



South Africa

National Master Plan

for the Elimination of

Neglected Tropical Diseases

(2019 - 2025)

Version 1.3



Contents

PREFACE	VII
INTRODUCTION	1
PART I: SITUATION ANALYSIS	2
1. COUNTRY CONTEXT	2
1.1. ADMINISTRATIVE STRUCTURES, COMMUNITY STRUCTURE AND DEMOGRAPHY	2
1.2. GEOGRAPHY	5
1.3. SOCIO- ECONOMIC STATUS AND INDICATORS	6
1.4. WATER AND SANITATION	7
1.5. TRANSPORT AND COMMUNICATION	7
2. HEALTH SYSTEM SITUATION ANALYSIS	8
2.1. HEALTH SYSTEM GOALS AND PRIORITIES	8
2.2. HEALTH FINANCING	8
2.3. LEADERSHIP AND GOVERNANCE	9
2.4. HEALTH SERVICE DELIVERY	10
2.5. MEDICAL PRODUCTS	11
2.6. HEALTH WORKFORCE	11
2.7. HEALTH INFORMATION	12
3. NEGLECTED TROPICAL DISEASE SITUATIONAL ANALYSIS	13
3.1 EPIDEMIOLOGY AND BURDEN OF NTDS	13
a. Schistosomiasis	13
b. Soil-Transmitted Helminthiasis	14
c. Leprosy	15
d. Rabies	16
e. Co-endemicity of NTDS in South Africa	17
3.2 NTD PROGRAMME CONTEXT	19
3.3 GAPS AND PRIORITIES – SWOT ANALYSIS	20
PART II: STRATEGIC AGENDA	22
4. NTD PROGRAMME STRATEGIC AGENDA	22
4.1. NTD PROGRAMME MISSION AND STRATEGIC GOALS	22
4.2 GUIDING PRINCIPLES	22
4.3. STRATEGIC PRIORITIES AND PILLARS	22
4.4 NATIONAL NTD PROGRAMME GOALS, OBJECTIVES, STRATEGIES AND TARGETS	25
4.5 NATIONAL NATIONAL MILESTONES FOR TARGETED NTDS	26
PART III: OPERATIONAL FRAMEWORK	28
5. NTD PROGRAMME OPERATIONAL PILLARS	28

5.1: PILLAR 1 - ENSURE UNIVERSAL ACCESS TO NTD CHEMOTHERAPY AND INTERVENTIONS	28
5.2: PILLAR 2 - STRENGTHEN VECTOR CONTROL, ENVIRONMENT AND RESEARCH AND INNOVATIONS FOR NTD ELIMINATION	32
5.3: PILLAR 3 - TRANSFORM NTD SURVEILLANCE INTO A CORE INTERVENTION	34
5.4: PILLAR 4 - STRENGTHEN PLANNING, RESOURCE MOBILIZATION, COORDINATION AND INTER-SECTORAL COORDINATION FOR ELIMINATION OF NTDS	38
PART IV: BUDGET JUSTIFICATION AND ESTIMATES	47
6. PROGRAMME BUDGET ESTIMATES	47
REFERENCES	49

List of Figures

<i>Figure 1: Provinces, health districts and district codes of South Africa (provincial boundaries in grey, national boundaries in black (Sartorius and Sartorius, 2015)</i>	2
<i>Figure 2: Urbanisation, Structural Transformation and Rural-Urban Linkages in South Africa, Channing Arndt, Rob Davies and James Thurlow April 2018 (Red (green) indicates a higher (lower) density of urban shares).....</i>	3
<i>Figure 3: South Africa Population Pyramid showing a larger population below 35 years old</i>	4
<i>Figure 4: Koppen climate types of South Africa</i>	5
<i>Figure 5: The poverty head count in the share of households in South Africa</i>	6
<i>Figure 6: The SA district health system</i>	10
<i>Figure 7: Endemicity of schistosomiasis</i>	13
<i>Figure 8 Point Prevalence for schistosomiasis</i>	14
<i>Figure 9 Endemicity status for soil transmitted helminthiasis</i>	14
<i>Figure 10: Point Prevalence for Soil Transmitted helminths</i>	14
<i>Figure 11: Number of newly detected cases, 5-year period</i>	16
<i>Figure 12 2009 Distribution of laboratory-confirmed animal rabies cases in the province. (Gauteng Province: 0.5%)</i>	16
<i>Figure 13: Laboratory confirmed human rabies cases in South Africa from 1983 – 2017, per province (Centre for Emerging Zoonotic and Parasitic Diseases, 2017)</i>	17
<i>Figure 14 Co-endemicity map for schistosomiasis and soil transmitted helminthiasis</i>	17
<i>Figure 16 Vector Control interventions</i>	32
<i>Figure 17: Monitoring and Evaluation framework</i>	34
<i>Figure 18: Programmatic approach to achieve and sustain elimination</i>	42

List of Tables

<i>Table 1 Demography of South Africa, (Source: STATS SA 2018 mid-year estimates)</i>	4
<i>Table 2: Summary of NTD Mapping status</i>	18
<i>Table 3: Summary of intervention information on existing PCT programmes</i>	19
<i>Table 4: Summary of intervention information on existing CM programme</i>	19
<i>Table 5: SWOT Analysis</i>	20
<i>Table 6: Strategic Agenda for the Elimination of Neglected Tropical Diseases in South Africa, 2019 -2025</i>	23
<i>Table 7: Summary of NTD Disease specific goals and objectives</i>	25
<i>Table 8: Milestones for targeted NTDs</i>	26
<i>Table 9: Pillar 1: Ensure universal access to NTD chemotherapy and interventions</i>	30
<i>Table 10: Pillar 2: Strengthen vector control, environment and research and innovations for NTD elimination</i>	33
<i>Table 11: Pillar 3: Transform NTD Surveillance into a Core Activity, Monitoring & Evaluation</i>	35
<i>Table 12: Pillar 4: Strengthen planning, resource mobilization, coordination and inter-sectoral coordination for elimination of NTDs</i>	40
<i>Table 13: Performance Indicators Pillar 1: Ensure universal access to NTD chemotherapy and interventions</i>	43
<i>Table 14: Performance Indicators Pillar 2: Strengthen vector control, environment and research and innovations for NTD elimination</i>	44
<i>Table 15: Performance Indicators for Pillar 3: Transform NTD Surveillance into a Core Activity, Monitoring & Evaluation</i>	45
<i>Table 16: Performance Indicators for Pillar 4: Strengthen planning, resource mobilization, coordination and inter-sectoral coordination for elimination of NTDs</i>	46

List of Annexes

<i>Annex 1: Distribution of the Population by District, the corresponding number of Primary Schools and Health Facilities. The Departments of Basic Education and Health Demarcation Districts and sub-districts differ as seen below.</i>	50
<i>Annex 2 NDP Goals and Priorities 2030 and DOH Strategic Goals 2014 to 2019</i>	52
<i>Annex 3 The burden of disease that the NHI aims to improve</i>	52
<i>Annex 4: Co-endemicity status of NTDs</i>	53
<i>Annex 5: Types of Mass Drug Administration</i>	55
<i>Annex 6 Department of Basic Education districts by province</i>	57
<i>Annex 7: Organisational Chart of the MoH and NTD National Programme</i>	58
<i>Annex 8: Distances between Major Cities in South Africa</i>	59
<i>Annex 9: PCT Algorithms</i>	59
<i>Annex 10: Package of preventive chemotherapy and case management NTDs</i>	60
<i>Annex 11: Package of Transmission Control - Vector Or Reservoir Control</i>	60
<i>Annex 12: Package of Improvement of Environment, Supply of Safe Drinking Water, Sanitation and Operational Research</i>	60
<i>Annex 13: Drug estimates and logistics</i>	61
<i>Annex 14: Drug forecasting and logistics</i>	61
<i>Annex 15: Summary of progressive scale up and phase out of PCT interventions package</i>	61

Acronyms

CBO	Community Based Organization
CDC	Communicable Disease Control
CM-NTD	Case Management NTDs
COGTA	Cooperative Governance and Traditional Affairs
DAFF	Department of Arts, Forestry and Fisheries
DHIS	District Health Information Service
DHS	District Health Service
DOBE	Department of Basic Education
DoH	Department of Health
DRDLR	Department of Rural Development and Land Reform
DWS	Department of Water and sanitation
ECD	Early childhood Development
EH	Environmental Health
EHP	Environmental Health Practitioner
EMIS	Education Management Information System
EMS	Emergency Medical Services
EPI	Expanded Program on Immunisation
FBO	Faith-Based Organization
IDM	Innovative and Intensified Disease Management
IGR	Intergovernmental relations
ISHP	Integrated School Health Program
LF	Lymphatic Filariasis
M&E	Monitoring and Evaluation
MCWH&N	Maternal, Child, Women Health and Nutrition
MDA	Mass Drug Administration
NGO	Non-Governmental organisation
NHLS	National Health Laboratory Service
NICD	National Institute for Communicable Disease
NSC	National Steering Committee
NSNP	National School Nutrition Program
NTD	Neglected Tropical Diseases
NTD-TAG	NTD Technical Advisory Groups
PHASE	Preventive chemotherapy, Health education, Access to clean water, Sanitation improvement, and Environmental manipulation
PHC	Primary Health Care
SAC	School-Age Children
SANDF	South African Defence Force
SAPS	South African Police Service
STH	Soil-Transmitted Helminthiasis
SWOT	Strength Weakness Opportunities Threats
TAS	Transmission Assessment Survey
UNICEF	United Nations International Children's Fund
USAID	United States Agency for International Development
WASH	Water Sanitation and Hygiene
WBOT	Ward-Based Outreach Teams
WHO	World Health Organization
WHO/AFRO	WHO Regional Office for Africa

ACKNOWLEDGMENTS

This National Master Plan for the Elimination of Neglected Tropical Diseases (NTDs) is the first such strategic plan the South Africa to be prepared by the Department of Health and the Department of Basic Education. In preparing the National Master Plan for the Elimination of Neglected Tropical Diseases (NTDs), the NDOH and DOBE seek to put at the disposal of decision makers, health and education professionals, planners, development partners and all other stakeholders, a comprehensive plan and roadmap for taking action toward reducing the heavy burden of NTDs in the country.

The National Department of Health and the National Department of Basic Education is appreciative of the government's technical leadership and funding support toward the workshops and other engagements that led to the development of this plan. In addition, our two departments extend our thanks to the collaborative technical and financial assistance provided by the World Health Organization (WHO) Regional Office for Africa and the Expanded Special Project for the Elimination of NTDs (ESPEN). Special appreciation also goes to the Director Communicable Diseases at the National Department of Health, Ms Furumele Tsakani, and the Director of the School Health Programme, Department of Basic Education, Ms Anada Soldo who led the development of this first comprehensive Master Plan to control and eliminate NTDs in South Africa. We also appreciate the expertise and technical guidance that WHO provided through Dr. Adiele Onyeze and Dr. Mutale Nsakashalo-Senkwe.

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

- National Task Team for the Control of Neglected Tropical Diseases
- National Department of Health
- National Department of Basic Education
- Provincial Departments of Health
- Provincial Departments of Basic Education
- National Institute for Communicable Diseases
- Municipal Health
- The Leprosy Mission

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

MS MP MATSOSO

DIRECTOR-GENERAL: HEALTH

MR H MMWELI

DIRECTOR-GENERAL : BASIC EDUCATION

PREFACE

Neglected Tropical Diseases (NTDs) are still endemic in South Africa and their burden poses a threat to the poorest and most marginalized communities, and hampers socio-economic development in the country. The increasing momentum to tackle NTDs provides new opportunities to speed up the elimination of these diseases and contribute toward the top priority of the government of South Africa to ensure access to education and training of the highest quality and a health system that works for everyone and produces positive health outcomes, as contained in the National Development Plan 2030.

As a government, through our National Health Plan (2016-2020) and the Basic Education Strategic Plan (2016-2020), we aim at improving the health status through the prevention of illness, disease and the promotion of healthy lifestyles, and to consistently improve the health care delivery system by focusing on access, equity, efficiency, quality and sustainability. This will ensure that people have access to lifelong learning, education and training opportunities which will, in turn, contribute towards improving the quality of life for all South Africans.

In this regard, significant progress has been made towards improving the quality of life through the control of NTDs. Department of Health working in collaboration with the Department of Basic Education has conducted mass deworming of school children against soil transmitted helminthiasis annually since 2015, case management of schistosomiasis, leprosy and human rabies. However, much remains to be done towards eliminating these diseases in all communities. The need for progress towards elimination is urgent in order for the country to impact positively on the following goals:

- National Development Goals 2013 – Average male and female life expectancy at birth increased to 70 years, and universal health coverage
- WHO World Health Assembly Resolution 54.19 on Schistosomiasis and Soil-transmitted Helminthiasis infections
- Sustainable Development Goals (SDGs)2030 – end the epidemic of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases

This NTD Master Plan, articulates a roadmap to shift from control focus to an elimination paradigm schistosomiasis, soil transmitted helminthiasis and leprosy in South Africa. The strategic plan, which was developed with the support of the World Health Organisation, is intended as a guide for the health personnel and relevant stakeholders such as academic institutions, laboratories, Departments of Water Affairs, Education, Human Settlement, Roads and Construction, and Agriculture, Forestry and Fisheries. We trust this master plan will assist health workers and stakeholders to plan for effective control and working towards the elimination of neglected tropical diseases.

We hereby commit to the implementation of this strategic plan. The effective implementation and results must come from the collaboration of all sectors and partners. We therefore call for all stakeholders to support the full implementation of this plan.

MR A. MOTSOLEDI
MINISTER OF HEALTH

MRS A. MOTSHEKGA
MINISTER OF BASIC EDUCATION

INTRODUCTION

South Africa bears a high burden of Neglected Tropical Diseases (NTDs) that mainly affect poor and marginalized communities. Four NTDs that are endemic in South Africa and which are of public health concerns are Soil-transmitted helminths (STHs) - *Ascaris lumbricoides*, *Trichuris trichiura* and hookworms (*Necator americanus* and *Ancylostoma duodenale*), schistosomiasis, Leprosy, and Rabies. The diseases cause chronic, disfiguring and disabling conditions and are among the leading perpetuators of the cycle of poverty, significantly diminishing economic productivity in affected adults and inhibiting intellectual and physical development of the next generation.

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

The NTD Master Plan provides a sound roadmap to accelerate progress toward the control and elimination of the targeted NTDs. It also provides a sound foundation for integrated planning and costing and for resource mobilization for the NTD programme and for improving the coordination and alignment of all stakeholders toward tackling NTDs, while also encouraging strong linkages with other programmes within and outside the health sector, especially the education sector. The NTD Master Plan also includes the financial implications of the programme that can be linked to the national budgeting and planning cycles to secure the required financial and other resources that will ensure effective implementation and results.

The Strategic Plan is the result of extensive consultations involving the national and provincial ministries and programmes, and various other stakeholders. These were part of the National NTD Elimination master Plan Workshop, held in Pretoria on January 25-30, 2019, at which the World Health Organization provided technical guidance.

The National NTD Master Plan consists of four parts: Part I - Situation Analysis, which includes the country context, health system situation analysis and the NTD situational analysis. Part II outlines the Strategic agenda, which articulates the NTD programme mission, vision and goals and the strategic priorities and objectives. The operational framework for implementing the strategic plan is outlined in Part III, while the budget justification and estimates are shown in Part IV.

PART I: SITUATION ANALYSIS

1. COUNTRY CONTEXT

1.1. Administrative Structures, Community Structure and Demography

Administrative Structures

The Republic of South Africa is divided into 9 administrative provinces which are Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga North-West, Northern Cape and Western Cape (Fig1) which are divided into 52 health districts (278 sub-districts), 89 education districts which in turn are divided into municipal wards headed by a councillor. Each of the nine provinces is governed by a unicameral legislature, and the powers of provincial governments include health, education, public housing and transport.

The 2011 demarcation of subnational areas separated South Africa into eight metropolitan municipalities and 226 local municipalities to identify areas with strong interdependent social and economic linkages.

Figure 1: Provinces, health districts and district codes of South Africa (provincial boundaries in grey, national boundaries in black (Sartorius and Sartorius, 2015)

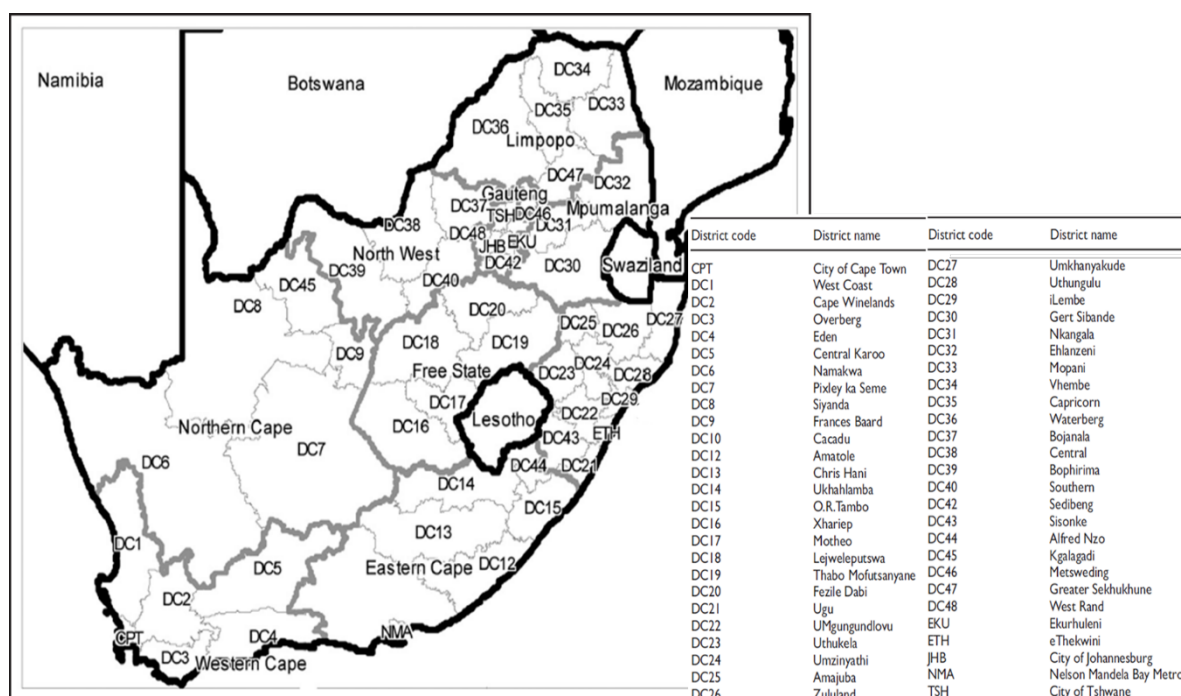


Figure 2 shows all 234 municipal areas, with the eight metro areas outlined in bold. The left-hand panel shows relative population densities of each municipality, and the right-hand panel shows the share of municipal populations living in urban settlements.

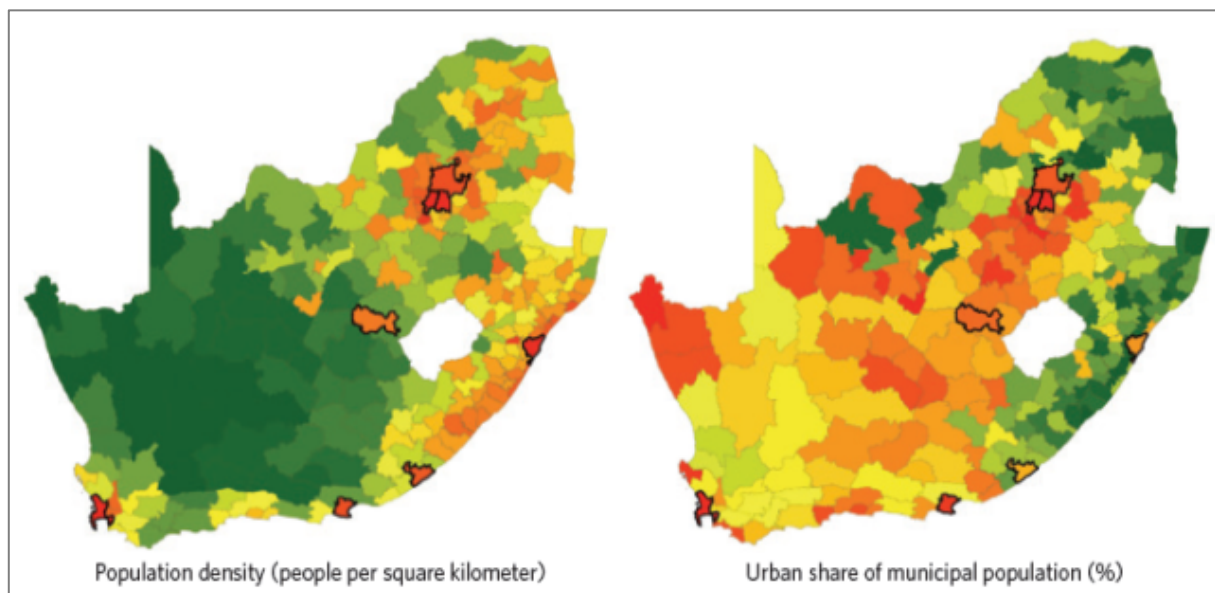


Figure 2: Municipal Population Densities and Urbanisation Rates, 2011. (Red (green) indicates a higher (lower) density of urban shares). Urbanisation, Structural Transformation and Rural-Urban Linkages in South Africa, Channing Arndt, Rob Davies and James Thurlow April 2018

Community Leadership Structures

In some communities, leadership is two-pronged consisting of traditional and political leadership. Under the traditional leadership, the *Kings or Chiefs* are the leaders of a tribe or defined settlement. *Ward Councillors* provide political leadership in the rural communities. The existing association groups in the community include various church organisations that bring people together on a regular basis. *Ward Health Teams* are also known as community health care workers, exist to address local health problems. These teams are employed by NGO's and constitute of youth, male and women groups that deliver health care. In addition to community-based health services, traditional health practitioners are often used as the first point of consultation, especially in rural communities.

Women are the primary caregivers in their communities, and are the main drivers of community upliftment programmes. However, as a result of the HIV and AIDS epidemic, child-headed households have become uncommon.

Demography

South Africa is a nation of about 57 million (2018 mid-year population estimates) people from different ethnic groups, culture, languages and religion. South Africa has 11 official languages which are; Afrikaans, English, Ndebele, Northern Sotho, Sotho, SiSwati, Tswana, Tsonga, Venda, Xhosa, and Zulu. According to Statistics South Africa census 2011, the population comprise 5 racial groups [166]. The 2011 census figures for these groups were Black African at 79.2%, White at 8.9%, Colored at 8.9%, Asian at 2.5%, and Other/Unspecified at 0.5%.^{[5]:21}

More than 60% of the population in South Africa is below the age of 35 years as shown by the population pyramid in Figure 3. The national growth rate is 1.5% and 1.41% for the 0-14 years old (Table 1). Annex 1 shows the distribution of the population by district, the corresponding number of primary schools and health facilities.

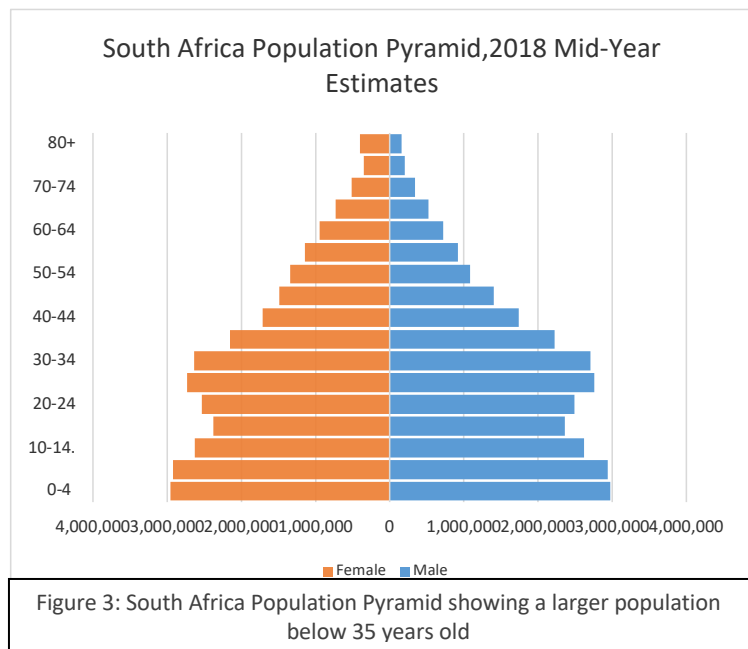


Table 1. Demography of South Africa, (Source: STATS SA 2018 mid-year estimates)

Population	57 725 606
Population growth rate	1.5
Population growth rate 0-14 years	1.41
Population under 5 years	5 928 951
School-age children 5-14 years	11 181 436
Women of reproductive age (15-49 years)	15 621 903
Total fertility rate	2.4%
*Maternal mortality rate	138 per 1000 live births ²⁰¹⁵
*Infant mortality rate	36.4 per 1000 live births ²⁰¹⁵

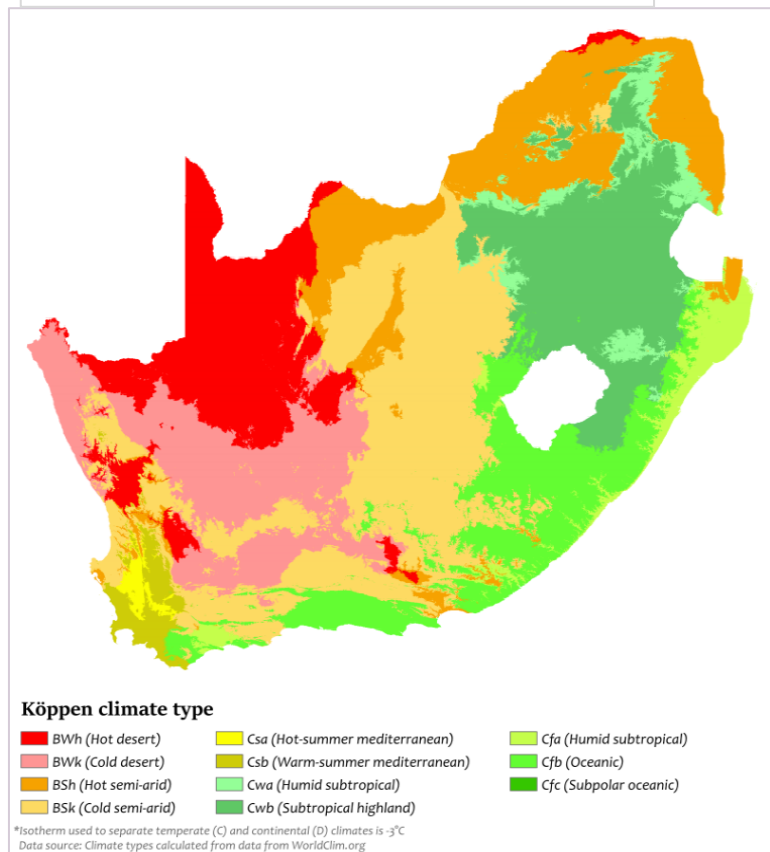
*MMR (Source: https://www.who.int/gho/maternal_health/countries) and (Source: STATSA)

1.2. Geography

South Africa lies at the southernmost part of the African continent, and is bordered by five countries: Botswana, Eswatini, Mozambique, Namibia and Zimbabwe, while Lesotho is land-locked within South Africa. These countries are also important because of threats of cross-border transmission of NTDs and the opportunities for cross-border collaboration to tackle the diseases. Surrounding South Africa coastal areas are two oceans (the Indian and the Atlantic Ocean) which span about 2500 Km (1,600 miles) of coastline (see Figure 4).

A plateau covers the largest part of the country, dominating the topography; it is separated from surrounding areas of generally lower elevation by the [Great Escarpment](#). The plateau, generally highest in the east, drops from elevations of more than 2,400 metres in the Lesotho region to about 600 metres in the sandy [Kalahari](#) in the west. The central part of the plateau [comprises](#) the [Highveld](#), which reaches between 1,200 and 1,800 m in elevation. The climatic conditions generally range from the Mediterranean in the southwestern corner of South Africa to temperate in the interior plateau, and subtropical in the northeast. A small area in the northwest has a desert climate. The country is semi-arid with highly variable precipitation (50-1000 mm) during rainy seasons. The east coast receives more than 1000 mm and west coast less than 50 mm. These topographic and climatic conditions also affect the vectors and spread of NTDs.

Figure 4: Köppen climate types of South FRICA



The north eastern part of the country (Limpopo, Mpumalanga, part of KwaZulu-Natal and Eastern Cape) has subtropical weather. These provinces also contain the poorest human populations in the country and have relatively higher prevalence of NTDs. Rainfall generally occurs in the summer (November to March), although in Cape Town rainfall occurs in Winter (June-August) and this affects the seasonality of NTDs in the country.

1.3. Socio- Economic Status and Indicators

South Africa has a [mixed economy](#) with a relatively high Gross Domestic Product (GDP) per capita when compared to other countries in Sub-Saharan Africa (\$11,750 at PPP as of 2012). However, the country is still burdened by a high rate of poverty and unemployment (Figure 5) and is ranked among top 10 countries in the world with [income inequality](#),^{[132][133][134]} measured by the [Gini coefficient](#). (<http://cs2016.statssa.gov.za>). The National GDP growth averaged 2.7% per year between 1993 and 2016 resulting in the GDP increasing by almost a third from R37,800 in 1993 to R49,100 in 2016 (Arndt, Davies and Thurlow, 2018). Services were the primary driver of economic growth over the past two decades (Arndt, Davies and Thurlow, 2018).

The [South African agricultural industry](#) contributes around 10% of formal employment, as well as providing work for casual laborer. Due to the aridity of land, only 13.5% can be used for crop production, and only 3% is considered high potential land. Among the major crops are corn, wheat, sugarcane, sorghum, peanuts (groundnuts), citrus and other fruits, and tobacco. Sheep, goats, cattle, and pigs are raised for food and other products. Dairy and egg production are also significant around the major urban centers. Timber resources are minimal, with a plantation in the wetter parts of the east and southeast. Fishing areas lie mainly off the coasts and the rivers.

Agriculture and mining contributes significantly to the domestic economy and the major agricultural production activities that are relevant and have a significant risk to the NTDs transmission are fishing, cattle farming and pig rearing

(<http://cs2016.statssa.gov.za>). In addition to agriculture, natural mineral resources that include [coal](#), [chromium](#), [asbestos](#), [gold](#), [nickel](#), [copper iron ore and platinum](#)

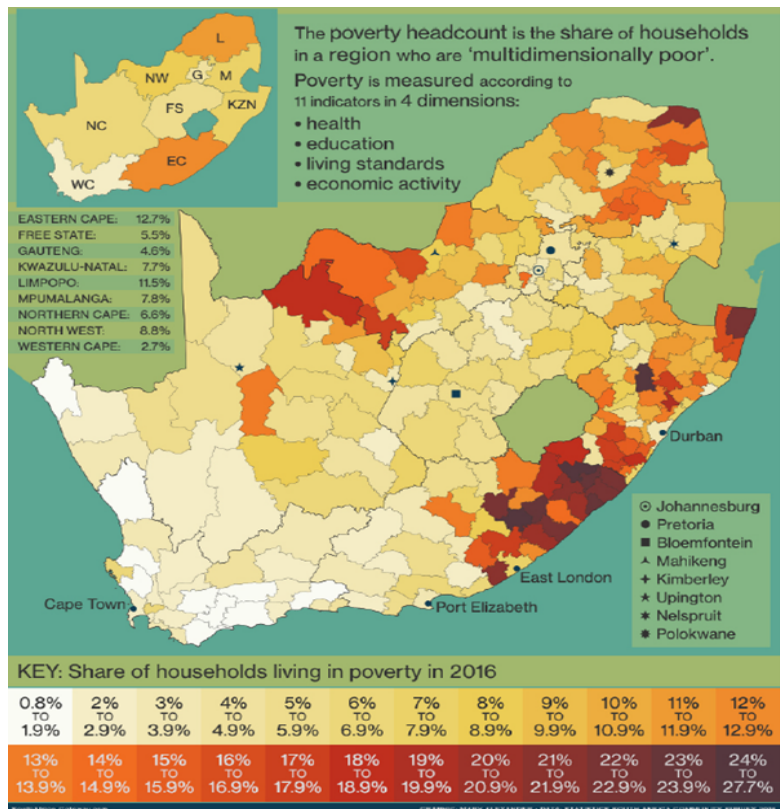


Figure 5: The poverty head count in the share of households in South Africa

1.4. Water and Sanitation

One distinctive feature of the South African water sector are the policy of *Free Basic Water*. Since 1994, great strides have been made in providing essential services, including water and sanitation services at the household level. Access to piped water has increased from 84,4% in 2002 to 88,6% in 2017. Similarly, there was an improvement in the provision of sanitation services from 61,7% to 82,2% in 2017 (General Household Survey, 2018). However, water supply and sanitation in South Africa has come under increasing pressure in recent years, despite the commitments made by the government to improve service standards and provide investment subsidies to the water industry.^[159]

In urban areas inhabitants are supplied with piped water while in the rural areas, the population has different sources of water are used such as piped water, protected wells, springs, boreholes and unprotected sources. The *flush toilet model* is the common sanitary facility in urban areas where household sanitation coverage is generally above 90%. However, the coverage in rural areas is generally low. In fact, some schools have inadequate and unsafe pit latrines for learners. This is a gap that needs to be addressed in order to complement the control of NTDs, particularly those transmitted through environmental contamination with excreta (schistosomiasis and STHs).

1.5. Transport and Communication

South Africa generally has good roads and railway network that spans the small towns strategically established for mining and commercial farming activities and links peripheral areas with major cities and small towns. However, access to some of the rural areas is a challenge due to poor road infrastructure, which may affect access to NTD programme interventions.

The communication network is good in most parts of the country, except for some rural areas, and areas towards the country's border which are underserved. Home-based carers transmit information to the communities and also conduct social mobilisation in the community through the door to door campaigns. With the advent of modern communication technology, mobile phones are increasingly being used as a means of communication at the community level. We also have community dialogues, imbizos, community meetings, local newspapers and local radio stations. The existing association groups in the community include various church organisations that bring people together on a regular basis. In all districts, ward health teams exist to address local health problems. There are also youth and women groups usually for purposes of income generation. Non-Governmental Organizations, faith-based organisations, community-based organisations and private sector organisations are often active in communities.

2. Health System Situation Analysis

2.1. Health System Goals and Priorities

The South Africa National Development Plan (NDP) 2030 and the World Health Organization (WHO) converge around the fact that a well-functioning and effective health system is an essential bedrock for the attainment of the health outcomes envisaged in the NDP 2030. The trajectory toward the 2030 vision, therefore, commences with the strengthening of the health system to ensure that it is efficient and responsive, and offers financial risk protection. The critical focus areas proposed by the NDP 2030 are consistent with the WHO perspective. The NDP sets out nine (9) long-term health goals for South Africa. Five of these goals relate to improving the health and well-being of the population, and the other four deals with aspects of health systems strengthening. Annex 2 highlights the nine priorities and the expected achievement by 2030.

It is noteworthy that NTD have not been prioritized but is good indicator for national development. Their elimination is a sign of great improvement in clean water access, sanitation improvement and transmission interruption or control. The persistence of NTDs contributes to the vicious cycle of poverty due to their debilitating nature. The attainment of universal health coverage and health system strengthening is not possible if NTDs are not addressed adequately.

Despite efforts to transform the health system into an integrated, comprehensive national health system, and significant investment and expenditure, the South African health sector has largely been beset by key challenges inclusive of:

- a complex, quadruple burden of diseases; a) HIV and AIDS and TB, b) High Maternal and Child Mortality, c) Non-Communicable Disease and d) Violence and injuries.
- serious concerns about the quality of public health care;
- an ineffective and inefficient health system; and
- spiralling private health care costs.

2.2. Health Financing

South Africa government allocates 14% of all its resources to health. The total health expenditure (THE) was US23 billion in 2015 based on the current exchange rate. 48.3% and 49.8% of THE came from public and private sources, respectively. Only 1.9% was from the external sources and donors. The out of pocket expenditure and medical scheme contributions account for most private health expenditures, at 13% and 83.5% respectively (Department of Health 2015). In South Africa, the government funds public health

services. The quadruple Burden of Disease takes up most of the allocation to health. This translates to much money being spent on health, 8.7 per cent of its GDP. This is significantly more than any other African country; even though South Africa spends such amount the country has poor health indicators and outcomes which are exacerbated by inadequate housing, water access and sanitation etc. However, these diseases are competing priorities for the government's efforts to tackle NTDs.

There are many pieces of legislation, policies, rules and regulations that support the financing and implementation of NTD programme. These include:

- The Constitution of South Africa (1996), section 227 (1) (b);
- The Health Act No, 2003 (Act No. 61 of 2003), section 27 (1) (a), (2) & (3) – granting the right to access health care services and emergency treatment within reasonable legislative and available resources, section 90 (1) (j), (k) - relating to regulations on communicable diseases and notifiable medical conditions;
- The Public Finance Management Act, 1999 (Act No. 1 of 1999), section 16 – which gives the minister the right to authorise the use of funds in emergencies. Section 25 of this Act also gives authority to Members of the Executive Council for finance to do the same.
- Other Acts include: The Municipal Finance Management Act No, 2003 (Act No. 53 of 2003); the Municipal Management Act, 2000 (Act No. 32 of 2000); and the Disaster Management Act, 2002 (Act No. 57 of 2002), enabler 3 – which talks to funding arrangement for disaster risk management.
- Public Audit Act (no. 25 of 2014 as amended).

2.3. Leadership and Governance

National Health Council (NHC) - The implementation of the strategic priorities for steering the health sector towards Vision 2030, would continue to be managed by the Implementation Forum for Outcome 2: “A long and healthy life for all South Africans”, which is the National Health Council (NHC). This Implementation Forum consists of the Minister of Health and the 9 Provincial Members of the Executive Council (MECs) for Health.

The Technical Advisory Committee of the NHC (TAC-NHC) functions as the Technical Implementation Forum. The TAC-NHC consists of the Director-General of the National Department of Health (DoH) and the Provincial Heads of Department (HoDs) of Health in the 9 Provinces. National bodies that oversee the control of communicable diseases are in place in all province, and there are no hindrances to the leadership and governance system.

2.4. Health Service Delivery

Health services in South Africa are implemented at local level by the districts. The district health system which aims at attaining universal health coverage is summarized in figure 6.

South Africa provides six health services which can serve as channels for NTD interventions. These are as follows:

1. Ambulatory Care or Mobile Clinic is a temporary service from which a range of PHC services are provided and where a mobile unit/bus/car provides the resources for the service. This service is provided on fixed routes visited on a regular basis. Some visiting points may involve the use of a room in a building, but the resources (equipment, stock) are provided from the mobile when the service is available.

2. Satellite Clinic - a satellite clinic is a facility in a fixed building, where one or more rooms permanently equipped and provides a range of PHC services. It is open for up to 8 hours per day and less than 4 days per week.

3. Clinic - a clinic is an appropriately permanently equipped facility at which a range of Primary Health Care services is provided. It is open at least 8 hours a day at least 4 days a week.

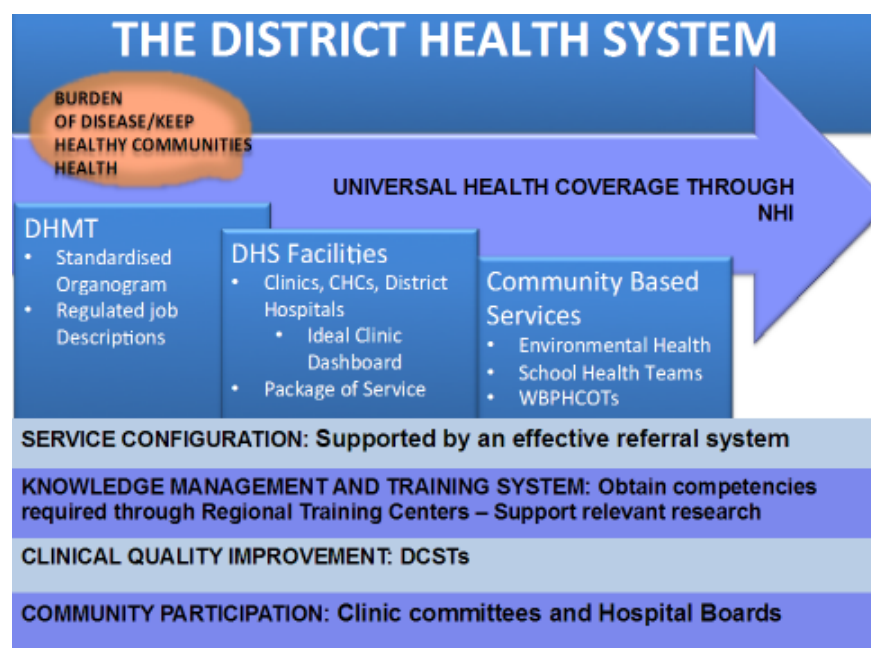
4. Community Day Centre - a Community Day Centre (CDC) provides a broad range of Primary Health Care services but is not open 24 hours a day, 7 days a week. It also offers accident & emergency but not midwifery services or surgery under general anaesthesia.

5. Community Health Centre - a CHC is a facility which is open 24 hours a day, 7 days a week, at which a broad range of Primary Health Care services are provided. It also offers accident & emergency and midwifery services, but not surgery under general anaesthesia.

6. Specialised Health

Centre - a Specialised Health Centre is a facility that provides specialised care to particular groups of patients, usually for less than 24 hours at a time. There are many possibilities for such units, but the most common are Maternal Obstetric Units (open 24 hours and providing midwifery services) and Renal Dialysis Units. South Africa is in the

Figure 6: The SA district health system



process of implementing the ideal primary health care facility within the District Health System.

2.5. Medical Products

South Africa has policies and regulations that support medical products in South Africa. Medical products are ordered from suppliers overseas and undergo quality checks. Provincial health departments procure from the suppliers according to guidelines and allocated budget. The medicines are stored and handled according to stipulated guidelines.

Opportunity to incorporate NTDs control in existing school health programs that visit school's day to day. Also, WHO supply de-worming medication for mass drug treatment. When medicines are not registered for use in SA, PDoH, NDoH or medical doctor must apply to South Africa Health Products Regulation Authority (SAHPRA) using section 21 of the Medicines and related substances Act 101 of 1965 as amended.

2.6. Health Workforce

In 2012, South Africa developed a robust strategy for human resources for health to "implement a re-engineered primary healthcare service and ensure the service capacity for a health system with improved financing through national health insurance". The strategy recognised the need to "develop and employ new professionals and cadres to meet policy and health needs. The country recognised the gap in the area of public health medicine and included the plans to develop the middle health care worker cadres while ensuring the traditional professional cadres.

The country's public health care system is 'nurse-driven', and although the country has determined the staffing norms for all the various types of health facilities and across all the cadres of health care workers, these targets have not been met. The medium-term plans included overseas recruitment of health care workers, and in 2011, about 10% of the workforce was recruited from abroad.

There is a mismatch of health worker density between urban and rural centers; although it is estimated that 43.6% of the population in South Africa live in rural areas, only 12% of the doctors and 19% of nurses serve the population. In addition, the attrition of health care workers (due to a preference for private sector work, retirement and emigration) is projected to be about 25% annually, driven primarily by suboptimal working conditions and socioeconomic factors. Consequently, it is important to note that health-worker mismatch and the high turnover into consideration with respect to NTD interventions, especially in rural areas.

2.7. Health Information

The district health information and notifiable medical conditions (NMCs) systems provide the health information in the country. All the NTDs of concern in South Africa are reported through the two systems. The NMCs regulations are binding for both private and public sectors, and they are expected to report on the NTDs.

Notification of diseases starts at the point of diagnosis to the district, the province and national level, although there are elements of community surveillance in place with information from community health workers attached to health care centers. Standardised reporting documents and procedures, standard operating procedures (SOPs), NMC case notification forms and case definitions are all made available to facilitate surveillance and reporting.

3. Neglected Tropical Disease Situational Analysis

Schistosomiasis, soil-transmitted helminths (STH), rabies and leprosy are the neglected tropical diseases (NTDs) are of importance in South Africa. This section summarises the epidemiology of these NTDs, the NTD programme status and the SWOT analyses developed by experts and stakeholders.

3.1 Epidemiology and Burden of NTDs

Mapping the distribution of Schistosomiasis and STHs on a large scale started in 2016. So far six of nine provinces have been mapped. Most of the provinces are endemic for STHs; schistosomiasis is focal with low prevalence in some local areas. According to the surveys the overall prevalence for both Schistosomiasis and STHs is less than 50% with upper confidence interval in three districts (Amajuba, uMungundlovu and uThukela) going above 50%. However, there are sites/focal areas that have STHs prevalence of >50% mostly in KwaZulu-Natal, Eastern Cape, Limpopo and North West provinces.

a. Schistosomiasis

Two species of schistosomiasis are endemic namely *S. mansoni* and *S. haematobium*. *S. haematobium* was found in most districts than *S. mansoni*. Figures 7 and 8 shows the overall distribution of schistosomiasis. The prevalence rates of haematobium were also higher than that of mansoni ranging between 0-70% and 0-8% respectively.

The combined schistosomiasis point prevalence map in Figure 8 (*mansoni* ranges between 0-8%). Children who are disadvantaged, living in informal settlements and rural areas, where sanitation is poor and access to potable water is lacking, bear most of the burden. These infections have many negative impacts on public health such as anaemia, stunting and reduce children’s ability to learn; and result in chronic illness; infertility and exacerbate the transmission of HIV to women (urogenital schistosomiasis), calls for improved interventions.

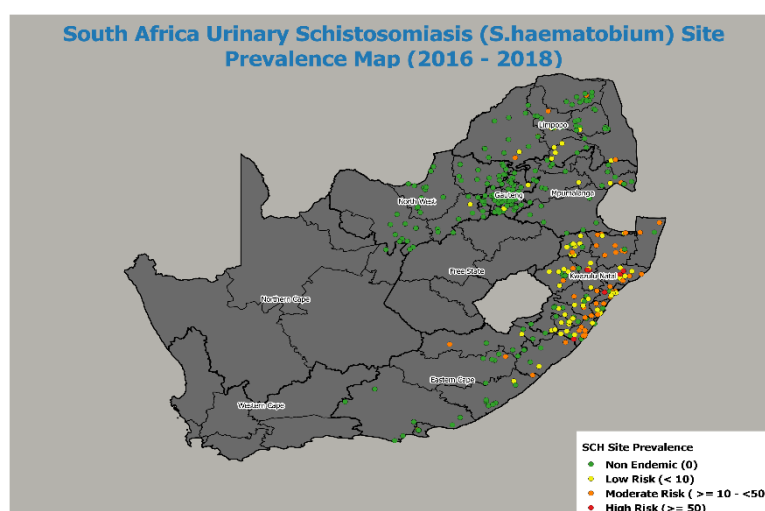
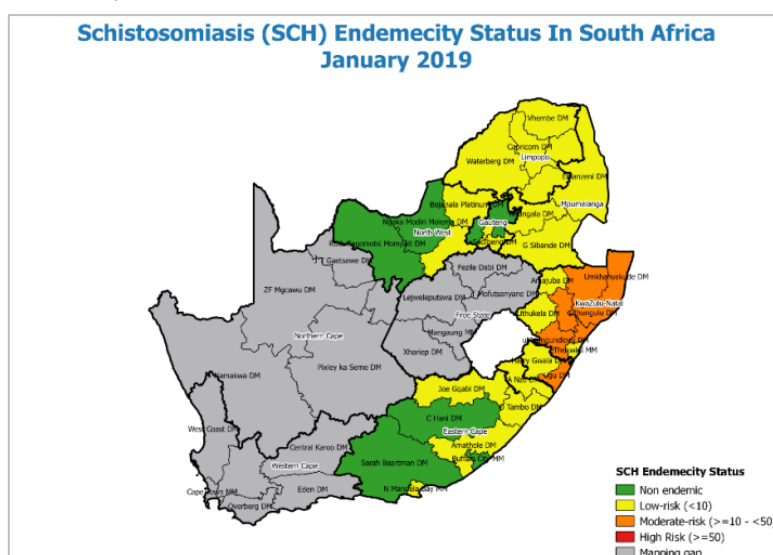


Figure 8 Point Prevalence for schistosomiasis

b. Soil-Transmitted Helminthiasis

Soil-transmitted helminths infections impose an unnecessary burden on many South African children. In surveys that were carried out in different provinces in South Africa, it was estimated that 70-100% of school-age children and pre-school children are infected with helminths (Mkhize et al., 2011). Soil-transmitted helminths have been shown to be the most highly prevalent NTD in South Africa (Bethony et al., 2006). The mapping surveys conducted in 2016/18 revealed endemicity of all three species. 0-70% (ascaris), 0-24% (hookworm) and 0-2% (Trichuris).

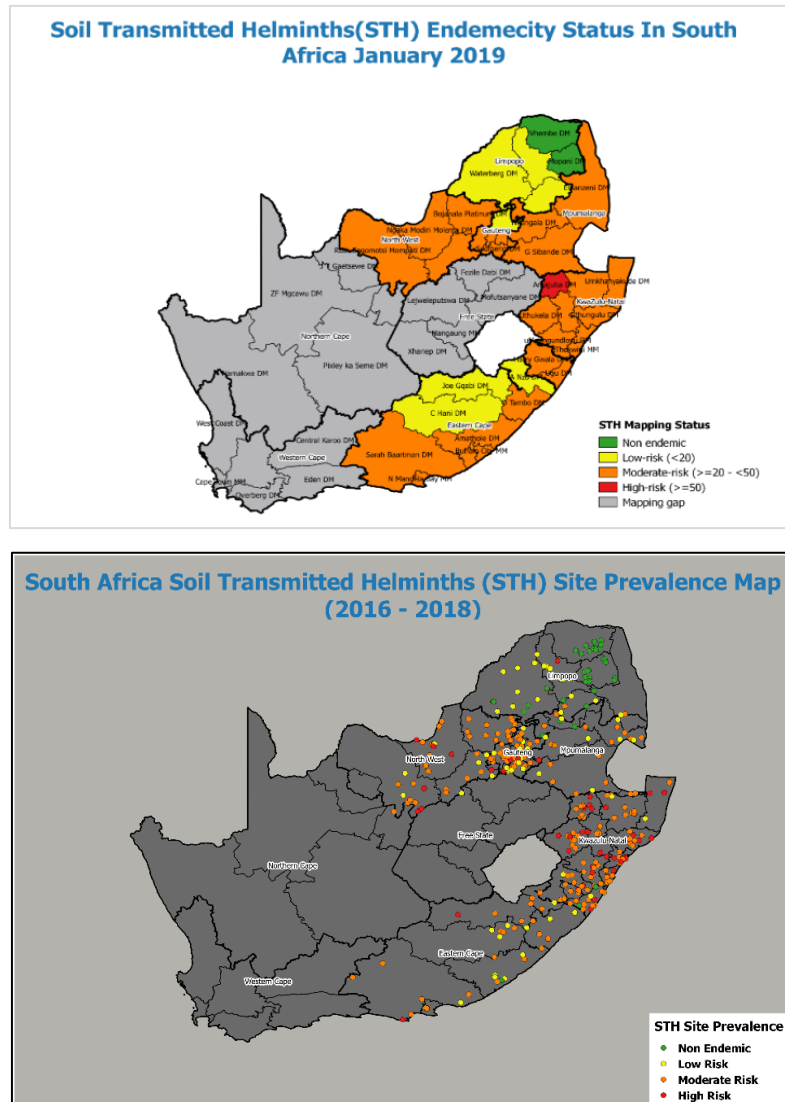


Figure 10: Point Prevalence for Soil Transmitted helminths

c. Leprosy

Leprosy, also known as Hansen's Disease, is a communicable disease, caused by the microorganism *Mycobacterium leprae*. Most countries of the African Region have achieved the elimination of leprosy as a public health problem. Experts are not sure of exactly how *M. leprae* is transmitted; the most likely way is from person to person in respiratory droplets. Leprosy can affect people of any age or sex, including infants. Leprosy is curable in almost 100% of cases. However, once nerve damage occurs, the resulting disability is usually permanent. Like many other infections, leprosy can be treated with antibiotics. Persons receiving antibiotic treatment or having completed treatment do not transmit the disease.

Following the new political dispensation post 1994, the responsibility of leprosy treatment was devolved to the provincial health departments. For the first time in the history of South Africa, national guidelines on leprosy control were developed. The Department of Health working in collaboration with the Leprosy Mission of Southern Africa and other stakeholders updated these guidelines which were published in 2011. The emphasis of these guidelines was an early diagnosis, the prevention of disabilities and the improvement of accessibility to effective treatment. MDT is a key component in the fight against leprosy and South Africa wants to ensure that it is made available to all patients requiring treatment during the early stage of the disease to prevent nerve damage and resultant disabilities.

Sadly though, leprosy patients continue to experience stigmatisation and the serious consequences of delayed treatment. Many patients fail to reap the full benefits of the modern medicine, largely because of ignorance about leprosy and its existence, its causes and that it is curable.

Leprosy was declared a notifiable disease in South Africa in 1921. The prevalence in South Africa is below 1 per 10 000 of the population, the WHO cut off point for considering leprosy as a public health problem. Notifications in 2005 gave an estimated prevalence of 0.013 per 10 000 of the population, with a concentration of cases in Mpumalanga, KwaZulu-Natal and Eastern Cape. The Leprosy Mission (Southern Africa) estimates that about 3 000 people in South Africa, though no longer suffering from active disease have some degree of disability and need medical and social support. New cases of leprosy are at risk of becoming disabled, especially if not diagnosed early or treated appropriately.

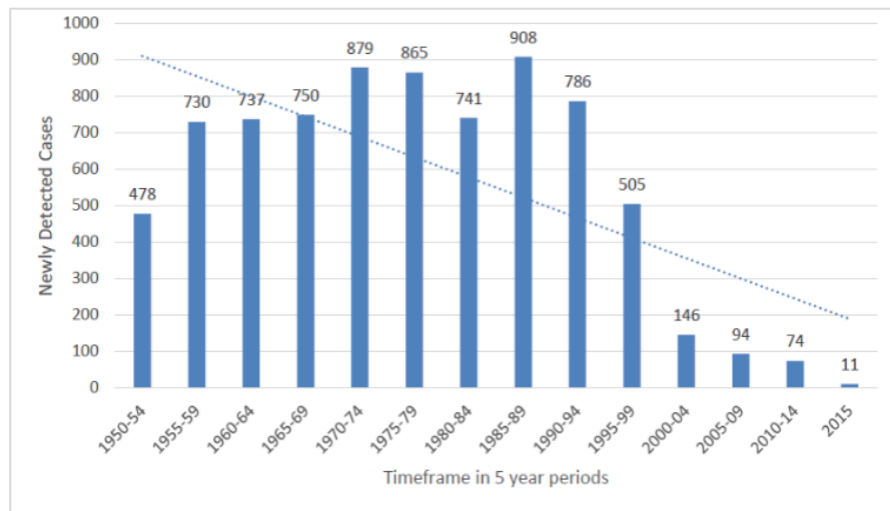
Figure 10 illustrates the newly detected leprosy cases by 5-year period. Generally, South Africa detects approximately 50 new cases of leprosy annually (>75% of cases are imported). Leprosy Mission is active and supports implementation of all leprosy activities in South Africa through collaboration with dermatologists in health facilities, follow up of cases and contact tracing, as well as facilitation of distribution of the WHO donated drugs and updating the leprosy data base.

Despite these significant advancements and improvements in the management of Leprosy patients, there remains stigma attached to the disease. The poor community awareness of the leprosy disease as well as the paucity of knowledge around the modern clinical diagnosis of the disease resulted in patients presenting late when they are at advanced stage of the disease and the low cure rate

The national policy is aimed at early diagnosis and treatment to prevent disability, finding and treating infected contacts by encouraging relatives of known patients to report for screening for

possible leprosy and caring for those disabled by leprosy. Increased awareness in the public and health care community is an important part of the programme. In South Africa, hospitalisation for treatment was compulsory for active cases until 1977. The emphasis today is on treatment in the community.

Figure 11: Number of newly detected cases, 5-year period



d. Rabies

Rabies is a zoonotic disease caused by the rabies virus belonging to the *Lyssavirus* genus (Dermaux-Msimang, Weyer and Paweska, 1990). It affects the central nervous system (CNS) causing acute encephalitis, and is a rapidly progressive and fatal disease of humans and mammals.(Bishop *et al.*, 2010; Geerdes, 2014) In the majority of developing countries dogs are the main transmitter of rabies (canid rabies) (Conan *et al.*, 2017), whereas in many developed countries, rabies is a disease of wild carnivores (Heymann, 2008).

Humans, other domestic animals and cattle are the main victims of canid rabies as dogs often have intimate contact with other animals and people.(Bishop *et al.*, 2010; Geerdes, 2014) In 2009, Mpumalanga Province had the highest number of animal rabies cases in 2009 (270 cases), followed by KwaZulu-Natal (216 cases) as shown in Figure 11.

The Ehlanzeni District reports the highest density of dog rabies per square kilometre in South Africa.(Weyer, 2015). In South Africa, 85% of laboratory confirmed human rabies cases have been associated with domestic dogs.(Bishop *et al.*, 2010) Since 1983 (1983 – 2017), a total of 436 human rabies cases has been laboratory confirmed in SA (Figure 12), with an average of 9 – 10 cases being reported annually in the past decade.(Centre for Emerging Zoonotic and Parasitic Diseases, 2017)

Figure 12 2009 Distribution of laboratory-confirmed animal rabies cases in the province. (Gauteng Province: 0.5%)

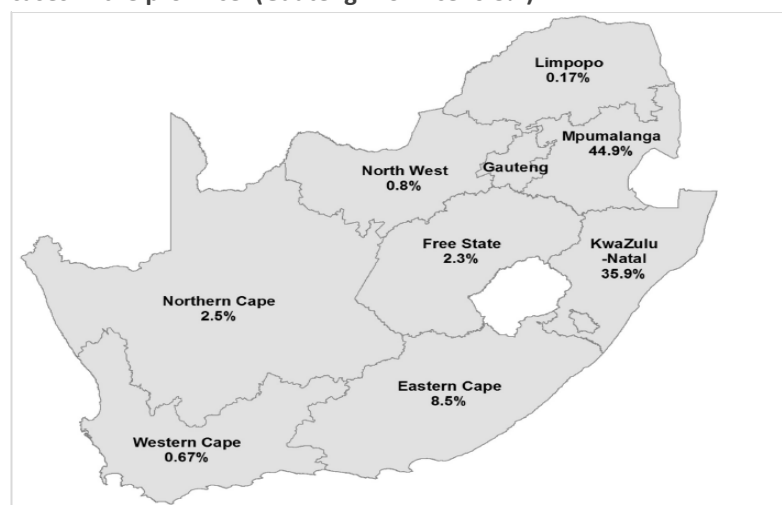
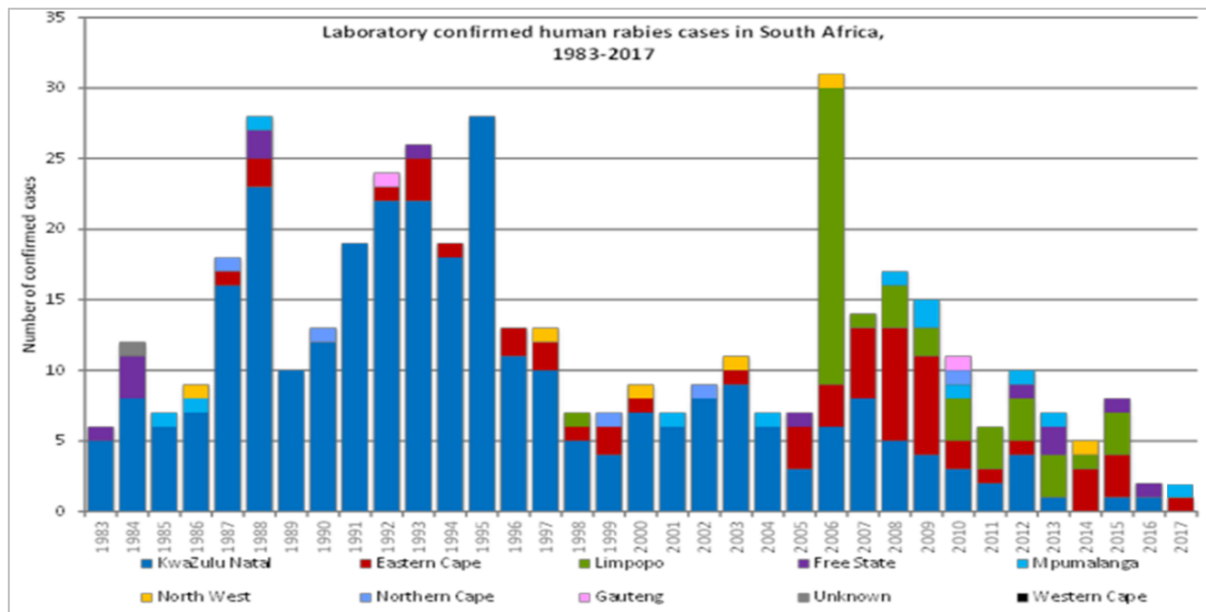


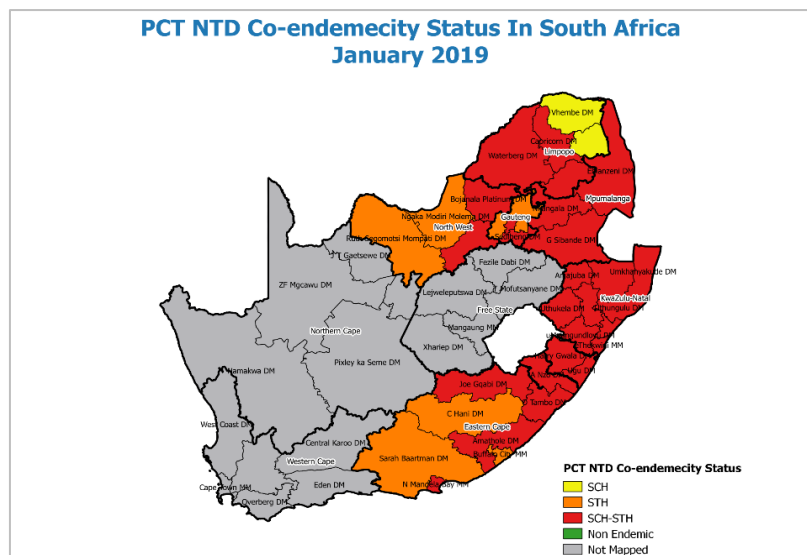
Figure 13: Laboratory confirmed human rabies cases in South Africa from 1983 – 2017, per province (Centre for Emerging Zoonotic and Parasitic Diseases, 2017)



e. Co-endemicity of NTDs in South Africa

Based on various surveys conducted in the country, the distribution of NTDs and their overlaps have been compiled. The co-endemicity status of NTDs is shown in Table (Annex). Figure 13 below shows co-endemicity of schistosomiasis and soil transmitted helminthiasis based on the mapping surveys conducted in 2016/2018.

Figure.: 14 Co-endemicity map for schistosomiasis and soil transmitted helminthiasis



Based on the epidemiological and disease burden information provided not all the districts have been mapped for NTDs. Below is a summary Table (Table 5) and the map (Figure 14) of the mapping needs for each endemic NTD in South Africa.

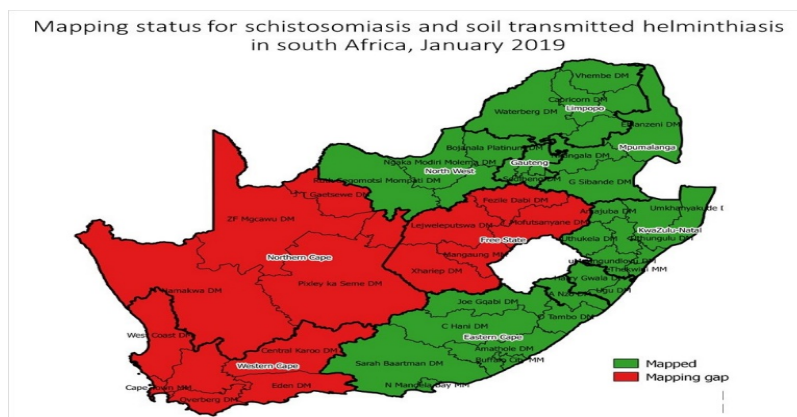


Figure 15: Mapping status of schistosomiasis and soil transmitted helminthiasis

Table 2. Summary of NTD Mapping status

Endemic NTD	Total Number Districts	No of districts Endemic	No. of districts mapped or known endemicity status	No. of districts remaining to be mapped or assessed for endemicity status
Schistosomiasis	52	28	36	16
Soil Transmitted Helminthiasis	52	34	36	16
Leprosy	52	19	Not Mapped	Not Mapped
Rabies	52	52	Not Mapped	Not Mapped

3.2 NTD Programme Context

In order to appropriately implement this master plan, the country is required to complete mapping for PC NTDs which would determine the national burden of the diseases. South Africa conducted mapping of the NTDs in 2016/2018 in six provinces for the school aged children of 10-14 years. Nevertheless, the South African government has introduced interventions to combat some of the NTDs and other conditions. The country has a policy as well as implementation guidelines on the management of Schistosomiasis and STH amongst school going children.

However, regular treatment and preventive chemotherapy to control schistosomiasis is not fully implemented (The South African National Department of Health, 2008). The current treatment is based on diagnosis at the health care facilities. WHO has free generic treatment for schistosomiasis not available in South Africa (ST Berge, 2011). The available praziquantel (Biltricide) drug is much more expensive than the generic drug. A review of several interventions being implemented for both PC and CM NTDs are shown as a summary in Tables 6 and 7, respectively.

Table 3. Summary of intervention information on existing PCT programmes

NTD	Date Programme started	Total Districts Targeted	No. of districts covered (geographical coverage *)	Total Population in target district	No (%) covered	Key Strategies used	Key Partners
STH	2016	52	52 (100%)	55,176,019	5,038,560 (%)	MDA	WHO
SCH	Not Started	28	-	-	-	To implement MDA	WHO

Table 4. Summary of intervention information on existing CM programme

NTD	Date Programme started	Total Districts Targeted	No. of districts covered (geographical coverage *)	Total Population in target district	No (%) covered	Key Strategies used	Key Partners
Leprosy	1981	52	19	55,176,019	-	Surveillance, Case Management, Health Promotion	South Africa Leprosy mission, World Health Organisation
Rabies	-	52	-	55,176,019	-	Surveillance, Case Management, Health Promotion, Animal Vaccination, Castration of dogs	WHO, Department of Agriculture

3.3 Gaps and Priorities – SWOT Analysis

Whilst there are several interventions which were implemented by government, there are also some challenges which need to be addressed. The strengths, weaknesses, opportunities and the treats (SWOT) of the programme was analysed and summarised in Table 8 below

Table 5. SWOT Analysis

SWOT ANALYSIS		
Weakness	Strength counteracting weaknesses	Opportunities counteracting weaknesses
<p>Planning</p> <ul style="list-style-type: none"> •no clear ownership and accountability of the NTD programme •Inadequate resources (human, finance and materials) •Lack of knowledge and skills among healthcare workers and stakeholders regarding NTDs •Praziquantel not available for schistosomiasis MDA •Lack of policy on NTDs <p>Coordination, partnerships and collaboration</p> <ul style="list-style-type: none"> •Lack of collaboration with other implementing partners •Lack of clarification of intradepartmental roles •Limited integration of NTDs within the school and healthcare workers training curriculum <p>Advocacy and resource mobilization</p> <ul style="list-style-type: none"> •Inadequate advocacy regarding NTDs <p>Implementation</p> <ul style="list-style-type: none"> •Verticalization of MoH Programmes •Dependency on external resources <p>Surveillance, monitoring and evaluation</p> <ul style="list-style-type: none"> •Lack of monitoring and evaluation of NTD programme •Mapping for NTDs incomplete •Inadequate research and independent pre-and-post MDA coverage survey and impact assessments •Lack of pharmaco-vigilance for NTD treatment 	<ul style="list-style-type: none"> •Availability of health systems •Development and launch of NTD Master Plan in progress •Existence of pharmaceutical logistics management unit •Availability of mapping results for six provinces •Availability of drugs from WHO <ul style="list-style-type: none"> •Platform established for the initiation of National NTDs annual review meeting •Collaboration with Department of Education, DAFF <ul style="list-style-type: none"> •Experience in Advocacy and social mobilization •Health promotion activities for implemented in the ministry <ul style="list-style-type: none"> •Development of NTDs Master Plan at National Level with involvement and input from all Provinces <ul style="list-style-type: none"> •Inclusion of major NTD indicators in the District Health Information Systems (DHIS) 	<ul style="list-style-type: none"> •Support from partners like WHO •Improved donor interest towards NTD control and elimination •Planning with other stakeholders e.g. NICD, Universities, Municipalities, Governmental Departments <ul style="list-style-type: none"> •Collaboration with stakeholders •Vaccination against rabies in dogs •Commemoration of some days in the health calendar •Existing platforms for intersectoral collaboration •Involvement and commitment from politicians in health programmes <ul style="list-style-type: none"> •Established programmes for health promotion and community awareness •Programmes and stakeholders with experience around campaigns <ul style="list-style-type: none"> •Fast economic growth •Support from partners - WHO, Leprosy Mission SA. •High commitment of partners for NTDs <ul style="list-style-type: none"> •Availability of tools for surveillance, monitoring and evaluation from WHO
Threats	Strengths counteracting threats	Opportunities counteracting threats
<ul style="list-style-type: none"> •No intersectoral coordination on NTD. •inadequate complementary public health interventions e.g. WASH •Resistance by Parents & communities 	<ul style="list-style-type: none"> • NTD Master Plan and annual plans •Availability of the Coordination mechanism for NTD programme in South Africa 	<ul style="list-style-type: none"> •Strengthening of the integrated school health programme •Strengthening of the ward-based outreach teams

Threats	Strengths counteracting threats	Opportunities counteracting threats
<ul style="list-style-type: none"> •Harmful traditional practices and misconceptions •Stigma and discrimination against people affected by NTDs like Leprosy •Drug donation only for selected groups •Cross-border and internal population movement •Climate Change 	<ul style="list-style-type: none"> •Proper advocacy •Engagement of stakeholders at planning stage (i.e. Community buy in) 	<ul style="list-style-type: none"> •Collaboration with traditional health practitioners •Availability of medicine donations that could be extended to other at-risk groups since the target is elimination •WASH programme available

Based on the SWOT analysis above the following gaps and priorities were identified

Gaps

- Poor coordination and willingness by stakeholders to prevent and control NTDs
- Limited commitment by all relevant stakeholders for NTDs
- NTDs are not part of national priorities
- Limited NTDs case management skills among health care providers
- Lack of surveillance data and local research on NTDs
- Inadequate coordination of WASH and NTD elimination programme
- Lack of pharmacovigilance for NTDs
- Lack of knowledge about NTDs short- and long-term effects in communities
- No mass treatment for schistosomiasis due to non-availability of adequate praziquantel (WHO donated Praziquantel not on the country list of approved medicines)
- Limited Technical capacity of the existing staff in controlling NTDs
- Non-existence of operational guidelines and monitoring and evaluation tools

Priorities

- Strengthen government ownership, advocacy, coordination and partnerships;
- Enhance planning for results, resource mobilization and financial sustainability of national NTD programmes;
- Scale-up access to PHASE interventions and system capacity building (service delivery)
- Enhance NTD monitoring and evaluation, surveillance and operations research.
- Establish NTD program
- Develop treatment/clinical guidelines for NTDs
- Involve of Laboratory for investigations
- Development of National Policy for NTDs
- Strengthen the existing technical working group with other relevant Ministries and Agencies
- Strengthen district level relevant structures for NTD activity

PART II: STRATEGIC AGENDA

4. NTD Programme Strategic Agenda

4.1. NTD Programme Mission and Strategic Goals

Vision

A South Africa free of schistosomiasis, soil transmission helminthiasis, leprosy and human rabies.

Mission

To eliminate NTDs as a public health problem in South Africa

Strategic goal

To eliminate soil transmitted helminthiasis leprosy and human rabies as a public health problem and to achieve advanced control of schistosomiasis, by year 2025.

4.2 Guiding Principles

A few guiding principles have been identified as core to the coordination framework to enable the achievement of the national goals of the new NTD programme:

- Transparency and accountability
- Broad-based inter-sectorial representation that involves all stakeholders, balanced in number and expertise (comparative advantage) to maintain efficiency.
- Collective decision making, shared outcomes and common understanding.
- Evidenced-based expert advice and information on best practices and up-to-date issues on coordination of NTDs.
- Equity and gender consideration to ensure effective coverage of the vulnerable groups and those in hard-to-reach areas of the country.
- Community engagement and participation.

4.3. Strategic Priorities and Pillars

Following extensive deliberations and analyses, four Strategic Priorities (which also called Strategic Pillars) were identified for accelerating progress toward the strategic goal of the NTD programme in South Africa. These are as follows:

- I. Ensure universal access to NTD chemotherapy and interventions
- II. Strengthen vector control, environmental management, and research and innovations for NTD elimination
- III. Transform NTD Surveillance into a Core Intervention
- IV. Strengthen Resource Mobilization, Coordination and Communication for the elimination of NTDs

Figure 15 Strategy for the elimination of Neglected Tropical Diseases amenable to preventive chemotherapy in South Africa

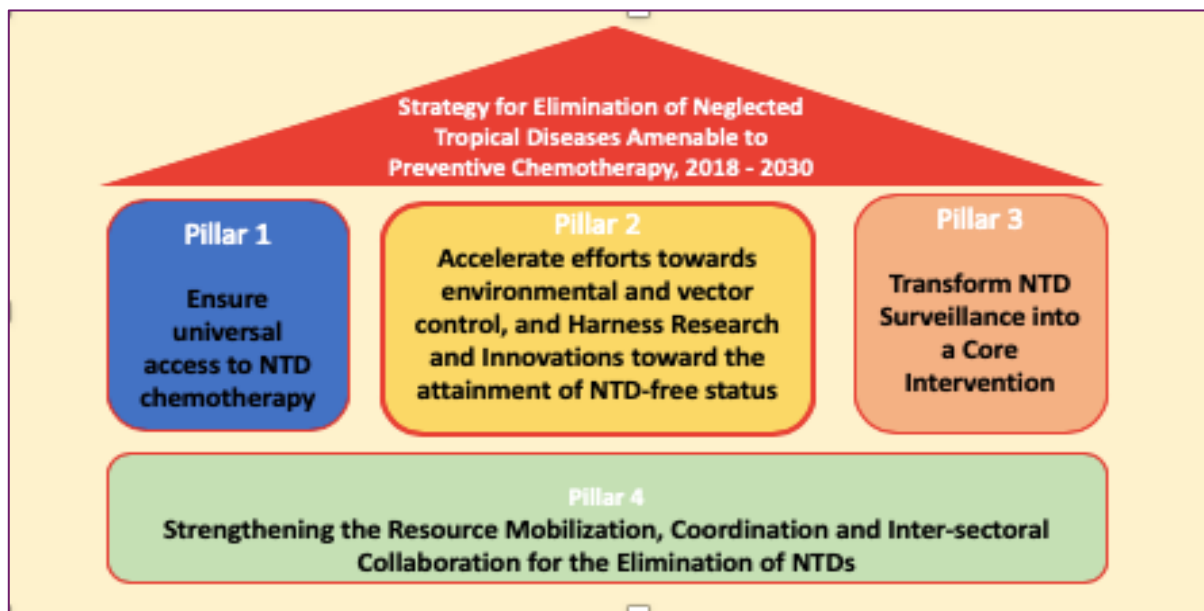


Table 6. Strategic Agenda for the Elimination of Neglected Tropical Diseases in South Africa, 2019 -2025

Strategic Priorities	Strategic Objectives
I Ensure universal access to NTD chemotherapy and interventions	Scale up integrated preventive chemotherapy to achieve 100% geographic coverage and treatment access to soil-transmitted helminthiasis and schistosomiasis medicines
	Accelerate rabies control and leprosy elimination activities in remaining endemic areas and intensify morbidity management and rehabilitation support services
	Complete mapping of NTDs in the remaining three provinces, and strengthen capacity at national level and sub-national levels to implement NTD programme interventions
	Strengthen pharmacovigilance for NTD medicines and quality assurance for NTD medicines
II Strengthen vector control, environmental management, and research and innovations for NTD elimination	Strengthen vector control for the elimination schistosomiasis
	Strengthen environmental management including water and sanitation in support of elimination of soil-transmitted helminthiasis and schistosomiasis
	Support operational research, documentation and evidence to guide innovative approaches to NTD programme interventions
III Transform NTD Surveillance into a Core Intervention	Establish Surveillance to ensure universal access to diagnosis and reporting for schistosomiasis
	Establish and strengthen supportive supervision for NTD Surveillance
	NTD Communication and linkages with communities and clinicians
	Strengthen NTD monitoring for action including, collection and use of programme performance and operations data for action, such as scaling down and verification of elimination, regular programme reviews, documentation and reporting.
IV Strengthen Resource Mobilization, Coordination and Communication for the elimination of NTDs	Strengthen capacity to implement NTD programme management and resource mobilization, including the integration of NTD plan of action into the Financial Plans at all spheres.
	Launch and implement the South Africa NTD coordination mechanisms and foster partnerships at national, provincial and district levels
	Strengthen advocacy, visibility and profile of NTDs for the elimination interventions at all levels
	Enhance social mobilization and communication for NTDs

4.4 National NTD Programme Goals, Objectives, Strategies and Targets

The NTD programme brings together a number of disease-specific programmes. However, the disease specific goals, objectives and strategies have been kept within the context of one overall NTD programme. Integration of NTD interventions has been promoted in the master plan where necessary for cost effectiveness to maximise use of available resources. The global specific goals, objectives, strategies, targets and indicators for the targeted NTDs in South Africa are provided in Table 8 below.

Table 7. Summary of NTD Disease-Specific Goals and Objectives

NTD PROGRAMME AND GLOBAL GOAL	NATIONAL GOAL	OBJECTIVES	STRATEGIES	DELIVERY CHANNEL
Elimination of Schistosomiasis	Advanced control of schistosomiasis by 2025	To reduce transmission of schistosomiasis to a level where it is no longer a public health concern	Mass drug administration Treatment of cases	Communities and schools Health facility
			Vector control Water supply and sanitation	Environmental
Soil transmitted helminthiasis control	Elimination of soil transmitted helminthiasis by 2025	To interrupt transmission of soil transmitted helminthiasis	Mass drug administration Health facility treatment Water supply & Sanitation	Communities and schools Health facility Environment
Leprosy elimination	Elimination of leprosy by 2025	To reduce new leprosy cases with G2D to less than one case per million population.	Active surveillance Contact tracing Post exposure prophylaxis BCG vaccination and revaccination	Communities and individuals or door to door
Human Rabies elimination	Elimination of human rabies by 2025	Zero deaths due to human rabies	Post exposure prophylaxis Dog vaccination Prevention of dog bites Awareness campaigns	Communities

4.5 National National Milestones for targeted NTDs

In order to ensure that interventions are being implemented for each targeted PC and CM NTD endemic in South Africa, a number of milestones have been developed indicating the scaling up and scaling down of interventions in the following tables.

Table 8. Milestones for targeted NTDs

Soil-transmitted helminths								
		2019	2020	2021	2022	2023	2024	2025
1	Mapping completed for Soil-transmitted helminths in remaining 3 provinces and determine areas that require interventions.	100%						
2	School-based/community-based treatments conducted in endemic districts	100%	100%	100%	100%	100%		
3	3-4 years of consecutive treatments conducted in all endemic districts with a coverage of over 75% by districts (%)	-	-	50%	- 50%	80%		
4	First impact assessment in Schistosomiasis endemic districts after at least three years of consecutive and effective treatments	-	--	--	-	25%	50%	60%

Schistosomiasis								
		2019	2020	2021	2022	2023	2024	2025
1	Mapping completed for Schistosomiasis in remaining 3 provinces and determine areas that require interventions.	100%						
2	School-based/community-based treatments conducted in endemic districts	100%	100%	100%	100%	100%		
3	3-4 years of consecutive treatments conducted in all endemic districts with a coverage of over 75% by districts (%)	-	-	50%	- 50%	80%		
4	First impact assessment activities in Schistosomiasis endemic districts after at least three years of consecutive and effective treatments	-	--	--	-	25%		

Leprosy								
		2019	2020	2021	2022	2023	2024	2025
1	Complete mapping of Leprosy in remaining districts and determine areas that require interventions.	100%						
2	Conduct school-based/community-based treatments in endemic districts	100%	100%	100%	100%	100%		
3	Conducted 3-4 years of consecutive treatments in all endemic districts with a coverage of over 75% by districts (%)	-	-	50%	- 50%	80%		
4	Conduct first impact assessment activities in Leprosy endemic districts after at least three years of consecutive treatments	-	--	--	-	25%		

Rabies								
		2019	2020	2021	2022	2023	2024	2025
1	Assess districts and determine areas that require interventions. Animal vaccinations Owner registrations of dogs and cats	100%						
2	Conduct school-based/community-based education and awareness in endemic / high- risk districts	50%	80%	100%	100%	100%	100%	100%
3	Post exposure prophylaxis of cases	100%	100%	100%	100%	100%	100%	100%
4	Conduct impact assessment activities in Rabies (KAP?) endemic districts	-	--	--	-	25%	50%	80%

PART III: OPERATIONAL FRAMEWORK

5. NTD Programme Operational Pillars

This part of the Master Plan provides a description of how the country will implement each Strategic pillar, including the Key Activities, Sub-activities and the required resources.

5.1: Pillar 1 - Ensure universal access to NTD chemotherapy and interventions

WHO recommends three main intervention strategies, namely; mass drug administration, case management and transmission control. The deworming drugs used in school health programmes are effective, have an excellent safety record and are approved for use in school-age children, pregnant and lactating women. Adverse drug reactions are generally reactions to degeneration of the worms that have been killed. Most of the side-effects observed in school programmes occur during the first rounds of implementation of the intervention; that is, at a time when children harbour more infections of high intensity.

South Africa still needs to advocate for the use of donated medication for controlling schistosomiasis. For the implementation of MDA, temporary human resources in the form of qualified staff (retired nurses), community services staff and data capturers (make use of the internship services) will need to be recruited in addition to the government staff including Environmental Health Practitioners, Educators and school nurses.

In order to cover all children, interventions will need to be both community / health facility-based as well as school-based. In areas with a prevalence of > 50%, adults should also receive chemotherapy. Other target communities to be covered include adults at high risk of infection such as *farmers, fishermen, pregnant and lactating mothers and community members coming into regular contact with bilharzia invested water*. Health Centres, community halls, clinic committees and ward-based committees can be used for social mobilization. MDA types are shown in the annex Table 22.

Morbidity due to these NTDs can be prevented through early detection and management of patients and guidelines are available. *All NTDs have been declared notifiable in South Africa*, and that assist in ensuring early detection, reporting and management.

Leprosy case finding can be integrated with active case findings of TB during community-based care. Rabies prevention and awareness programmes targeting health care providers and communities in conjunction should be conducted in conjunction with the Department of Agriculture, Forestry and Fisheries (DAFF). Campaigns should include the vaccination of dogs and the promotion of responsible dog ownership. The Leprosy mission had opened two centres in the country with the plan to open one for each province. Below are key objectives, activities and resources to ensure universal access to NTD chemotherapy.

Table 9. Pillar 1: Ensure Universal Access to NTD Chemotherapy and Interventions

Strategic Objective	Key Activities	Sub-Activities	Resources	Timeframe	
Scale up an integrated preventive chemotherapy program, including access to SCH and STHs interventions	Conduct mapping in the remaining provinces (Free State, Northern Cape, Western Cape)	Identify schools in the districts (districts where mapping has not taking place yet)	Human resources & material resources, data	2019	
		Conduct advocacy and RISK communication to identified schools and parents	Human resources & material resources	2019	
		Conduct mapping	Human resources & material resources; Budget	2019	
	Implement preventive chemotherapy for SCH and STH in all provinces	Develop guidelines for the implementation of SCH and STH preventive chemotherapy	Human Resources (NDOH, Stakeholders)	2019/20	
		Conduct mobilization of all stakeholders	Human Resources; Financial resources	2019/20	
		Train key stakeholders (School Health Teams, WBOTS, SGB's Educators,)	Human Resources; Financial resources	2019/20	
		Mass drug administration (MDA) for SCH and STH in schools, early childhood development (ECD) sites and out of school children in endemic districts	Human Resources, Vehicles, medication surgical sundries	August/Sept 2019	
		Mass drug administration (MDA) for SCH and STH in adults considered to be at risk living in endemic areas in all provinces	Human Resources, Vehicles, medication surgical sundries	August/Sept 2019	
	Case Management NTDs				
	Accelerate rabies control and leprosy elimination activities in remaining endemic areas and intensify morbidity management and rehabilitation support services	Prevent rabies through increased and effective dog vaccination	Develop national strategies and improve capacity for dog vaccination programmes	human and financial resources	2019/20
Conduct capacity-building for dog vaccination			Human and financial resources	2019/20	
Identify and reach previously undetected or hard-to-reach dog populations			Human and financial resources, vaccines, transport	2020/21	
Ensure rabies control strategies reach both confined and free-roaming dog populations			Human resources		
Ensure ≥ 70% "at-risk" population coverage			Human, financial and material resources, transport	2020/21	
Establish a high-quality rabies vaccine bank		Ensure efficiency of supply chain for rabies vaccines and human PEP	Human resources		
		Complete design, modelling and validation for stocks and vaccine banks	Human resources	2019/21	
Prevent human deaths from rabies exposure by ensuring equitable, affordable and timely access to health care, medicine and vaccines		Ensure PEP (Rabies Immunoglobulin and human rabies vaccine) availability in primary point of care			
		Training of staff on managing animal bites and the administration of PEP	Financial and material resources	2019/20	
		Ensure efficiency of supply chain for PEP	Guidelines		

Strategic Objective	Key Activities	Sub-Activities	Resources	Timeframe
		Vaccination of high-risk populations (animal handlers, veterinarians etc.)	Human resources	
		Train all stakeholders on treatment of rabies and leprosy.		
	Ensure availability of rabies vaccines.	Distribute rabies vaccines to all health facilities	DOH; Financial resources	2019 - 2022
	Ensure that post exposure prophylaxis is administered and adhered to.	identify all animal bite cases and treat with immediate effect	Human resources, Supply Chain for (procurement), Medicines	2019/20
Strengthen pharmacovigilance and quality assurance for NTD medicines	Ensure availability of medicines at all times	Distribute medicines to all health facilities timeously	Human Resources, Financial resources	2019/20
		Record keeping of all treated cases and request medicines when needed.	Human resources	2019/20
	Monitor and manage adverse effects and resistance	Ensure that new drugs are properly registered with the relevant pharmaceutical bodies	Pharmacy unit	2019/2020
		Ensure proper record keeping of adverse events and reporting.	Human resources	
		Monitoring and evaluation	Human resources	2019/23
		Monitor resistance patterns	Human resources	2019/23

5.2: PILLAR 2 - Strengthen vector control, environment and research and innovations for NTD elimination

The elimination of NTDs is achievable with adequate transmission control, environmental modification, research to provide evidence and innovative approaches to accelerate elimination targets. Figure 15 below shows the main interventions in vector control. Most of these interventions are covered under Pillar III (surveillance) and Pillar IV (coordination and collaboration). The enabling factors in Snail control is done through environmental management, drainage and land reclamation, and use of biological and chemical agents to kill or reduce snail population.

Snail control is a significant control measure that results in the interruption of schistosomiasis transmission thereby reducing the infection level in the communities. Snail control can include chemical, biological and environmental control. The use of molluscicides combined with chemotherapy has shown that transmission can be reduced. In addition, environmental modification such as alteration of water resources for irrigation schemes, in order to control or eliminate snail habitats is recommended for schistosomiasis elimination. This method may be costly but may have long-term economic benefit. The environmental alteration includes frequent removal of vegetation from the irrigation canals and lining of canals with cement or rubber in order to prevent vegetation growth and keeping the flow higher than the snails can tolerate.

Figure 16 Vector Control interventions

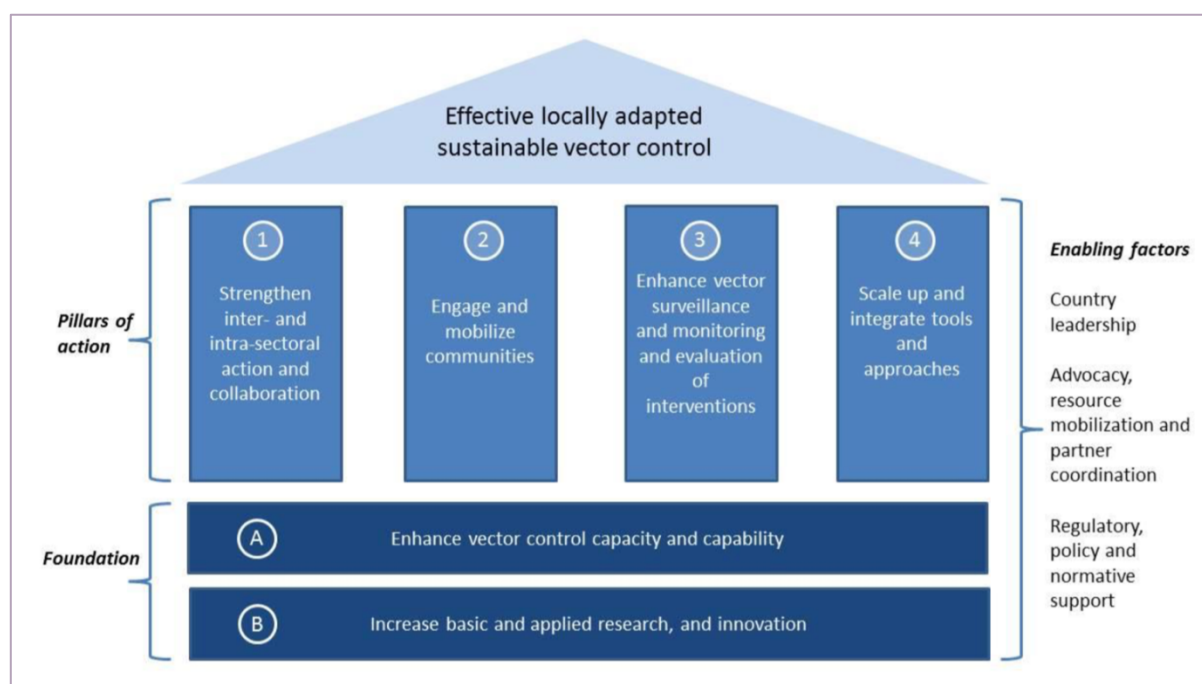


Table 10. PILLAR 2: Strengthen vector control, environment and research and innovations for NTD elimination

Strategic Objective	Key Activities	Sub-Activities	Resources	Timeframe
Strengthen vector control for the elimination of schistosomiasis	Develop Vector control specification guidelines	Develop schistosomiasis vector control guidelines	Budget (R958 850)	2019
		Conduct community awareness on Schistosomiasis	Annual awareness campaign, Transport (HPV), IEC material	2019
		Use available surveillance data sources from relevant departments to identify hotspots	Human resource	2019/25
		Conduct larviciding and mollusciciding of snails and residual spraying of infested water sources	Laboratory services; PPE; Equipment for snail sampling and identification; equipment for application of molluscicides	2019/25
	Strengthen water quality monitoring	Re-orientate municipal environmental practitioners on guidelines for environmental management of Schistosomiasis	Financial resources	2019/25
		Conduct water microbiological analysis	Human and material resources	2019/2025
		Conduct routine water quality and sanitary inspections and monitoring	Financial resources	2019/2025
Strengthen environmental management including water and sanitation in support of elimination of soil-transmitted helminthiases and schistosomiasis	Establish intersectoral collaboration in WASH programme	Establish partnerships for water supply improvement	Budget (R226 800)	2019
		Partnership for sanitation improvement		2019
		Conduct regular M&E meetings	Budget (R226 800)	2019/25
		Improve access to water supply and sanitation in affected areas where the amenities are low	Human and financial resource	
		Develop the terms of reference for stakeholders in relation their roles		2019/21
	Strengthen social mobilisation	Develop IEC material on WASH	Budget (R450 000)	2019/25
		Conduct WASH awareness campaigns		
Support operational research, documentation and evidence to guide innovative approaches to NTD programme interventions	Establish partnership with academic institutions	Develop comprehensive NTDs training manuals and guidelines	Budget (R958 850)	2019/20
		Conduct quarterly stakeholder review meetings and identify new members		
		Draft a memorandum of understanding for operational research between stakeholders and identified academic institutions	Budget (R401 620)	2019
	Identify research gaps	Disseminate findings in scientific seminars and through publication	Human and financial resource	2019
		Use available surveillance and monitoring data to identify research gaps	Human resources	2019
		Use published studies to pilot test approaches	Human resources, internet access	2019/25
		Conduct operational research	Human resources, budget (R500 000)	2019/21
Source funding for NTDs research	Draft and submit NTD research proposals to available research funders	Human resources	2019/25	

5.3: PILLAR 3 - Transform NTD Surveillance into a Core Intervention

Surveillance is a core intervention when a disease is targeted for elimination. This is to ensure a continuous, systematic, analysis and interpretation of data for planning, implementation, and evaluation of the NTD interventions. Three of the four endemic NTDs have been targeted for elimination in South Africa. Therefore, there is need to ensure that surveillance is constant to be able to detect any resurgence or increase in the diseases, clarify the epidemiology and track progress towards the national goal of a South Africa free of schistosomiasis, soil transmitted helminthiasis, rabies and leprosy.

A critical examination of the current surveillance capabilities and capacities should be prioritised to enable improved coordination between systems in support of ongoing control. The country has set an ambitious goal of achieving nation-wide transmission interruption by 2025. NTDs should be included on a list of four infectious diseases targeted with high priority for surveillance and control, along with tuberculosis, HIV/AIDS and Hepatitis B. This major policy change is highly recommended and will establish NTDs as a national priority and elevating the position of the disease on the list of nationally notifiable diseases to a higher class. In 2017, Schistosomiasis and STHs were included on the list on notifiable medical conditions to make all NTDs notifiable. This data will assist in ensuring that South Africa has a reliable data source to monitor and evaluate the programme.

The strategy for mass treatment is based on WHO recommendations. For monitoring of treatment coverage, data forms brought back from each school will determine the treatment coverage at the school. Data on consent and assent per school should also be collated. It is important to monitor the content of health education provided, frequency, duration and the targets reached (epidemiological, geographical and treatment coverage for the MDAs). An M&E framework will be developed and will be in line with the WHO framework as outlined below in Figure 16.

Figure 17: Monitoring and Evaluation framework

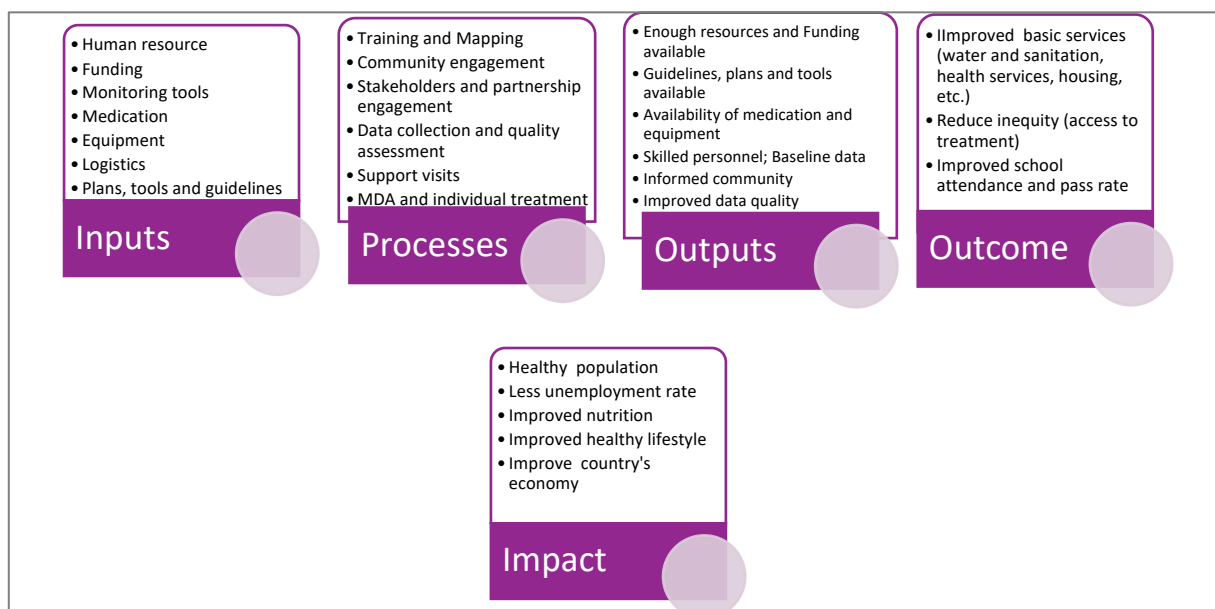


Table 11. PILLAR 3: Transform NTD Surveillance into a Core Activity, Monitoring & Evaluation

Strategic Objective	Key Activities	Sub-Activities	Resources	Timeframe
Establishment of efficient surveillance system for NTDs	1.1 Develop surveillance guidelines and data management tools for NTDs	1.1.1 identification and involvement of key stakeholders in NTD surveillance	Human resource Expertise (NICD, WHO, Research institutions, other stakeholders) Financial resource	2019/2020
		1.1.2 Conduct a workshop to develop surveillance guidelines for NTDs including case definitions with relevant stakeholders	Human, material and financial resources	
		1.1.3 Train surveillance teams at all spheres of government and train-the-trainers	Human, material and financial resources	
		1.1.4 Sensitise health care providers and other relevant stakeholders on NTDs (to raise awareness and 'suspicion index' for NTD cases)	Human, material and financial resources	
	1.2 Introduce NTD surveillance data management within an integrated platform to ensure data flow is automated and available in real time	1.2.1 Develop integrated tools for reporting NTDs in the DHIS2 and or HMIS	Human, material and financial resources	2019/2020
		1.2.2. Integrate all the NTDs into the current notifiable medical conditions (NMC) surveillance system	Human, material and financial resources	
		1.2.3 Feedback laboratory results timeously to provinces, districts and all relevant stakeholders	Human, material and financial resources	
	1.3 Establish and strengthen supportive supervision for NTD surveillance	1.3.1 Conduct Support Supervision on surveillance for NTDs (Train all health care workers, school communities, community and laboratories on NTDs with emphasis on the case definitions, symptoms and reporting)	Human resource: Data capturers; Financial resource: for logistics	2020/2021
		1.3.2 Conduct Monthly and quarterly (systematic) integrated supervision of NTD surveillance at all levels	Human and financial resources	2020/2025
	Conduct impact transmission assessment surveys for schistosomiasis and soil transmitted helminthiasis	2.1 Establish sentinel sites in selected communities and schools	2.1.1 Identify and conduct random sampling in risk areas	Human, material and financial resources
2.1.2 Enhanced engagement with sentinel sites to obtain buy-in				
2.2 Impact assessment surveys for STH and SCH every 3 years and validation of data		2.2.1 Train the survey teams on the protocol	Human, material and financial resources	2020
		2.2.2 Conduct social mobilization for impact surveys	Human, material and financial resources	2023
		2.2.3 Conduct impact assessment surveys every 3 years based on the eligibility criteria	Human, material and financial resources	2022/2025
NTD communication and linkages with communities and clinicians	3.1 Sensitization of Communities to raise community awareness on NTDs	3.1.1 To create awareness in the communities to enhance surveillance and reporting	Advocacy and IEC materials, Human resource; Financial resource: for logistics	2019
		3.1.2 Conduct community sensitization for religious leaders, teachers, journalists, DAs, and TBAs on signs of NTDs	Material, human and financial resources	2019/2020
		3.1.3 Conduct Advocacy Interactions with Community leaders, NGOs, and ICRC to promote officials' awareness and support and commitment for NTD surveillance activities	Material, human and financial resources	2020/2025
		3.2.1 Cross border advocacy meetings	Human resource; Financial resource: for logistics	2019/2025

Strategic Objective	Key Activities	Sub-Activities	Resources	Timeframe
	3.2 Create cross border activities to strengthen surveillance between neighbouring countries and provinces	3.2.2 Identification of joint sentinel sites for disease surveillance and monitoring	Human resources	2019/2020
		3.2.3 Joint community sensitisation and training on channels of communications	Human resource; Financial resource: for logistics	2019/2022
		3.2.4 Joint meeting for information sharing and	Human resources	2019/2025
		3.2.5 Initiate joint control activities		
		3.2.6 Support laboratory network for parasite identification	Human resource; Financial resource: for logistics	2019/2025
		3.2.7 Support cross border surveillance in the sentinel sites	Human, material and financial resources	2020/2025
		3.2.8 Training of trainers	Human resource; Financial resource: for logistics	2020
		3.3 Production and distribution of NTD Surveillance IEC materials in local languages Develop Surveillance IEC materials	3.3.1 Radio jingles and TV / Radio Appearances	Human, material and financial resources
	3.3.2. Distribution of Posters, leaflets, fliers		Human, material and financial resources Human resources	2019/2025
	Strengthen monitoring for action including, collection and use of programme performance and operations data for action, such as scaling down and verification of elimination, regular programme reviews, documentation and reporting.	4.1 Develop NTD monitoring and evaluation mechanisms	4.1.1 Develop an NTD Monitoring and Evaluation plan and tools	Human and financial resources
4.1.2 Establish M & E Task team			Human resources	2019
4.1.3 Monitoring Operational data				2019/2025
4.1.4 Monitoring Performance data (geographical, epidemiological and treatment coverage)			Human resources	2019/2025
4.1.5 Include NTD performance and operational indicators in the NIDS database			Human resources	2019
4.1.6 Conduct lessons learnt workshop			Human and financial resources	2019/2025
4.2 Conduct baseline surveys		4.2.1 Establish baseline NTD disease (SCH, STH, leprosy and rabies) prevalence	Human resources	2020
		4.2.2 Establish baseline prevalence of dog rabies	Human and financial resources	2019
		4.2.3 Establish baseline of access to clean water	Human and financial resources	2019
		4.2.4 Establish baseline of sentinel sites		
		4.2.5 Snail studies to determine infested waters	Human and financial resources	2019
		4.2.6 Baseline surveys in the sentinel and spot check sites for parasitic intensity and prevalence		
		4.2.7 Data analysis and report writing	Human and financial resources	2019

Strategic Objective	Key Activities	Sub-Activities	Resources	Timeframe
	4.2 Conduct periodic programme review meetings	4.2.8 Dissemination of findings with stakeholders	Human and financial resources	2019
		4.2.1 Conduct Biannual Review Meetings with Provinces	Human resources	2019/2025
		4.2.2 Conduct Quarterly monitoring meetings with Provincial DMS	Human resources	2019/2025
		4.2.3 Conduct monthly review meetings with DHIOs	Human resources	2019/2025
	4.3 To conduct annual national NTD research symposium	4.3.1 Apply for CPD accreditation	Human resource; Financial resource: for logistics	2020
		4.3.2 Create NTD Symposium Committee and TORs	Human resources	2020/2021
		Hold Symposium	Human, material and financial resources	2020/2021
	4.4 To carry out pharmacovigilance of NTD drugs including drug resistance surveillance.	4.4.1 Incorporate drugs into stock visibility system (SVS)	Human and financial resources	2019/2025

5.4: Pillar 4 - Strengthen Planning, Resource Mobilization, Coordination and Inter-Sectoral Coordination for Elimination of NTDs

To strengthen the management and operation capacities of the NTD programme, NTD focal persons at various levels needs to be appointed. This will help with the scaling up of interventions across the country. Further, NTDs have several contributing factors that contribute to their transmission and persistence, which if not addressed effectively and adequately, will promote infection. The contributing factors usually are outside the health sector and multisectoral collaboration to address them is very important. Therefore, strengthening multisectoral collaboration through the implementation of the coordination mechanism at all levels is required to achieve the elimination targets set for the NTDs in South Africa. The areas of intervention that will require multisectoral collaboration include resource and social mobilisation, vector control, access to safe water supply and sanitation. Health and hygiene education to improve knowledge, attitudes and practices should be promoted.

Adequate sanitation and access to safe water supply should be aimed at in order to reduce contamination of the soil with STH eggs and of fresh water with schistosoma eggs, and thus to reduce human contact with contaminated soil and water. The use of improved latrines in communities without the necessary infrastructure has proven effective in providing access to sanitation services, thereby reducing contamination of soil and water from improper sanitary practices. The provision of water supply (access to clean water is a human right in South Africa) in turn reduces the contact of community with contaminated water as they will rely on tap water for purposes such as washing clothes, bathing and playing. Therefore, advocacy for provision of an adequate supply of sanitation facilities and potable water to communities becomes essential. These require multi-sectoral inputs from various departments and stakeholders.

Multi-sectoral inputs from various departments and stakeholders are required. The Department of Health (including Primary Health Care) will Coordinate the overall prevention and control of schistosomiasis, STH, leprosy and human rabies including health education, prevention campaigns, case management, surveillance and environmental health with the National Health Laboratory Service/National Institute for Communicable Diseases Laboratory confirmation, monitoring of drug resistance and updating database for laboratory confirmed cases. The Department of Water Affairs will ensure availability of safe water to the community. Having access to safe water will reduce the community's risk of infection with schistosomiasis and STHs; the community will no longer rely on water from the rivers and dams for domestic purposes. The Department of Education will play a major role in educating learners and discouraging risky behaviours such as indiscriminate defecation and swimming in dams and rivers that may expose them to the infection. They will also support health in the deworming of students against schistosomiasis and STH.

Similarly, the Department of Agriculture, Forestry and Fisheries will be involved in vector control by removing vegetation from the irrigation reservoirs and canals reduces the breeding capacity of the snails. The Department of Human Settlement will provide adequate sanitation and access to safe water supply and proper housing to reduce contamination of soil with STHs' eggs due to improper sanitary practices. Academic Institutions will continue conducting research on NTDs which is crucial in updating the NTD policies and strategies. The Department of Social Development will play a major role in poverty alleviation of the affected communities and families. The Department of Social Development will therefore have to work very closely with the Department of Health in ensuring that the children are healthy and there is promotion of and access to good nutrition; the Department of Cooperative Governance and Traditional Affairs can assist with the facilitation of the infrastructure improvement and development of the local communities. COGTA can also assist with access to the traditional healers and leaders since communities

listen more to their traditional leaders. It is therefore important to liaise with the traditional leaders during health promotion activities, for the messages to be well received by the community members.

Other departments that health need to collaborate with include Department of Arts and Culture (assist in key message translation and design of IEC material; sensitisation); Local Municipalities will facilitate the improvement of the infrastructure and access to clean water, sanitation and housing; the Traditional Healers, who are usually the first contact of consultation by many people seeking health care, should be aware of the diseases and take proper action of sending the patients to the health care facilities for further assessment and treatment.; while Religious Organisations will contribute in the prevention and control of NTDs by sending health promotion messages to their members during their gatherings.

The National Department of Health together with Department of Education will establish a Technical Coordination Committee for the mass treatment campaign for schistosomiasis and STHs, the committee constitutes of members who have expertise in schistosomiasis and STHs. The Department of Water and Sanitation and South African Local Government and Association will be kept informed and/or will be invited to participate. The district committees should reflect the same competence. The table below highlights the key activities, targets and resources required for a successful coordination and collaboration mechanism for the NTD programme in South Africa.

Table 12. PILLAR 4: Strengthen planning, resource mobilization, coordination and inter-sectoral coordination for elimination of NTDs

Strategic Objective	Key Activities	Sub-Activities	Resources	Timeframe	
Strengthen capacity to implement NTD programme management and resource mobilization, including the integration of NTD plan of action into financial plans at all spheres	1.1 Establish an NTD Programme	1.1.1 Develop functions of the NTD unit	Human resource	2019	
		1.1.2 Identify and deploy officers dedicated to NTDs for PC, CM, M&E and communication	Human resources	2019	
		1.1.3 Develop TORs for the NTD staff	Human resources	2019	
		1.1.4 Establish a functional NTD at national level	Human, office space, equipment, transport and financial resources	2019	
		1.1.5 identify NTD focal people at provincial and district levels with clearly outlines TORs			
	1.2 Develop and implement policy documents and work plans to support programme implementation	1.2.1 Workshop to develop NTD annual work plans	Budget		2019/2020
		1.2.2 Workshop to adapt WHO NTD implementation guidelines and SOPs at all levels			
		1.2.3 Workshop to develop a National NTD policy			2019/20
	1.3 Capacity building for NTD Management and implementation at national, provincial and district levels	1.3.1 Capacity building of NTD Officers at central/national level	HR, Budget, & Guidelines		2019/2025
		1.3.2 Conduct training of NTD focal persons at provincial and district levels			
		1.3.3 Training of healthcare workers, educators, SGBs, Clinic committees, community formations and other implementation stakeholders			
	1.4 Mobilize resources to implement the NTD strategy	1.4.1 Identify key stakeholders and partners (funding and implementing) for NTDs			2019/20
		1.4.2 Strengthen public-private partnerships			
		1.4.3 Conduct regular consultative meetings with various stakeholders			
1.4.4 Education and awareness raising of communities regarding animal bites and exposure risk					
Launch and implement the South Africa NTD coordination mechanisms and foster partnerships at national, provincial and district levels	2.1 Establish the coordinating body with line ministries at all levels (DRDAR, DOE, DSD, SALGA, House of Traditional leaders, Cogta, IYA, CDWs, CCGs, WBOT, EHPs etc)	2.1.1 Facilitate the approval of the NTD coordination mechanism	NTD Focal point	2019	
		2.1.2 Identify key members	NTD focal Point	2019	
		2.1.3 Identify and allocate roles and responsibilities	NTD focal point	2019	
		2.1.4 Schedule of regular meetings		2019/2025	
		2.1.5 Strengthen and expand the outbreak response team for CM NTDs	HR, Budget, & Guidelines	2019/2025	
		2.1.6 Establish relations with bordering provinces and countries			
Strengthen advocacy, visibility and profile of NTDs for the elimination interventions at all levels	3.1 Develop advocacy strategy	3.1.1 Develop a concept note and motivation for NTD programme for the minister/DG	Human resource	2019	

Strategic Objective	Key Activities	Sub-Activities	Resources	Timeframe
		3.1.2 Conduct advocacy for NTDs	Human resource	2019
	3.2 Enhance visibility and profile of NTDs	3.2.1 Advocate for inclusion of NTDs at health sector related meetings and events		2019/2025
		3.2.2 Engage the EMT for buy inn of the initiative		
Social mobilization and communication.	4.1 Implement Health promotion strategies and approaches	4.1.1Develop and disseminate key health education messages on NTDs in all S African languages for advocacy and awareness creation	Health Promotion Practitioners, Communication Officers, politicians, Budget, IEC Materials, loud hailers	2019/2025
		4.1.2 Conduct community engagement meetings (ECD Centres, Traditional leaders, Municipality, Schools, churches, community formations), community dialogues,		
		4.1.3 Road shows and radio slots,		
		4.1.4 Outreach campaigns and door to door campaigns		

Monitoring and evaluation

The vision for the country is a South Africa free of schistosomiasis, soil transmitted helminthiasis, leprosy and human rabies. Monitoring of the NTD programme is important to adjust as implementation progress and this should be continuous during the interventions especially treatment coverage and drug efficacy. The programme will then be evaluated after several years of intervention to assess the impact of the interventions. When this is performed, the results are compared with the baseline data prior the interventions. Figure 17 below summarizes the main stages towards elimination

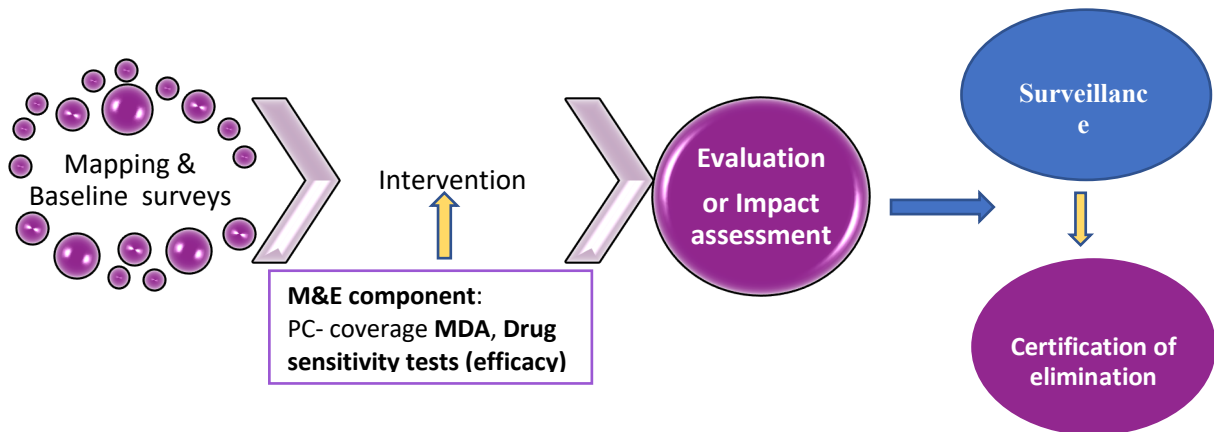


Figure 18: Programmatic approach to achieve and sustain elimination

certification. The surveillance is core intervention when NTDs are targeted for elimination. This will enable early detection of re-emergence of cases following declaration of a disease eliminated and stoppage of intervention. This is a continuous process implemented in facilities and or laboratories for action.

A set of performance indicators have been developed that will be monitored to assess progress and impact of intervention for each strategic pillar and objectives. The following tables (15, 16, 17, 18, and 19) for each strategic pillar.

Table 13. Performance Indicators Pillar 1: Ensure universal access to NTD chemotherapy and interventions

Strategic Objectives	Performance Indicators	Target	Date
Scale up integrated preventive chemotherapy to achieve 100% geographic coverage and treatment access to soil-transmitted helminthiasis and schistosomiasis medicines	No of provinces with completed mapping of NTD's	9 provinces	2019
	No of provinces with NTD plans	9 provinces	2019
	No of provinces with guideline tools for advocacy	9 provinces	2020
	No of campaigns conducted on NTD's	1 campaign per province	Annually
	No of workshops conducted on NTD's	2 workshops per province	Annually
	No of stakeholders trained on NTD's	25 per workshop	Annually
	No of stakeholders and partners involved in NTD program	30	Annually
	No of children treated on STH	All SAC in endemic districts (10 237 077 in 2019)	Annually
	No of children treated on SCH	All SAC in endemic districts	Annually
Accelerate rabies control and leprosy elimination activities in remaining endemic areas and intensify morbidity management and rehabilitation support services	No of campaigns and workshops conducted on rabies	1 campaign per province and district	Annually
	No of campaigns and workshops conducted on leprosy	1 campaign per province and district	Annually
	No of cases treated for leprosy	100%	Annually
	No of cases treated for rabies	80%	Annually
Complete mapping of NTDs in the remaining three provinces, and strengthen capacity at national level and sub-national levels to implement NTD programme interventions	No of officials trained on NTD's	2 people each per province, district and community levels	
	No of provinces with completed mapping of NTD's	9 provinces	2019
	Percentage of disease prevalence	50%	Ongoing
	Percentage of disease – specific targets achieved.	80%	Ongoing
Strengthen pharmacovigilance for NTD medicines and quality assurance for NTD medicines	Treatment registration & regulation verified	All	2019
	No of adverse drug events reported.	All	Annually

Table 14. Performance Indicators Pillar 2: Strengthen vector control, environment and research and innovations for NTD elimination

Strategic Objectives	Performance Indicators	Target	Date
Strengthen vector control for the elimination of schistosomiasis	Schistosomiasis vector control guidelines	Guidelines developed	2019/2020
	Community awareness on Schistosomiasis	Community awareness in all endemic areas	Ongoing
	Hotspots for NTDs	All hotspots identified	2020
	larviciding and mollusciciding of snails and residual spraying of infested water sources	All infested water sources treated	Ongoing
	Municipal environmental practitioners oriented on snail control	All environmental health practitioners trained	Ongoing
Strengthen environmental management including water and sanitation in support of elimination of soil-transmitted helminthiases and schistosomiasis	Partnerships for water supply improvement	Quarterly inter-sectoral or partnership meetings	Annually
	Partnership for sanitation improvement		Annually
	M&E meetings		Annually
	Access to water supply and sanitation in affected areas where the amenities are low	At least 90% of new households connected to water supply and sewer reticulation systems	By 2025
	Terms of reference for stakeholders in relation their roles	Availability of approved terms of reference document	2019
	IEC material on WASH	Availability of IEC material on WASH	2019/2020
	WASH awareness campaigns	WASH campaigns conducted in all endemic districts	Annually
	Comprehensive NTDs training manuals and guidelines	Availability of training manuals	2019/2020
Support operational research, documentation and evidence to guide innovative approaches to NTD programme interventions	Memorandum of understanding for operational research between stakeholders and identified academic institutions	Memorandum of understanding for research	2019
	Research results disseminated in scientific seminars and through publication	Annual seminars and publications	2020/2025
	Operational research		

Table 15. Performance Indicators for Pillar 3: Transform NTD Surveillance into a Core Intervention

Strategic Objectives	Performance Indicators	Target	Date
Establishment of efficient surveillance system for NTDs	Updated NMC guidelines that include NTD case definitions	NMC Guidelines updated	2020
	All 52 health districts reporting NTDs using the surveillance system (including zero reporting)	Zero reporting of new cases	2025
Conduct impact / transmission assessment surveys for Schistosomiasis and soil transmitted helminthiasis	Sentinel sites established <i>40 needed</i>	<i>2 in each endemic province</i>	<i>12 sites in 2019, 24 sites 2020, 40 sites by 2021</i>
	Impact assessment surveys conducted on STH and SCH	Surveys conducted after 3 rounds of treatment with 75% treatment coverage in SAC	2023/2025
Establishing communication channels between health care providers and communities/ stakeholders on NTD surveillance	Established communication channels between health care providers and communities/ stakeholders on NTD surveillance	At least 90% <i>Of communities aware of NTDs by 2025</i>	Annual campaigns
Develop monitoring and evaluation for action including: Collection and use of programme performance and operations data for action, (such as scaling down and verification of elimination, regular programme reviews, documentation and reporting).	Developed NTD monitoring and evaluation mechanisms	M&E Tools	2020
	Baseline survey on NTD control in endemic areas conducted	Endemic Areas	2020
	Number of review meetings conducted	1 per province	Annually
	Pharmacovigilance of NTD drugs conducted and reviewed	Safety and sensitivity	Ongoing

Table 16. Performance Indicators for Pillar 4: Strengthen planning, resource mobilization, coordination and inter-sectoral coordination for elimination of NTDs

Strategic Objectives	Performance Indicators	Target	Date
Strengthen capacity to implement NTD programme management and resource mobilization, including the integration of NTD plan of action into financial plans at all spheres	Number of professional and enrolled nurses employed and deployed	National NTD programme manager, 2 NTD officers for CM and PC NTDs, M & E officer, 1 NTD focal person per province - total 15 Officers	2019/2020
	Individual work plans for the 15 NTD officers	15 individual workplans	Annually
	NTD annual work plans developed (Province, district etc.)	20 -2 workshops per semester per year per province and 1 at National	Annually
	Number of workshops conducted for implementation	20 -2 workshops per semester per year per province and 1 at National	Annually
	National NTD policy developed	NTD as part of the National Health Policy	2019/2020
	Number of training sessions conducted		
	Number of officers trained	728: - 14 delegates per workshop per district plus 1 for National???	Annually
Launch and implement the South Africa NTD coordination mechanisms and foster partnerships at national, provincial and district levels	Number of stakeholders trained (Healthcare workers, educators, SGBs, clinic committees, community formations and other implementation partners)	1855 -35x53 stakeholders trained- 52 districts plus 1 for National.	Annually
	Number of key stakeholders and partners identified	WASH, MDA implementation, Vector Control and surveillance partners	2019
	Signed MOUs with private partners.	Running MoUs	2020
	Number of consultative meetings with various stakeholders.	At least 2 per year	2019/2020
	Approved NTD coordination mechanism.	Signed and disseminated	2019
	NTD taskforce established.	Established NTD Task Force	2019
	Border relations with other countries established.	Cross border meetings	2020/2025
Outbreak response teams strengthened	NTD agenda included on the National Epidemics Committee	2019	
Strengthen advocacy, visibility and profile of NTDs for the elimination interventions at all levels	A concept note and motivation for the NTD programme developed.	Concept Note	2019

PART IV: BUDGET JUSTIFICATION AND ESTIMATES

6. PROGRAMME BUDGET ESTIMATES

The budget estimates below are what it would cost to effectively implement the NTD Elimination Master Plan. It based on each strategic pillar or priority.

	MAJOR ACTIVITY	COST (RAND)
Pillar 1	Scale up an integrated preventive chemotherapy program, including access to SCH and STHs interventions	6,000,000
	Accelerate rabies control and leprosy elimination activities in remaining endemic areas and intensify morbidity management and rehabilitation support services	1,200,000
	Strengthen pharmacovigilance and quality assurance for NTD medicines	575,000
	Promote management of SCH and STH, and ensure availability of treatment for at health care facilities	600,000.00
Pillar 2	Vector control specification guidelines (development, dissemination and trainings)	450,000
	Strengthen water quality monitoring	90,000
	Establish intersectoral collaboration in WASH programme	18,000
	Strengthen social mobilisation on vector control	450,000
	Establish partnership with academic institutions	18,000
	Identify research gaps in NTD implementation and conduct research	0
Pillar 3	Develop surveillance guidelines and data management tools for NTDs	3,007,770
	Introduce NTD surveillance data management within an integrated platform to ensure data flow is automated and available in real time	1,467,000
	Establish and strengthen supportive supervision for NTD surveillance	90,000
	Establish sentinel sites in selected communities and schools	108,000
	Impact assessment surveys for STH and SCH every 3 years and validation of	10,306,700
	Create cross border activities to strengthen surveillance between neighbouring countries and provinces	108,000
	Develop NTD monitoring and evaluation mechanisms	50,000
	To carry out pharmacovigilance of NTD drugs including drug resistance surveillance.	250,000
	Conduct baseline surveys	4,000,000

	MAJOR ACTIVITY	COST (RAND)
	Conduct periodic programme review meetings	1,092,000
	To conduct annual national NTD research symposium	250,000
Pillar 4	National coordination and advocacy meetings	6,489,897
	Production of training and promotional materials	994,500
	Production of data collection materials	350,000
	Supply Chain - Distribution of Drugs and Supplies	0
	National training of trainers (ToTs)	210,000
	Community awareness creation and social mobilization	1,170,000
	Mass Drug Administration (MDA) implementation	375,000
	Production and distribution of NTD Surveillance IEC materials in local languages Develop Surveillance IEC materials	180,000
	TOTAL BUDGET	39,899,867

References

- Arndt, C., Davies, R. and Thurlow, J. (2018) 'Urbanization , Structural Transformation and Rural-Urban Linkages in South Africa', (April), pp. 1–43.
- Bishop, G. *et al.* (2010) *Guide for the Medical, Veterinary and allied Professions*. Second Edi. Edited by L. Blumberg *et al.* Government Printer, Pretoria.
- Centre for Emerging Zoonotic and Parasitic Diseases (2017) 'Rabies', 13(October), p. 2014.
- Conan, A. *et al.* (2017) 'Census and vaccination coverage of owned dog populations in four resource-limited rural communities , Mpumalanga province , South Africa', *Journal of the South African Veterinary Association*, 88(0).
- Dermaux-Msimang, V., Weyer, J. and Paweska, J. (no date) 'Human Rabies in South Africa, 2012-2013', *Communicable Disease Surveillance Bulletin*, 12(1).
- Geerdes, J. (2014) *Dog population characteristics and rabies vaccination coverage at the wildlife interface in the Mpumalanga Province of South Africa*. Universiteit Utrecht.
- Heymann, D. L. (ed.) (2008) *Control of Communicable Diseases Manual*. 19th edn. Washington, D.C.: American Public Health Association.
- Sartorius, K. and Sartorius, B. (2015) 'Service delivery inequality in South African municipal areas: A new way to account for inter-jurisdictional differences', *Urban Studies*, 53(15). doi: 10.1177/0042098015613001.
- Statistics South Africa (2018) 'Mid-year Population Estimates 2018', *Statistical Release*. doi: Statistical release P0302.
- Weyer, J. (2015) 'Rabies in South Africa: Where Do We Stand in 2015?', *Southern African Journal of Infectious Diseases*, 30(2), pp. 40–41. doi: 10.1111/tbed.12283.dog.
- World Health Organization (no date) *Rabies*. Available at: <https://www.who.int/rabies/about/en/> (Accessed: 9 January 2019).

Annexes

Annex 1: Distribution of the Population by District, the corresponding number of Primary Schools and Health Facilities. The Departments of Basic Education and Health Demarcation Districts and sub-districts differ as seen below.

Province	Health District	Number of subdistricts/Local municipalities	Total Population	1 - 4 years (Pre-School)	5-14 years (School Age)	Number of Primary Schools	Number of peripheral health facilities			
							Referral	District Hospitals	Health Centres	Clinics
Eastern Cape	A Nzo DM	2	882109	86,933	170,988	836	0	6	2	74
	Amathole DM	4	944967	93,128	183,173	1362	0	12	5	147
	Buffalo City MM	1	803598	79,196	155,770	428	1	2	5	80
	C Hani DM	6	850960	83,863	164,950	939	0	14	7	153
	Joe Gqabi DM	3	376545	37,109	72,989	378	0	11	0	54
	N Mandela Bay MM	3	1261699	124,342	244,568	348	2	1	9	45
	O Tambo DM	4	1450056	142,905	281,079	1269	0	9	10	140
Sarah Baartman DM	3	492,865	48,572	95,537	279	0	10	3	75	
Free State	Fezile Dabi DM	4	548,969	54,101	106,412	301	0	4	5	38
	Lejweleputswa DM	5	629,009	61,989	121,927	345	0	5	2	44
	Mangaung MM	3	839,387	82,723	162,707	368	1	3	2	59
	T Mofutsanyane DM	7	753,536	74,262	146,065	643	0	9	1	85
	Xhariep DM	3	144,861	14,276	28,080	129	0	4	1	17
Gauteng	Ekurhuleni MM	6	3,523,270	347,224	682,953	753	1	1	7	88
	Johannesburg M	7	5,154,305	507,965	999,113	1228	1	2	11	131
	Sedibeng DM	3	980,211	96,601	190,004	293	0	2	4	38
	Tshwane MM	7	3,422,915	337,334	663,500	792	1	5	8	71
	West Rand DM	4	920,314	90,698	178,394	240	0	2	3	49
KwaZulu-Natal	Amajuba	3	551,531	54,354	106,909	274	0	1	1	26
	eThekwiini MM	1	3,715,186	366,137	720,153	1116	1	4	8	134
	Harry Gwala DM	5	512,138	50,472	99,273	484	0	4	1	40
	iLembe DM	4	687,459	67,750	133,257	436	0	3	2	37
	Ugu DM	6	791,689	78,022	153,461	491	1	3	2	52
	uMgungundlovu	7	1,147,183	113,056	222,370	573	1	2	3	61
	Umkhanyakude	5	685,558	67,562	132,889	548	0	5	0	58

Province	Health District	Number of subdistricts/Local municipalities	Total Population	1 - 4 years (Pre-School)	5-14 years (School Age)	Number of Primary Schools	Number of peripheral health facilities			
							Referral	District Hospitals	Health Centres	Clinics
	Umzinyathi DM	4	551,706	54,371	106,943	527	0	4	1	54
	Uthukela DM	5	734,129	72,349	142,304	465	0	2	1	44
	King Cetshwayo	6	1,011,242	99,659	196,019	768	1	6	1	65
	Zululand DM	5	891,219	87,831	172,754		0	5	1	79
Limpopo	Capricorn DM	5	1,356,438	133,679	262,932	1388	2	8	6	98
	Mopani DM	5	1,190,709	117,346	230,807	1155	0	6	9	101
	Sekhukhune DM	5	1,201,288	118,388	232,858	1436	0	5	3	86
	Vhembe DM	4	1,442,768	142,187	279,667	1492	0	6	8	117
	Waterberg DM	6	775,400	76,417	150,304	664	0	7	3	62
Mpumalanga	Ehlanzeni DM	5	1,848,362	182,159	358,287	883	1	8	16	117
	G Sibande DM	7	1,136,130	111,967	220,228	593	0	8	19	66
	Nkangala DM	6	1,485,274	146,376	287,906	661	1	7	23	78
North West	Bojanala Platinum	5	1,721,771	169,683	333,749	682	1	3	9	118
	Dr K Kaunda DM	4	765,465	75,437	148,378	253	1	1	10	31
	Ngaka Modiri Molem	5	917,157	90,387	177,782	322	0	5	16	81
	Ruth Segomotsi M	5	503,289	49,600	97,557	548	0	4	12	51
Northern Cape	Frances Baard DM	4	403,289	39,744	78,173	193	1	2	4	26
	J T Gaetsewe DM	3	251,313	24,767	48,714	211	0	2	5	37
	Namakwa DM	6	125,479	12,366	24,323	92	0	2	10	25
	Pixley ka Seme DM	8	202,747	19,981	39,300	107	0	3	8	31
	ZF Mgcawu DM	6	264,806	26,097	51,330	110	0	2	6	17
Western cape	Cape Town MM	8	4,219,468	415,835	817,904	1260	1	9	11	104
	Cape Winelands	5	891,963	87,904	172,898	336	0	4	0	61
	Central Karoo	3	77,388	7,626	15,001	44	0	4	0	11
	Eden	7	638,848	62,959	123,834	282	0	6	0	42
	Overberg DM	4	301,611	29,724	58,464	121	0	4	0	25
	West Coast DM	5	461,846	45,515	89,524	169	0	7	0	28

Sources: Stats SA mid-year population estimates for 2018; Department of Basic Education EMIS; Atlas of Education Districts in SA.; Department of Basic Education, UNICEF

Annex 2 NDP Goals and Priorities 2030 and DOH Strategic Goals 2014 to 2019

NDP Goals 2030	NDP Priorities 2030	NDoH Strategic Goals 2014- 2019
Average male and female life expectancy at birth increased to 70 years	a. Address the social determinants that affect health and diseases d. Prevent and reduce the disease burden and promote health	Prevent disease and reduce its burden, and promote health;
Tuberculosis (TB) prevention and cure progressively improved;		
Maternal, infant and child mortality reduced		
Prevalence of Non-Communicable Diseases Reduced		
Injury, accidents and violence reduced by 50% from 2010 levels		
Health systems reforms completed	b. Strengthen the health system	Improve health facility planning by implementing norms and standards; Improve financial management by improving capacity, contract management, revenue collection and supply chain management reforms;
	c. Improve health information systems	Develop an efficient health management information system for improved decision making;
	h. Improve quality by using evidence	Improve the quality of care by setting and monitoring national norms and standards, improving the system for user feedback, increasing safety in health care, and by improving clinical governance
	Primary health care teams deployed to provide care to families and communities	Re-engineer primary healthcare by increasing the number of ward-based outreach teams, contracting general practitioners, and district specialist teams; and expanding school health services;
Universal health coverage achieved	e. Financing universal healthcare coverage	Make progress towards universal health coverage through the development of the National Health Insurance scheme, and improve the readiness of health facilities for its implementation;
Posts filled with skilled, committed and competent individuals	f. Improve human resources in the health sector g. Review management positions and appointments and strengthen accountability mechanisms	Improve human resources for health by ensuring adequate training and accountability measures.

Annex 3 The burden of disease that the NHI aims to improve

<p>Quadruple burden of disease: HIV, AIDS and Tuberculosis maternal neonatal and child morbidity and mortality rising disease burden of non-communicable disease high levels of violence and trauma</p>	<p>Biggest contributors to years of life lost (StatsSA) (i) TB, (ii) pneumonia, (iii) intestinal infectious diseases, (iv) heart diseases, (v) cerebrovascular disease, (vi) diabetes mellitus, (vii) HIV/AIDS (ix) chronic lower respiratory tract disease, (x) other viral diseases</p>
<p>Tackling South Africa's burden of disease requires a continuum of care, from community outreach to PHC and higher-level facilities, starting with health promotion and disease and disability prevention to higher levels of care as required</p>	

Annex 4: Co-endemicity status of NTDs

Region	District	Diseases			
		PCT NTDs		CM NTDs	
		Schistosomiasis	STH	Leprosy	Rabies
Eastern Cape	A Nzo Dm	+	+	+	+
Eastern Cape	Amathole Dm	+	+	+	+
Eastern Cape	Buffalo City Mm	-	+	-	+
Eastern Cape	C Hanu Dm	-	+	+	+
Eastern Cape	Joe Gqabi Dm	-	+	-	+
Eastern Cape	N Mandela Bay Mm	+	+	-	+
Eastern Cape	O Tambo Dm	-	+	+	+
Eastern Cape	Sarah Baartman Dm	-	+	-	+
Free State	Fezile Dabi Dm	Not Mapped	Not Mapped		+
Free State	Lejweleputswa Dm	Not Mapped	Not Mapped	+	+
Free State	Mangaung Mm	Not Mapped	Not Mapped	+	+
Free State	T Mofutsanyane Dm	Not Mapped	Not Mapped	+	+
Free State	Xhariep Dm	Not Mapped	Not Mapped		+
Gauteng	Ekurhuleni Mm	-	+	-	+
Gauteng	Johannesburg Mm	-	+	-	+
Gauteng	Sedibeng Dm	-	+	-	+
Gauteng	Tshwane Mm	-	+	-	+
Gauteng	West Rand Dm	-	+	-	+
Kwazulu-Natal	Amajuba Dm	+	+	-	+
Kwazulu-Natal	Ethekwini Mm	+	+	-	+
Kwazulu-Natal	Harry Gwala Dm	+	+	-	+
Kwazulu-Natal	Ilembe Dm	+	+	-	+
Kwazulu-Natal	Ugu Dm	+	+	+	+
Kwazulu-Natal	Umgungundlovu Dm	+	+	+	+
Kwazulu-Natal	Umkhanyakude Dm	+	+	+	+
Kwazulu-Natal	Umzinyathi Dm	+	+	-	+
Kwazulu-Natal	Uthukela Dm	+	+	+	+
Kwazulu-Natal	Uthungulu Dm	+	+	+	+
Kwazulu-Natal	Zululand Dm	+	+	+	+
Limpopo	Capricorn Dm	+	+	+	+
Limpopo	Mopani Dm	-	-	+	+
Limpopo	Sekhukhune Dm	+	+	+	+
Limpopo	Vhembe Dm	+	-	+	+
Limpopo	Waterberg Dm	+	+	-	+
Mpumalanga	Ehlanzeni Dm	+	+	+	+
Mpumalanga	G Sibande Dm	+	+	+	+
Mpumalanga	Nkangala Dm	+	+	+	+
North West	Bojanala Platinum Dm	+	+	-	+
North West	Dr K Kaunda Dm	+	+	+	+

Region	District	Diseases				
North West	Ngaka Modiri Molema Dm	+	-	-	-	+
North West	Ruth Segomotsi Mompati Dm	+	-	-	-	+
Northern Cape	Frances Baard Dm	Not Mapped	Not Mapped	-	-	+
Northern Cape	J T Gaetsewe Dm	Not Mapped	Not Mapped	-	-	+
Northern Cape	Namakwa Dm	Not Mapped	Not Mapped	-	-	+
Northern Cape	Pixley Ka Seme Dm	Not Mapped	Not Mapped	+	+	+
Northern Cape	Zf Mgcawu Dm	Not Mapped	Not Mapped	-	-	+
Western Cape	Cape Town Mm	Not Mapped	Not Mapped	-	-	+
Western Cape	Cape Winelands Dm	Not Mapped	Not Mapped	-	-	+
Western Cape	Central Karoo Dm	Not Mapped	Not Mapped	-	-	+
Western Cape	Eden Dm	Not Mapped	Not Mapped	-	-	+
Western Cape	Overberg Dm	Not Mapped	Not Mapped	-	-	+
Western Cape	West Coast Dm	Not Mapped	Not Mapped	-	-	+

Annex 5: Types of Mass Drug Administration

Cross cutting MDA types	Delivery channel	Timing of Treatment	Disease Combination	Requirements	Target Distribution	Other Disease Control Interventions
High risk community for both schistosomiasis and STH						
Treat all school age children (enrolled and non-enrolled (T1 Or T2 or T3)	School and community based	Every 6 months for STH and once a year for schistosomiasis	STH and schistosomiasis	Training of health personnel, teachers and community health workers. Community structures and schools	All endemic districts with STH and schistosomiasis prevalence of $\geq 50\%$	Integration with HPV vaccination EPI campaigns
Provide health education	School and community	Continuous	STH and schistosomiasis	Procurement of medicines	All endemic districts	School health programme and community sensitisation
Provide clean water and sanitation	Schools and community	Continuous	STH and schistosomiasis	Dose polls for schistosomiasis	All endemic districts	WASH programmes
Vector control	Community	continuous	schistosomiasis	Laboratory equipment Social mobilisation, transport, DSA and reporting tools	Rivers with infected snails	Environmental management
Moderate risk community for schistosomiasis						
Treat all school age children enrolled and non-enrolled (T1 or T2)	Schools and community	Once every two years	Schistosomiasis and STH	Training of health personnel, teachers and community health workers. Community structures and schools	All endemic districts or subdistricts with schistosomiasis prevalence $\geq 10 < 50$	HPV vaccination EPI campaigns
Provide health education	School and community	Continuous	STH and schistosomiasis	Procurement of medicines	All endemic districts	School health programme and community sensitisation
Provide clean water and sanitation	Schools and community	Continuous	STH and schistosomiasis	Dose polls for schistosomiasis	All endemic districts	WASH programmes
Vector control	Community	continuous	schistosomiasis	Laboratory equipment Social mobilisation, transport, DSA and reporting tools	Rivers with infected snails	Environmental management
Low risk community for schistosomiasis						

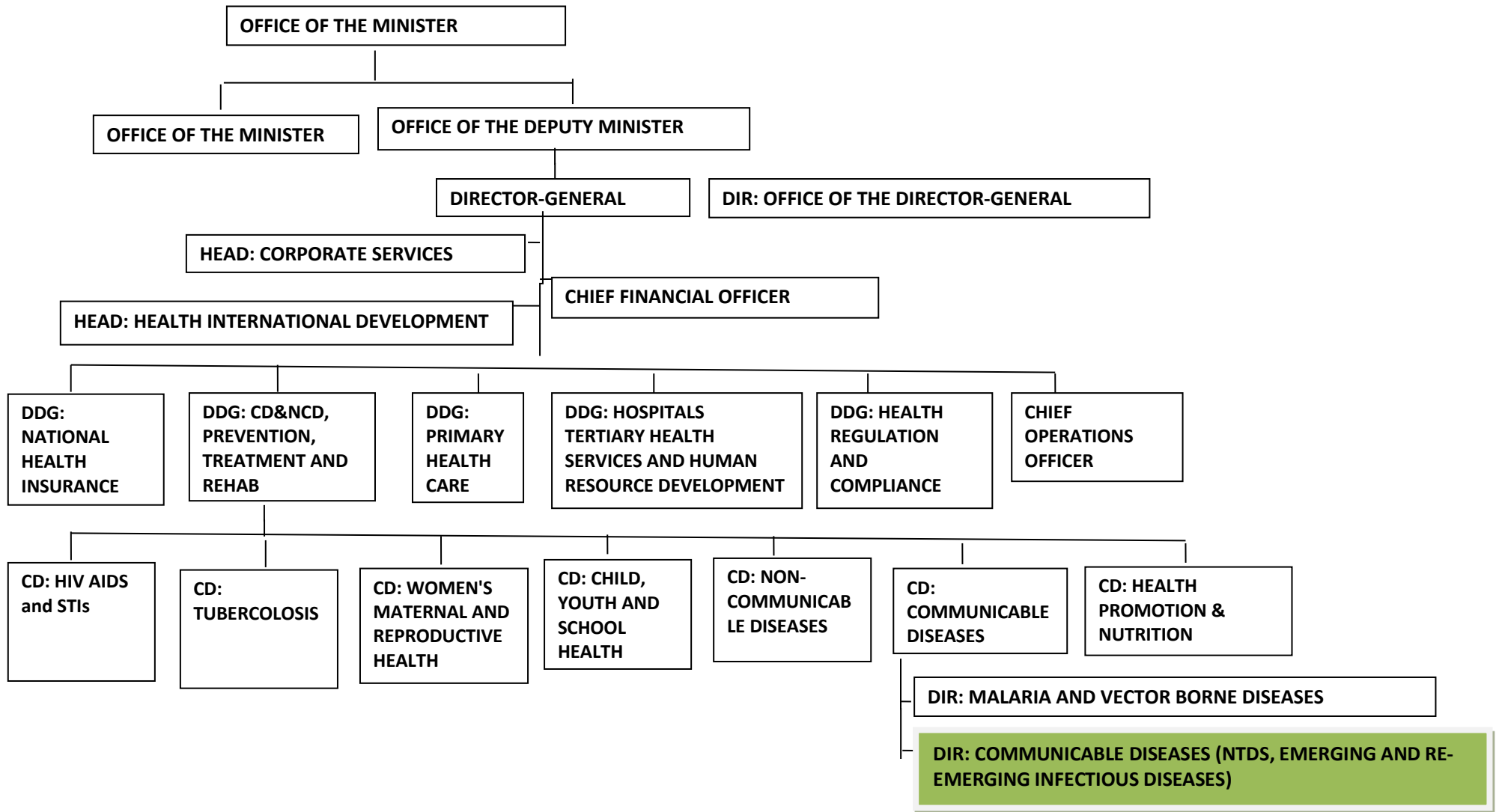
Cross cutting MDA types	Delivery channel	Timing of Treatment	Disease Combination	Requirements	Target Distribution	Other Disease Control Interventions
Treat all school age children enrolled and non-enrolled (T1 or T2)	Schools and community	Once every three years	Schistosomiasis and STH	As above	All endemic districts or subdistricts with schistosomiasis prevalence <10	HPV vaccination EPI Campaigns
Provide health education	School and community	Continuous	STH and schistosomiasis		All endemic districts	School health programme and community sensitisation
Provide clean water and sanitation	Schools and community	Continuous	STH and schistosomiasis		All endemic districts	WASH programmes
Vector control	Community	continuous	schistosomiasis		Rivers with infected snails	Environmental management
Low risk community for STH						
Treat all school age children enrolled and non-enrolled (T3)	School and community	Once a year for STH	STH and schistosomiasis	As above	Endemic districts with prevalence ≥20<50	Integration with HPV, EPI campaigns
Provide health education	School and community	Continuous	STH and schistosomiasis		All endemic districts	School health programme
Provide clean and safe water and sanitation	School and community	Continuous	STH and schistosomiasis		All endemic districts	WASH programme

Legend: T1 = Praziquantel + mebendazole or albendazole; T2 Praziquantel only and T3 Mebendazole or albendazole only

Annex 6 Department of Basic Education districts by province

PROVINCE	DISTRICT
Gauteng	<ol style="list-style-type: none"> 1. Ekurhuleni North 2. Ekurhuleni South 3. Gauteng East 4. Gauteng North 5. Gauteng West 6. Johannesburg Central 7. Johannesburg East 8. Johannesburg North 9. Johannesburg South 10. Johannesburg West 11. Sedibeng East 12. Sedibeng West 13. Tshwane North 14. Tshwane South 15. Tshwane West
Total	15
KwaZulu-Natal	<ol style="list-style-type: none"> 1. Amajuba 2. Harry Gwala 3. Ilembe 4. Pinetown 5. Ugu 6. Umgungundlovu 7. Umkhanyakude 8. Umlazi 9. Umzinyathi 10. Uthukela 11. Uthungulu 12. Zululand
Total	12
Limpopo	<p>Capricorn Mopani Sekhukhune Vhembe Waterberg</p>
Total	5
PROVINCE	DISTRICT
Mpumalanga	<ol style="list-style-type: none"> 1. Bojabela 2. Ehlanzeni 3. Gert Sibande 4. Nkangala
Total	4
Northern Cape	<ol style="list-style-type: none"> 1. Frances Baard 2. John Taole Gaetsewe 3. Namakwa 4. Pixley Ka Seme 5. Siyanda
Total	5
North West	<ol style="list-style-type: none"> 1. Bojanala Bojanala 2. Dr. Kenneth Kaunda 3. Dr. Ruth S. Mompoti 4. Ngaka Modiri Molema
Total	4
Western Cape	<ol style="list-style-type: none"> 1. Cape Winelands 2. Eden And Central Karoo 3. Metro Central 4. Metro East 5. Metro North 6. Metro South 7. Overberg 8. West Coast
Total	8

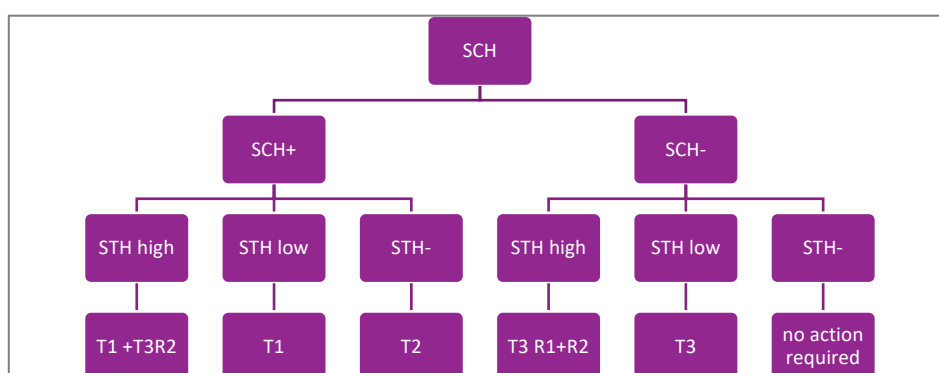
Annex 7: Organisational Chart of the MoH and NTD National Programme



Annex 8: Distances between Major Cities in South Africa

Start and Destination City	Distance	Mileage
Bhisho to Bloemfontein	431 km	268 miles
Bloemfontein to Cape Town	911 km	566 miles
Cape Town to Eastern Cape	766 km	476 miles
Eastern Cape to Gauteng	690 km	429 miles
Gauteng to Johannesburg	10 km	6 miles
Johannesburg to Kimberley	429 km	267 miles
Kimberley to KwaZulu-Natal	599 km	372 miles
KwaZulu-Natal to Limpopo	589 km	366 miles
Limpopo to Mpumalanga	722 km	449 miles
Mpumalanga to Nelspruit	483 km	300 miles
Nelspruit to North-West	583 km	362 miles
North-West to Northern Cape	429 km	267 miles
Northern Cape to Orange Free State	486 km	302 miles
Orange Free State to Pietermaritzburg	373 km	232 miles
Pietermaritzburg to Polokwane	642 km	399 miles
Polokwane to Pretoria	242 km	150 miles
Pretoria to Western Cape	1,033 km	642 miles

Annex 9: PCT Algorithms



Legend:

SCH – Schistosomiasis

STH – Soil Transmitted Helminthiasis

T1 – Praziquantel+Albendazole or Praziquantel+Mebendazole

T2 – Praziquantel

T3 – Albendazole or Mebendazole

R1 or R2 – Round 1 or Round 2

Annex 10: Package of preventive chemotherapy and case management NTDs

Activity	STH	SCH	Leprosy	Rabies
Programme Coordination	X	X	X	X
Intersectoral collaboration	X	X	X	X
Advocacy	X	X	X	X
Resource Mobilisation	X	X	X	X
Social Mobilisation	X	X	X	X
Training	X	X	X	X
Mapping	X	X	X	X
Drug distribution	Community	X		
	School	X		
	MDA Campaigns	X		
	EPI/Child Health days	X		
	HPV Vaccination	X	X	
Medical treatment	X	X	X	X
M & E	X	X	X	X
Surveillance	X	X	X	X
Capacity building	X	X	X	X

Annex 11: Package of Transmission Control - Vector Or Reservoir Control

Activity	Vector and associated NTD
	Snails and schistosomiasis
Space spraying	X
Larviciding	X
Prevention or treatment of breeding sites	X

Annex 12: Package of Improvement of Environment, Supply of Safe Drinking Water, Sanitation and Operational Research

Activity	SCH	STH	Leprosy	Rabies
Partnership for water supply improvement	X	X		
Partnership for sanitation improvement	X	X		
Social mobilization	X	X	X	X
Health promotion	X	X	X	X
Operational research	X	X	X	X

Annex 13: Drug estimates and logistics

NTD programme	Drug	Source drug	Status of procurement (donated or purchased)	Minimum lead time before delivery	In-country consignee
SCH	Praziquantel	WHO (Merck)	Donated (but not registered in SA)	6 months	WHO Representative
STH	Mebendazole	WHO (J&J)	Donated	6 months	WHO representative
Leprosy	MDT blister packs	WHO (Novartis)	Donated	6 months	
Rabies	Rabies vaccine		Donated / Procured		

Annex 14: Drug forecasting and logistics

Drug	Source of drug	Status of procurement (donate/purchased)	Minimum Lead time before delivery	In-country Consignee
Praziquantel	WHO	Donated	6 months	WHO
Mebendazole	WHO	Donated	6 months	WHO
MDT Blister pack	WHO			
Rabies vaccine				

Annex 15: Summary of progressive scale up and phase out of PCT interventions package

Status of interventions	Other PCT-NTD specific activities to be added
1 STH mass drug administration	<p>Set up sentinel sites for STH and SCH impact evaluation</p> <p>Coordinate 2nd round of STH MDA, through school and community-based approaches, where prevalence is high (>50%).</p> <p>Assess schistosomiasis endemicity, if endemic; coordinate STH MDA with praziquantel treatment jointly with 2nd round of STH MDA. If only schistosomiasis is endemic or STH prevalence is low (<50%), coordinate with school and community-based MDA for schistosomiasis.</p>
2 STH MDA Planned	<ul style="list-style-type: none"> -Map schistosomiasis and STH -Collect baseline for schistosomiasis and STH -Coordinate timing of delivery of MDA through community-based and school-based approaches appropriately.
3 STH not mapped	<ul style="list-style-type: none"> -Carry out integrated mapping with schistosomiasis where these are suspected.
4 STH not endemic	No action for STH but for schistosomiasis if endemic