The Global Fund
To Fight AIDS, Tuberculosis and Malaria

# STANDARD CONCEPT NOTE

## Investing for impact against HIV, tuberculosis or malaria

A concept note outlines the reasons for Global Fund investment. Each concept note should describe a strategy, supported by technical data that shows why this approach will be effective. Guided by a national health strategy and a national disease strategic plan, it prioritizes a country's needs within a broader context. Further, it describes how implementation of the resulting grants can maximize the impact of the investment, by reaching the greatest number of people and by achieving the greatest possible effect on their health.

A concept note is divided into the following sections:

**Section 1:** A description of the country's epidemiological situation, including health systems and barriers to access, as well as the national response.

**Section 2:** Information on the national funding landscape and sustainability.

**Section 3:** A funding request to the Global Fund, including a programmatic gap analysis, rationale and description, and modular template.

**Section 4:** Implementation arrangements and risk assessment.

***IMPORTANT NOTE:*** **Applicants should refer to the Standard Concept Note Instructions to complete this template.**

| SUMMARY INFORMATION | | | |
|---|---|---|---|
| **Applicant Information** | | | |
| **Country** | **Swaziland** | **Component** | **Malaria** |
| **Funding Request Start Date** | **Jan. 1, 2015** | **Funding Request End Date** | **Dec. 31, 2017** |
| **Principal Recipient(s)** | **NERCHA** | | |

**Funding Request Summary Table**

A funding request summary table will be automatically generated in the online grant management platform based on the information presented in the programmatic gap table and modular templates.

## SECTION 1: COUNTRY CONTEXT

This section requests information on the country context, including the disease epidemiology, the health systems and community systems setting, and the human rights situation. This description is critical for justifying the choice of appropriate interventions.

### 1.1 Country Disease, Health and Community Systems Context

With reference to the latest available epidemiological information, in addition to the portfolio analysis provided by the Global Fund, highlight:

a. The current and evolving epidemiology of the disease(s) and any significant geographic variations in disease risk or prevalence.

b. Key populations that may have disproportionately low access to prevention and treatment services (and for HIV and TB, the availability of care and support services), and the contributing factors to this inequality.

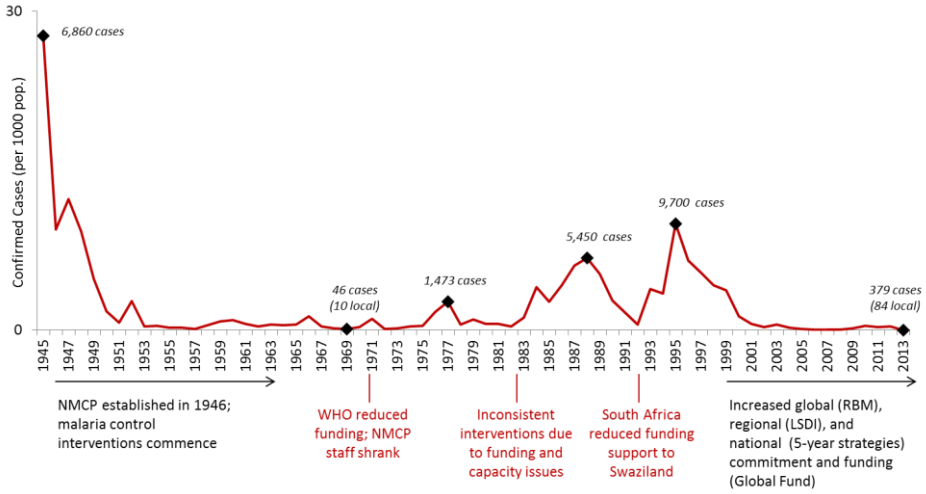
c. Key human rights barriers and gender inequalities that may impede access to health services.

d. The health systems and community systems context in the country, including any constraints.

#### 1.1.1 Historical Epidemiology of Malaria

A brief history of malaria in Swaziland is necessary context for appreciating the current epidemiology of the disease and the country's pursuit of elimination as part of the national development agenda and national health policy. For a more detailed history of malaria in Swaziland, refer to the *Malaria Elimination Strategic Plan, 2015-2020*[1].

Figure 1.1.1 Historical Incidence and Resurgence of Malaria in Swaziland, 1945-2013




Malaria has been a major public health issue, as outlined in Figure 1.1.1, and the National Malaria Control Programme (NMCP) was established in 1946 in response to multiple epidemics. Scale-up of control interventions led to reduction in cases from 6,860 confirmed cases in 1945 (28 per 1000 population) to 46 by 1969 (0.1 per 1000 population), of which only 10 were due to local transmission. Malaria control brought the country close to achieving 0 local cases nearly 45 years ago. However, an "out of sight, out of mind" investment approach meant that reduced malaria

[1] 3. Malaria Situation Analysis, 3.2 Malaria Programme Performance, page 21

burden led to interrupted government and donor funding for critical personnel and interventions, which in turn led to disease resurgence in the following decades.

From 1998 onward marked a period of increased global, regional, and national commitment to malaria control. An analysis conducted by the Clinton Health Access Initiative (CHAI), the NMCP's in-country technical support partner, estimates that intensified and consistent investments have enabled Swaziland to avert 86,000 cases since 2000 to 2013. New global efforts to reduce malaria included the Roll Back Malaria (RBM) Partnership and the Global Fund to Fight AIDS, TB, and Malaria (GFATM). Regional efforts in Southern Africa included the Lubombo Spatial Development Initiative (LSDI), an economic partnership between Mozambique, South Africa, and Swaziland that included coordinated indoor residual spraying (IRS) in bordering regions.

Nationally, Swaziland implemented a five-year malaria control strategy with support from a Global Fund Round 2 grant and has achieved both the Millennium Development Goal 6 on malaria and RBM's Abuja targets. In 2007, the African Union (AU) Health Ministers and the Southern African Development Community (SADC) identified Swaziland as a candidate for malaria elimination by 2015. The country is currently implementing the *Malaria Elimination Strategic Plan, 2008-2015* with support from a Global Fund Round 8 grant. This funding has aided implementation of strategic efforts for the revision of diagnosis and treatment guidelines for malaria and introduced rapid diagnostic tests and ACTS at all health facilities. Furthermore, the NMCP was able to roll out a robust surveillance program for malaria and distribute nets to the population at risk.

**1.1.2 Current and Evolving Epidemiology of Malaria**

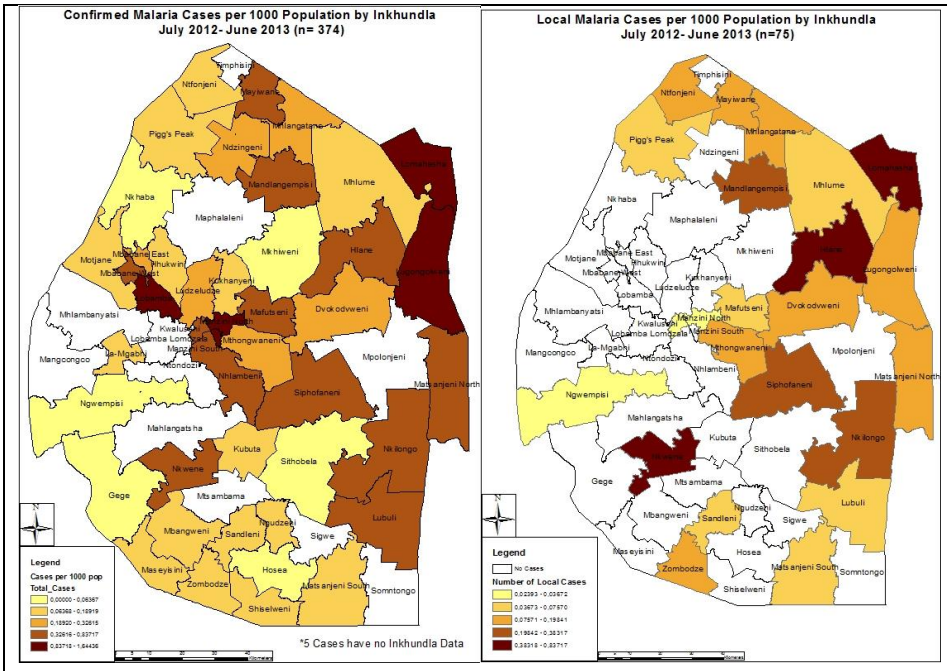
The *Malaria Elimination Strategic Plan, 2015-2020*[2] provides a thorough account of the current epidemiology. By way of country context, the population is 1,230,985 of which 53% is female and 47% is male, and 70% is rural and 30% is urban. Swaziland is divided into four ecological zones: *highveld*, *middleveld*, *lowveld*, and the Lubombo Plateau. The country is comprised of four administrative regions: Hhohho, Lubombo, Manzini, and Shiselweni, which are further sub-divided into 55 tinkhundla centres.

*Plasmodium falciparum* remains the predominant parasite, accounting for over 99% of malaria cases. Since 2009, only one malaria case, captured through the Malaria Indicator Survey[3] in 2010 using DNA PCR, was classified as *P. malariae* rather than *P. falciparum*. *Anopheles arabiensis* remains the main vector responsible for transmission, though routine entomological surveillance by the NMCP Vector Control team reveals the existence of other species in the country.

Figure 1.1.2a Incidence by Inkhundla for All Confirmed Cases *(Left)* and Local Cases *(Right)*, 2012-13

[2] 3. Malaria Situation Analysis, 3.1 Epidemiology, page 16

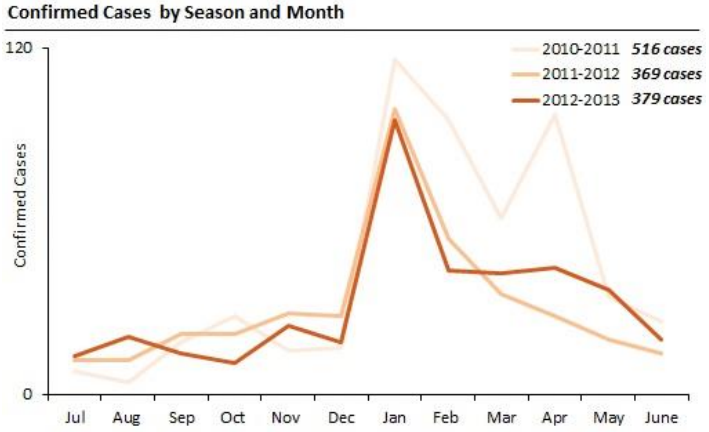
[3] Section 6.3 RDT and Pooled PCR Testing Results. 6.3.2 RDT and Pooled PCR Findings, page 61




Local transmission is most prevalent in the *lowveld* towards the East, as outlined in Figure 1.1.2a *(right)*, which translates roughly to the Lubombo region where 285,972 people (~30% of the population) reside. The NMCP uses this figure as its population at-risk, though future analyses leveraging updated census and case and foci investigation data with GIS mapping will determine a more precise figure. Preliminary estimates suggest that the population residing in foci is smaller than the current at risk estimated used, yet is not bounded by the *lowveld* or the Lubombo region.

Changes in weather and precipitation have elongated the malaria transmission season in the recent 3 years. Figure 1.1.2b displays confirmed cases in the past 3 seasons (roughly the rainy season between November and May), with imported cases peaking in January following high cross-border travel volumes during festive season and local cases occurring through to April. Despite these recent trends, transmission correlates with annual rainfall levels and human activity. Its highly seasonal and unstable nature suggests that acquired immunity by at-risk populations is negligible.

Figure 1.1.2b Confirmed Cases by Season and Month (2010-2013)




The Malaria Indicator Survey measured national prevalence at 0.2% in 2010[4]. In the 2012-13 transmission season, 738 cases were reported to the country's Health Management Information Systems (HMIS) from inpatient and outpatient departments at health facilities in the country, an

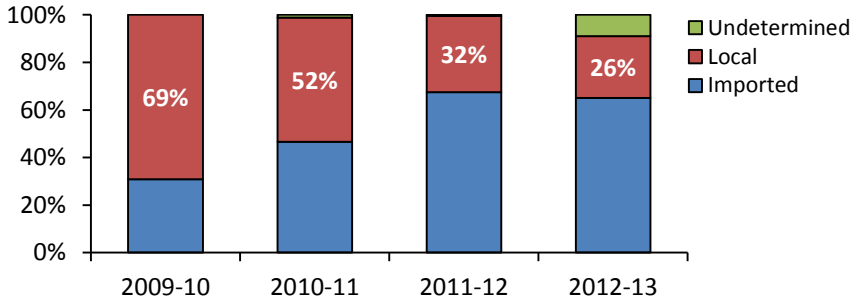
[4] Section 6.3 RDT and Pooled PCR Testing Results. 6.3.2 RDT and Pooled PCR Findings, page 61

90% decrease compared to 2008-09. Of these, 379 were true cases confirmed by parasitological-based diagnostic tests, distributed by gender 73% male and 27% female and by region 40% Manzini, 28% Lubombo, 25% Hhohho, and 8% Shiselweni. There were 2 confirmed malaria deaths (0.007 deaths per 1000 population at-risk) during this time, primarily due to late treatment seeking behavior and delayed suspicion of malaria at the health facility leading to late treatment.

With the dual support of government and a catalytic Global Fund Round 8 grant, Swaziland rapidly implemented the *Malaria Elimination Strategic Plan, 2008-2015*; and the passive and active surveillance interventions therein have reshaped the country's understanding of malaria epidemiology. Rapid diagnostic tests (RDTs) were rolled out at all public and private facilities in February 2010, and the Ministry of Health's Epidemic and Preparedness Response (EPR) unit launched a national Immediate Disease Notification System (IDNS), or the 977 hotline, in August 2010. The NMCP Case Management Team has trained nurses over the years to confirm suspected cases using RDT and/or microscopy and to report immediately to 977, which triggers the NMCP Surveillance Team to conduct household case investigation.

Case investigation is available on 323 (85%) of the 379 confirmed cases in 2012-13 and the results elucidates details on transmission patterns. Some cases were not investigated, as the patient was no longer reachable using the contact details captured at the facility and may have left the country altogether. Of cases that were investigated, regarding diagnosis, 267 (82%) were confirmed by RDT only, 3 (1%) by microscopy only, and 53 (17%) by both. Regarding treatment, 261 (81%) were treated with Artemether-Lumefantrine (AL), 32 (10%) with quinine, 28 (9%) with both AL and quinine, and 2 (1%) with other, which overall followed the malaria national diagnosis and treatment guidelines. Regarding vulnerable populations, pregnant women accounted for 2 cases.

Figure 1.1.2c Proportion of Investigated Cases Classified as Local by Season

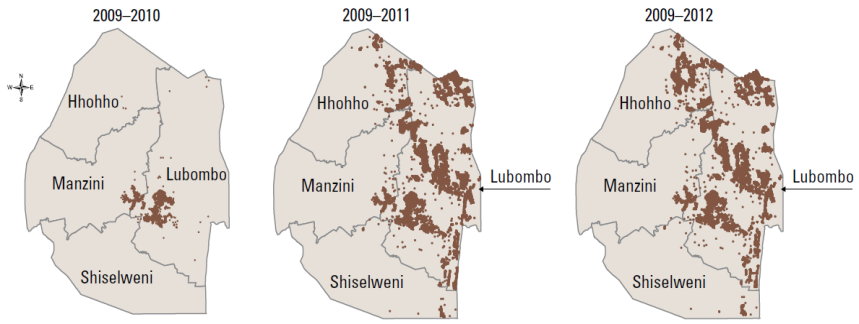



Of the 323 investigated cases, 210 (65%) were imported, 84 (26%) were local, and 29 (9%) were unable to be determined due to their current household location and ambiguous travel history. Figure 1.1.2c depicts the decreasing proportion of local cases in recent seasons. For the 210 imported cases, the majority were Swazi or Mozambican males in their twenties, reporting travel to Mozambique but no prophylaxis use. Over 95% of those who traveled to Mozambique went to Maputo, Gaza, or Inhambane provinces nearest to Swaziland. Understanding when, where, and why these populations travel and when and to where they return is critical for targeting future interventions and reducing importation risk in the long-term.

For the 84 local cases, the majority were males in their twenties with only about one-quarter indicating protection from an integrated vector management (IVM) intervention (i.e., IRS, LLIN), even though IVM strategy targets full coverage for population at-risk. In some cases, IRS may not have occurred that season if nobody was home at the time of the NMCP's visit or if household members did not allow spraying to occur in the structure or in specific rooms (i.e., bedroom). In other cases, the patient may not reside in an area identified "at-risk" and targeted for IRS that season. While 154,218 LLINs were distributed 2009-2012 (Figure 1.1.2d), nets face even greater issues with uptake and utilization. Similar to IRS, this may occur if net distribution does not target the areas actually experiencing transmission as the malaria season progresses or nets are not used

regularly because of a reduction in the perceived threat of malaria.

Figure 1.1.2d LLIN Distribution in Swaziland with Global Fund Support, 2009-2012




Among the 75 (89%) local cases that had not travelled to any high-risk areas within the country, 56% emanated from just 16 localities (Mafucula, Maphobeni Nkwene, Khuphuka, Nkambeni, Bhalekane, Game 5, Lomahasha, Mafusini, Makhewu, Maphungwane, Mpaka, Nduma, St. Phillips, Zinyane and Zombodze) that are distributed across all four administrative regions. Again, this suggests that intrinsic factors perpetuating local transmission may exist throughout the country, even in areas that were previously not thought to be high-risk and thus not covered by the NMCP's universal IVM strategy. Targeting IVM and other interventions to active, residual foci is critical to reduce local transmission as its dynamics evolve.

In order to understand the evolving dynamics of transmission, the NMCP invests significantly in its active surveillance programme, which contributes to an operational research study comparing RDT vs. Loop-mediated isothermal amplification (LAMP) in reactive case detection (RACD). In 2012-13, 2,148 people who reside in the receptive areas of the country (roughly the Eastern half) were screened by the NMCP Surveillance Team using both RDT and dried blood spot (DBS) cards processed by LAMP at the National Reference Laboratory. Through this programme, 22 RDT positives vs. 45 LAMP positives were identified. Of the 22 RDT positives, 17 were true positive by LAMP. These preliminary results suggest that RDTs are suitable for passive surveillance at health facilities but a more sensitive molecular method is required for community case detection, where asymptomatic, low-density infections exist and may contribute to onward transmission.

Moreover, 167 foci exist in Swaziland, with 114 (68%) classified as residual, non-active, 40 (20%) as residual active, and 13 (8%) as new. This means that 53 localities had at least 1 local case in the past year, of which 40 had repeated transmission over consecutive years. Foci investigation has been conducted in only 7 (4%) localities, so understanding is limited on the factors that perpetuate transmission. This low investigation rate results from the position being vacant for five months as well as limited transport to foci once the position was filled. Linking case and foci investigation is, however, critical to targeting interventions to specific populations or localities and to investing in reducing receptivity of an area in the long-term.

**1.1.3 Health and Community Systems**

In terms of health inequity, the country's new constitution protects the right to life and the fundamental rights and freedoms of the individual, women, children, and persons with disabilities (The Constitution of the Kingdom of Swaziland Act, 2005. Chapter III). No individuals or particular demographic group (i.e., based on age, gender, geography) should experience disproportionately low access to health services for malaria prevention, diagnosis, and treatment.

Results from the government's Service Availability Mapping, Health Facility Questionnaire 2013 reveal 287 health facilities nationwide distributed as 43% in Manzini, 29% in Hhohho, 16% in Lubombo, and 13% in Shiselweni. Facility ownership is distributed among government (40%),

private facility by doctors or nurses (30%), mission (12%), industry (11%), and NGO (7%). There are 8 hospitals, 5 health centres (hospitals with minimal inpatient capacity), 5 public health units (provide a significant proportion of the country's preventive services), and the remainder are clinics. Of the 287 health facilities, 235 (82%) offer malaria diagnosis and/or treatment, and 14 have laboratory capacity. Most households are within 8 km of a health facility.

The health system boasts strengths in terms of equitable access for malaria yet faces constraints regarding personnel and information systems. The Ministry of Health's Swaziland Laboratory Health Services (SLHS) oversees supply chain management of diagnostic commodities for central laboratories and facilities with laboratory capacity, and Central Medical Stores (CMS) oversees commodities for other facilities and pharmaceuticals for the entire country. RDTs were rolled out to all public and private facilities in February 2010, and the government funds treatments on the essential drug list (ACT, artesunate, quinine, and mefloquine) even for non-government facilities. The NMCP Case Management team invites public and private facility staff to its annual trainings. The NMCP Surveillance screens residents within 500m of an index case in the receptive areas, bringing diagnostic services directly to households even in remote locations.

Nevertheless, high staff turnover and limited information dissemination of training materials within facilities, as well as limited authority of the NMCP to enforce private facility compliance, pose challenges to national strategic goals. Furthermore, weak information systems that have relied on paper-based tools and may not integrate patient and commodities data render the overall system vulnerable to inaccurate data, delayed response time, or even stock-outs. The Ministry of Health's Strategic Information Department (SID) has conducted a thorough review of HMIS, which recommended the development of a Patient Management Information System (PMIS) or unique patient identifier, streamlining of health facility forms, networking of facilities, among other initiatives pertaining to Health Sector Strengthening (HSS) and M&E. The country is in the process of gradually rolling out these new initiatives with support from partners, including the Global Fund. Section 1.2 further details how the country will address the aforementioned constraints.

From a community perspective, the Ministry of Health (MOH) has a Health Promotion unit to support advocacy, and other government programmes and a network of Rural Health Motivators (RHMs) engage in community mobilisation. The NMCP Health Promotion/Information, Education, Communication (IEC) team communicates with the MOH unit, other government programmes, RHMs, and civil society organisations (CSOs) to engage communities. The coordination can be improved, and this will be discussed in Sections 1.2 and 3.2.

## 1.2 National Disease Strategic Plans

With clear references to the current **national disease strategic plan(s)** and supporting documentation (include the name of the document and specific page reference), briefly summarize:

a. The key goals, objectives and priority program areas.

b. Implementation to date, including the main outcomes and impact achieved.

c. Limitations to implementation and any lessons learned that will inform future implementation. In particular, highlight how the inequalities and key constraints described in question 1.1 are being addressed.

d. The main areas of linkage to the national health strategy, including how

implementation of this strategy impacts relevant disease outcomes.

e. For standard HIV or TB funding requests[5], describe existing TB/HIV collaborative activities, including linkages between the respective national TB and HIV programs in areas such as: diagnostics, service delivery, information systems and monitoring and evaluation, capacity building, policy development and coordination processes.

f. Country processes for reviewing and revising the national disease strategic plan(s) and results of these assessments. Explain the process and timeline for the development of a new plan (if current one is valid for 18 months or less from funding request start date), including how key populations will be meaningfully engaged.

**1.2.1 Implementation To-Date and Identified Gaps**

Targeting malaria elimination in Swaziland is the result of a process of intensified regional control and health systems strengthening, including diagnosis and treatment access and improved surveillance. Section 1.1.2 detailed the current understanding of malaria epidemiology, which was made possible by the rapid implementation of the *Malaria Elimination Strategic Plan, 2008-2015* with strong financial support from the Government of Swaziland, the Global Fund, and other partners. This strategy guided the transition from control-based interventions to the establishment of systems necessary for elimination, focused on four thematic areas. The following summarises where the country set out to be on each area and what was realised in 2012-13, the most recent transmission season with complete data. A full progress update is provided in the NMCP Annual Report, 2012-2013.

| Thematic Area | Strategic Plan 2008-2015 | 2012-2013 Actual |
|---|---|---|
| Case Management | All cases should be confirmed by RDT and/or microscopy and treated according to national guidelines and reported. Case management services should be free for patients at public and private facilities. | The case confirmation rate was 51% and 98% of uncomplicated malaria cases were treated with the recommended first line treatment. |
| Vector Control | In at-risk areas, there should be full coverage of IRS and LLINs. All potential foci should be investigated and classified based on the potential for transmission. | IRS coverage was 90% of targeted structures, but no KAP Survey was conducted to validate coverage and uptake. South Africa's Medical Research Council (MRC), which helped conduct insecticide resistance monitoring, closed. Only 7 of 167 foci have been investigated. |
| Surveillance | The NMCP's web-based Malaria Surveillance Database System (MSDS) integrates HMIS and IDNS data. A confirmed case is reported, 977 sends SMS, NMCP Surveillance should investigate at patient's house. Reactive case detection is carried out in receptive areas for those residing within 500m of index case. | The case investigation rate was 85%. A total of 2148 people were screened during reactive case detection, yielding a total of 22 RDT positive cases and 45 LAMP positive cases. |
| Health Promotion and IEC | A communication and advocacy plan should leverage mass media and the experience of Rural Health Motivators (RHMs) in community engagement. | Messages on malaria signs and symptoms, treatment-seeking and personal protection were released via newspaper, radio, and TV. The NMCP partnered to train farmers, construction workers, and RHMs. |

The initial elimination strategy was revised following a WHO-supported Malaria Programme Review (MPR) in 2011 based on lessons learned and identified the following gaps:

- Mobilize the local private sector and external financial resources while increasing the national budget for the elimination program to ensure that the gains are not lost

[5] Countries with high co-infection rates of HIV and TB must submit a TB and HIV concept note. Countries with high burden of TB/HIV are considered to have a high estimated TB/HIV incidence (in numbers) as well as high HIV positivity rate among people infected with TB.

- Strengthen cross-border collaboration with Mozambique and South Africa in the area of health
- Strengthen the epidemiology and entomology skills at central level to optimize activities for malaria elimination
- Strengthen the surveillance and foci investigation system
- Revise the program strategy of universal coverage of interventions towards targeted interventions based on malaria surveillance and mapping
- Strengthen the engagement of community-based structures in malaria elimination activities

The NMCP has acted on some of these gaps, for instance, by conducting an assessment of private facilities to elucidate how best to engage and increase compliance among their workers. Building on the MPR recommendations[6] and the WHO metrics for malaria elimination certification[7] the NMCP-led country dialogue from July 2013 onward and identified all key challenges for elimination, set the country's 2015-2020 goal and objectives, debated the most effective strategies, and researched costs by intervention. This iterative process was inclusive of all stakeholders and is summarized in Figure 1.2.1. Details from concept note-focused meetings are in the CCM Eligibility, Requirement I document, and all meeting minutes can be shared as requested.

Figure 1.2.1 2015-2020 Strategy: Development Process and Stakeholder Meetings

***Jul-Aug 2013***

| Stakeholder | Date | Stakeholder | Date |
|---|---|---|---|
| NMCP Programme Management | 08/07/13 | CHAI Operational Research | 29/07/13 |
| NMCP Case Management | 11/07/13 | NMCP Health Promotion | 30/07/13 |
| NMCP Surveillance | 12/07/13 | MOH EPR | 02/08/13 |
| MOH National Reference Laboratory | 23/07/13 | CHAI Support to CMS | 06/08/13 |
| NMCP IT | 24/07/13 | NMCP Vector Control | 16/08/13 |

***Sep 2013***

| Multi-Stakeholder Forum | Date |
|---|---|
| Annual Malaria Review Conference (NMCP, WHO, EPR, MET Services) | 11-13/09/13 |
| Swaziland Malaria Elimination Advisory Group (SMEAG) Meeting | 17/09/13 |
| Ministry of Health Senior Staff Meeting | 23/09/13 |

***Oct 2013-Feb 2014***

| Stakeholder | Date | Stakeholder | Date |
|---|---|---|---|
| NMCP Health Promotion | 18/10/13, 22/01/14 | CHAI Programme Management | 13/11/13, 24/02/14 |
| NMCP Surveillance | 22/10/13, 24/01/14 | Government Accounts | 21/01/14 |
| NMCP Case Management | 07/11/13, 27/01/14 | NMCP IT | 30/01/14 |
| NMCP GIS | 11/11/13 | MOH National Reference Laboratory | 30/01/14 |
| NMCP Programme Management | 12/11/13 | NMCP Vector Control | 27/02/14 |

***Feb-June 2014***

| Multi-Stakeholder Forum | Date |
|---|---|
| Swaziland Malaria Quaterly Implementers Meeting | 07/02/14 |
| CHAI Global Malaria Summit: Review of Swaziland 2015-2020 Strategic Plan | 06/03/14 |
| WHO/RBM Malaria Strategic Plan Review Workshop | 11-14/03/14 |
| CSO Training on GF NFM and CCM Membership | 25-27/03/14 |
| NMCP Annual Doctors Conference (Public and private facilities, WHO) | 05-06/04/14 |
| Lubombo Development Team Meeting (Community leaders, key-affected population) | 10/04/14 |
| WHO/RBM Malaria Concept Note Review Workshop | 14-16/04/14 |
| Global Fund Country Team, CCM, and Concept Note Development Team Meeting | 05-08/05/14 |
| Health Management Information Systems (HMIS) and IHM | 23/04/14, 22/05/14 |
| SMEAG Sub-Committee Meetings (4 Thematic Areas) | 27/05/14, 30/05/14 |
| Swaziland Malaria Elimination Advisory Group (SMEAG) Meeting | 03/06//14 |

This comprehensive and critical approach to determining the interventions required for elimination identified some areas for improvement including but not limited to:

| Thematic Area | Areas for Improvement |
|---|---|
| Case Management | Adherence to guidelines and reporting protocols at public and private facilities<br>Proficient microscopy skills<br>Quality assurance that is systematically conducted and affordable |

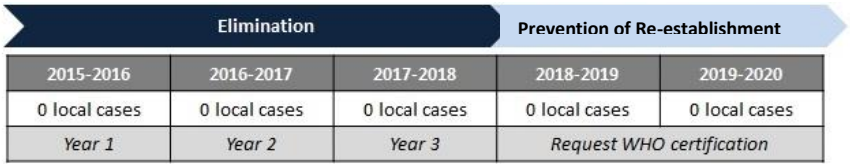
[6] MPR 2011

[7] Malaria elimination: a field manual for low and moderate endemic countries 2007

| | |
|---|---|
| | Commodities consumption is tracked |
| Vector Control | >80% IRS coverage in targeted at-risk areas, if spraying<br>>80% LLIN coverage in targeted at-risk areas, if distributing nets |
| Surveillance | Increase case investigation efficiency<br>Increase case detection coverage<br>100% foci investigation<br>Link epidemiological and entomological surveillance to target interventions |
| Health Promotion and IEC | Strengthen community outreach<br>Target high-risk groups |
| Overall Programme Management | Increase local and regional sustainable funding sources<br>Engage technical support for achieving certification |

### 1.2.2 2015-2020 Goal, Objectives, Strategies

Guided by the vision of a malaria-free Swaziland, Swaziland's **GOAL** is to eliminate malaria by 2015 and achieve the WHO's certification of elimination by 2018.




The country must achieve zero local cases by 2015 and maintain no local transmission for at least three consecutive years, during which surveillance and outbreak response systems must be bolstered and evaluated. Pending success of certification, the country must transition to a prevention of re-establishment programme. Four **OBJECTIVES** that cut across the NMCP's thematic areas have been identified to ensure accomplishment of the overall goal:

Objective 1: All infections are identified by parasitological-based diagnostic tests and immediately reported for period 2015-2020

Objective 2: All infections confirmed by parasitological-based diagnostic tests are treated according to national guidelines for period 2015-2020

Objective 3: All active foci are identified and eliminated through intensified surveillance, targeted vector management, environmental management, and human parasite reservoir interventions for period 2015-2020

Objective 4: All surveillance systems are in place to achieve WHO's certification of elimination by 2018 with subsequent transition to a prevention of re-establishment programme

Specific **STRATEGIES** comprised of critical **INTERVENTIONS** must be implemented under each objective, as outlined below. Refer to the *Malaria Elimination Strategic Plan, 2015-2020* for details.

*Objective 1:* All suspected cases presenting at health facilities and all potential asymptomatic cases in communities must be confirmed with RDT and/or microscopy or a more sensitive molecular method and immediately reported. Identifying low-density parasite infections in the community may require those more sensitive molecular methods. Immediate reporting enables a case identified through passive surveillance to trigger active surveillance; and multiple cases reported in an area alerts the affected health facilities to increase testing of patients for malaria.

Testing of patients presenting with signs and symptoms at public and private facilities and ongoing screening of residents in high-risk localities and demographics is necessary to identify all infections, which leads to treatment and reduction of the parasite reservoir in the population.

*Strategy 1.1: Ensure health care workers adhere to national diagnosis and treatment guidelines and reporting protocols at all public and private facilities*

| | |
|---|---|
| *Strategy 1.2:* | *Ensure capacity for and access to high quality diagnostic tools at central, facility, and community levels* |
| *Strategy 1.3:* | *Conduct reactive case detection around previously confirmed malaria cases residing in receptive areas* |
| *Strategy 1.4:* | *Conduct proactive case detection among high-risk localities and groups with onward transmission* |

*Objective 2:* All confirmed infections require effective therapy. Per Swaziland's diagnosis and treatment guidelines, the ACT Artemether Lumefantrine (AL) is the first line treatment for uncomplicated cases, and oral quinine is the second line treatment for uncomplicated cases and the first-line treatment for pregnant women in their first trimester. Severe malaria is managed with intravenous (IV) or intramuscular (IM) artesunate until the patient can tolerate oral treatment with ACTs. Swaziland is procuring IV/IM artesunate for the first time in 2014.

For settings targeting elimination, the WHO recommended in 2012 that a single 0.25mg/kg dose of primaquine be given for uncomplicated *P. falciparum* cases in conjunction with an ACT, excluding pregnant women and infants. Swaziland adopted this recommendation at the NMCP's annual doctors conference in April 2014, and the national guidelines have been updated, though final printing and distribution is yet to occur. The NMCP is also conducting a safety study using the Primaquine Roll Out Monitoring Pharmacovigilance Tool (PROMPT) developed by the Center for Disease Control (CDC) and the Global Health Group (GHG) at the University of California, San Francisco (UCSF) at two major hospitals that manage the majority of the country's malaria cases. The study assesses hematologic response of treated patients, the prevalence of glucose-6-phosphate dehydrogenase (G6PD) deficiency, and any adverse events.

| | |
|---|---|
| *Strategy 2.1:* | *Ensure access to high quality, efficacious anti-malarials for the treatment of confirmed infections* |
| *Strategy 2.2:* | *Ensure health care workers adhere to national treatment guidelines at all public and private facilities* |

*Objective 3:* When a case is confirmed at a facility and reported, the IDNS 977 hotline send a SMS to the NMCP Surveillance Team, and agents contact the patient to schedule an investigation at the patient's house. When an investigated case is classified as local, foci investigation should be carried out. A process must be in place to collect and integrate consistent epidemiological, entomological, and meteorological data and to tailor interventions appropriately and effectively to foci.

Interventions deployed to halt transmission should make sense in light of factors investigated in each focus. Where appropriate, vector control interventions will be utilized; environmental management interventions may be deployed to reduce the receptivity of an area; and targeted parasite elimination may be used treat people highly suspected of asymptomatic infections in active foci.

Health promotion, both grassroots and top-down, is required to ensure the success of any intervention. People living in implicated communities will be properly engaged. Buy-in from local to international stakeholders demands advocacy and continued dialogue.

| | |
|---|---|
| *Strategy 3.1:* | *Investigate all confirmed cases to determine source of infection within 48 hours* |
| *Strategy 3.2:* | *Investigate all suspected transmission foci to tailor interventions and reduce receptivity* |
| *Strategy 3.3:* | *Use spatial-decision support system to inform rapid response of interventions in potential foci* |
| *Strategy 3.4:* | *Ensure 100% IRS coverage in targeted active, residual foci each season* |
| *Strategy 3.5:* | *Deploy appropriate, targeted environmental management interventions to reduce receptivity permanently in high-risk localities* |
| *Strategy 3.6:* | *Carry out Targeted Parasite Elimination (TPE) in highest risk active foci* |

*Strategy 3.7:* *Maintain adequate emergency reserves of malaria commodities to mount a rapid and effective outbreak response*

*Strategy 3.8:* *Deploy media and community mobilization interventions in high-risk localities and groups to ensure support for malaria elimination interventions*

*Objective 4:* Achieving the first three objectives will ensure that the country can detect and respond to local transmission. Prior to requesting WHO review, the NMCP will evaluate its surveillance and response systems and validate all the data it routinely collects and analyses. Pending success of certification, the programme must have a plan for transitioning to a prevention of re-establishment programme, given ongoing importation risk from higher-endemic countries in the region. This includes a mid-term review of the *Malaria Elimination Strategic Plan, 2015-2020* in 2017.

*Strategy 4.1:* *Carry out pre-certification process to ensure necessary systems are in place and validated*

*Strategy 4.2:* *Facilitate clear, established approach to transition to prevention of re-establishment programme*

**1.2.3 Linkages between Malaria and National Health Strategy**

Malaria elimination is a top priority in the national development agenda and the national health policy, and a malaria death in Swaziland would make front page news. World Health Day on April 7, 2014 focused on vector-borne diseases, and the Government of Swaziland in collaboration with WHO chose this occasion to highlight malaria specifically. The NMCP operates under the Directorate of Public Health's Communicable Diseases Division within the MOH and collaborates with other MOH departments, such as Swaziland Health Laboratory Services (SLHS), Central Medical Stores (CMS), Epidemic Preparedness and Response (EPR), and the Strategic Information Department (SID), which encompasses the Health Management Information System (HMIS), Monitoring and Evaluation (M&E) Unit, Health Promotion Unit, and MET Services. The NMCP also works closely with the National Emergency Response Council for HIV/AIDS (NERCHA), the current and future Principal Recipient (PR).

The current organogram of the NMCP including its relationship with the MOH and funding of NMCP staff salaries by government vs. the Global Fund Round 8 grant is included in the *Malaria Elimination Strategic Plan, 2015-2020*[8].

The *National Health Sector Strategic Plan 2008-2013* envisions a comprehensive healthcare system that supports individuals and their communities to live longer and healthier lives by providing affordable and high-quality preventative, curative, and health systems strengthening services. On high-quality prevention, the NMCP Surveillance Team screens people at their home using not only RDTs but also the molecular method, LAMP. On affordable treatment, malaria pharmaceuticals on the country's essential drug list are government-funded and offered to patients free of charge at all public and private facilities. On health systems, the NMCP is among the most active users of the IDNS and regularly triangulate the HMIS and IDNS data for discrepancies.

**1.2.4 Potential Limitations to Implementation**

Achieving the 2015-2020 elimination goal relies upon implementing interventions that address the gaps revealed by the MPR and extensive country dialogue. The NMCP will tackle the issues of high staff turnover, limited information dissemination of within facilities, and privately-owned facility compliance. For instance, Strategy 1.1 will focus on strengthening onsite monitoring and mentoring visits by the NMCP Case Management Team and engagement of the Regional Health Administrator in monitoring and mentoring visits. This strategy also includes engaging the national Nursing Council to make the annual nursing license renewal process a knowledge-based accreditation. Further, the NMCP will engage the Medical and Dental Association to consider guidelines for private facility compliance while monitoring randomly sampled private facilities in 2015 and 2017 to assess progress

[8] Annex: NMCP Organisational Chart, page 49

and coverage.

A highly mobile population has posed a challenge to the successful investigation and classification of all confirmed reported malaria cases. The NMCP will tackle the issues of a highly mobile population and malaria transmission occurring in only some areas of the country, for instance, under Strategy 3.8. Rather than relying on traditional mass media channels, such as newspaper and television, the Health Promotion Team will use video advertisements on kombi buses to reach a highly mobile population and will target and strengthen community engagement in partnership with existing structures (i.e., RHMs, CSOs). Furthermore, healthcare workers will be trained to collect travel history from confirmed cases to allow for classification of cases that have not been followed up.

Regarding weak information systems, the MOH is undertaking an upgrade to HMIS, which involves introducing the unique patient identifier and electronic patient records (PMIS), streamlining data collection forms, and linking health facilities, including small, remote ones possibly with tablets. The country is conducting a gradual roll-out with troubleshooting of 47 facilities by end of 2014 with replication at all other facilities thereafter. By end of 2014, all facilities will be connected to the government network with streamlined data collection forms, though facilities not among the 47 may start with these forms as paper-based tools. The NMCP has engaged HMIS and its partners through this process, to ensure the PMIS, for instance, includes appropriate drop-down menu options for malaria diagnosis. The NMCP may even provide learnings for the MOH as it rolls out and sales up these initiatives. In the case of using tablets, the NMCP's PROMPT study nurses were trained to capture patient data on tablets, and data was stored in the cloud and accessed by study investigators through a web-based platform.

Regarding supply management, procurement of all government-funded supplies is led by the NMCP Accounts Officer, in coordination with the MOH Procurement Unit, SLHS, CMS, and relevant NMCP staff and partners. Procurement of Global Fund supported supplies is directed by the PR, NERCHA, specifically its Procurement Unit, in coordination with NERCHA's Grant Management Unit, the NMCP Grant Manager, and relevant NMCP staff and partners. Upon entry in country, these supplies are managed under MOH supply chain systems: diagnostics for laboratories by SLHS; drugs, diagnostics for facilities without laboratory capacity or for quality assurance by CMS, and other products by the NMCP directly.

To address weaknesses in supply management, the MOH – specifically CMS, SLHS, and disease programmes – and its partners are exploring coordinated approaches to forecasting commodities and to tracking end-user consumption. Currently, there is no single point person or group at the NMCP for supply management. Strategy 2.1 creates a technical working group (TWG) comprised of programme officers, CMS and SLHS Procurement Unit officers, public and private pharmacists, etc. that will meet regularly to assess stock issues and interface with existing TWGs at CMS or SLHS to participate in the broader national discussion on supply management.

The *Malaria Elimination Strategic Plan, 2015-2020* includes a register of perceived risks to implementation and proposed responses (page 51), which will be updated as implementation proceeds. This table is modeled after the PR NERCHA's risk-register that identifies perceived risks to implementing targets under all of the country's Global Fund grants. In light of such risks, during the NFM grant-making process, particular attention will be paid to the issue of timely disbursements.

**1.2.5 Processes for Reviewing and Revising Malaria Strategy**

Monitoring and evaluation mechanisms to assess implementation are integrated into each of the objectives and thus the overall strategic plan. Some of these systems are described as follows, given that they enable the ongoing review and revision of the malaria strategy. Implementation of the strategic plan is the joint responsibility of the NMCP and its implementing partners. Collectively-defined indicators are tracked using routine data collection systems, such as HMIS, IDNS, and qualitative or quantitative (i.e., KAP Survey) surveys. The strategic plan's Performance Framework

(page 40) outlines annual targets that are not cumulative. The Monitoring & Evaluation (M&E) Plan will be aligned with this Performance Framework. Annually, the NMCP's thematic areas design their work plan based on targets.

The NMCP holds internal monthly meetings to review recent progress and plan for the upcoming month of activities. There may aso be regular meetings within thematic areas, such as the monthly Surveillance Team meeting. The programme holds an Annual Malaria Review Conference after the transmission season has ended in July, where NMCP staff and partners report on achievements and challenges from the previous year and develop operational plans for the upcoming season. During the Round 8 grant duration, quarterly implementers' meetings were also held to assess progress toward grant-specific targets. At a higher-level, in-country malaria stakeholders serve within the Swaziland Malaria Elimination Advisory Group (SMEAG), an independent council of advisors who meet on a regular basis to evaluate the effectiveness of the malaria elimination strategic plan, monitor the implementation of policies, and revise them as appropriate. The SMEAG is composed of a general committee, as well as subcommittees on the four thematic areas.

The aforementioned forums present opportunities to review and revise the strategic plan and its implementation on a monthly to annual basis. Additionally, a mid-term review of the overall strategy is planned and budgeted for in 2017, whereby the programme will engage stakeholders and experts, who will together refer to international guidelines on NSP reviews, such as the JANS Assessment.

## SECTION 2: FUNDING LANDSCAPE, ADDITIONALITY AND SUSTAINABILITY

To achieve lasting impact against the three diseases, financial commitments from domestic sources must play a key role in a national strategy. Global Fund allocates resources which are far from sufficient to address the full cost of a technically sound program. It is therefore critical to assess how the funding requested fits within the overall funding landscape and how the national government plans to commit increased resources to the national disease program and health sector each year.

### 2.1 Overall Funding Landscape for Upcoming Implementation Period

In order to understand the overall funding landscape of the national program and how this funding request fits within this, briefly describe:

a. The availability of funds for each program area and the source of such funding (government and/or donor). Highlight any program areas that are adequately resourced (and are therefore not included in the request to the Global Fund).

b. How the proposed Global Fund investment has leveraged other donor resources.

c. For program areas that have significant funding gaps, planned actions to address these gaps.

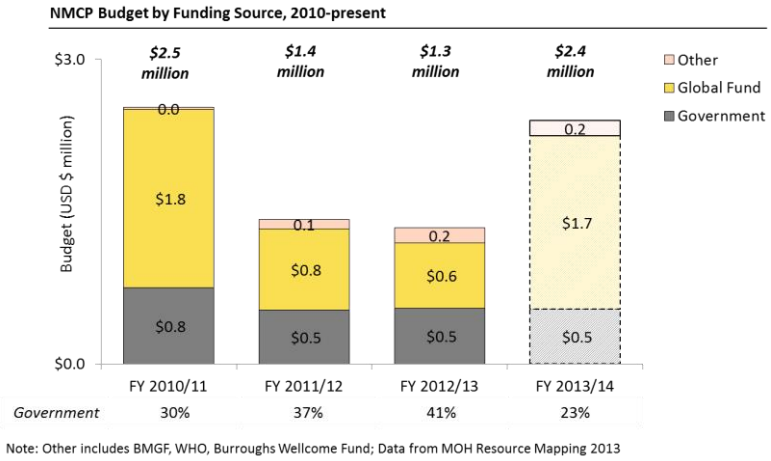
The World Bank classifies Swaziland as a lower middle income country with a GDP per capita income of USD $3,042 for 2012. Although this classification would suggest a reasonable resource base compared to many developing countries, the Swaziland Household Income and Expenditure Survey (SHIES) 2010 reported that 63% of the population live under the poverty line and are classified as "poor", and unemployment remains high.

While the Government of Swaziland is committed to malaria elimination, financing for this campaign does depend on the availability of domestic resources, and economic growth is, in turn, dependent on fluctuations to the agricultural sector and trade with South Africa. What is more, the country's high HIV/AIDS burden requires significant resources for health. Figure 2.1a highlights the total malaria budget in fiscal year 2012-13 at USD $1.3 million, of which 40% was domestically funded by the government. Government financing for malaria control is allocated under the Public Health and Preventative Medicine budget, specifically earmarked for Responsibility Centre (RC)

3212, which includes:

- Malaria salaries in the establishment register for RC 3212 (For full organogram, see Annex: NMCP Organisational Chart, page 49)
- Supplies for central laboratory and facilities with laboratory capacity
- Pharmaceuticals on the country's essential drugs list (i.e., ACT, artesunate, quinine)
- Personnel, equipment, insecticides, and other supplies for annual IRS
- Programme operating costs (i.e., aDSL, government vehicle maintenance and fuel)

Figure 2.1a Total Malaria Budget by Funding Source, 2010-2014

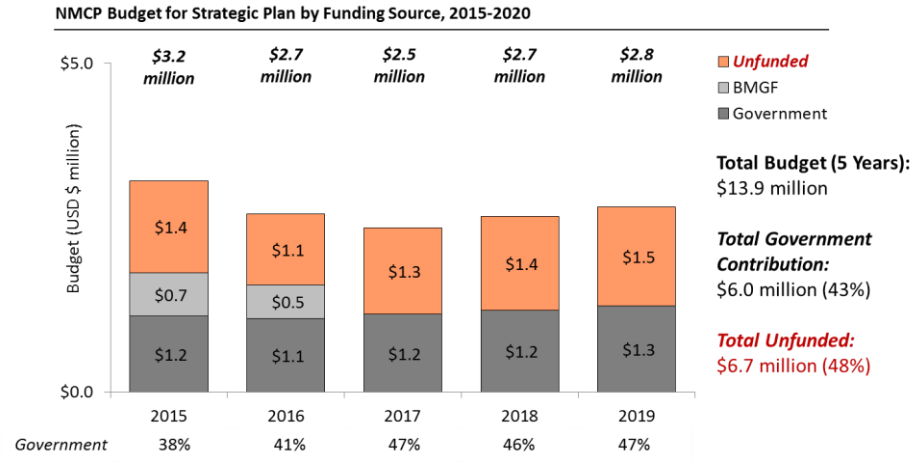



Note: Other includes BMGF, WHO, Burroughs Wellcome Fund; Data from MOH Resource Mapping 2013

Government financing that is not reflected in the above figure but will be included in future projections of the annual malaria budget and funding gap includes the line item for mefloquine, which falls under the budget for CMS. Mefloquine expenditures are included in the Financial Gap and Counterpart Financing Table for past fiscal years. Moreover, the government also funds the country's HMIS and EPR's IDNS, or 977 hotline, from which the NMCP regularly collects and integrates data in the programme's MSDS. Further, the government pays the salaries of health care workers (HCWs) who perform malaria-related activities at public facilities and sub vents substantial resources to other facilities, including the two mission hospitals that manage the majority of malaria cases in Swaziland. As a country approaches elimination and transmission is reduced, screening must go up to ensure all infections are detected. Although RDTs are by definition rapid, nurse screening of high patient volumes can be time-consuming given the RDT's 20 minute wait time. What is more, secondary reading of positive RDT results using microscopy at facilities with laboratory capacity and quality assurance protocol particularly in the high-risk region of the country demand substantial laboratory staff time.

The budgeting process for the *Malaria Elimination Strategic Plan, 2015-2020* was inextricable from the strategy development process itself. As outlined in Figure 1.2.1 in this document, the NMCP led country dialogue from July 2013 onward to set the country's goal and objectives for the next five years, debate the most effective strategies under each objective, and research their associated costs by intervention. Regarding detailed activities-based costing, initial quotes for an intervention's cost, line item by item, may have been taken from the budget for the Global Fund Round 8 grant, though more recent requisitions or invoices were sourced for updated price estimations. The NMCP also encouraged officers who would ultimately be responsible for the intervention in question to search online or inquire with distributors.

Figure 2.1b Projected Budget by Funding Source

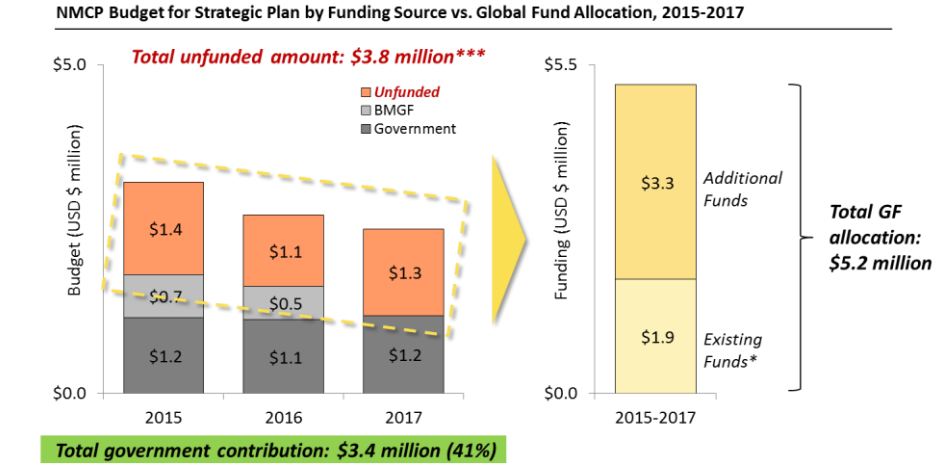



Note: Data from costed NSP; Assume current government contributions to certain cost categories will continue, even increase as needed, plus absorption of 15 current Global Fund salaries; 10.64 Emalangeni to USD based on average of OANDA figures December 2013-May 2014

Figure 2.1b is the projected budget for *Malaria Elimination Strategic Plan, 2015-2020.* Assuming precedence, that the government will continue to fund the interventions that it historically has for malaria as listed above, then approximately half of the total malaria budget remains unfunded for 2015-2020. Based on these projections, Figure 2.1c compares the full expression of demand (total unfunded amount: USD $3.8 million) vs. the Global Fund's suggested disease split for malaria in the country envelope (USD $5.2). The NMCP was highly conscious in limiting its funding request only to the most necessary line items for interventions directly linked to targets for elimination.

What is more, the NMCP expected the funding request to be close to the allocated amount, as all budgeting had been using an 8.5 Emalangeni to USD exchange rate due to rates from previous years. Based on feedback from the teleconference with the GF Country Team on June 10, 2014, the funding demand now assumes a 10.64 exchange rate (OANDA average of figures December 2013-May 2014), which accounts for the seemingly smaller demand in USD terms. In light of the cycle of disease resurgence highlighted in Section 1.1.1, the NMCP's detailed budgeting process described in Section 1.2.1, and the fact that malaria was the only area not "over-allocated" in the country envelope, the CCM has determined that malaria should maintain its allocated amount as part of the disease split.

Figure 2.1c Projected Full Expression of Demand vs. Global Fund Allocation, 2015-2017




***Does NOT include PR budget as part of GF funding request; Note: Data from costed NSP; Assume current government contributions to certain cost categories will continue, even increase as needed, plus absorption of 15 current Global Fund salaries; 10.64 Emalangeni to USD based on average of OANDA figures December 2013-May 2014

Although the NMCP has few external partners, likely due to the country's low burden of disease, its relationships are strong and will continue to be leveraged. CHAI provides in-country support including for case management, surveillance, and operational research. The Global Health Group (GHG) at the University of California San Francisco (UCSF) in partnership with CHAI provides

external support on operational research and policy decisions. This collaboration has provided funding via the Bill & Melinda Gates Foundation (BMGF) for LAMP test kits and laboratory and field supplies for reactive case detection (some donations from FIND Diagnostics), G6PD deficiency screening kits and primaquine for the PROMPT study (some donations from IDA Foundation), and salaries for seasonal surveillance agents to increase case detection coverage and a Molecular Laboratory Technician to process LAMP. Going forward, BMGF will fund Strategy 3.6, the Targeted Parasite Elimination study currently under design to launch in 2015. Additionally, the NMCP receives regional support from the WHO malaria focal person, and the WHO has offset the shipping costs for external lot testing of RDTs in the past. The Southern African Roll Back Malaria Network (SARN) also contributes to Swaziland's elimination campaign and may fund travel and logistics to key regional meetings.

In general, externally, the NMCP will leverage current and explore other donor resource channels, when appropriate. Domestically, the NMCP's request to government to absorb critical salaries funded by the Round 8 grant and the engagement of multi-sector stakeholders to mobilise domestic resources for malaria via innovative financing mechanisms will be detailed in Section 2.2. Based on current calculations, the costed strategic plan subtract the projected government contributions (advocating for the aforementioned increases) and existing committed donor resources (i.e., BMGF) leaves an unfunded amount for 2015-2017 that is less than the Global Fund funding allocation for malaria in Swaziland. Therefore, if the country's funding request is granted in full, there should be no unfunded amount for the NSP from 2015-2017.

## 2.2 Counterpart Financing Requirements

**Complete the Financial Gap Analysis and Counterpart Financing Table (Table 1).** The counterpart financing requirements are set forth in the Global Fund Eligibility and Counterpart Financing Policy.

a. Indicate below whether the counterpart financing requirements have been met. If not, provide a justification that includes actions planned during implementation to reach compliance.

| Counterpart Financing Requirements | Compliant? | If not, provide a brief justification and planned actions |
|---|---|---|
| i. Availability of reliable data to assess compliance | ☒Yes ☐ No | |
| ii. Minimum threshold government contribution to disease program (low income-5%, lower lower-middle income-20%, upper lower-middle income-40%, upper middle income-60%) | ☐Yes ☒ No | The government of Swaziland is committed to the goal of malaria elimination. It has consistently funded major malaria interventions such as Indoor Residual Spraying (IRS) and all drugs on the national diagnosis and treatment guidelines. Furthermore, government has supported NMCP staff salaries as well as recurring operating costs such as rent, utilities and vehicle fuel and maintenance. In Figure 2.1a the average |

| | | |
|---|---|---|
| | | government contribution from fiscal year 2011 – 2014 is 31%. Government has prioritized the goal of malaria elimination and sustainability of this achievement thereafter by committing to absorb 15 current Global Fund funded positions which will bring government's contribution to the national strategic plan 2015 – 2017 to 41%. The Ministry of Health granted this full absorption request to the NMCP with the understanding that the country would meet the 40% eligibility requirement. Not only is this level of absorption unprecedented for the government in financial terms, it also demonstrates sustainability of malaria elimination once achieved. The NMCP will continue to advocate for increased funding from government for operating costs as well as capital investments. However, having incorporate the Principal Recipient 's costs of coordinating and managing this grant, note the financial gap and counterpart financing table, adding in the separately developed PR budget for 2015 – 2017 results in a 37% counterpart financing figure rather than the 41%. |
| iii. Increasing government contribution to disease program | ☒Yes ☐ No | |

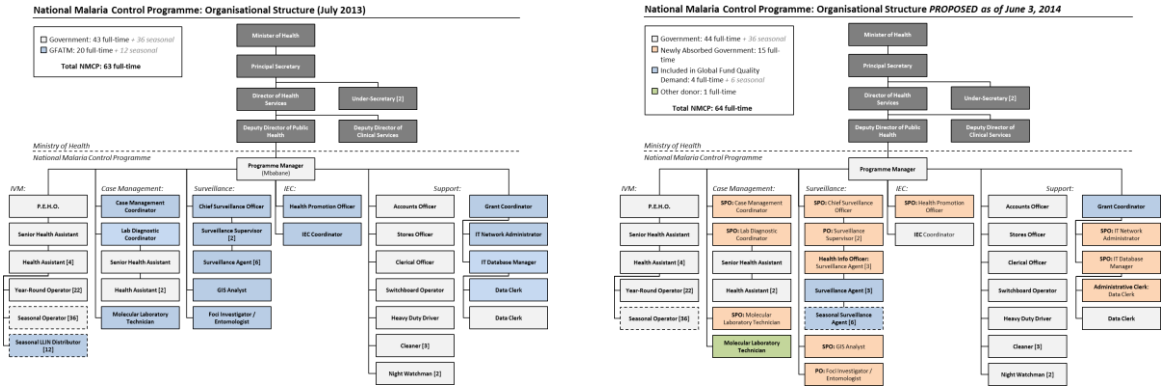
b. Compared to previous years, what additional government investments are committed to the national programs (TB and HIV) in the next implementation period that counts towards accessing the willingness-to-pay allocation from the Global Fund. Clearly specify the interventions or activities that are expected to be financed by the additional government resources and indicate how realization of these commitments will be tracked and reported.

c. Provide an assessment of the completeness and reliability of financial data reported, including any assumptions and caveats associated with the figures.

### 2.2.1 Commitment of Increased Government Investments for NMCP

Cognisant that critical and highly technical NMCP positions are funded by the Global Fund Round 8 grant expiring end of 2014, the NMCP completed a human resource mapping exercise of all government and Global Fund positions for malaria in July 2013. In the 2012-13 fiscal year, the government's establishment register allocated 77 full-time positions under Responsibility Centre 3212 intended for malaria. The mapping exercise revealed that 67 of these positions were filled, only 43 (64%) of which contributed to malaria. The remaining positions funded employees of other programmes and disease areas. In terms of actual expenditures, only 49% of expenditures contributed to NMCP salaries.

Figure 2.2.1a NMCP Organogram Before Absorption (left) and After Absorption (right) of 15 GF Positions




The NMCP engaged the Principal Secretary (PS) of the MOH to advocate to the PS of the Ministry of Public Service (MOPS) for appropriate use of the malaria budget and absorption of Global Fund positions into the establishment register before end of grant. This means turning the blue-shaded GF positions in Figure 2.2.1a (left) into the red (right) newly absorbed government positions. These are highly technical positions critical to day-to-day malaria operations, and the NMCP provided justification and job descriptions for each. The *Malaria Elimination Strategic Plan, 2015-2020,* has a larger image of the above organograms in the annex.

MOPS received all MOH requests for absorption and worked with the Ministry of Finance (MoF) beginning in Q4 2013. The cabinet budget speech in February 2014 applauded the country's progress towards malaria elimination, which proved encouraging. MOPS came back to MOH in Q2 2014 with a portion of the overall request met, and MOH is still finalising the breakout of positions by responsibility centre. However, there has already been written and signed commitment by the Principal Secretary of MOH specifically to the NMCP that the 15 positions requested by malaria will be absorbed, and those positions will be paid by government by the start of NFM grant implementation in January 2015. The minute signed by the Principal Secretary of MOH committing to absorb these positions will be emailed to the Country Team as part of the concept note submission. This volume of absorption of donor-funded positions is unprecedented not only for the NMCP but also for the MOH overall. It is commendable for government to increase long-term investments in malaria and in the health sector. Doing so means the difference between approximately 31% government contribution in the past 4 years (average of government contribution from Figure 2.1a)) and 41%, outlined in Figure 2.2.1b.

Figure 2.2.1b Government Contribution to the NSP 2015-2020 with Absorption of 15 GF Positions

| | 2015 | 2016 | 2017 | Total |
|---|---|---|---|---|
| TOTAL BUDGET FOR STRATEGIC PLAN | $ 3,213,110.04 | $ 2,712,219.69 | $ 2,499,025.57 | $ 8,424,355.29 |
| | | | | |
| TOTAL GOVERNMENT CONTRIBUTION **WITH** ABSORPTION OF 15 POSITIONS | $ 1,152,726 | $ 1,117,532 | $ 1,178,599 | $ 3,448,857 |
| % GOVERNMENT CONTRIBUTION | | | | **41%** |

In addition to salaries, the above government contribution comprising 41% of the overall budget

also commits to an increased budget for diagnostic commodities (as cases go down, screening must go up) and mefloquine (human movement and disease importation poses a major risk to elimination) for facilities. As the national guidelines are updated to include primaquine, the government will also provision for an additional pharmaceutical product. Primaquine is a product that has been on the market for decades for the radical treatment of *P. vivax* malaria but has less than 5 manufacturers in producing a low-dose formulation required for *P. falciparum* malaria and thus will include a significant investment from government.

Section 1.2.4 describes the MOH's commitment to upgrading HMIS, which will benefit the NMCP insofar as case investigation can be more readily scheduled from facility to the household-level. It also describes the MOH's intention to expand the Data Management Unit (DMU) under CMS to track commodity consumption, which would benefit the NMCP in efficient supply forecasting and procurement, including the maintenance of buffer stock in the event of an outbreak situation. Overall improvements to the country's data collection, analysis, and verification systems are necessary for the NMCP to achieve certification of elimination, which is why malaria is part of the country dialogue for developing Swaziland's HSS grant to be submitted to the Global Fund in October 2014.

**2.2.2 Mobilising Additional Domestic Resources for Malaria Elimination**

The NMCP recognises the unique challenges posed by financing for malaria elimination and competing financial interests from high burden diseases in the country. Despite the low disease burden, long-term investment is required to mitigate ongoing importation risk from higher-endemic countries in the region and to alter the intrinsic factors that perpetuate local transmission (i.e., environmental management). As such, the NMCP seeks to explore and implement non-traditional financing mechanisms that optimise financial impact and feasibility in the Swaziland context. The NMCP hosted a sustainable malaria financing workshop in December 2013 for participants from the government, the corporate sector, and civil society organisations, with support from CHAI.

The workshop explored seven mechanisms (i.e., endowment fund, development impact bond, national lottery, taxes and levies, tourist fee, tourist attraction pricing, and exchange rate services) and three short-term sources (i.e., Rotary grants, crowdfunding, and corporate sector partnerships)[9]. The participants demonstrated strong interest in malaria financing, in particular the endowment fund and those options involving tourism (i.e., airline levy, tourist fee, tourist attraction pricing) given the connection to disease importation.

Going forward, the NMCP will build relationships with related industries to conduct financial modeling and feasibility assessments. Furthermore, the participants emphasised the importance of ensuring transparency, accountability, and efficiency in resource disbursement. The NMCP will increase dialogue with the finance ministries and parliament to understand how to set up a semi- to fully-independent fund for malaria to which any financing option could contribute. Time is of the essence if the country is to build on the workshop's momentum. A Global Fund grant under the NFM will be vital to closing the forthcoming funding gap, but the country does need to consider seriously and to take action on the long-term domestic funding landscape for malaria.

**2.2.3 Completeness and Reliability of Financial Data**

In October-November of each year, the NMCP submits its budget proposal the Ministry of Health headquarters (MOH HQ), which aggregates all proposals and submits an overall MOH budget proposal to the Ministry of Finance (MoF). The MOH and MoF make changes in the subsequent months per the MoF's request. In February, the cabinet budget speech takes place, and the government presents the budget by April, the start of the fiscal year. Government funds are released quarterly, and the initial release depends on funds remaining from the previous fiscal

[9] *Sustainable Financing for Malaria Elimination in Swaziland, February 2014*

year. Generally, the first release will be in late April or early May.

In order to receive funding, for instance for ACTs, the NMCP will submit a commitment request to the MOH Planning Department, which takes it up with MoF. Based on its budget request in October-November, the NMCP may have been allocated a specific amount for ACTs under the budget for Responsibility Centre 3212 (for malaria) under line item 034 (for pharmaceuticals). Part or all of these funds will be released to NMCP per the commitment request, timed so as to avoid ACT stock-outs and ensure availability at all facilities in the country. Once the ACTs are purchased, the actual expenditure recorded by MOH and NMCP, which has a designated Accounts Officer.

In terms of annual financial data reporting, the MOH Planning Unit takes the overall budget the MoF released prior to the start of the fiscal year and compares against MOH expenditures. MOH HQ, along with all other ministries, submits a performance report to the Public Accounts Committee after a fiscal year has elapsed, around May. The ministry then defends this performance report to parliament, answers queries, and amends as necessary based on recommendations. There is a separate Office of the Auditor General in the government that is not affiliated with a specific ministry that conducts annual audits. If suspicion of fund mismanagement arises, then the Anti-corruption Commission may perform a follow-up investigation.

Based on the aforementioned national process for budgeting and reporting, the financial data provided with this concept note is both complete and reliable. Government expenditures on malaria and on the overall health sector for fiscal years that have elapsed are sourced from the MOH Resource Mapping exercise that the Ministry completed in 2013 to elucidate the cost categories for its expenditures. For malaria, these are the expenditures for Responsibility Centre 3212 (for malaria) and the Central Medical Stores' line item for mefloquine. For fiscal year 2014 onward, the government budget for malaria is based on the costed national strategic plan and the assumption that government will continue to fund what it has in the past few years, in addition to absorbing current salaries funded by the Round 8 grant. The cost categories that government has historically funded and other details that inform this projected government contribution are detailed in Section 2.1.

## SECTION 3: FUNDING REQUEST TO THE GLOBAL FUND

This section details the request for funding and how the investment is strategically targeted to achieve greater impact on the disease and health systems**.** It requests an analysis of the key programmatic gaps, which forms the basis upon which the request is prioritized. The modular template (Table 3) organizes the request to clearly link the selected modules of interventions to the goals and objectives of the program, and associates these with indicators, targets, and costs.

### 3.1 Programmatic Gap Analysis

**A programmatic gap analysis needs to be conducted for the three to six priority modules within the applicant's funding request.**

Complete a programmatic gap table (Table 2) detailing the quantifiable priority modules within the applicant's funding request. Ensure that the coverage levels for the priority modules selected are consistent with the coverage targets in section D of the modular template (Table 3).

For any selected priority modules that are difficult to quantify (i.e. not service delivery modules), explain the gaps, the types of activities in place, the populations or groups involved, and the current funding sources and gaps.

### 3.2 Applicant Funding Request

Provide a strategic overview of the applicant's funding request to the Global Fund, including both the proposed investment of the allocation amount and the request above this amount. Describe how it addresses the gaps and constraints described in questions 1, 2 and 3.1. If the Global Fund is supporting existing programs, explain how they will be adapted to maximize impact.

The Government of Swaziland has made a commitment to achieve malaria elimination and has an evidence-based strategy to address current gaps to achieve national goals. However, due to limited resource, financial resource gaps remain in which the country could benefit from Global Fund support to robustly implements its strategy. The *Malaria Elimination Strategic Plan, 2015-2020* focuses on identifying and treating all confirmed cases, including low-density infections found in the community through molecular methods, as well as on understanding and eliminating all foci, so as to decrease receptivity more permanently in the country. The strategy establishes surveillance systems and partnerships to manage the constant threat of re-establishment, due to regular cross-border human movement from higher-endemic countries. The strategic plan is comprised of critical INTERVENTIONS under the specific STRATEGIES of each objective. Section 2.1 details those interventions historically funded by government and the effort the NMCP took to keep the GF funding request only to those interventions directly linked with targets for achieving elimination. This requesting funding is detailed below:

| | 2015 | 2016 | 2017 | TOTAL |
|---|---|---|---|---|
| **Total Request excluding Principal Recipient budget separately developed by the Principal Recipient, NERCHA** | $ 1,406,937 | $ 1,085,878 | $ 1,320,426 | **$ 3,813,242** |
| **Total Request with separate Principal Recipient budget included** | $ 1,729,436 | $ 1,378,444 | $ 1,638,156 | **$ 4,746,036** |

| | 2015 | 2016 | 2017 | TOTAL | % Funding | GF Supported Interventions |
|---|---|---|---|---|---|---|
| **OBJ 1** | **$842,293** | **$701,798** | **$898,012** | **$2,442,103** | **Gov: 16%<br>GF: 83%<br>Other: 1%** | |
| Strategy 1.1 | $229,714 | $46,511 | $50,167 | $326,392 | Gov: 16%<br>GF: 84%<br>Other: 0% | - Standardise nurse and lab tech curriculum<br>- Annual doctors conference to troubleshoot<br>- In-service nurse training (hotel) in 2015 to orient on PQ, artesunate<br>- In-service training of focal persons at high-risk, high-burden facilities<br>- Accredit nurse licenses, knowledge test<br>- Ongoing onsite monitoring and mentoring visits with data collection on tablets<br>- Private sector adherence assessment in 2015, 2017 |
| Strategy 1.2 | $53,938 | $52,587 | $55,334 | $161,860 | Gov: 68%<br>GF: 32%<br>Other: 3% | - Slide bank all species at central lab and bench aides for identification<br>- Slides and DBS cards to confirm RDT +ves for all facilities [Slide reading by gov staff]<br>- Train select lab staff with microscopy expert, train remaining staff<br>- Ongoing onsite monitoring and mentoring visits for labs, data collection on tablets<br>- National QA protocol with QA bundle supplies [Handmade for cost-saving] |
| Strategy 1.3 | $374,924 | $386,954 | $406,302 | $1,168,180 | Gov: 5%<br>GF: 93%<br>Other: 2% | - Seasonal agents to help increase case detection coverage in high-risk areas<br>- RDT, microscopy, DBS to screen 8000 people annually<br>- LAMP commodities to process DBS samples at MOH National Reference Laboratory |

| | | | | | | |
|---|---|---|---|---|---|---|
| Strategy 1.4 | $183,717 | $215,746 | $386,209 | $785,672 | Gov: 0%<br>GF: 100%<br>Other: 0% | - RDT, microscopy, DBS to screen 3000 (Yr 1, +15% per year) in active foci annually<br>- RDT, microscopy, DBS to screen 1000 high-risk workers annually<br>- LAMP commodities to process DBS<br>- Ensure EPR port of entry clinics have RDTs and microscopy slides |

*Strategy 1.1:* Government will fund the Case Management Coordinator salary, pending absorption. The Global Fund would enable the NMCP to conduct health care worker trainings on and ensure compliance with national diagnosis and treatment guidelines, as well as reporting protocols. For pre-service training, the programme will assess case management modules being taught at the country's nursing and new laboratory training institutions and partner with university leadership to set a standard curriculum covering guidelines and practicals. This intervention ensures that Swaziland builds a cadre of informed healthcare staff who, upon graduation, will disperse to both public and private facilities.

Furthermore, the NMCP will maintain in-service training for nurses with the focus shifting from resource-intensive overnight hotel trainings to onsite monitoring and mentoring. The former will occur in 2015 as a standard orientation on the diagnosis and treatment guidelines updated for primaquine, artesunate, and quality assurance. The latter requires the Case Management team to visit facilities routinely to assess personnel and resources, capturing data on tablets that is uploaded to MSDS in real time. During visits, HMIS and IDNS (977) reporting figures will be compared to verify case data and ensure immediate and accurate reporting; and facilities that demonstrate poorer confirmation rates and/or reporting may receive additional visits as necessary. To increase efficiency in facilitating these visits, the NMCP may designate a malaria focal person or group on the existing Regional Health Management Teams (RHMTs) and/or at high-risk, high-burden health facilities. These focal people will encourage both information sharing and performance to standard at their facilities.

To ensure compliance, the NMCP will engage the Nursing Council, which currently renews licenses annually based on attendance at trainings for any disease area, to make the accreditation process more knowledge-based, such as through a brief malaria questionnaire. The programme will also convene an annual forum between MOH officials, doctors, and other HCWs from both public and private facilities to troubleshoot case management issues and to inform proceeding guidelines. A private sector assessment, first conducted in 2013, will be conducted in 2015 and 2017 to monitor coverage of private facilities that comply with guidelines and immediately report confirmed cases. Confirmation rate has increased from 51% in 2012-13 to 98% for the second half of 2013 after the private sector assessment in June 2013, demonstrating the potential impact of this intervention.

*Strategy 1.2:* Government funds the Lab Diagnostics Coordinator salary, pending absorption, as well as RDTs, which are send for international lot testing at WHO-qualified laboratories, and microscopy slides for all facilities. For the central NMCP laboratory and facilities with laboratory, the government funds microscopy supplies and health assistants who perform slide reading. Global Fund funding would enable the NMCP to ensure in-country microscopy expertise, quality laboratory performance including secondary slide reading of positive RDTs, and scale-up of quality assurance necessary for elimination.

The NMCP will establish a central slide bank of all malaria species for training purposes. Furthermore, the programme will build a cadre of malaria microscopists by bringing experts from centres of excellence in Africa to lead trainings in Swaziland, after which the NMCP will train other laboratory staff as well. The country procured microscopes under Round 8, so regular servicing in-country can maintain these microscopes in lieu of purchasing more. The Lab Diagnostics Coordinator will routinely visit health facilities with laboratory capacity to assess state of supplies and proficiency, capturing data on tablets via questionnaire and direct observation that can be

uploaded to MSDS in real time. These interventions ensure that personnel are microscopy-proficient if selected for WHO-approved external quality assessments. Feedback will also be provided on facility supply management of commodities and emphasise the importance of timely replenishment of orders through formal, centralised channels.

To ensure quality of diagnostic tools, the NMCP will monitor national QA work flow. At all facilities, nurses are expected to take a slide and a DBS for secondary reading of positive RDTs. In higher-risk regions, they must do this for all RDTs. National QA protocol is a must for elimination.

*Strategy 1.3:* Government funds one Molecular Laboratory Technician salary, pending absorption, and the BMGF funds the other. GF funding would enable the NMCP to conduct reactive case detection in receptive areas of the country with RDT and DBS, which is processed using LAMP by the lab technicians, to identify infections that may not show up at facilities yet contribute to local transmission. With the support of 3 seasonal agents during peak transmission season, the NMCP Surveillance team will screen all people residing within a 500m radius of an index case for up to 5 weeks after the initial presentation of the case to a health facility. This personnel structure has been deployed for 2013-14 and led to over 5000 people screened thus far compared to 2,148 in the entire previous season. The NMCP aims to screen 8000 per year with this funding request.

With only one manufacturer, the LAMP method appears costly but is critical for detecting low-density infections in the community that an RDT cannot identify. Treating these individuals will reduce the asymptomatic parasite reservoir in the country. Other E8 countries have looked to Swaziland's case detection using LAMP as a model for their own active surveillance systems, and LAMP is under development for diagnostics for other diseases such as TB. Both factors may contribute to reduced costs in the future.

*Strategy 1.4:* Active surveillance, which requires maximum coverage of screening, is critical in anticipating and mounting a response to potential malaria epidemics. GF funding would enable Swaziland to be proactive rather than strictly reactive in its case detection as the country now has a much clearer picture of where the high risk areas and populations are located that experience local transmission.

Based on previous seasons' surveillance data, the NMCP will identify and proactively screen people living in foci prior using RDT and DBS for LAMP, thereby identifying and treating asymptomatic infections before seasonal factors contributing to transmission occur. The NMCP targets proactive screening of 3000 people in 2015 with 15% increase per year. The programme will establish protocols on timing and frequency of active case detection, supported by community engagement. The programme will assess whether screening household to household or at a central location would be most effective. In addition, the NMCP will identify and proactively screen people, such as seasonal sugar cane cutters, who work and live in close quarters in the at-risk region. The programme will engage the Ministry of Labour and Social Security or private companies directly to test these labourers using RDT and DBS for LAMP. Leveraging existing resources such as a company's health clinic may lead to cost-savings for screening.

Moreover, the NMCP will remain in dialogue with EPR, which has signed an MOU with the Swaziland Revenue Authority (SRA) to establish six semi-permanent health clinics at ports of entry. These clinics must be equipped with malaria commodities.

| | 2015 | 2016 | 2017 | TOTAL | % Funding | GF Interventions |
|---|---|---|---|---|---|---|
| **OBJ 2** | **$14,776** | **$1,738** | **$13,153** | **$29,666** | **Gov: 89%<br>GF: 11%<br>Other: 0%** | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Strategy 2.1 | $3,156 | $326 | $343 | $3,826 | Gov: 99%<br>GF: 1%<br>Other: 0% | - Primaquine in 2015<br>- Create supply management TWG to meet quarterly in line with national supply chain TWGs |
| Strategy 2.2 | $11,619 | $1,411 | $12,810 | $25,841 | Gov: 0%<br>GF: 100%<br>Other: 0% | - Revise national diagnosis and treatment guidelines 2015 (PQ, artesunate), 2017 (re-orient at elimination, new therapies)<br>- Train public and private pharmacists on updated guidelines |

*Strategy 2.1:* The Government of Swaziland ensures that confirmed malaria patients at all private and public facilities receive effective therapies on the country's essential drug list free-of-charge. This includes funding for ACTs, artesunate, and quinine to treat imported cases projected to rise each year due to human movement, and significant investments in mefloquine in light of this intra- and international human movement. GF funding would enable all facilities starting in 2015 to administer low-dose primaquine in conjunction with an ACT for uncomplicated *P. falciparum* malaria as per the WHO recommendation. Primaquine has been adopted at the NMCP's annual doctors conference in April 2014.

Moreover, the NMCP is involved in the process of improving overall supply chain management in the country. It will get its own house in order by creating a supply management TWG meeting at least quarterly to discuss malaria stock issues. This TWG will be responsible for stock issues and interfacing with national supply management TWGs. No such point person or group currently exists within the programme.

*Strategy 2.2:* The NMCP anticipates revising the national diagnosis and treatment guidelines three times over the five-year strategy to account for WHO recommendation changes and/or new product entry for elimination settings. Guidelines will be updated in 2015 to incorporate primaquine, clarify administration of artesunate, and strengthen national QA protocol and work flow. This has not yet been done due to funding limitations. With completion, primaquine will be in the country's essential drug's list and procured by government rather than GF. Each time the guidelines are updated, HCW training must convey the changes, including annual trainings for pharmacists in both the public and private sectors.

| | 2015 | 2016 | 2017 | TOTAL | % Funding | GF Interventions |
|---|---|---|---|---|---|---|
| **OBJ 3** | **$401,649** | **$199,529** | **$233,117** | **$834,295** | **Gov: 51%<br>GF: 21%<br>Other: 28%** | |
| Strategy 3.1 | $140,310 | $50,014 | $50,091 | $240,416 | Gov: 52%<br>GF: 48%<br>Other: 0% | - Annual Surveillance training on season's case investigation and detection<br>- Supplies and equipment to investigate confirmed positive cases |
| Strategy 3.2 | $119,080 | $71,358 | $74,518 | $264,956 | Gov: 35%<br>GF: 65%<br>Other: 0% | - Capacitate staff on entomological surveillance field collection and analysis<br>- Carry out routine field collection and following positive cases<br>- Appropriate infrastructure and supplies for analysis |
| Strategy 3.3 | $15,481 | $11,606 | $12,186 | $39,273 | Gov: 79%<br>GF: 21%<br>Other: 0% | - Networking, data lease line, weather station, GIS software and trainings, and 1 week TA to help create data system |
| Strategy 3.4 | $8,572 | $9,001 | $9,451 | $27,023 | Gov: 98%<br>GF: 2%<br>Other: 0% | - Insecticide resistance consumables to accompany IRS fully funded by government |

| | | | | | | |
|---|---|---|---|---|---|---|
| Strategy 3.5 | $30,257 | $12,207 | $4,841 | $47,304 | Gov: 0%<br>GF: 100%<br>Other: 0% | - Multi-stakeholder meeting on enforceable regulations for commercial projects that create breeding sites<br>- Climate change risk assessment on sustaining elimination<br>- Guidelines on housing with improvement (i.e., screens) for 600 houses in active foci per year |
| Strategy 3.6 | $0 | $0 | $0 | $0 | Gov: 0%<br>GF: 0%<br>Other: 100% | *** NMCP will partner with UCSF and CHAI with funding from BMGF to conduct a targeted parasite elimination study |
| Strategy 3.7 | $24,731 | $13,845 | $15,471 | $54,047 | Gov: 76%<br>GF: 24%<br>Other: 0% | - EPR training and guidelines on outbreak response with 20% buffer stock diagnostics |
| Strategy 3.8 | $63,218 | $31,499 | $66,559 | $161,276 | Gov: 43%<br>GF: 57%<br>Other: 0% | - Advocacy, Social and Behaviour Change Communication (ASBCC) strategy meeting 2015 and 2017, development of materials for facilities, trainings, border, community, and other IEC<br>- Radio, kombi car adverts<br>- Transport and communication to engage community dialogue and create Malaria Elimination Committees in active foci<br>- Train Mozambican Association leaders, Portuguese IEC materials<br>- Qualitative survey on impact of messaging 2015, 2017 |

*Strategy 3.1:* Government funds the Chief Surveillance Officer, Surveillance Supervisor (2), and Surveillance Agent (3) salaries, pending absorption. GF funding would enable the Surveillance Team to carry out case investigation, the hallmark of an active surveillance system. All cases confirmed at a health facility and reported through IDNS will be investigated within 48 hours, except for severe cases being treated inpatient, as the NMCP does not interfere with hospital protocol. The NMCP Surveillance team schedule a visit to the patient's household to capture details including GPS coordinates of the house, travel history up to 8 weeks, travel networks, utilization of personal protection measures, and other factors that may be associated with infection risk. Data collected on tablets can be uploaded to MSDS in real time. The Surveillance team conducts an annual training ahead of the peak transmission season and maintains constant communication year-round. Efficiency opportunities include having Agents work in pairs.

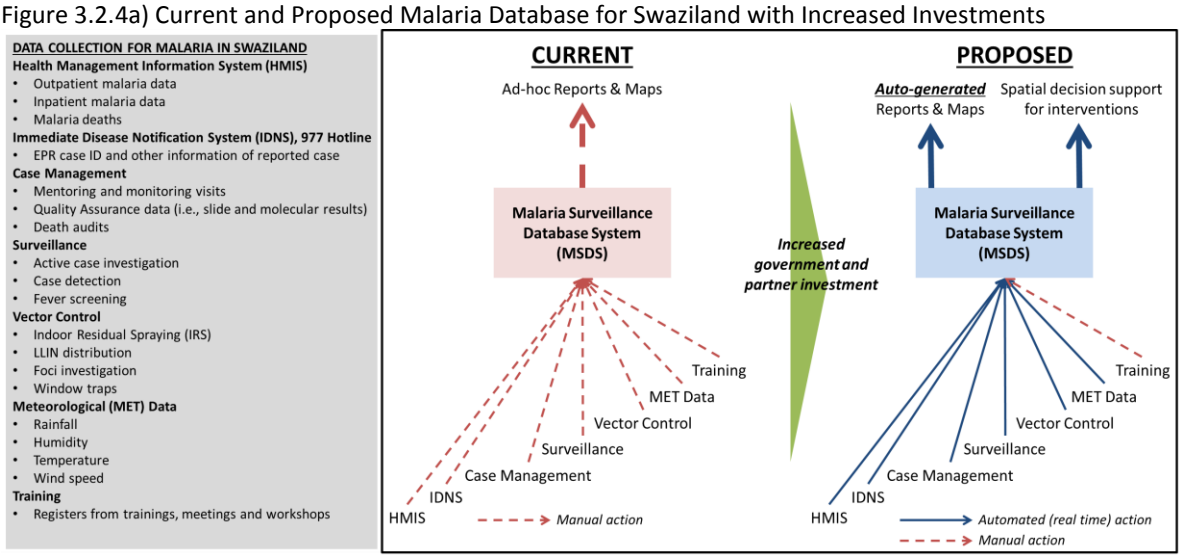
*Strategy 3.2:* Government funds the Foci Investigator salary, pending absorption. Foci investigation has been conducted on only 4% of the identified 167 foci in Swaziland, in part because the position was vacant for 5 months in 2012-13. Upon recruitment, the officer did not have transport for investigations, with which he may perform approximate six weekly. GF funding would enable procurement of a vehicle to allow the NMCP to complete data profiles on all transmission foci, prioritizing those that are active. In doing so, the programme can make informed decision on how best to reduce vector populations or interactions with humans within active foci and launch an effective response.

The NMCP used to conduct entomological surveillance and vector field analysis in partnership with the Malaria Research Council (MRC) in South Africa, which has since closed. As such, the NMCP has engaged Wits Research Institute for Malaria in South Africa to capacitate in-country staff in these technical areas. The programme is advocating that government invest in an insectary in-country, as per a pre-requisite of certification. Should government support this significant capital project, GF funding would enable the NMCP to carry out routine field collection,

includes collecting species samples from windows traps and larvae scooping at sentinel sites throughout the country. Continuing to track vector density and evaluating impact on malaria cases may help determine whether receptivity has been reduced in a locality.

*Strategy 3.3:* Government funds the GIS Analyst, IT Database Manager, and Data Entry Clerk salary, as well as IT networking (i.e., lease line for NMCP's MSDS and EPR's IDNS database) for the routine data that the NMCP collects. GF funding would enable the NMCP to design an integrated spatial-decision support system leveraging incoming case, foci, and weather data that will increasingly come in real time, as outlined in Figure 3.2.4a). The NMCP will invite academic and technical experts (i.e., potential partnership with the University of Southampton) to capacitate staff and design such a system to inform appropriate and effective interventions to be deployed at the right place, right time.

Figure 3.2.4a) Current and Proposed Malaria Database for Swaziland with Increased Investments




The NMCP understands the value of GIS in informing planning and implementation in a targeted, data-driven, cost-effective manner. With previous support from Global Fund, the programme has supported 5 countries (Botswana, Namibia, Madagascar, Zambia, Zimbabwe) on GIS and also hosted the SADC GIS training. Continued support by government and Global Fund allows a centre of excellence to be localised in Swaziland, from which learning proliferates elsewhere in the region.

*Strategy 3.4:* The government funds all personnel, equipment, and supplies for annual IRS with maximum coverage and safe waste management. The country requests some support to maintain insecticide resistance monitoring to ensure the efficacy of IRS as an intervention altogether.

*Strategy 3.5:* GF funding would enable Swaziland to consider the larger impact of environment on elimination and create long-term partnerships to sustain elimination. The NMCP must engage relevant actors in environment, agriculture, infrastructure, and labour to institutionalize environmental management interventions through a multi-sectoral legislative framework. For instance, if commercial activity creates unfilled water bodies that, through entomological surveillance, is clearly linked to increased malaria cases, then legislation must be enforced, such that the responsible party deploys a mitigation plan.

Furthermore, the NMCP will conduct a climate change risk assessment for malaria elimination, in light of the fact that changes in weather and precipitation have elongated the malaria transmission season in the recent 3 years and local cases appear in areas previously not thought to be at-risk. The programme needs to be pro-active about sustaining elimination in an informed cost-effective manner. Part of this also relates to housing and issues of poverty, and the NMCP wants to act on existing literature linking housing and malaria burden by screening the poorest

quality homes in at-risk regions that enable local transmission (i.e., no screens, open eaves).

*Strategy 3.6:* The NMCP will partner with UCSF and CHAI with funding from the BMGF to conduct a targeted parasite elimination (TPE) operational study, with results to inform programmatic strategies to achieve and sustain malaria elimination. Study protocol development uses anti-malarials on the country's essential drugs list and takes seriously the issue of drug resistance monitoring, such that the efficacy of these anti-malarials for treatment at facilities during and long after the study are not compromised by the study itself.

*Strategy 3.7:* The NMCP will work with Central Medical Stores to ensure funding for national buffer stock of pharmaceutical and insecticide commodities in the event of an outbreak, for instance caused by unexpected cross-border human movement. GF funding would enable the NMCP to help regularly review EPR guidelines, such that protocols for an outbreak remain relevant to the evolving malaria situation. The country also needs buffer stock of diagnostic commodities in the event that increased screening needs to occur (i.e., outbreak) or to enable increased case detection, which motivates the Surveillance Team to screen more people and set higher targets.

*Strategy 3.8:* Government funds the Health Promotion team's salaries. GF funding is requested for health promotion and IEC, given that the success of all aforementioned interventions requirements effective messaging to various audiences (i.e., HCWs, environmental officers, travelers, people living in foci) and community mobilisation. The Health Promotion Team will develop all IEC materials for such initiatives, including on mefloquine (for HCWs), prophylaxis (for travelers), malaria information, signs and symptoms, IRS (for targeted communities), posters for the border, and language-appropriate posters for Mozambicans. All IEC materials are pre-tested on a representative audience before dissemination. Relevant and timely malaria messaging will be disseminated via traditional mediums such as radio and newer channels such as video advertisements on public transportation.

As is consistent under Objective 3, interventions will be increasingly targeted. To that end, the NMCP will conduct community dialogues every year, and in active foci, support the creation of Malaria Elimination Committees (MECs), so that affected communities take ownership of elimination interventions. It will do this by engaging relevant actors and forming partnerships to avoid overwhelming the target audience and to leverage other organisation's competitive advantage. Potential participants include with policy leaders, community leaders, community health workers (i.e., RHMs, MOH SRH personnel), CSOs (i.e., who already conduct door to door campaigns for other diseases), or schools to devise how best to engage the community and promote behavioural change. For high-risk foreign nationals, the NMCP has identified the Mozambican Association as an entry point for the Mozambican population in Swaziland to disseminate Portuguese-translated materials and to co-host events.

In light of all these approaches to engaging the population on malaria, both quantitative and qualitative surveys will be routinely conducted to measure impact of mass media and community mobilisation interventions.

| | 2015 | 2016 | 2017 | TOTAL | % Funding | GF Interventions |
|---|---|---|---|---|---|---|
| **OBJ 4** | **$58,670** | **$110,995** | **$118,104** | **$287,769** | **Gov: 18%<br>GF: 82%<br>Other: 0%** | |
| Strategy 4.1 | $58,670 | $110,995 | $68,373 | $238,038 | Gov: 20%<br>GF: 80%<br>Other: 0% | - All necessary measures to ensure integrity of databases (i.e., security, backup) and lease lines to EPR and MET Services<br>- Annual meeting of new independent malaria certification committee<br>- Audit in 2017 to inspect surveillance and data systems, 1 week TA |

| | | | | | | |
|---|---|---|---|---|---|---|
| Strategy 4.2 | $0 | $0 | $49,731 | $49,731 | Gov: 0%<br>GF: 100%<br>Other: 0% | - Resource mapping in 2017 of NMCP staff and integration into other MOH depts where appropriate, 1 week TA<br>- Mid-term review of strategic plan, 1 week |

*Strategy 4.1:* Government funds the IT Network Administrator, pending absorption. M&E is of utmost importance to implementation, and issues involving data and auditing can stand to gain from GF support. Efforts need to be made to maintain the security and integrity of the MSDS and any other programme database. All data must be secure and backed up, and all equipment that transfers or stores data need to be maintained.

Furthermore, the NMCP will oversee the creation of an independent national malaria certification committee, possibly under the auspices of the SMEAG, to engage with regional and global elimination committees. This committee will ensure that regular audits by objective third party experts are conducted prior to 2018. The NMCP will ensure that its data integrity will not be called into question and that it can prove beyond reasonable doubt its capacity to anticipate and halt any recurrence of transmission.

*Strategy 4.2:* Given Swaziland's ongoing importation risk from higher-endemic countries, malaria-related activities need to be maintained even after certification. The WHO also requires ongoing annual reporting on maintenance of a country's malaria-free status. It is possible that integration of some NMCP staff into other government programmes may make sense. GF funding would enable the NMCP to conduct a human resource assessment to determine critical activities that need to be maintained and adjust job descriptions as needed. Of importance is that NMCP will also conduct a mid-term review of the *Malaria Elimination Strategic Plan, 2015-2020* to re-orient the programme as necessary in 2017.

| | 2015 | 2016 | 2017 | TOTAL | % Funding | GF Interventions |
|---|---|---|---|---|---|---|
| **Other** | **$89,550** | **$71,818** | **$58,041** | **$219,409** | **Gov: 74%<br>GF: 26%<br>Other: 0%** | |
| Implementation and PR costs | $18,039 | $18,940 | $19,887 | $56,866 | Gov: 0%<br>GF: 100%<br>Other: 0% | - SMEAG meetings, quaterly implementers meetings, annual malaria review conference - part of ongoing country dialogue and M&E process |
| Infrastructure and Equipment | $47,851 | $28,034 | $12,068 | $87,953 | Gov: 81%<br>GF: 19%<br>Other: 0% | - Tech hardware and software maintenance and communication for programme management |
| HR (Remaining) | $23,660 | $24,843 | $26,086 | $74,589 | Gov: 78%<br>GF: 22%<br>Other: 0% | - GF Grant Coordinator salary |

Other programmatic expenditures requesting funding include planning, implementation, and M&E meetings, such as for SMEAG and Global Fund malaria grant implementers. The programme has greatly benefited from the annual Malaria Review Conference for report writing and operational planning with stakeholders and GF support. Regarding operations, an area largely funded by government, the NMCP requests some funding to maintain data and IT systems. Human resource salaries and allowances are all government-funded except for the Global Fund Grant Coordinator position.

The PR separately developed a budget for its operations, and details for the expressed need can be found in the PR Budget 2015-2017_from NERCHA_061314 spreadsheet attached to the concept note submission. Cost categories include Human Resources, Training, Infrastructure and Other Equipment, Planning and Administration, Overheads, and Other. Adding the total PR budget to malaria's funding request still falls within the allocated amount.

| | | | | |
|---|---|---|---|---|
| PR Budget | $322,499 | $292,566 | $317,729 | **$932,794** |

## 3.3 Modular Template

Complete the modular template (Table 3). To accompany the modular template, for both the allocation amount and the request above this amount, briefly:

a. Explain the rationale for the selection and prioritization of modules and interventions.

b. Describe the expected impact and outcomes, referring to evidence of effectiveness of the interventions being proposed. Highlight the additional gains expected from the funding requested above the allocation amount.

The total funding request of $3,813,242 without the separately developed PR budget ($4,746,036 with the PR budget) is within the bounds of the $5.16 million country allocation for malaria. The NMCP developed its *Malaria Elimination Strategic Plan, 2015-2020* and conducted a thorough activity-based budget with impact and cost-effectiveness in mind. All aforementioned interventions in Section 3.2 are critical in accelerating progress towards elimination in Swaziland. To map the GF funding from the strategies and interventions for the strategic plan, as detailed in Section 3.2, to the modules and interventions for the NFM Modular Template tool, kindly refer to the Swaziland Malaria Elimination Strategic Plan 2015-2020_BUDGET_061314 spreadsheet in the tab titled "GF Request".

| | | 2015 | 2016 | 2017 | TOTAL |
|---|---|---|---|---|---|
| **Module** | **Case Management** | **$1,141,189** | **$838,753** | **$1,051,245** | **$3,031,188** |
| Inter-vention | Facility-based treatment | $298,760 | $101,185 | $119,021 | $518,966 |
| | Active case detection and investigation (elimination phase) | $698,619 | $652,365 | $842,235 | $2,193,219 |
| | Other (Foci) | $119,080 | $71,358 | $74,518 | $264,956 |
| | Epidemic preparedness and response | $24,731 | $13,845 | $15,471 | $54,047 |

With this funding, the NMCP is bolstering its passive and active surveillance system, which is the most effective way to address the ongoing importation challenges and assist in achieving the elimination goal. This is because this will detect and treat all infections, including detecting those infections that may be asymptomatic. The NMCP conducted a reactive case surveillance study from August 2012 to June 2014 in partnership with CHAI and GHG to evaluate the reactive surveillance strategies for malaria elimination in Swaziland. Preliminary results indicated that secondary infections were more likely to occur within 500 m of an index case and the NMCP subsequently reduced the screening radius from 1 km to 500m to utilize resources efficiently, furthermore results indicated that the earlier reactive case detection was conducted and the more people screened, the more likely infections would be identified.

The study has also compared RDTs to a more sensitive molecular method, Loop-mediated Isothermal Amplification (LAMP) for screening of infections in communities. LAMP has picked up 3 times more infections than RDTs as it is able to identify parasites at a lower threshold than an

RDT. This funding would assist in procuring RDTs, DBS cards, LAMP test kits, and field and laboratory supplies for screening as well as support hiring of 3 permanent surveillance agents and 3 seasonal surveillance agents to assist with screening during the peak malaria season.

The NMCP has previously conducted border screening during the high travel months of December and January in 2011, 2012 and 2013; the exercise was resource intensive and low yield. It required halting reactive case detection in high-risk communities and deployment of surveillance agents at the two borders between Swaziland and Mozambique to conduct screening. Again, this is why the NMCP is choosing to strengthen its passive and active surveillance, increasing testing at facilities and conducting reactive and proactive case detection in communities to detect infections and halt transmission. People tend not to be sick at the border but rather later on and appear in the country's passive and active surveillance system. To make sure that bolstering these national systems is sustainable, Swaziland has participated in the drafting of the expression of interest (EOI) to the Global Fund for a regional proposal that aims at revitalising cross-border initiatives which is the LSDI in the case of Swaziland[10].

Moreover, regarding treatment once these infections are detected, the NMCP in partnership with CHAI and GHG is currently conducting the Primaquine Roll Out Monitoring Pharmacovigilance Tool (PROMPT) study to assess severe adverse events related to primaquine administration and based on preliminary results; primaquine will be added into the national diagnosis and treatment guidelines as radical cure which will allow for treatment of asymptomatic carriers once they are identified in communities and result in depletion of the parasite reservoir in high risk areas. This is why we are requesting funding to revise, print and distribute the national diagnosis and treatment guidelines, so that primaquine will be rolled-out nationally and procured by government as soon as possible.

To be able to identify and better understand appropriate interventions in high risk localities foci profiles will have to be completed for all foci in the country, this is to be implemented through foci investigation. This activity has previously been hindered due to the lack of a vehicle for the Foci Investigator to implement investigation. The funding would therefore cater for procurement of a vehicle for the Foci Investigator to aid in the investigations for profiling of high risk localities.

| | | 2015 | 2016 | 2017 | TOTAL |
|---|---|---|---|---|---|
| **Module** | **Vector Control** | **$102,047** | **$52,706** | **$80,850** | **$235,603** |
| Inter-vention | IEC/BCC | $63,218 | $31,499 | $66,559 | $161,276 |
| | Other vector control measures | $30,257 | $12,207 | $4,841 | $47,304 |
| | Indoor residual spraying (IRS) | $8,572 | $9,001 | $9,451 | $27,023 |

In-depth foci investigations and complete profiles of foci areas will provide crucial data to the NMCP to better understand interventions required to change the receptivity of an area. This funding would assist in building multi-sector partnerships for environmental management and implementing such interventions where appropriate. For example, if an area is receptive due to swampy land that was created by commercial activity, then the Swaziland Environmental Authority will conduct an Environmental Impact Assessment and should be able to enforce the commercial entity to implement a mitigation plan (i.e., drained, filled, or maintained) to reduce breeding sites of mosquitos in that area. Further, this funding enables the country to conduct a

[10] Section 4.4 in Risks

climate change risk assessment to inform appropriate strategies for sustaining elimination in the long-term.

This funding also includes health promotion (IEC/BCC) activities that cut across all interventions and in particular enable the programme to direct messaging on those interventions that are targeted for high-risk areas such as active foci (i.e., spraying, environmental management). The NMCP has previously engaged to a great extent in mass media communication to educate the population at large on the signs and symptoms of malaria as well as preventative measures to protect against malaria. The NMCP still records a significant proportion of Swazi's travelling to malaria endemic areas without employing appropriate preventative measures. Moving forward, the NMCP will therefore focus on engaging with communities, leveraging existing structures such as community leadership, health care volunteers, schools, etc. It will partner with Civil Society Organisations (CSO) if they offer a comparative advantage in reaching those endemic areas in information, communication and education on malaria.

In 2012, the NMCP conducted a study on human networks for imported cases, and results showed that imported networks of malaria existed and could be reached by interventions. The NMCP has included screening of travel companions in both receptive and non-receptive areas. Going forward, this funding request will enable the programme to engage the Mozambican Association to elucidate their networks to target them with appropriate malaria interventions and to educate them on appropriate treatment seeking behavior. All these activities will assist in reducing local cases and aid in achieving the ultimate goal of 0 local transmitted cases.

The planned TPE study that is fully funded by BMGF and not a part of the Global Fund funding request will build on current active surveillance activities, which have been implemented under the GF R8 grant, including follow-up of confirmed reported malaria cases and screening people residing around a confirmed malaria case. The results of the TPE study will direct the program to adopt a suitable TPE strategy and assist in depleting asymptomatic reservoirs in communities before the peak transmission season begins and in-turn reduce local transmission in these high risk localities. Because Global Fund funding request will help the NMCP target communities with messages; this will assist in engaging communities with implementation of the TPE strategy in future.

| | | 2015 | 2016 | 2017 | TOTAL |
|---|---|---|---|---|---|
| **Module** | **Programme Management** | **$486,199** | **$486,985** | **$506,060** | **$1,479,245** |
| Inter-vention | Policy, planning, coordination, and management | $100,118 | $166,408 | $158,919 | $425,445 |
| | Grant management* | $386,081 | $320,577 | $347,141 | $1,053,800 |

*Includes separately developed PR budget of $932,794 for the January 2015-December 2017 implementation period. Before adding in this budget, the Grant Management intervention was $121,005 and the overall Programme Management module was $546,451 for this period.

Under the NSP for 2008-2015, the NMCP has collected variables and GPS coordinates on surveillance and vector control interventions deployed and will continue to do so, only better, under the Malaria Elimination Strategic Plan, 2015-2020. The data on malaria interventions is currently housed in the Malaria Surveillance Database System (MSDS) with ad-hoc reports and maps created upon request. Funding would enable this data, and new data such as from ongoing monitoring and mentoring visits by Case Management at facilities, to be used to create a spatial decision support system that can predict malaria risk in Swaziland with recommended strategies for appropriate action. Refer to Figure 3.2.4a) for a schematic of the current MSDS and future evolution, given increased investment. Moreover, WHO malaria certification requires that

appropriate surveillance systems be in-place to detect and react timely to malaria infection to prevent onward transmission. The funding for this module also includes activities to prepare the country for malaria certification, including the creation of a certification committee, appropriate audits and programmatic meetings and strategic reviews.

Swaziland is confident that with this funding request to the Global Fund – which supports impactful, cost-effective interventions and fills the costed NSP's anticipated funding gap for 2015-2017 after government and other donor contribution – the country will be able to accelerate progress towards elimination and realise its vision of a malaria-free Swaziland.

### 3.4 Focus on Key Populations and/or Highest-impact Interventions

**This question is <u>not</u> applicable for low-income countries.**

Describe whether the focus of the funding request meets the Global Fund's Eligibility and Counterpart Financing Policy requirements as listed below:

a. If the applicant is a lower-middle-income country, describe how the funding request focuses at least 50 percent of the budget on underserved and key populations and/or highest-impact interventions.

b. If the applicant is an upper-middle-income country, describe how the funding request focuses 100 percent of the budget on underserved and key populations and/or highest-impact interventions.

Section 1.1.3 describes how the service availability landscape in Swaziland allows for proximity to health services. Malaria diagnostics and pharmaceuticals specifically should be available and free of charge at public and private facilities. Universal roll-out of RDTs occurred with support from the Round 8 grant, and the government funds RDTs, slides, and drugs for facilities. This does not discriminate against potential malaria patients based on age, gender, nationality, or geography. For instance, of the 323 investigated cases in the 2012-13 season, 229 were Swazis, 85 were Mozambicans, and 9 were other nationalities, a reflection of a non-discriminatory passive and active surveillance system that detected and treated these cases at facility-level and then investigated at household-level for travel history and other details.

Such strategies exist to avoid creating underserved populations or groups of people disproportionately affected by the disease, and the funding request will operationalise high-impact interventions so that this holds true. GF funding would ensure that the NMCP provides expert training (i.e., bring malaria microscopy experts to country) and ongoing monitoring and mentoring for HCWs performing malaria-related activities (i.e., nurses, laboratory staff), as well stakeholder engagement to inform guidelines proceeding (i.e., exchange forum with doctors from private and private facilities).

Moreover, achieving malaria elimination entails detailed understanding of where and why malaria may persist in the country, which entails high-impact interventions that target people who live in areas with local transmission (i.e., active foci) and/or contribute to transmission (i.e., travelers, asymptomatic patients). Targeted interventions to people most affected by malaria included in the funding request include reactive case detection, proactive case detection in active foci and among high-risk seasonal workers, foci investigation prioritising active foci, environmental management where appropriate, and improved community engagement. To understand where, when, and how best to deploy such interventions, the funding request will support the creation of a spatial decision support system as depicted in Figure 3.2.4a. Targeted interventions to specific populations most affecting malaria includes mass media to travelers (i.e., border posters, kombi adverts), engagement of Mozambicans (i.e., training Mozambican Association, Portuguese IEC materials), and updated EPR guidelines with a national buffer stock of commodities.

## SECTION 4: IMPLEMENTATION ARRANGEMENTS AND RISK ASSESSMENT

### 4.1 Overview of Implementation Arrangements

Provide an overview of the proposed implementation arrangements for the funding request. In the response, describe:

a. If applicable, the reason why the proposed implementation arrangement does not reflect a dual-track financing arrangement (i.e. both government and non-government sector Principal Recipient(s).

b. If more than one Principal Recipient is nominated, how coordination will occur between Principal Recipients.

c. The type of sub-recipient management arrangements likely to be put into place and whether sub-recipients have been identified.

d. How coordination will occur between each nominated Principal Recipient and its respective sub-recipients.

e. How representatives of women's organizations, people living with the three diseases, and other key populations will actively participate in the implementation of this funding request.

A single Principal Recipient has been nominated for Swaziland's malaria grant under the NFM, and no sub-recipients have been identified. Hence, coordination will occur between the Principal Recipient, NERCHA, and the implementing partner, the NMCP.

The NMCP works with the PR to ensure timely requests, timely delivery of commodities, and timely implementation of activities. NMCP requisitions for all budget line items under that quarter in preparation for implementation. To ensure these requisitions are implemented in a timely manner, the programme will prepare and send a requisition a month before the expected activity or delivery of commodity, using its requisition tracking system. It will notify the PR each time a requisition is submitted and send a notification 2 weeks before it is due. The Grant Coordinator at NMCP will follow up with the Grant Coordinator at the PR via telephone and email to ensure requisitions are efficiently processed, purchase orders are received by the programme, and all activities occur as and when they have been provisioned for according to the budget and forecast. Reporting through the PUDR will be timely, as the PR will continue to work with the programme in ensuring indicators are well defined, and calculations thereof reflect the indicator's definition in the Monitoring and Evaluation (M&E) plan. Implementers meetings will be held quarterly to ensure all requests have been honoured, and the programme makes the necessary progress towards achieving programmatic goals through the support of the Global Fund.

During country dialogue to develop the NSP and concept note, the programme has thus far identified two CSOs, with which the programme may make meaningful incremental impact on malaria elimination. Kudvumisa Foundation currently works in the at-risk region conducting door-to-door campaigns offering HIV testing and TB screening. Partnership may leverage Kudvumisa's core competencies (i.e., personnel, connections, appropach) to support the delivery of targeted malaria messaging (Section 3.2, Strategy 3.8), as well as proactive case detection in these communities (Section 3.2, Strategy 1.4). In the latter case, perhaps NMCP Surveillance Agents can move door-to-door with Kudvumisa staff to avoid overwhelming residents of an area with repeat visits, or Kudvumisa staff themselves can be trained on case detection protocol and practices. Joyful Ministries is also a CSO working in the at-risk region and at refugee camps that has experience with targeted community engagement. Similar to above, partnership may leverage its experience in targeted community engagement, which would support the NMCP's Health Promotion Team in garnering support for elimination interventions (i.e., screening, IRS) that are increasingly tailored to specific populations in specific areas (i.e., active foci). The programme will continue exploring existing structures and partnering with CSOs where impactful in order to

identify and treat all infections and identify and elimination all foci.

| 4.2 Ensuring Implementation Efficiencies |
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| **Complete this question only if the Country Coordinating Mechanism (CCM) is overseeing other Global Fund grants.** |
| Describe how the funding requested links to existing Global Fund grants or other funding requests being submitted by the CCM.<br>In particular, from a program management perspective, explain how this request complements (and does not duplicate) any human resources, training, monitoring and evaluation, and supervision activities. |
| This funding request complements the NMCP's transition from receiving Global Fund support through the Round 8 grant, which ends on June 30, 2014. The Global Fund interim funding period commences on July 1, 2014 through to December 31, 2014, and a significant portion of this funding is related to maintaining critical human resources for day-to-day malaria operations to maintain and achieve a low prevalence of malaria. The interim period covers the start of malaria season (July), where the programme requested RDTs for active surveillance, QA bundles, Annual Malaria Review Conference for report writing and operational planning from the 2013-2014 season, and subsequent SMEAG meetings to enable the thematic areas to plan accordingly. There is no duplication of human resources, training, M&E, and supervision activities, as the forecasted interim budget allows for the necessary activities implemented by the current human resources to be implemented in accordance with the current malaria season. This allows for the timely implementation of the *Malaria Elimination Strategic Plan, 2015 – 2020*, which picks up where the current revised *Malaria Elimination Strategic Plan, 2008-2015* ends off.<br><br>The government's human resource absorption plan for 15 current Global Fund-funded positions allows for the same positions to implement their defined duties through the interim period into the *Malaria Elimination Strategic Plan, 2015 -2020*, at which point they will be government-funded. This absorption is a significantly increased national commitment towards malaria elimination and its sustainability. Hopefully with the continued and critical support from the Global Fund through a NFM grant signed and expected from January 1, 2015 through to December 31, 2017, the country will achieve elimination and WHO certification with transition to a prevention of re-establishment programme.<br><br>Moreover, the NMCP will remain engaged in the development of Swaziland's HSS concept note under the NFM. This ensures that critical cross-cutting interventions for the health sector overall will benefit malaria without duplicating any human resources, training, M&E, and supervision activities. |

| 4.3 Minimum Standards for Principal Recipients and Program Delivery | | | |
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| **Complete this table for each nominated Principal Recipient. For more information on minimum standards, please refer to the concept note instructions.** | | | |
| **PR 1 Name** | National Emergency Response Council on HIV and AIDS (NERCHA) | **Sector** | **GOV (Parastatal)** |
| Does this Principal Recipient currently manage a Global Fund grant(s) for this disease component or a cross-cutting health system strengthening grant(s)? | | X Yes ☐No | |

| Minimum Standards | CCM assessment |
|---|---|
| **1.** The Principal Recipient demonstrates effective management structures and planning | NERCHA is a corporate body and has set structures recommended for good governance. The body of NERCHA (referred to by the NERCHA Act as the Council) is the board and is made up of 15 non-executives plus the National Executive Director of NERCHA. The members of the Council consist of individuals from the Government, Private Sector, Civil Society, Law Society, Accounting Environment, Dental and Medical Council, Traditional Sector and Parliament. To effectively execute its governance role, the Council has established three governing Committees and these are:<br>i. Finance and Audit Committee whose members are all non-executive. This committee oversees the financial control environment of NERCHA. This includes the appointment of auditors, reviewing and approving audit reports, reviewing budgets prepared by management and various other fiduciary related matters. The details of the responsibilities of this Committee are contained in a Charter that can be provided upon request to NERCHA.<br>ii. Executive Committee – this committee is comprised of non-executive members and oversees the financial and non-financial aspects of the NERCHA Directorate. This includes recruitment of Executive management, remuneration policies and human resource policies. Further details on this Committee can be provided upon request to NERCHA.<br>iii. Disease Response Management Committee – another committee comprising of non-executive members whose primary role is to guide NERCHA on disease management and coordination. They oversee, mainly program performance.<br>The organizational structure of NERCHA is divided into two sections, Coordination which leads the core business, and the Technical Department which is a support function. The Technical Department consists of the Finance Unit, Procurement Unit and Grants Management Unit. Up to the time of developing this concept note the Technical Department also included Human Resource Management and Operations and Information Technology (IT). With the planned restructuring it is anticipated that the IT, Human Resources and Operations units will be under a stand-alone Department. This will then ensure that the Technical |

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| | Department at the Directorate level focuses on the units that are responsible for NERCHA's Grants Management Function. |
| **2.** The Principal Recipient has the capacity and systems for effective management and oversight of sub-recipients (and relevant sub-sub-recipients) | During the implementation of Global Fund Round 7 phase 1 and 2, NERCHA developed systems for undertaking sub-recipient capacity assessment in the areas of financial, procurement, monitoring and programmatic management. In addition to assessing SRs, NERCHA has also included the sub-recipient assessment criteria in its Grant Management Manual. To develop the capacity of the SRs, NERCHA has established within its organizational structure an Organizational Development Unit which focuses on developing the capacity of Civil Society Organizations (CSO) predominantly working in the area of HIV/ AIDS, irrespective of whether they are recipients or non-recipients of Global Fund Grants. However, this unit is currently manned by one officer and will require an additional resource to cover CSO/CBOS focusing on Malaria. a<br><br>NERCHA also realizes that it is high likely that sub recipients for the Malaria program would have very limited experience (if any) in Global Fund grant management. Some of the Sub Recipients have also realized that due to the high staff turnover, the capacity within sub recipients might diminish during the NFM implementation period. To mitigate this risk, NERCHA will partner with PACT to develop a Capacity Development Plan for NERCHA's PR function and for the SRs that will be involved in the NFM implementation.<br><br>Unfortunately the late conclusion of the Principal Recipient (PR) selection process for the Malaria grant and what appears to be an inconclusive CCM decision on the PR selection for the other grants (for which applicants responded on the 9th May 2014) makes planning difficult, hence it is not possible to determine the scope of capacity building that could be included in the PR budget for this funding stream. |
| **3.** The internal control system of the Principal Recipient is effective to prevent and detect misuse or fraud | NERCHA has over the years developed various internal control policies for governing its business and continues to review and strengthen these policies as new developments emerge. The policies included Human Resources Management, Procurement and Tendering, Finance and Accounting Manual which includes fixed asset management, Grants Management Manual, Training policies for its staff, Standard Operating Procedures for Trainings funded by donors and Vehicle guidelines for NERCHA's. |

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| | Some of these policies have been reviewed and strengthened following the audit inspection/verification carried out by the Global Fund through the Office of the Inspector General (OIG) in 2010.<br><br>Notwithstanding the weaknesses identified by the OIG, NERCHA has always had an assurance system which between 2003 and 2013 had been outsourced to a firm of auditors. The firm was given an internal audit program to follow and reports to the Finance and Audit Committee every quarter. In 2013, through Global Fund support, a department for internal audit was established and submits its reports to the Finance and Audit Committee.<br><br>On the safeguarding of Assets, NERCHA has a fixed asset accounting module where it logs all assets, including those procured by SRs, and verifies these yearly – the latest asset verification exercise was completed in November 2013. NERCHA's books have been audited every year since its establishment and these have been submitted to Government as per the Public Enterprise Unit (PEU) Act (none of these have been qualified). KPMG are the current external auditors. |
| **4.** The financial management system of the Principal Recipient is effective and accurate | NERCHA has had the privilege of managing Global Fund and other donor resources for more than 10 years and over the years has developed various internal financial control systems and financial management systems. Prior to the Round 7 HIV/AIDS grant, NERCHA disbursed funds to implementing agencies for limited expenditure categories, mainly salaries. For other activities, all implementers (government and non-government) submitted requisitions and NERCHA managed all the financial transactions (i.e. tender, procure, pay and record expenses in its General Ledger). However, in 2009 when the Round 7 HIV/AIDS grant was being implemented, NERCHA introduced a disbursement system to non-governmental implementing agencies commonly known as Sub Recipients (SRs). NERCHA has always maintained a robust accounting system for the recording of grant expenditures for expenditures incurred by all implementers.<br><br>In 2013 the Global Fund, in an effort to assist with financial management systems, appointed and placed with NERCHA a Fiscal Agent. The Fiscal Agent conducted the following activities:<br><br>• Reviewed and recommended areas of improvements in the Accounting and Finance Manual while continue to conduct compliance checks. |

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| | • Reviewed the Accounting System and advised NERCHA on an accounting system that would drastically improve reporting.<br>• Installed a new Accounting System, Sun System and Trained staff (Finance, Procurement, Grants Management and Coordination) on using the system.<br>• Developed various management reports including Global Fund reports.<br>• The Fiscal Agent continues to provide hands on assistance on operational processes.<br>• The Fiscal Agent has also made recommendation for improvement in the preparation of Progress Update Reports and has offered to orient GMU staff on this aspect of reporting. In general, Fiscal Agent provides NERCHA's senior management an unbiased third party feedback on overall operational performances |
| **5.** Central warehousing and regional warehouse have capacity, and are aligned with good storage practices to ensure adequate condition, integrity and security of health products | To be consistent with the Global Fund principles of strengthening national systems, NERCHA uses the national supply chain management system for the storage and distribution of health products. For instance, the supply chain management of pharmaceuticals and other health products, except for diagnostics supplies, is done through Central Medical Stores, while the laboratory commodities are managed through the National Referral Laboratory. NERCHA, through Global Fund's support, has also ensured that investments are made to the national supply chain management systems. NERCHA is also a part of the Supply Chain Management Technical Working Group charged with the responsibility of making sure that there are no stock-outs of health products, and that effective storage and distribution systems are in place. |
| **6.** The distribution systems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment/program disruptions | The procurement system of NERCHA is robust and complies with the procurement requirements of the Global Fund in all respects. This was developed through the assistance of Deloitte-USA through a private partnership arrangement by the Global Fund. To further enhance the capacity within the procurement unit at NERCHA, a Procurement Specialist was engaged to train staff and the NERCHA Tender Board on the Procurement Manual. To mitigate stock outs of ARVs NERCHA has, through its own resources, placed a Senior Supply Chain Pharmacist at the ARV Warehouse under Central Medical Stores. NERCHA is currently co-financing with the Global Fund the rental of an additional warehouse for Central Medical where ARVs and other medical products are stored. At the time of |

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| | preparing this submission NERCHA using its own resources was supporting the Ministry of Health to evaluate a potential warehouse that if procured could overcome almost all the warehousing challenges of health commodities in the country.<br><br>The Global Fund is currently funding, through the SSF grant, a Technical Advisor to assist the Assistant Director responsible for warehousing and logistics develop a comprehensive supply chain improvement plan for the country. It is envisaged that some elements of this plan will be implemented through the funds to be allocated to HSS. |
| **7.** Data-collection capacity and tools are in place to monitor program performance | The PR function of NERCHA is embedded in a system that has oversight over the multi-sectorial national response on AIDS as well as other diseases. In this respect, NERCHA oversees the national Monitoring and Evaluation System and has developed data collection systems that feed into other M&E systems. This information is collected by regions and after verification is recorded in the Quarterly Service Coverage Report. The PR function of NERCHA therefore directly benefits from this system and is in a position to collect and record programmatic data following the data quality measures required by the Global Fund. |
| **8.** A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately | The programmatic targets tracked for Global Fund grant performance are, in most cases, not strictly tied to Global Fund funds but are national indicators derived from the national system. These systems include the Health Management Information System (HMIS) that predominantly focuses on health indicators and the Swaziland HIV/AIDS Monitoring system which focus on HIV/AIDS indicators. There is also the Immediate Disease Notification System (IDNS) used by healthcare workers to report all notifiable diseases, malaria inclusive. For purposes of Malaria, HMIS and the IDNS is used as a source for reliable reporting. Notwithstanding that Onsite Data Verification Processes have not indicated major data quality issues, the Ministry of Health has in the recent past reviewed the entire HMIS and are in the process of implementing the identified improvement needs.<br><br>The PR function at NERCHA has created a rapport with the HMIS Management and is able to access the data for its reporting needs. The PR is also resourced with an M&E unit whose focus in on Global Fund reporting. This unit pulls its data from HMIS for TB and Malaria and from both HMIS and SHAPMoS for HIV/AIDS reporting. |

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| | To improve quality reporting the HMIS review team is in the process of introducing a unique personal identifier to be used by clients.<br><br>Some of the HMIS needs will be included in the HSS concept note work plan. |
| **9.** Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain | The Ministry of Health was gearing itself for product quality and had piloted a Medicines and Related Substances Control Bill that was going to provide the necessary legal framework. The previous Cabinet had approved the bill but the term of office for the previous Parliament came to an end before it could be assented to. This process has been restarted and it is envisaged that it will be completed before the end of term for this Parliament.<br><br>The bill took into account the findings of the assessment of the national medicines regulatory system undertaken by WHO<br><br>Management Sciences for Health (MSH) assisted the MOH in developing the guidelines for setting up a national quality control system for laboratories. Following the indication from the Global Fund that the condition precedent on the funding allocated for this activity had been met; the HSS grant will be used to equip the quality control mini-laboratories at Central Medical Stores. |

## 4.4 Current or Anticipated Risks to Program Delivery and Principal Recipient(s) Performance

a. With reference to the portfolio analysis, describe any major risks in the country and implementation environment that might negatively affect the performance of the proposed interventions including external risks, Principal Recipient and key implementers' capacity, and past and current performance issues.

b. Describe the proposed risk-mitigation measures (including technical assistance) included in the funding request.

Swaziland faces external risks (i.e., environmental, political, economic) that may negatively affect performance on the proposed interventions towards the goal of malaria elimination. Regarding environmental factors, in an extreme scenario, large-scale flooding caused by Cyclone Demoina in the 1980s led to disease peaking at 5,450 confirmed cases in 1988. In the past few years, changes in weather and precipitation have elongated the malaria transmission season, and local cases appear in areas previously not thought to be at-risk. The NMCP will conduct a multi-stakeholder climate change risk assessment for malaria elimination (Section 3.2, Strategy 3.5). It will also maintain existing weather station, move them to locations with local transmission, and ensure meteorological data is integrated into the MSDS to support programmatic planning (Section 3.2, Strategy 3.3).

Regarding the environmental and political factors contribution to importation risk, the country has been a strong voice in sub-regional discussions on cross-border collaboration. Programme Managers have engaged Ministers to meet in the second half of 2014 in attempts to revitalise the

LSDI, which coordinated IRS in bordering regions of Mozambique, South Africa, and Swaziland in the past leading to reduced disease burden in all three countries. The Elimination 8 countries have submitted an expression of interest to the Global Fund in May 2014, which further highlights the impact that funding the LSDI may have on reducing malaria cases and active foci in the geographic region most directly contributing to Swaziland's imported cases.

The country itself may face challenges that implicate implementation of malaria interventions. Domestic financing does depend on economic growth, which is highly dependent on fluctuations to the agricultural sector and trade with South Africa. An economic downturn may compromise government cash flows, which are necessary for everything from timely procurement of drugs to fuel for all vehicles, even those purchased by a donor. Cognisant of this possibility, the NMCP pre-emptively hosted a sustainable malaria financing workshop in December 2013 and intend to further explore and implement financing options that may be suited for malaria elimination in Swaziland through technical assistance from CHAI.

**Risks Associated with the Principal Recipient and Mitigation Measures**

Programmatic Risk:

i. Limited public health expertise – Whilst this has not negatively impacted Grant Management before, it limits both the PR's confidence in approving requisitions presented by the NMCP and the data verification at facility-level, given that various data elements may have to be considered in determining programmatic performance.

   To mitigate this risk, the PR will have regular program review meetings with the NMCP. Further, the PR will attach its program and monitoring officers to NMCP for short periods during implementation. This will enrich the understanding of PR staff and provide them the context with which to respond to requests and assess performance.

ii. Robustness of the MoH HMIS system – Though outside the authority of the PR, this does pose a risk to the performance management of the grant. Currently, data is collected by the NMCP (i.e., active surveillance) and through the HMIS system. The PR has good access to the data collected by NMCP (i.e., MSDS), but access to HMIS data requires extensive protocols that vary from time to time, which may be problematic given the limited time the PR has to verify and conclude PUDRs.

   PR anticipates that the HMIS review and subsequent upgrade will address and streamline these processes. However, PR will include a budget for data quality review meetings to be attended by representatives from NMCP, NMCP partners, HMIS and PR staff at least two weeks before the reporting deadlines.

iii. Indicator protocols – There is room to different interpretations/understanding of how certain indicators have to be calculated. This issue may also be addressed in the HMIS review, but it is not clear whether an indicator protocol for MoH will be completed by the time of submitting the NFM.

   To mitigate confusion in this area, the PR will ensure that there is an agreement between NMCP, HMIS, PR, and GF that clear protocols are articulated for those indicators to be tracked for the NFM.

Fiduciary & Financial Risks:

i. Incurring of ineligible expenses – The PR, through assistance from the Global Fund, has installed a new accounting system that has real-time and online budget control system. This system enables program officers to track their budgets on a day to day basis.

ii. Low absorption of funds – This is not anticipated to be a measure risk going forward

based on the understanding that GF will only sign 'ready' grants, and the PR anticipates that environmental issues, such as conditions precedent, special conditions, and the legion of management letter issues that tended to be bottlenecks, will be resolved. This will enable PR to ensure that periodic plans are executed according to the timelines agreed and that disbursements will flow.

iii. Staff fatigue and turnover – This is a high risk for program implementation and with the high turnover on the grants management for Malaria, TB, and HSS during Round 8 implementation, there were many stop and go's in processing requisitions. Programmatic reporting was also compromised.

To mitigate the above risk, the PR is in currently reviewing its Grants Management Function and will ensure that teams are established to lead each of the diseases managed. For instance, there will be a dedicated Malaria/HSS program team lead by a Grants Manager, supported by two Officers and a Finance Officer. This will ensure a wider distribution of knowledge; if one person is unavailable (temporarily or permanently), then remaining officers could support implementation.

iv. Late conclusion of procurement processes – Late conclusion of tenders has been a problem and has stifled absorption and implementation of activities. This is mainly due to the NERCHA Management lead tender board and the technical evaluation committees from different user programs external to NERCHA. All these members have day jobs that often would demand that they attend assignments outside the office (or even country), which affects the quorums of meetings. At times, members are just pressed to deliver on certain aspects of their core mandates. For instance, the installation of new accounting system software may be more pressing for a tender/evaluation committee member from the Finance Unit than attending a tender meeting.

To mitigate this risk the PR , whilst it continues to investigate possibilities of outsourcing this function, will ensure, in consultation with disease programs, that a robust PSM plan with accurate timelines for delivery and signed off product specifications are assembled prior to grant negotiations. This will allow tendering for the whole plan and signing procurement contracts with suppliers very early into implementation.

<u>Grant Administration & Oversight Risks</u>:

i. To mitigate grant administration and oversight risks, the PR will agree with disease programs and the MOH overall, who are the largest implementers of GF to set up proper GF governance arrangements. This will include determining forums where PR will present programmatic and financial reports and structures through which grant management issues could be escalated up to the Senior Executives of MoH and ultimately to the Head of Government (Prime Minister), who currently is the line Minister for NERCHA. Further, the PR will, with assistance from partners, provide detail orientation of Global Fund management requirements.

<u>Other General Risks:</u>

i. Expectation Gap between PR and IPs and or SR – this is a risk where Implementers do not have a full appreciation of the fiduciary responsibilities and accountabilities of the PR.

This risk is not an issue between the PR and the Malaria Control Program but does require constant communication and meetings to address Global Fund Grant Management over and above grant performance. A budget for this has been included in the budget work plan – it will be charged to the proposed management fee.

ii. Grant Management Risks beyond the capacity of the Ministry of Health. This relates to risks whose mitigation requires the support of other Government Ministries. In the past this has resulted in long outstanding conditions and has negatively impacted grant performance.

For instance, risks associated with supply chain management and absorption of staff. These would often times require budget support from Ministry of Finance and Ministry of Public Service for HR. This is a difficult risk to mitigate and the PR had, in previous engagements with Global Fund missions, recommended that such conditions should be escalated to the CCM Funding. This would help the PR to focus on grant management issues over which it has the full authority to solve.

iii. Remaining period of the Fiscal Agent - The PR has just installed, through the assistance of the Fiscal Agent a new Accounting system and is undergoing a restructuring of its Grants Management Unit.

None of the PR staff has hands on experience on the accounting system and the three months remaining on the Fiscal engagement may be too short. Ideally the Fiscal Agent would have remained until end of December to assist the PR on the accounting system and also to orient GMU staff on the system.

**Risks Associated with the NMCP and Implementing Partners and Mitigation Measures**

Programmatic Risks

i. Limited capacity in laboratories; RDT false negatives found through secondary testing with microscopy, without which may lead to the misdiagnosis and wrong treatment of patient
ii. Delayed forecasting, procurement, and delivery of malaria commodities
iii. Incomplete entomological surveillance & resistance monitoring interventions, which ensure that the country is using the appropriate drugs and insecticides
iv. No early warning system to inform the programme of any potential outbreaks
v. Lack of compliance by commercial enterprises to Environmental Impact Assessments that may recommend immediate mitigation to prevent the development of breeding sites that may lead to local transmission and an area becoming a new active foci
vi. Re-introduction of malaria through importation

Programmatic Risk-Mitigation Measures:

i. The NMCP will conduct ongoing monitoring and mentoring at all health facilities to ensure adherence to the diagnosis and treatment guidelines. The Case Management team will ensure that these guidelines will be easily accessible and user-friendly to any HCW that encounters a malaria case
ii. The NMCP, in collaboration with the country's Chief Laboratory Technologist, will train all laboratory technologists through workshops and provide onsite monitoring and mentoring at facilities with laboratory capacity. Technical assistance will be sought from centres of excellence for malaria microscopy (i.e., Malaria Diagnostics Centre, Kenya) to come in-country to develop microscopy expertise amongst the laboratory technologists. Furthermore, the NMCP with anticipated support from the Global Fund will invest in a slide bank of all species to maintain microscopy proficiency.
iii. The NMCP will work closely with stakeholders (i.e., CMS, SHLS) and partners to ensure the appropriate quantification before procurement. In 2014, the NMCP is development a supply management manual for the malaria commodities.
iv. The NMCP was designated an Accountant from government who works closely with the MOH Financial Controller and is aware of government procurement cycles, especially that of CMS, which will enable the programme to forecast and procure with CMS in a timely manner. CMS is supported by the partner, Management Sciences for Health (MSH).
v. Adherence to the Requisition SOP will be enforced from the NMCP throughout all the

levels of processing at the PR to ensure timely delivery of commodities and implementation.

vi. The Vector Management team will maintain window traps and collaborate with Witwatersrand University (Wits) for species identification and DNA PCR.

vii. The NMCP through its IT and GIS team with technical assistance from partners (i.e., CHAI) and experts (i.e., University of Southampton) will develop a spatial-decision support system (SDSS) that integrates all programmatic data to inform implementation (i.e., target interventions). The NMCP will work closely with the MET Services in collecting and analysing weather trends and enabling the SDSS to provide early warning features.

viii. Data collection increasingly in real-time by the NMCP and at national level through HMIS, both with support from the Global Fund, will allow for timely submissions of the PUDR.

ix. The NMCP working closely with MOH M&E will ensure data quality by designating a focal M&E officer, who is in constant contact with the programme and the Strategic Information Department (SID).

x. Swaziland Environmental Authority (SEA), and ministries involving economic activity, infrastructure, housing, and labour, along with corporate entities, will be engaged to ensure the enforcement of environmental mitigation plans. The SEA is currently a member of the Vector Management SMEAG. The designated NMCP Foci Investigator is responsible for investigating foci and the potential impact that developmental projects in at-risk areas had on local cases.

xi. The Health Promotion team will work to ensure mass media messaging remains relevant and effectively ensures population knowledge of malaria elimination and risks to it even when prevalence is negligible. It will also target messaging and interventions to groups that may remain at higher risk to re-introducing malaria back into the country (i.e., travelers, people living in foci that was recently active and addressed by the NMCP)

## CORE TABLES, CCM ELIGIBILITY AND ENDORSEMENT OF THE CONCEPT NOTE

Before submitting the concept note, ensure that all the core tables, CCM eligibility and endorsement of the concept note shown below have been filled in using the online grant management platform or, in exceptional cases, attached to the application using the offline templates provided. These documents can only be submitted by email if the applicant receives Secretariat permission to do so.

☒ Table 1: Financial Gap Analysis and Counterpart Financing Table

☒ Table 2: Programmatic Gap Table(s)

☒ Table 3: Modular Template

☒ Table 4: List of Abbreviations and Annexes

☒ CCM Eligibility Requirements

☒ CCM Endorsement of Concept Note