized the parameters based on their respective impact toward achieving a more sustainable state in the Sierra Leone context.

Once filled in, the SMM automatically generates a series of tables and graphs, which Act | West compiled, along with key discussion points, and shared with the NTDP for validation following the workshop. A set of summary tables from the SMM is included in the appendices.

Cross-Sector and Barrier Analysis Methodology

Cross-Sector Literature Review. Act | West conducted an in-depth review of existing national documents such as strategic and operational documents, policies, plans, and intervention reports. The team used PubMed and Google Scholar to search for additional peer-reviewed articles and grey literature focusing on country-specific disease incidence, prevalence, and research. The search emphasized accessing documents that focused on cross-sector collaboration in NTD management, especially documentation of successes, failures, and lessons learned from past collaborations. Articles were systematically extracted, and references were saved into a Zotero[5] reference library.

After selecting the relevant resources, the team performed a document analysis, reviewing and synthesizing the content from each document into a findings, conclusions, and recommendations matrix. The findings from the documents and additional information collected in the country informed the development of the landscape and barrier analyses tools for Sierra Leone. The main output from the review was a literature synthesis[6] of key findings in terms of opportunities for cross-sector coordination and sustainability.

Cross-Sector Key Informant Interviews. From October 14–31, 2019, the Act | West team conducted in-person key informant interviews (KII) with 45 stakeholder representatives (see Appendices for full list). The stakeholders were jointly identified by the NTDP and the Act | West team for participation in the interviews. The team developed a KII guide to explore four focal research questions on (i) the stakeholder landscape, (ii) existing platforms for cross-sector collaboration, (iii) barriers and opportunities for cross-sector collaboration and sustainability, and (iv) potential service delivery platforms for integrated interventions. Interviewers collected additional data and reference documents (reports, policies, action plans) from respondents. The team used Excel spreadsheets to collect data for the organizational network analysis (ONA).

Cross-Sector Landscape and Barrier Analysis. Data obtained from the KII and focus group discussions (FGD) were uploaded in Dedoose qualitative data analysis software for coding. The team conducted a preliminary review of the data for completeness. The first cycle coding method was structural coding to label and index the data (e.g., categorizing partners as government or community, education or malaria). After preliminary structural coding, the team conducted another round of process coding (i.e., identifying processes or actions) to prepare and summarize the findings in a findings, conclusions, and recommendations matrix. Geographical coverage data from the different NTD stakeholders and their regions of intervention were imported into QGIS, a map making software, to develop MDA coverage maps for LF, OV, SCH, and STH.

The team summarized key organizational information and relationships and imported the data into Kumu.io for the ONA. The Kumu.io software visualizes the data into network maps, allowing for analysis of the connectedness and degree of collaboration by partner. The parameters for connectivity and

[5] Zotero is a tool used to collect, organize, and annotate research and references.
[6] The literature review synthesis is included in the Cross-Sector and Barrier Analysis detailed report.

collaboration were degree centrality (number of connections for a partner), closeness centrality (distance each partner is from all other partners), and betweenness centrality (the flow of information between partners). The ONA illustrates current coordination networks among partners and identifies existing gaps in NTDP collaboration and engagement with other key sectors or programs.

Cross-Sector Landscape and Barrier Analysis Findings Dissemination and Validation. Findings from the cross-sector landscape and barrier analyses were disseminated through a participatory and iterative approach. Following the data analyses, a first draft report of findings was elaborated and shared with the NTDP for initial review. Furthermore, in collaboration with the NTDP, the Act | West team facilitated a data dissemination workshop, held February 17–18, 2020, to share the first round of assessment results, key findings, conclusions, and recommendations with 36 key stakeholders. This sharing generated inputs and provided an opportunity for the relevant stakeholders to fill in any gaps in findings and participate in the validation of the presented results. The feedback obtained during the workshop was used to further refine the findings and recommendations. A follow-up review meeting was held with the NTDP and the Act | West team in April 2020, to incorporate feedback received from the cross-sector stakeholders, update the findings and recommendations, and perform another thorough review of the report.

KEY FINDINGS

The following sections provide a summary of key insights from the assessments conducted to date. Each sub-section represents one of the six sustainability outcomes from USAID's Framework and Strategy for Promoting Sustainable NTD Control and Elimination (Coordination, Policy, Operational Capacity, Information Systems, Services, and Financing) and begins with the definition of that outcome, followed by an analysis of the current state and challenges related to that outcome, and ending with next steps to advance towards NTD sustainability.

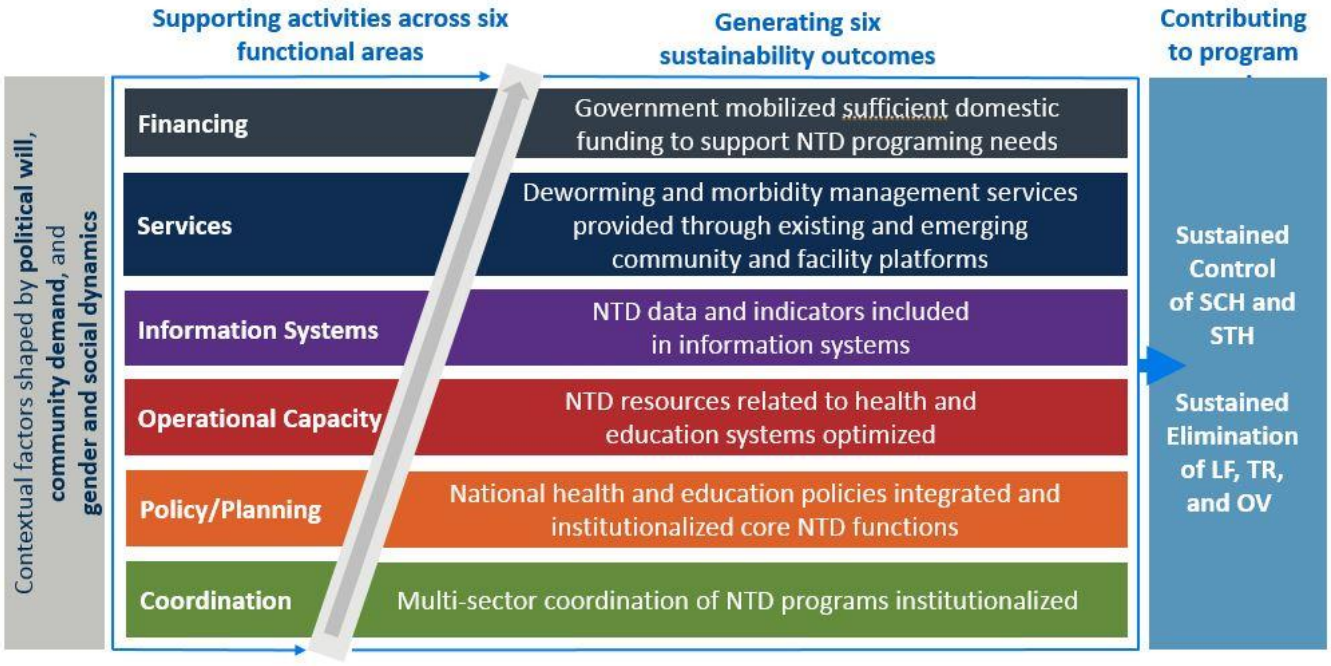

Figure 3. USAID NTD Sustainability Framework

Coordination

Current State and Challenges

After the 2014–2016 West African Ebola outbreak, the DPHC incorporated the CDDs—previously trained and employed by the NTDP to support MDA—under an umbrella Community Health Workers (CHW) program. The CHW program now supports integrated community case management, Community Event-Based Surveillance, and MDA, alongside the malaria, TB, and HIV/AIDS programs. The post-Ebola recovery period also saw the emergence of the Directorate of Health Security and Emergencies (HSE), which oversees the surveillance program. The HSE reports weekly on priority diseases, including two NTDs (Buruli ulcer and Guinea worm). However, routine NTD programming remains the responsibility of the DPC.

Opportunities for coordination exist at all administrative levels with a wide range of stakeholders, from the public and private sectors to international.

NTD Stakeholders in Government

NTD stakeholders in government were identified at the national and district level:

- **National Level.** Within the MOHS, all Directorates under the Deputy CMO 2 of Public Health are key stakeholders for NTD programming. The *DPHC* oversees all DHMTs as well as the Community Health, Eye Health, Health Education, School Health, and Adolescent Health programs. The *Directorate of Environmental Health and Sanitation* oversees WASH programs. The *Directorate of Policy, Planning, and Information* (DPPI) oversees the development and implementation of the Health Management Information System (HMIS), including the District Health Information System (DHIS2). The *Directorate of Food and Nutrition*'s mandate covers supporting deworming of school-aged children; this Directorate has national-level targets for number of children dewormed, and it takes a leadership role in MDA related to Vitamin A and albendazole. The *HSE* oversees disease surveillance, infection prevention and control, and a public health emergency program, which includes health risk communication. In addition, together under the *DPC*, the NTDP and *National Malaria Control Program* (NMCP), with the support of the President's Malaria Initiative (PMI), collaborated in 2019 to establish the Vector-Borne Disease Insectary and Laboratory for entomological monitoring of malaria and research on other vector-borne diseases. The MOHS acknowledges that an effective response to NTDs requires coordination with other line ministries, departments, and agencies (e.g., Ministry of Gender and Affairs, Ministry of Water Resources [MWR],[7] Ministry of Basic and Senior Secondary Education (MBSSE),[8] Environmental Protection Agency [EPA], Ministry of Agriculture and Forestry [MAF], Ministry of Local Government and Rural Development [MOLGRD], the Decentralization Secretariat, the National Commission for Social Action, the Sierra Leone Water Company, Office of National Security [ONS], and the Mano River Union Secretariat). The NTDP currently engages with the MBSSE School Feeding Program for deworming and Vitamin A distribution.
- **District Level.** The Directorate of Primary Healthcare oversees the DHMTs. There is an NTD focal person at each DHMT. The DHMTs implement MDA at the community level. They are well connected to the NTDP and are a key stakeholder in NTD management, given the decentralization policy in Sierra Leone. At the DHMT level, multidisciplinary coordination among partners beyond health, especially in the areas of WASH and education, is possible.

Partnership opportunities

There are opportunities for the NTDP to leverage partnerships to strengthen coordination and planning at the national and district levels. The NTDP currently has limited engagement with the MWR, but it is an appropriate platform to leverage actors with WASH programs at the national and district levels. Coordination with the MWR could be achieved through coordination with the Directorate of Environmental Health and Sanitation. Given the decentralization of the health sector, there lies an opportunity to coordinate with the MOLGRD; under the Local Government Act 2004, primary and secondary health functions (health service delivery, health promotion, and drug procurement) should be

[7] Especially the Water Directorate and the National Water Quality Laboratory
[8] Formerly the Ministry of Education, Science, and Technology

devolved to local councils. Despite the fact that the decentralization process is still ongoing (Conteh 2016), KII respondents suggested that investing at the local level would be beneficial and could maximize scarce resources. Examples cited by a few respondents were the HIV, TB, nutrition, and malaria programs. These programs were seen as well-integrated down to the community level, as well as through the supply chain system. There is less siloing of personnel—some of whom are co-located—at the district level. However, this integration is more appropriate for implementation rather than strategic planning. The decentralization process presents opportunities for the NTDP to integrate programming across the districts and communities and embed NTD programming into policies, structures, and budgets, as these are decentralized.

Public-Private Partnerships

Sierra Leone has engaged with a variety of donors and implementers to respond to NTDs. Pharmaceutical corporations have provided noteworthy support via MDA campaigns, supplying the necessary drugs for treatment. Significant donors, global actors, and local actors are highlighted in Table 1. In the guided self-assessment using the SMM, the NTDP indicated that they understand the value of fostering relationships with a diverse set of partners. Currently, however, few private sector partners provide coordination, technical, or funding support to the NTDP.

Table 1. Major NTD Donors and Implementers in Sierra Leone

Donors	WHO; USAID; DFID; DFATD; UNICEF; Irish Aid; GSK; Merck
Global Implementers	Sightsavers; World Vision; HKI; CRS; Save the Children/Freetown WASH Consortium
National/Local Implementers	St. Andrew's Clinics for Children – Sierra Leone; WASH-NET; Focus 1000; ESICOME; Hope SL; Sierra Leone Red Cross Society; Mariatus Hope International SL Poverty Alleviation Agency; Pure Heart Foundation; Lion Heart Foundation; Child Fund; Cause Canada SL; SILPA; CODE SL; Sierra Leone Social Aide Volunteers; FHM; MOVE_SL; CAWEC; MUWODA

Organizational Network Analysis (ONA)

The full organizational network analysis (Figure 4) indicates that many partners working in NTDs (those with green arcs) also work in WASH (those with red arcs); however, the WASH network is more expansive than that of NTDs. There is an overlap of partners working in Education, WASH, Malaria, and NTDs, although broadly, these sectors are not well-integrated. This indicates an opportunity for the NTDP to collaborate with existing partners to leverage platforms in other sectors for program coordination. The NTD network map (see Appendix II) reveals that some government stakeholders with central roles, such as the DPC and the Deputy CMO 2 of Public Health, are relatively isolated. However, certain programs under the DPHC are well connected and act as key players. Community-level partners (i.e., the DHMTs and Traditional Healer's Association) are a strong part of the network.

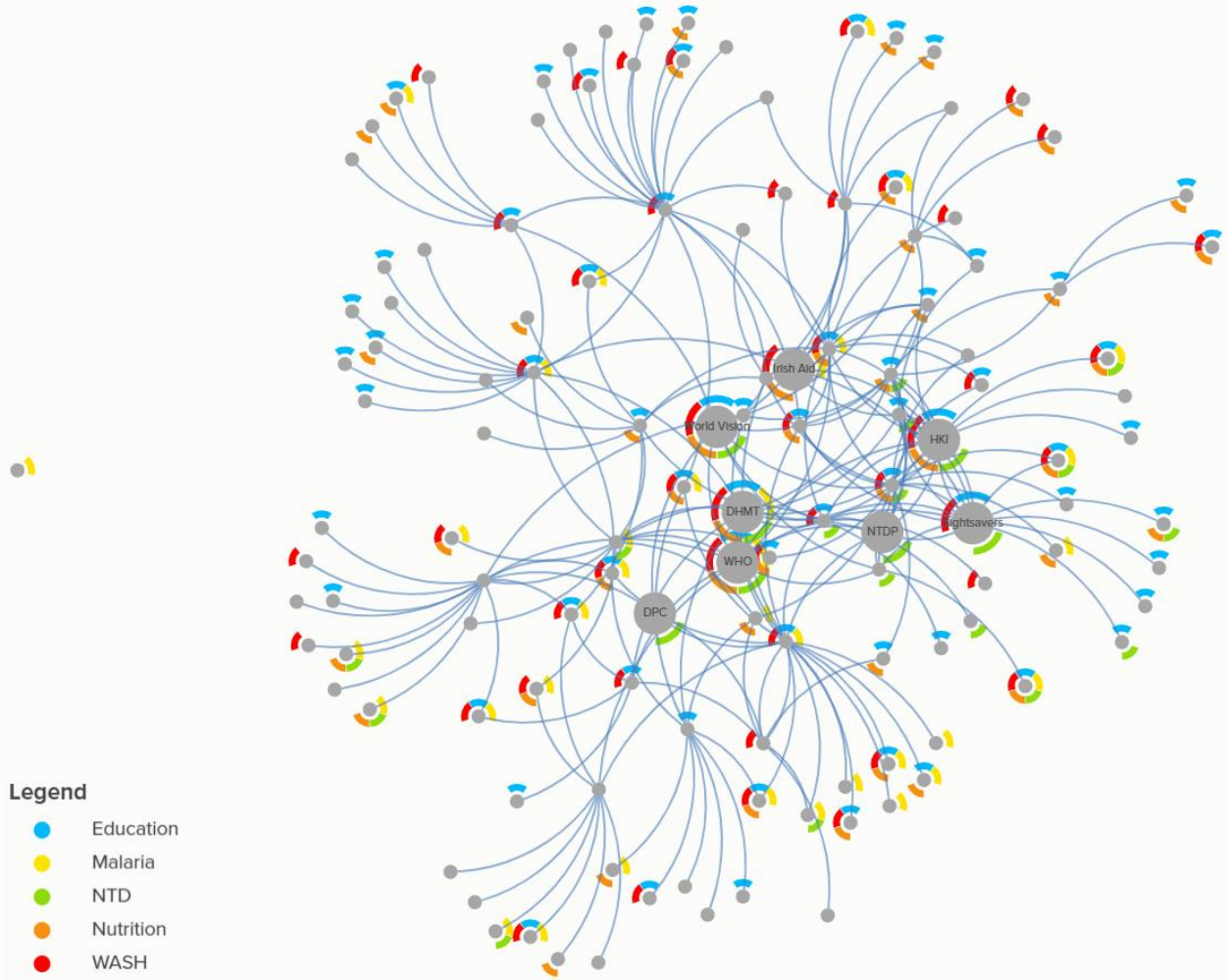

Figure 4. Sierra Leone Full Organizational Network Map

(See Appendix II "Sierra Leone Organizational Network Maps" for additional maps showcasing organizations by sector. To view additional data, see the interactive network accessible online: Kumu Organizational Network Maps.)

Intra-sectoral Collaboration Mechanisms

The NTDP leads coordination of NTD activities in Sierra Leone. Although the NTDP engages with other programs and the public during MDA periods, communication and coordination occurs mainly around these periods of intense activity. There are currently three intra-sector coordination mechanisms for NTDs and related programming, among which only two are active: the NTDP Annual Review Meeting, the Technical Advisory Committee (TAC) for OV control and elimination, and the dormant NTD taskforce (see Table 2).

- The Annual Review Meeting is hosted and led by the NTDP and does not generally include MOHS representatives beyond the NTDP. It is an opportunity for districts to present their achievements in coverage, learn from the results of other assessments, and discuss how to refine their methodology.

- As a support to the NTDP, a TAC for onchocerciasis control and elimination meets twice per year—once per year with external experts and once per year with in-country experts. The role of the TAC is to review the epidemiology, entomology, and other components of NTD progress, and to provide advice and guidance to the program. The TAC's review and approval of results for elimination are a key requirement for endorsement by WHO in reaching disease elimination. Considering Sierra Leone's progress on onchocerciasis elimination, the TAC is seen as effective.
- The NTD Taskforce, which has been dormant for some time, is led by the DPC Director and focuses on the NTDs that require control and management, as opposed to those that are targeted for elimination. The taskforce is in the process of being revitalized by the NTDP, with support from the Act | West team, to serve as a cross-sector collaboration mechanism for NTDs.

Table 1. National-Level Intra-Sector (Health) Coordination Mechanisms

Mechanism	Technical Advisory Committee [for OV control and elimination]	NTD Taskforce	NTDP Annual Review and Planning Meeting
Convener	Sightsavers	Director of DPC	NTDP
Members	Local and international experts in entomology and epidemiology of NTDs – CMO appointed	NTD partners, WASH, School Health, Private sector development, other	NTDP, Partners
Purpose	Review the epidemiology, entomology, and other components of progress; provide advice and guidance to the NTDP	Focuses on NTDs that require control and management	Districts present achievements in coverage, learn from the results of other assessments, and discuss how to refine their methodology
TOR	Yes	Yes	No
Frequency	Twice per year: once with external experts and once with in-country experts	Dormant	Annually, in January or February
Funder	Sightsavers (DFID)	Donor partners with NTDP	Sightsavers (DFID) / HKI (USAID)

Inter-sectoral Coordinating Mechanisms

Cross-sector coordination is observed at the national level through examples of NTD-relevant inter-sector coordinating mechanisms with MOHS participation (Table 3). One example is the One Health Technical Working Group, which presents an opportunity for closer incorporation of environmental, infection prevention and control, and veterinary public health services, which are all essential to comprehensive NTD control. In the National eHealth Coordination Hub, the MOHS collaborates with the Ministry of Finance and Economic Development (MOFED) and the Ministry of Information and Communication (MIC).

Table 2. National-level Inter-sectoral Coordination Mechanisms

Mechanism	**Public Health Directors' Meeting**	**One Health Technical Working Group**	**School Feeding Secretariat**	**Health Sector Steering Group**	**eHealth Coordination Hub**	**Scaling Up Nutrition (SUN) Secretariat[9]**
Leader/ Convener	Deputy CMO 2 – Public Health	Deputy CMO 2 – Public Health	School Feeding Coordinator & Nutrition Director, MBSSE	Health Systems Strengthening Unit, MOHS	CMO (chair), Director of Communications, MIC (co-chair)	Office of the Vice President (chair)
Members	Directors from Public Health Directorates	MOHS, MAF, EPA, ONS & works closely with HSE's Public Health Emergency Operation Center	MOHS, MAF, WFP, JAM International	Health partners including donors and UN partners	Director of DPPI (secretary), Director of Human Resources, MOFED Director of Finance, DPHC, DPC, Drugs and Medical Supplies, others + a TWG supports the eHealth Hub	MOHS, MBBSE, MOSWGCA, MWR, MAF, Ministry of Energy, GAO, WFP, WHO, UNICEF, IFAD, UN Women
Purpose	Discuss action points, planning, coordination	Support collaboration on health security between human, animal, and environmental health; manage disease outbreaks and disasters	Oversee the school feeding program	Include development partners in MOHS strategies; update gov't on partner implementation; update partners on gov't plan and needs	Coordinate across eHealth partners	Coordinate across the nutrition sector (mandated)
TOR	Yes	Yes	Yes	Yes	Yes	Yes
Frequency	Weekly	Weekly	Planned as monthly, but convenes irregularly	Every other month	At least quarterly	Quarterly
Funder	GOSL	USAID's Breakthrough Action	US gov't, UN Multi-Donor Trust Fund, + more	World Bank	UNICEF, ADB	UN Network for SUN

[9] The SUN Secretariat also supports a National Coordination Committee, which includes the technical leads from the [institutions on the Steering Committee], as well as civil society (CRS, WVSL, HKI, ACF, WHI, COOPI, JICA) and is chaired by Focus1000.

- Technical Advisory Committee (TAC) NTDs
- NTD Task Force Committee
- STH Task Force Committee
- CHW Technical Working Group
- Water, Sanitation & Hygiene (WASH) Technical Working Group and Coordination Forum
- WASH Sector Coordination Platform
- National Wastes Management Working Group (NWMWG)
- One Health Technical Working Group
- Emergency Preparedness Resilient Response Group (ERPPG)
- Universal Health Coverage (UHC) Steering Committee
- Malaria Technical Working Group
- Nutrition Technical Working Group

Box 1. NTD-Relevant Coordinating Bodies

There are several groups that support efforts towards NTD control, community health, WASH and sanitation, One Health, surveillance, malaria, nutrition, and primary health care (Box 1). Supported by the Roll Back Malaria initiative, the NMCP also hosts a Roll Back Malaria Task Force Committee at the national level. However, the NTDP is currently underrepresented in these major cross-sector coordination bodies.

Though not NTDP partners, both the National HIV/AIDS Control Program (NACP) and the National Leprosy and Tuberculosis Control Program (NLTCP) are examples of successful cross-sector collaboration. Notably, the NACP collaborated with the nutrition sector to produce Nutritional Guidelines for Adults and Young Children Living with HIV/AIDS. Technical expertise from within the MOHS was used to produce this guideline, so there was no need to hire an external consultant. The NACP and NLTCP have been successful in integrating their M&E indicators into the DHIS2 as well as integrating their supply chain management and distribution into the Central Medical Stores. Both programs are funded by The Global Fund.

At the district level, KII respondents reported the DHMT organizational structure leads to natural intersectoral coordination. However, this coordination is specific to program implementation and monitoring and supervision of PHUs. There is a division of labor in NTDP activities between the national level (strategic planning) and the district level (implementation). Many KII respondents reported that although district and community-level implementation is strong, national-level actors responsible for strategic planning dictate the timing and content of programming. There are several functioning coordination mechanisms at the district, chiefdom, and community levels that are relevant to NTDs (Tables 4 and 5). Respondents suggested that existing coordination mechanisms are sufficient but there is a need to strengthen and support the management of NTD control at the district level and to decentralize NTD activity planning and implementation. NTD strategies and priorities could be integrated into existing intersectoral collaboration mechanisms.

Table 3. District-level Coordination Mechanisms

Mechanism	PHU In-Charges Meeting	CHW Meeting	District Planning Meeting	Partners Meeting	District Security Meeting
Convener	DMO	DMO	DHMT M&E / DMO	District Council Chairperson	Local council
Members	PHU In-Charges, DHMT	DHMT, PHU In-Charges, CHWs	DHMT, District Council	All partners and GOSL working in the district: MOHS, MBBSE, MAF, MWR, ONS, paramount chiefs, partners	MOHS, MBBSE, MAF, ONS, Police
Purpose	Provide coordination and feedback	Discuss district achievements and challenges; coordination	Plan annual workplan and budget	Discuss partner activities, achievements, and challenges	Discuss cross-border surveillance activities
Frequency	Monthly	Monthly	Yearly	Quarterly	Quarterly
Funder	Partners in district with DHMT/ UNICEF	Partners in district with DHMT	Local council	Partners in district with DHMT	Local council, partners in district

Table 4. Chiefdom and Community-Level Coordination Mechanisms

Mechanism	Stakeholders Meeting [Chiefdom]	Ward/Village Development Committee (W/VDC) Meeting [Community]	Health Facility Management Committee (FMC) Meeting [Community]
Convener	Paramount Chief or highest in chiefdom hierarchy	Local council	FMC Chair and Support PHU In-Charge
Members	Paramount chiefs, health council, community heads, FMC, W/VDC	Community members, CHWs	7-11 community members selected by community
Purpose	Updates stakeholders on health interventions and their role in promoting health activities in their chiefdom	Oversees health services and health promotion, environment, leadership, education, and other issues	Oversees function of the PHU/hospital
Frequency	Quarterly	Monthly	Monthly
Funder	Not specific – NGOs, DHMT, Council	Local government	Not specific – DHMTs advocate to NGO partners

Overall, coordination challenges include communication, collaboration with other MOHS departments, limited GOSL funding for the NTDP, the current division of labor between the national and district levels, and the expanded responsibilities of the CHW program.

Next Steps Towards Advancing Sustainability: Given the current state and challenges described above, the NTDP and Act | West partners have identified the following steps to enhance coordination.

- The NTDP will engage with other line ministries and programs where coordination or cross-sector collaboration could support NTD programing. Such an approach should include participating routinely in MOHS planning and Technical Working Groups (TWGs), including DPPI planning sessions, HMIS M&E TWG, SUN Secretariat, and others. The NTDP should plan to request time slots for presentations on how NTDs are relevant to other stakeholders and advocate for more participation from other actors.
- The NTDP would like to strengthen their engagement with the private sector by 1) developing and implementing a strategy for strategic partnerships, 2) incorporating public-private partnerships into the NTD Master Plan, and 3) more effectively integrating with the MOHS efforts around PPPs, potentially exploring opportunities to establish a Strategic Partnerships Unit within the MOHS.
- The NTDP will request assistance from WHO on capacity building on the new WASH and NTD guidelines to ensure effective cross-sector collaboration in this area with stakeholders including the Directorate of Environmental Health and Sanitation, MWR, and UNICEF WASH program, among others.
- The NTDP will develop and disseminate key messages for NTD programming to broaden the demand for NTD services and ensure that all actors are working together towards eradication.
- Leveraging the decentralization of the health sector by integrating NTD strategies into existing coordination structures at the DHMT level will allow the NTDP to formalize the inclusion of NTD control objectives and priorities in the districts for sustainability programming. The MOHS will streamline NTDP delivery and reduce duplication of efforts by increasing district-level involvement in program scheduling and service coordination. Increasing involvement at the district level can facilitate local scheduling and coordination, as well as avoid the bottlenecks that result from lack of coordination or overlapping programs directed from the national level. Focusing resources on cross-training and integrated case detection and case management in coordination with community health, malaria, and WASH services would be a better use of resources.

Policy

Current State and Challenges:

NTDP Strategy and Policies

In Sierra Leone, NTD strategy and policies are driven by the NTD Master Plan, which is approved by the MOHS. The NTDP largely owns and drives the priorities articulated in the Master Plan. The current five-year Master Plan covering 2016-2020 does not account for post-elimination resources and operational needs. In 2020, the NTDP will be developing the new Master Plan for 2021-2025, and there are plans to incorporate the elimination timeline and post-elimination service delivery needs. During the Guided Self-Assessment using the SMM, the NTDP noted that they believe it is feasible to secure support from other health and non-health sector programs due to the burgeoning cross-sector collaboration that Act | West is supporting.

National Health Sector Strategy and Policies

- The broader national health sector strategy includes some points on NTDs and the NTD M&E plan, which are included in the NTD Master Plan and in the sector-wide M&E plan. (See “Key Findings: Information Systems” for more information on M&E.) However, there is no specific mechanism for cascading the health sector strategy down into the NTD Master Plan. Moreover, the health

sector strategy does not articulate linkages between NTDs and other health programs. Though there are no formalized collaboration policies or commitments between the NTDP and other health sector programs, the NTDP regularly engages with other health sector programs in the development of the new health sector strategy and NTD programming.

Intersectoral Strategies and Policies

Relevant intersectoral strategy and policies in related non-health sectors do not currently include NTDs. The NTDP staff is aware of the need for collaboration with intersectoral programs and informally engages with a few non-health sector programs (e.g., WASH). However, formal collaboration policies, agreements, or mechanisms would be helpful for strengthening this engagement. During the Guided Self-Assessment using the SMM, the NTDP identified relevant non-health sector programs where it is appropriate to integrate NTD programming (e.g., WASH, School Health Program under the Ministry of Education).

Next Steps Towards Advancing Sustainability: Given the current state described above, the NTDP and Act | West partners have identified the following next steps in the area of policy:

- Incorporating an NTD elimination timeline and resources in the updated Master Plan (2021-2025) to position the NTDP to prepare more effectively for post-elimination service delivery needs.
- Coordinating with the steering committee to include NTDP services into the package of essential services.
- Conducting targeted advocacy in the health and non-health sectors to integrate NTDs across relevant health and non-health sector strategies and/or policies (e.g., WASH, School Health Program under the Ministry of Education, School Feeding Program under MOHS, NMCP, Social Mobilization Unit). This will require developing and implementing an advocacy plan, identifying and appointing an NTDP staff member to lead advocacy efforts, and crafting tailored messages and utilizing advocacy tools to engage stakeholders more effectively.
- Creating formal agreements with relevant health sector programs, such as the NMCP and the Social Mobilization Unit.

Operational Capacity

Current State and Challenges:

Human Resources and Workforce Alignment to NTDs (within the health system)

The MOHS has made significant progress to better equip human resources within the health system to address NTDs in both endemic and non-endemic districts, but there are still some gaps to fill. Most elements of NTD preventive and palliative care competencies are incorporated into the annual in-service training of all district health workers. For example, in-service training equips health workers to provide care for ulcers caused by lymphedema. In addition, in-service training has led to limited improvements in hydrocele surgery. However, there are continued gaps in the palliative care competencies included in-service training. During the Guided Self-Assessment using the SMM, the NTDP described overall in-service training as “strong” in including core NTD preventive and palliative care competencies. However, inclusion of NTD preventive and palliative care competencies in pre-service training remains somewhat limited.

Human Resources and Workforce Alignment to NTDs (outside the health system)

Outside the health sector, there is limited human resources and workforce alignment with NTD programming. Relevant non-health sector programs generally do not consider NTDs when developing their workforce. During the Guided Self-Assessment using the SMM, the NTDP noted that although they have defined the competencies needed in certain non-health sector programs (e.g., WASH, education, environment), these have not yet been implemented. They understand that intersectoral coordination is critical to aligning the workforce outside the health sector to NTDs.

Surveillance

The NTDP has some technical capacity to conduct adverse event surveillance during MDA campaigns and to establish and implement post-MDA surveillance. The structure for surveillance is in place, however, some staff have not yet been trained on surveillance techniques and tools or how data should flow. During the Guided Self-Assessment using the SMM, the NTDP noted that the NTDP/MOH is capable of taking over management of surveillance from donors and they see lack of funding as the major challenge to doing so.

Supply Chain

Currently, the NTDP's vertical supply chain is not integrated with the national MOHS supply chain. However, as of 2020, it is moving towards integration of district-level supply chain management. During the Guided Self-Assessment using the SMM, the NTDP noted that integrating with the national supply chain is not presently feasible for several reasons. They reported that the national supply chain: is currently overburdened and has difficulty handling its existing supply of medications; has storage practices that do not align with NTD programming, such as storing expired drugs with current drugs; and requires a three percent fee for drugs stored in their facilities. The NTDP's existing supply chain is effective at the national and district levels in getting drugs to the communities, but accuracy issues arise at the sub-district level due to migration patterns and rapid urbanization trends. NTD drug supply chain and reverse logistics activities are as follows:

- **Drug forecasting:** The NTDP uses a bottom-up approach to forecast drug needs. In rural communities, the CDDs gather information on numbers of cases and report those numbers to the district teams, which in turn report to the NTDP. Statistics teams predict the prevalence and need in urban areas. Sometimes when resources are limited, old data are used to predict need using basic methods (i.e., taking the number of drugs distributed the previous year and adding a small percentage). Drug needs are submitted to the WHO using the GRSM and JR forms. The NTDP does not currently have a formal system for documenting drug stocks beyond the annual WHO forms.
- **Drug ordering and distribution:** Drugs arrive at the port of entry and are transferred to the NTD Central Store in Makeni. From there, NTD campaign drugs are distributed to District Medical Stores (DMS), where the NTD Focal Point signs for the drugs and logs the drugs in the NTD-specific ledger (separate from the DMS drug ledger). The NTD Focal Point then takes the drugs to distribution points for the MDA. In some cases, the distribution point is the CDD and in others it is a PHU. Patients then access NTD campaign drugs by going to the PHU or the CDDs go to the community to distribute drugs directly to patients.
- **Reverse logistics:** Following the MDA, post-MDA stocks are only captured at the district level. Any remaining drugs at the PHUs are reported to the district level, but there is no reverse logistics mechanism in place to bring the NTD drugs back to the DMS. Tracking leftover stock with the CDDs is complex and difficult. The districts report back to the central NTDP the stocks of various NTD drugs that were reported by the PHUs and that remain in the DMS. There is

precedence in Sierra Leone for campaign-focused programs conducting reverse logistics for their commodities.

In Sierra Leone, internal migration patterns of the Sierra Leonean population pose a real challenge for the supply chain system. Much of the population is transient, often moving to follow mining jobs. There are also significant nomadic and immigrant populations. As such, drug needs may change drastically from year to year, especially as mines close or open. The NTDP has no insight into migration patterns, as there is no official record. Thus, the NTDP only becomes aware of drug shortages or overages during the course of MDA campaigns.

Next Steps Towards Advancing Sustainability: Given the current state, the NTDP and Act | West partners have identified the following next steps to enhance operational capacity:

- Addressing gaps in existing pre-service and in-service training to better equip the healthcare workforce and engaging the College of Medicine and Other Health Sciences to integrate NTD competencies into pre-service curricula, while ensuring in-service training evolves to address changing NTD needs.
- Advocating for the inclusion of NTD surveillance and MDA procedures into the national CHW training curriculum.
- Involving district-level surveillance officers in pre-TAS for LF and incorporating surveillance of LF into training to enhance post-MDA surveillance practices. Leveraging lessons learned from an established LF surveillance system will position the NTDP to establish effective post-MDA surveillance systems for OV, SCH, and STH.
- Improving inventory management and reverse logistics to strengthen the NTDP's capacity in drug forecasting and return of unused medications.

Planning and preparing for the post-MDA supply chain and surveillance system to support the NTDP as Sierra Leone approaches elimination and control targets.

Information Systems

Current State and Challenges:

The NTDP is in the process of integrating a limited number of NTD indicators into the national HMIS, with support from partners. The national HMIS utilizes the District Health Information System 2 (DHIS2) and a combination of paper and digital forms. Data entry into the digital HMIS occurs at the district level monthly. Each month, local health centers bring paper records to the district representatives, who enter the data into the system manually. The DPPI within the MOHS, which manages the national HMIS, has agreed to include NTD indicators in the DHIS2. Once included, the NTDP will need to train health workers to collect and share NTD data.

<u>Monitoring and Evaluation (M&E)</u>

The NTDP has an approved M&E plan that aligns with WHO standards and is included in the Master Plan and sector-wide M&E Plan. The NTDP has a dedicated M&E Officer and a junior M&E Officer, who is presently located in the districts. The M&E team assesses baseline data for each disease and conducts assessments every three months, based on MDA dispersals. In parallel, the MDA staff manage data

collection, and all assessments are conducted externally through universities, with support from partners. M&E information is almost exclusively stored on the M&E Officer's hard drive, posing a data storage and security risk.

Data Management

The NTDP does not currently have established, documented data management processes, tools, or guidelines for managing NTD data and information. The NTDP has installed the WHO data management and reporting software—the Country Integrated NTD Database (CIND)—but it is not yet utilized. The NTDP also uses Microsoft Excel and QGraphBar software. NTD data is generally stored directly on laptops, and there are currently no standard backup procedures, representing an additional security and storage risk. There are currently no documented procedures for knowledge transfer or sharing within the national NTDP or between the national NTDP and districts.[10]

Next Steps Towards Advancing Sustainability: Given the current state, the NTDP and Act | West partners have identified the following next steps regarding information systems:

- Developing an HMIS integration plan to ensure that the correct indicators are included. The HMIS integration plan should include a review of all NTD data, prioritization of select elements to be targeted for integration, and drafting of a timeline for integration.
- After securing formal approval to integrate NTD indicators into the national HMIS, incorporating NTDs into the integrated training for all health workers to ensure proper data collection and reporting of NTD information.
- Developing, documenting, and implementing a data management plan with clear procedures and governance to standardize data collection, reporting, and storage and to ensure data security, privacy, and proper access and use.

Services

Current State and Challenges:

In Sierra Leone, there are multiple service delivery platforms that have the potential to sustain long-term NTD prevention and control programming. Through strong collaborative frameworks, the NTDP could leverage those for mutually beneficial service integration and programmatic mechanisms. This section outlines these key service delivery platforms.

The NTDP can engage the newly formed Ministry of Technical and Higher Education to work with pre-service training

Key Platforms for Integration

- District Health Management Team
- School Health Program
- Community Health Workers
- Maternal and Child Health Programs
- Adolescent and Youth Programs
- Community Social Mobilization Programs
- Farmer Field Schools
- Community WASH

Box 1. Key Platforms for Integration

[10] January 2020. "Results from the Guided Self-Assessment using the SMM"

institutions[11] for key clinical and community-based staff (e.g., health care workers, public health specialists, agricultural and veterinary workers) to integrate modules on NTD control, elimination, and management into the curricula for all cadres. Guaranteeing that doctors, clinical health officers, nurses/midwives, state-enrolled community health nurses, and emergency medical technicians have exposure to and training on NTDs can help ensure that NTD control, eradication, surveillance, and mobility management are addressed as part of routine health care. (See "Operational Capacity" for more information on in-service training.)

The most frequently mentioned (by KII respondents) platform for service delivery was the DHMT. At the DHMT level, multidisciplinary coordination among partners beyond health, especially in the areas of WASH and education, is possible. For example, there is an opportunity for district-level actors to integrate NTD service delivery into the GOSL National Water Safety Plan for Communities or into the UNICEF WASH program. The current monthly DHMT meetings are the best platform to strengthen this collaboration.

A current NTDP collaborator, the School Health Program is a platform that teaches school-aged children and communities about NTDs (modes of transmission, prevention, treatment) and WASH (safe water and sanitation, handwashing). Schools should be utilized to explore and understand the local knowledge, attitudes, and practices around NTD transmission. Schools can provide behavior change communication and are platforms for MDA campaigns. The roadmap to Universal Health Coverage calls for the expansion of the FHCI to include school-going children, which may create further opportunities for the NTDP and School Health Program to deepen their integration efforts. With the advent of Free Quality Education, as re-designed in 2019, there may be an opportunity for the school health program to play a larger role in NTD activities.

CHWs are currently trained to deliver community health services, integrated community case management, and reproductive, maternal, neonatal, child, and adolescent health services. Their mandate covers NTD programming. Community health cadres could disseminate behavior change communication, conduct community education, and raise NTD awareness. It is important to acknowledge the potential competing priorities for this cadre, especially as their mandate continues to expand. Additional responsibilities from verticalized disease programs may compete for the attention of the CHWs, their peer supervisors, and the PHU in-charge supervisors. Integration and expansion of the programmatic responsibilities of CHWs may overburden them and exacerbate the already limited human resource capacity at the community level. CHWs are likely to favor programming with more reliable funding, such as HIV and TB, leading to the de-prioritization of NTD-related activities. Several local civil society organizations (e.g., Traditional Healers Association and the KOMBRA network) may have the potential to support NTD programming. These organizations could support community level service delivery and provide behavior change communication and education.

Various Maternal and Child Health platforms are currently leveraged by the NTDP as entry points for NTD service delivery. Both ante-natal care (ANC) and post-natal care services for pregnant, lactating mothers and their newborns are offered through the FHCI. The MOHS currently recommends four ANC visits, and pregnant women are offered deworming after the first trimester. In addition, integrated Maternal and

[11] These institutions include the College of Allied Medicine and Health Sciences, Njala University, Ernest Bai Koroma University, the Midwifery school in Makeni and the University of Sierra Leone, Eastern Polytechnic, nursing schools for Registered Nurses and State Enrolled Community Health Nurses, and local training for Maternal and Child Health Aides.

Child Health Weeks offer catch-up immunizations through the Expanded Program on Immunization, Vitamin A supplementation (VAS) to children 6–59 months, and deworming for children 12–59 months; however, the MOHS plans to phase out mass VAS and deworming during Integrated Maternal and Child Health Weeks in 2021. It will be replaced by access to VAS and deworming at a routine six-monthly points of contact, with improved behavior change communication on infant and young child feeding and family planning counseling. These platforms all have the opportunity to further strengthen behavior change communication around the prevention of NTDs. While not a NTDP activity, UNICEF supports Mother Support Groups, which consist of 10–15 mothers and community members. A 'lead mother' is trained in infant and young child feeding. This training does not currently include NTD information, but there may be opportunities to expand the content through discussion with UNICEF or the MOHS.

Efforts of the Secretariat for the Prevention of Teenage Pregnancy include programs to engage out-of-school young people in clubs and groups, provide comprehensive sexuality education and access to sexual and reproductive health services, and prevent gender-based violence. Adolescent-and-Youth-Friendly Health Services in Community Health Centers offer services and health promotion specifically tailored to young people. Both of these platforms could be an entry point for NTD control for these populations, which may otherwise be missed.

Several KII respondents mentioned Farmer Field Schools as a potential platform for service delivery integration. The Farmer Field Schools are supported by FAO and the MAF. They deliver a standardized curriculum to members of farmer-based organizations, many of which tend to be located in swampy, rice farming areas. Currently, this curriculum does not focus on NTDs, but there may be an opportunity to include content into the curricula in future versions through discussions with FAO.

Next Steps Towards Advancing Sustainability: Given the current state and challenges described above, the NTDP and Act | West partners have identified the following steps for improving integrated service delivery:

- Streamlining NTDP delivery and reducing duplication of efforts by increasing district-level involvement in program scheduling and service coordination. Increasing involvement at the district level can facilitate local scheduling and coordination, as well as avoid the bottlenecks that result from multiple overlapping or incompletely coordinated programs directed from the national level.
- Focusing service integration on cross-training and integrated case detection and case management in coordination with community health, malaria and WASH services.
- Developing and disseminating key messages for NTD prevention and programming to broaden the demand for NTD services at all levels of implementation and strengthen facility-based services. The NTDP aims to incorporate hydrocele services into the Surgical Assistant Community Health Officers (SACHO) role; train CHWs on identification of NTDs and referrals to PHCs/secondary facilities; and raise awareness among PHCs on referrals to secondary facilities.
- Building on deworming efforts to date, the NTDP aims to complete the deworming integration for preschoolers. Securing domestic financing in support of deworming will be critical (refer to 'Key Findings: Financing' for related next steps).

Financing

Current State and Challenges

Independent Dedicated Government Budget

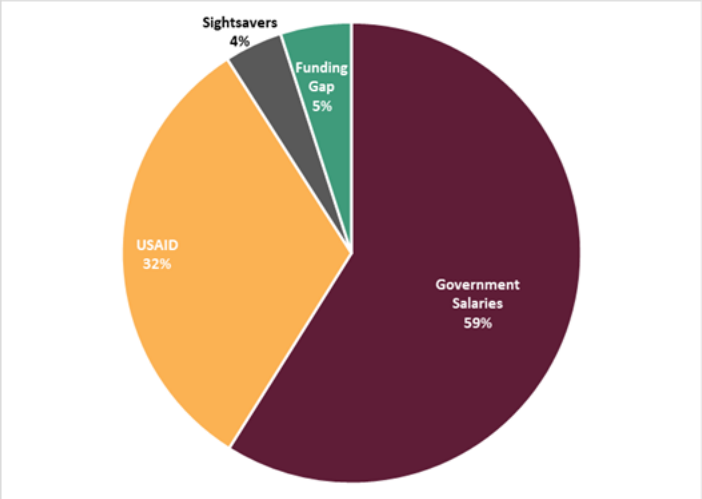

Figure 5. NTDP Funding by Source (Source: FY 2019 TIPAC)

The Government of Sierra Leone supports government salaries (which comprised 59% of the NTDP's budget in FY18), fuel, and stationary. The NTDP currently does not have an independent dedicated government budget and largely depends on donors to support NTD programming. Based on TIPAC analysis, the NTDP was funded at 94.7%, with a 5.3% in funding gap in FY18. The NTDP's funding sources are as follows: 59% from the government to cover government salaries, 32% from USAID, and 4% from Sightsavers. Excluding salaries, government funding covered less than 1 % of NTDP expenses (see Figure 3). According to the NTDP, in 2018, the MOHS received only 10% of GDP. However, Sierra Leone pledged to dedicate 15% of its budget to health in the Abuja Declaration.

In Sierra Leone, government budget planning follows a similar process each year. The Budget Circular is released in September to all government ministries. Within each ministry, sector programs complete microplanning and send their proposed budgets to Program Managers, Directorates, and Ministry heads. Specific to the MOHS, the NTDP is always a part of the budgeting process: MOHS leadership hosts internal budget meetings, to which the NTDP is invited. However, NTDP line items are typically deprioritized following these sessions with MOHS leaders. Once submitted to the Ministry of Finance (MOF), ministry representatives defend the budget before the MOF in October. Then, the MOF's final budget is submitted to Parliament for approval. In November, following the approval of the budget, the MOF delivers an annual budget speech. Key actors in this process include within the MOHS, the Director of NTDP, MOHS Finance Officer, Directory of Primary Health Care, CMO, Deputy CMO, and the Budget Officer assigned to the Ministry, and outside of the MOHS, the MOF and Parliament. Once the budget is in place, money is released quarterly, following the fiscal year (January to December). Government funds are not regularly released in the indicated intervals. The below diagram outlines the full national budget process:

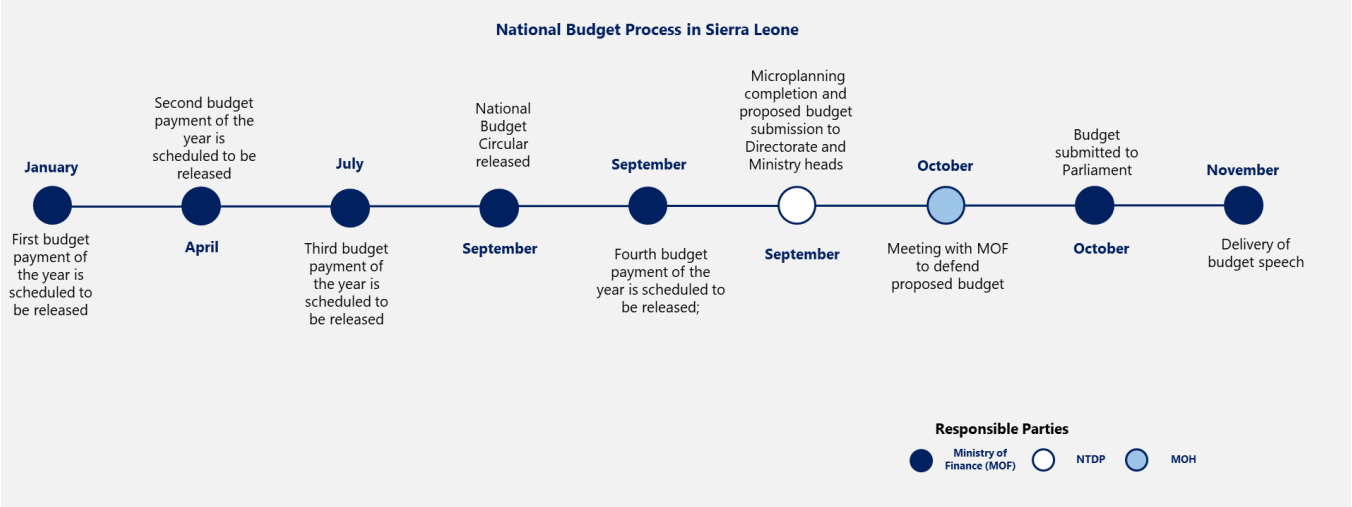

Figure 6. Sierra Leone National Budget Process

When creating the NTDP budget, the NTDP manually adds, deletes, or adjusts line items from the previous year's budget based on estimates from NTDP leadership. This process is done using Microsoft Excel; no tool is used to forecast the need. While the NTDP has a strategy for post-elimination activities, such as surveillance, there is limited insight into the cost of such activities. According to interviews with the NTDP, the program expects to incur costs for post-elimination activities, but it cannot concretely quantify these. Given that the NTDP currently receives funding from multiple sources with varying fiscal years, the NTDP must schedule its programming around different fiscal year budget cycles and fund disbursement schedules, causing challenges in planning and budgeting for NTD interventions and programming. Specifically, the Government of Sierra Leone's fiscal year is from January to December, USAID's fiscal year is from October to September, and DFID's is from April to March.

The NTDP has had limited experience and some success leveraging financial needs analysis to identify funding gaps and advocate for dedicated budget. In September 2019, the NTDP secured verbal commitment from MOHS leadership for an independent budget line by leveraging financial needs analysis using TIPAC and other financial data. However, this did not come to fruition in FY20, due to the MOHS's overextended budget. Nevertheless, the NTDP continued to engage with key decisionmakers, and the MOHS, MOF, and parliamentary committee on health agreed to consider a budget line for the NTDP in the FY21 budget. The NTDP has access to TIPAC as a financial analysis tool, and it enters data into TIPAC and analyzes results with support from partners. The NTDP does not currently integrate financial data internally and externally with partners, resulting in incomplete financial data, which the NTDP needs to analyze its funding gaps and needs fully.

Financial Management

The NTDP follows the government's financial procedures and documented policies regarding financial management. Upon receiving funds, the NTDP disseminates funds to the district level, which are received and signed for by DMO and managed by the District Finance Officer. On a monthly basis, the NTDP submits its liquidation statements to the Office of Auditor General and CMO for review. Although the NTDP receives limited government funds, the Office of Auditor General conducts audits annually, which are reflected in the annual National Auditor-General Report. Additionally, the NTDP Director provides weekly updates to the CMO.

Multi-year Budget Projections

Currently, the NTDP does not consistently forecast multi-year budget projections. The NTDP's current practice is to budget for the upcoming year only (unless required by donors to provide a multi-year budget projection). The NTDP also forecasts a 5-year budget in the Master Plan, but it does not revisit or adjust the budget in the Master Plan until the end of the 5-year period.

Next Steps Towards Advancing Sustainability: Given the current state described above, the NTDP and Act | West partners have identified the following next steps to enhance financing:

- Building internal capacity of relevant NTDP staff on TIPAC data entry, financial analysis, and financial management to use data effectively for advocacy, planning, budgeting, and forecasting.
- Integrating and sharing financial data within the NTDP's teams (i.e., across the M&E, finance, and program teams) and, as applicable, with partners supporting NTD programming to enable the NTDP to more fully capture its funding and identify funding gaps and needs more precisely.

By leveraging financial needs analysis to drive advocacy to close funding gaps, the NTDP aims to develop an advocacy plan that identifies target stakeholders, creates key messaging and communications collateral tailored for each stakeholder, and builds relationships with champions for NTD programming.

HIGHLIGHTS AND CONSIDERATIONS FOR SUSTAINABILITY PLANNING DISCUSSIONS

The NTDP has identified several high priority milestones to achieve in the next five years to improve on the current state across of all six sustainability outcomes described above and achieve greater programmatic sustainability for NTDs in Sierra Leone. The first national NTD Sustainability Plan will serve as the roadmap for the NTDP and its health and cross-sector stakeholders to achieve these milestones. Strengthening the sustainability of NTD programming and mainstreaming NTDs across sectors will help further Sierra Leone's progress towards achieving its elimination and control targets and will empower, equip, and position Sierra Leone to sustain NTD elimination and control for a healthier population over the long term. The NTDP and national cross-sector stakeholders will contribute to and further Sierra Leone's development by owning and driving the vision for and path towards more sustainable, integrated NTD programming in the country, delivering for Sierra Leonean citizens.

APPENDICES

I. Guided Self-Assessment Consolidated Heat Map
II. Sierra Leone Organizational Network Maps
III. List of Interviewees
IV. Bibliography

Appendix I: Guided Self-Assessment Consolidated Heat Map

Coordination			
Parameters	Current State	Target State	Priority
Inter-Sectoral Coordination (within MOH)	Basic	Leading	High
Inter-Sectoral Coordination (external to MOH)	Developing	Leading	Medium
Public-Private Partnerships	Basic	Advanced	Medium
Policy			
NTDP Strategy and Policies	Developing	Leading	High
National Health Sector Strategy and Policies	Developing	Leading	Medium
Inter Sectoral Strategies and Policies	Developing	Leading	High
Operational Capacity			
HR (within health systems)	Developing	Leading	High
HR (outside of health systems)	Basic	Developing	Medium
Surveillance	Developing	Advanced	High
Supply Chain	Developing	Advanced	Medium
Information Systems			
Inclusion of NTDs Indicators into National HMIS	Developing	Leading	High
Monitoring and Evaluation	Developing	Advanced	Medium
Data Management	Basic	Advanced	High
Services			
Facility-Based Service Delivery	Basic	Leading	High
Integrated Service delivery	Advanced	Advanced	Medium
NTD Surveillance	Basic	Advanced	Medium
Financing			
Financial Needs Analysis	Developing	Advanced	High
Independent Dedicated Government Budget	Developing	Advanced	Medium
Financial Management	Developing	Advanced	High
Multi-Year Budget Projections	Developing	Advanced	Low

Appendix II: Sierra Leone Organizational Network Maps

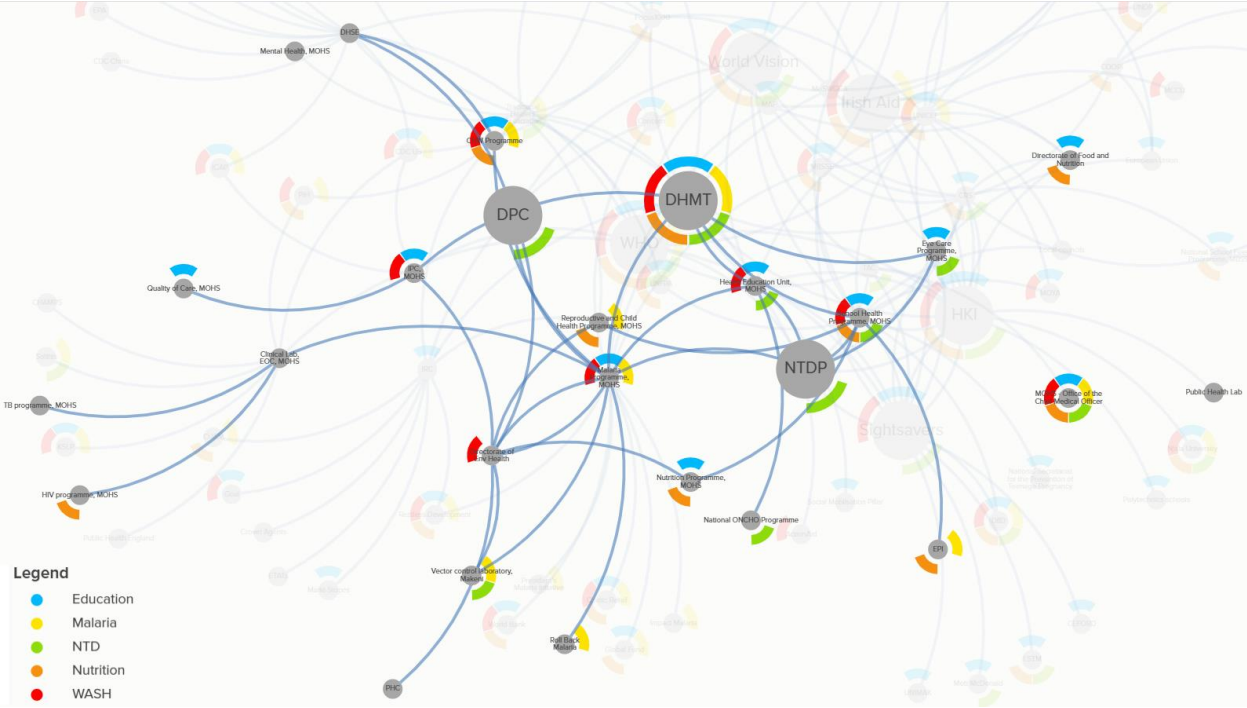

Figure 7(A-X). Network Map Highlighting MOHS Directorates and Programs

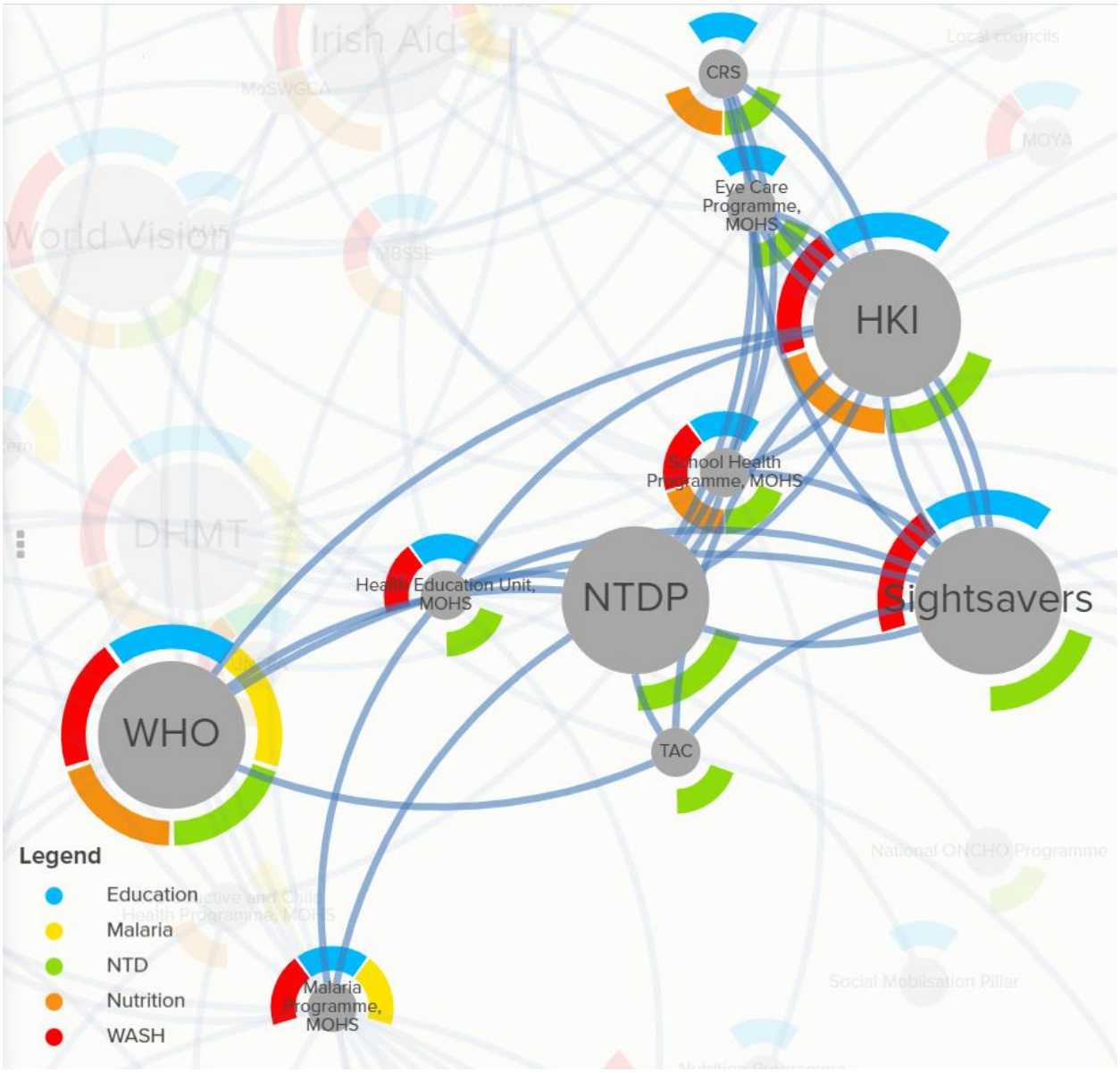

Figure 8(A-X). NTDP First Degree Connections

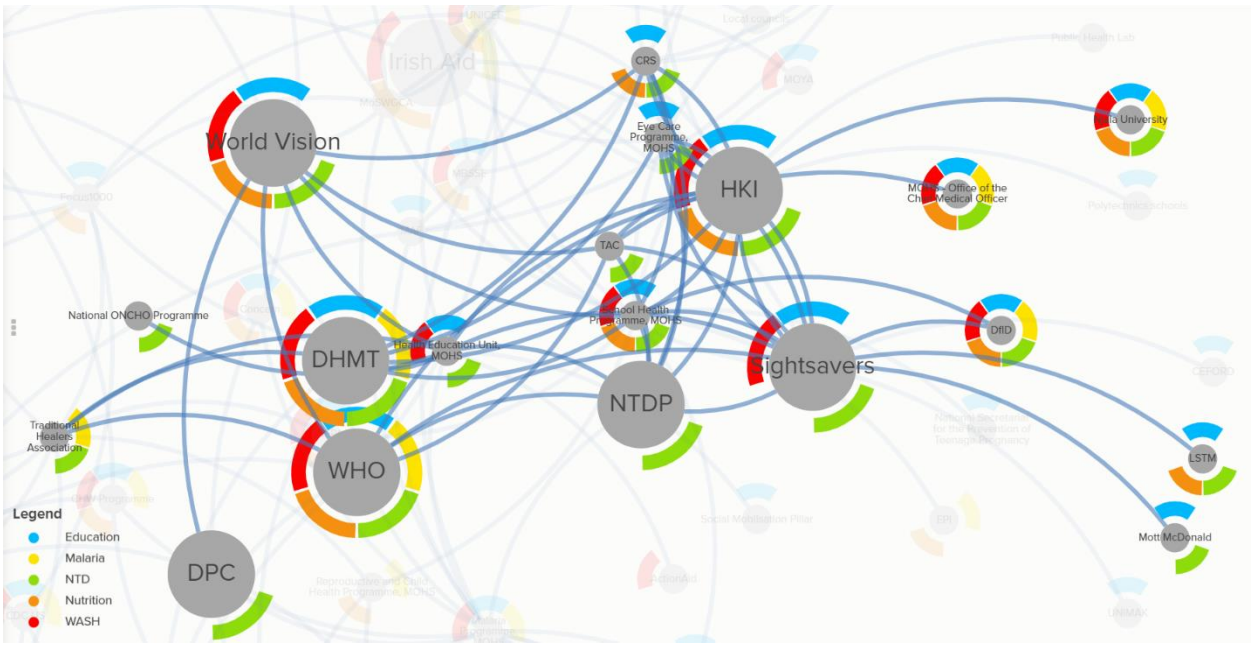

Figure 9(A-X). Partners in the NTD Sector - Outliers (no direct connection) Excluded

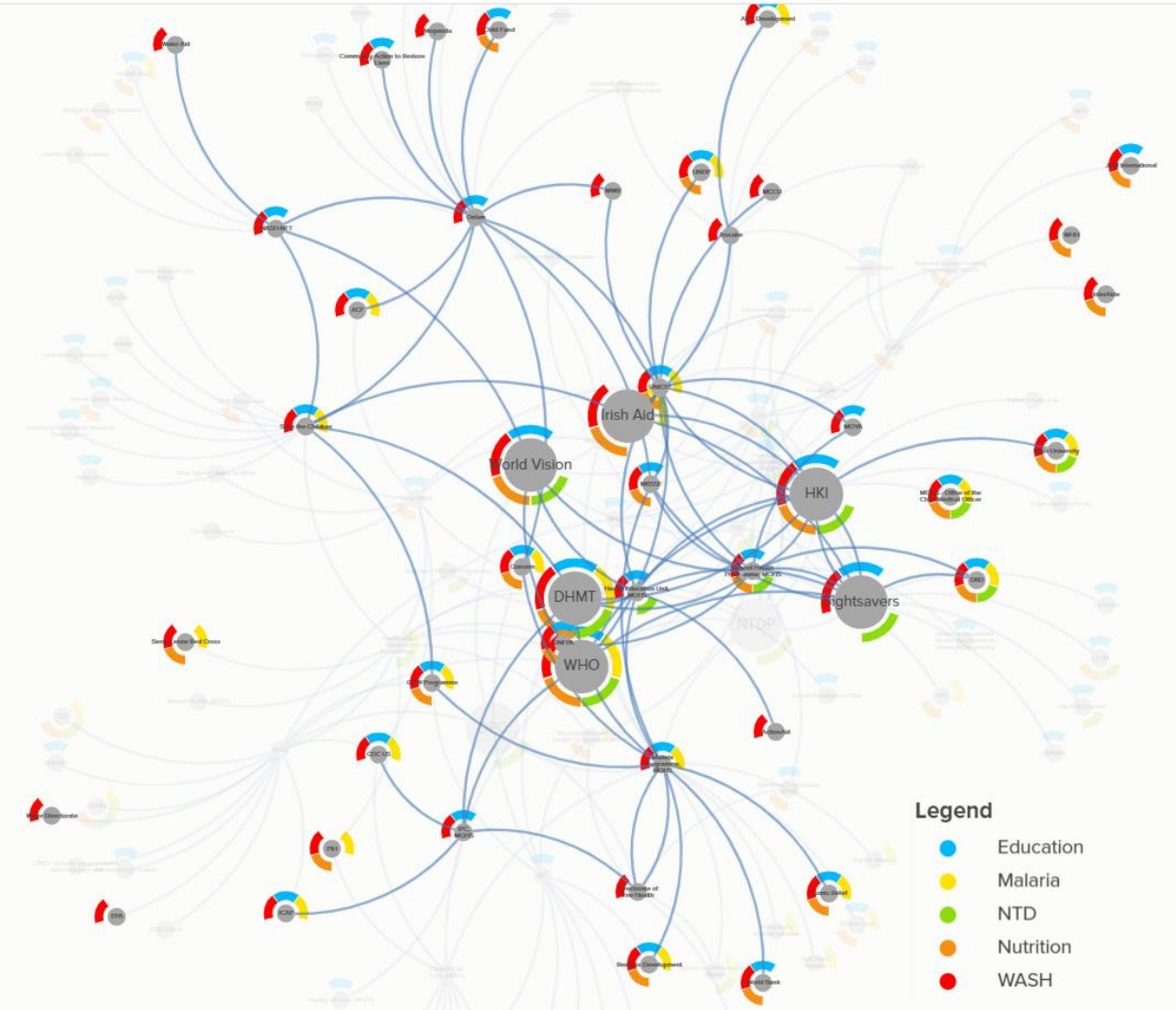

Figure 10(A-X). Partners in WASH Sector - Some Outliers (no direct connection) Excluded from View

Appendix III: List of Interviewees

Type	Name	Institution	Title
CS	Gladys Aye Sesay	Bo DHMT	Senior Public Health Sister
CS	John S Kanie	Bo DHMT	NTD focal point
CS	Josephine Juana	Bo DHMT	District Health Superintendent, Head of Environmental Health
CS	Ronald Carson-Marsh	Bo DHMT	District Medical Officer
CS	Abu Ballar Kuateh	Bombali DHMT	NTD focal point
CS	Achipos T Sesay	Bombali DHMT	Human Resources Officer
CS	Hassan Kamara	Bombali DHMT	WASH/Environmental Health Officer
CS	Hawa Turay	Bombali DHMT	District Health Sister 2
CS	Prince Masuba	Bonthe DHMT	District Medical Officer
CS	Victor Kamara	Brac Sierra Leone	Acting Country Representative
CS	Emma Vincent	C4D, UNICEF	Communication and Development Specialist
CS	Paosman Manneh	C4D, UNICEF	C4D Officer in Charge
CS	Micah Olad	Catholic Relief Services	Program manager
CS	Musa Justin Seppeh	Central Medical Stores, MOHS	Stores Manager
CS	Cristina Coleto	Cooperazione Internazionale	Head of Mission
CS	Maria Theresa Lahai	DHMT Western Area Rural	District Nutritionist
CS	Farma Kobie Martin	DHMT Western Area Urban	Senior Health Superintendent, WASH focal point
CS	James King	DHMT Western Area Urban	District Social Mobilization Coordinator, NTD focal point
CS	Lamrana F. Koroma	Directorate of Children's Affairs, MOSWGCA	Senior Social Service Officer
CS	Samuel Juana Smith	Directorate of Disease Prevention & Control, MOHS	Director Disease Prevention and Control
CS	Alhaji Momodu Sesay	Directorate of Environmental Health and Sanitation, MOHS	Director
CS	Betty Janah	Directorate of Food and Nutrition, MOHS	Senior Nutritionist
CS	Mutwah Kappia	Directorate of Food and Nutrition, MOHS	Nutritionist
CS	Solade Pyne Bailey	Directorate of Food and Nutrition, MOHS	Nutrition Specialist, Deputy Director
CS	Mohamed Alex Vandi	Directorate of Health Security & Emergencies, MOHS	Director of Health Security & Emergencies

CS	Zikan Koroma	Directorate of Health Security & Emergencies, MOHS	Clinical Lab Manager
CS	Emmanuella K Andrew	Directorate of Planning, Policy & Information, MOHS	Health Coordinator
CS	Mohamed Dumbuya	Directorate of Planning, Policy & Information, MOHS	Planning Specialist
CS	Alie Wurie	Directorate of Primary Health Care, MOHS	Director of Primary Health Care
CS	Francise Majue	Directorate of Water, MWR	Head of Urban Wash
CS	Kai Fillie	Directorate of Water, MWR	HEO Finance Officer
CS	Mustapha B Collier	Directorate of Water, MWR	HEO Officer
CS	Lovetta Latta Juanah	Environmental Protection Agency	Head of Field Ops and Extension
CS	Sheku A. Koroma	Eye Care Program, MOHS	Project manager
CS	Samuel Abu Pratt	Focus1000	CEO
CS	Joseph Brima	Food and Agricultural Organization of the United Nations	Assistant Representative
CS	Kläre Heyden	German Technical Cooperation	Head of Health Project
CS	Mustapha B. Coker	Health Education, MOHS	Health Education Officer
CS	Mary Hodges	Hellen Keller International	Country Director
CS	Ramatu E. Ngauja	Infection Prevention & Control Unit, MOHS	Acting Training Unit Coordinator, Infection Prevention and Control
CS	Alex Opio Chono	International Rescue Committee	Senior Health Coordinator
CS	Mary O' Neill	Irish Aid	Head of Development
CS	Desmond Maada Kangbai	Kailahun DHMT	District Medical Officer
CS	Mohamed I Bangura	Kambia DHMT	Senior District Pharmacist
CS	Marvel Jilo Vincent	Kenema DHMT	District Public Health Sister
CS	Mohamed Koroma	Kenema DHMT	NTD focal point
CS	Sebatu Koroma	Kenema District Council	District Planning Officer
CS	Ibrahim Sorie Turay	Koinadugu DHMT	CHW focal point
HSS	Dr. Edward Magbity	MOHS	M&E Specialist
CS	Alhaji S. Turay	National Malaria Control Program, MOHS	Assistant Program Manager
CS	Fatu Yumkella	NTD Technical Advisory Committee	Vice Director
HSS	Abdul Conteh	NTDP	M&E Officer

HSS	Dr. Ibrahim Kargbo-Labour	NTDP	Director
HSS	Dr. Y M. Bah	NTDP	Program Advisor
HSS	Ekundayo Karim	NTDP	National Focal Point
HSS	James Kind	NTDP	Social Mobilization
HSS	Musa Koroma	NTDP	Finance Officer
HSS	Roland M. Conteh	NTDP	Program Surveillance Officer
HSS	Saio Turay	NTDP	Pharmacist
HSS	Samuel Allieu Bunda	NTDP	Pharmacist
HSS	Sulaiman D. Kamara	NTDP	M&E II
CS	Mariama M Turay	Nutrition Program, MAF	Head of Gender
CS	Sibida Bun-Wai	Nutrition, UNICEF	Nutritionist Specialist
CS	Innocent Mutabaruka	OXFAM	Head of Program
CS	Isatu OC Venn	OXFAM	Education Lead
CS	Mahmoud I Kamara	Port Loko DHMT	District Medical Officer
CS	Amara Steve Ngegbai	Pujehun DHMT	District Medical Officer
CS	Ramatu Jalloh	Save the Children	Director of Advocacy and Communications
CS	Bernadette Allieu	Scaling Up Nutrition Secretariat	Technical Officer
CS	Sorie I Fofanah	School Feeding Program	Director of Administration
CS	Josephine Saidu	School Health Program, MOHS	School health focal person
CS	Nancy VA Smart	Sightsavers	Country Director
CS	Abdul Mac Falama	Tonkolili DHMT	District Medical Officer
CS	Rahim A B Kamara	Tonkolili DHMT	M&E Officer
CS	Abdul Bangura	Traditional Healers Association	Country Director
CS	Michael Solis	Trocaire	Country Director
CS	Jesee Knyanjui	WASH, UNICEF	WASH Specialist
CS	Musa Ansumana Soko	WASH-NET	CEO
CS	Louise Ganda	WHO	NTD focal point
CS	Andualen Trye	World Food Program	Head of Nutrition
CS	Alieu Samuel Bangura	World Hope International	Director of Health and Nutrition

Appendix IV: Bibliography

"2014-2016 Ebola Outbreak in West Africa." U.S. Centers for Disease Control and Prevention. https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html#anchor_1515001464100.

"2015 Population and Housing Census: Summary of Final Results." Statistics Sierra Leone, Government of Sierra Leone. December 2016. https://www.statistics.sl/images/StatisticsSL/Documents/final-results_-2015_population_and_housing_census.pdf.

"Annual Health Sector Performance Report 2016." Government of Sierra Leone Ministry of Health and Sanitation. Available at: https://www.afro.who.int/sites/default/files/2017-08/Sierra%20Leone%20Health%20Sector%20%20Performance%20Report%202016.pdf

Bah, Yakuba M., Jusufu Paye, Mohamed S. Bah, Abdulai Conteh, Sam Saffa, Alie Tia, Mustapha Sonnie, Amy Veinoglou, Mary H. Hodges, and Yaobi Zhang. 2019. "Schistosomiasis in School Age Children in Sierra Leone After 6 Years of Mass Drug Administration with Praziquantel." *Frontiers in Public Health.* 7: 1. doi:10.3389/fpubh.2019.00001

Bah, Yakuba M., Mohamed S. Bah, Jusufu Paye, Abdulai Conteh, Sam Saffa, Alie Tia, Mustapha Sonnie et al. 2019. "Soil-Transmitted Helminth Infection in School Age Children in Sierra Leone After a Decade of Preventive Chemotherapy Interventions." *Infectious Diseases of Poverty*. 8: 41. doi:10.1186/s40249-019-0553-5

Conteh, Felix Marco. 2016. "The Promise and Reality of Decentralization: A Critical Appraisal of Sierra Leone's Primary Health Care System." *Critical African Studies*. 8(3): 350-369. doi:10.1080/21681392.2016.1223550

"Cost of Ebola Epidemic." U.S. Centers for Disease Control. https://www.cdc.gov/vhf/ebola/pdf/cost-ebola-infographic.pdf.

"Development Effectiveness Review on Sierra Leone." African Development Bank, 2015. https://www.afdb.org/en/topics-and-sectors-topics-quality-assurance-results-development-effectiveness-reviews-development-effectiveness-reviews-2015/development-effectiveness-review-sierra-leone.

Donnelly, John. 2011. "How Did Sierra Leone Provide Free Health Care?" *The Lancet*. 377(9775): 1393-1396. doi:10.1016/S0140-6736(11)60559-X

Government of Sierra Leone. 2019. *Sierra Leone Medium-Term National Development Plan 2019-2023.* Freetown: Government of Sierra Leone.

Hodges, Mary H., Mustapha Sonnie, Hamid Turay, Abdulai Conteh, Florence MacCarthy, and Santigie Sesay. 2012. "Maintaining Effective Mass Drug Administration for Lymphatic Filariasis Through In-Process Monitoring in Sierra Leone." *Parasites & Vectors*. 5: 232. doi:10.1186/1756-3305-5-232

"Human Development Report 2019, Inequalities in Human Development in the 21st Century: Briefing Note for Countries on the 2019 Human Development Report, Sierra Leone", United Nations Development Programme (UNDP), 2019, New York, NY. http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SLE.pdf.

Kevany, Sebastian et al. "Presidential responses to Ebola in Sierra Leone." *The Lancet,* Vol 7, Issue 1, January 2019. DOI: https://doi.org/10.1016/S2214-109X(18)30421-2.

Koroma, Joseph B., Emily Heck, Matthew Vandy, Mustapha Sonnie, Mary Hodges, Chad MacArthur, and Dieudonne P. Sankara. 2011. "The Epidemiology of Trachoma in the Five Northern Districts of Sierra Leone." *Ophthalmic Epidemiology*. 18(4): 150-157. doi:10.3109/09286586.2011.594204

Koroma, Joseph B., Santigie Sesay, Abdul Conteh, Benjamin Koudou, Jusufu Paye, Mohamed Bah, Mustapha Sonnie, Mary H. Hodges, Yaobi Zhang, and Moses J. Bockarie. 2018. "Impact of Five Annual Rounds of Mass Drug Administration with Ivermectin on Onchocerciasis in Sierra Leone." *Infectious Diseases of Poverty.* 7: 30. doi:10.1186/s40249-018-0410-y

Koroma, Joseph B., Santigie Sesay, Abdul Conteh, Jusufu Paye, Mohamed Bah, Mustapha Sonnie, Mary H. Hodges, and Yaobi Zhang. 2018. "Progress on Elimination of Lymphatic Filariasis in Sierra Leone." *Parasites & Vectors*. 11: 334. doi:10.1186/s13071-018-2915-4

Koroma, Joseph B., Santigie Sesay, Mustapha Sonnie, Mary H. Hodges, Foday Sahr, Yaobi Zhang, and Moses J. Bockarie. 2013. "Impact of Three Rounds of Mass Drug Administration on Lymphatic Filariasis in Areas Previously Treated for Onchocerciasis in Sierra Leone." *PLOS Neglected Tropical Diseases*. 7(6): e2273. doi:10.1371/journal.pntd.0002273

Kum, Fuein Vera et al. "The Impact of Ebola Virus Disease on Government Expenditure in Sierra Leone." *Socio-cultural Dimensions of Emerging Infectious Diseases in Africa: An Indigenous*

Ministry of Health and Sanitation. 2015. *Sierra Leone Basic Package of Essential Health Services 2015-2020.* Freetown: Ministry of Health and Sanitation.

Ministry of Health and Sanitation. 2016. *Master Plan for Neglected Tropical Disease Elimination in Sierra Leone 2016-2020.* Freetown: Ministry of Health and Sanitation.

Ministry of Health and Sanitation. 2017. *National Health Sector Strategic Plan 2017-2021.* Freetown: Ministry of Health and Sanitation.

"Master Plan for Neglected Tropical Diseases Elimination in Sierra Leone 2016-2020." Ministry of Health and Sanitation. Government of Sierra Leone. The National Neglected Tropical Disease Programme.

"National Health Sector Strategic Master Plan 2017-2021." Ministry of Health and Sanitation.

"Quality Gender Analysis and Gender Strategy." USAID Act to End NTDs West. March 2020.

"Report on the 2016 and 2017 Real GDP." National Accounts Units of Statistics Sierra Leone, Government of Sierra Leone, August 2018. https://www.statistics.sl/images/StatisticsSL/Documents/gdp/2017_gdp_analysis.pdf.

Response to Deadly Epidemics 75–90. 20 Mar. 2019, doi:10.1007/978-3-030-17474-3_6.

"Sierra Leone 2015 Population and Housing Census: Thematic Report on Population Structure and Population Distribution." Statistics Sierra Leone. https://sierraleone.unfpa.org/sites/default/files/pub-pdf/Population%20structure%20Report_1.pdf.

"Sierra Leone Annual Report, A Year In Focus 2017." World Health Organization. https://reliefweb.int/sites/reliefweb.int/files/resources/World%20Health%20Organization%20Sierra%20Leone%20Annual%20Report%202017.pdf.

"Sierra Leone FY 2017 Annual Work Plan." USAID End NTDs in Africa, July 2016. https://endinafrica.org/wp-content/uploads/2018/04/Sierra-Leone-Work-Plan-FY2017.pdf.

"Sierra Leone." *Data Bank*. World Bank. https://data.worldbank.org/country/SL.

"Sierra Leone." UN Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics (UIS), http://uis.unesco.org/en/country/sl.

Stan, Laurentiu "Strengthening Sierra Leone Health Systems: Apply Lessons from the 2014 Ebola Outbreak to Future Emergencies." Global Health Council, September 2017. https://globalhealth.org/strengthening-sierra-leone-health-systems-applying-lessons-from-the-2014-ebola-outbreak-to-future-emergencies/

Wakabi, Wairagala. 2010. "Mothers and Infants to Get Free Health Care in Sierra Leone." *The Lancet.* 375(9718): 882. doi:10.1016/S0140-6736(10)60371-6

Uniting to Combat NTDs. 2016. *Mass Treatment Coverage for NTDs – 2016: Sierra Leone and Neglected Tropical Diseases*. Available at: https://unitingtocombatntds.org/wp-content/uploads/2018/01/SierraLeone_eng.pdf

"World Bank in Sierra Leone: Overview." World Bank, October 2019. https://www.worldbank.org/en/country/sierraleone/overview#1.

World Health Organization and African Programme for Onchocerciasis Control. 2012. *Strategic Plan of Action and Budget 2016-2025 for Elimination of Onchocerciasis in Africa.* Available at: https://apps.who.int/iris/handle/10665/275848

World Health Organization and Onchocerciasis Control Programme in West Africa. 2002. *Post-OCP Onchocerciasis Control in Sierra Leone*. Available at: https://apps.who.int/iris/handle/10665/311570

World Health Organization Regional Office for Africa. 2017. *WHO Country Cooperation Strategy 2017-2021: Sierra Leone.* Available at: https://apps.who.int/iris/handle/10665/258610

World Health Organization. 2012. *London Declaration on Neglected Tropical Diseases*. Available at: https://www.who.int/neglected_diseases/London_Declaration_NTDs.pdf