

# Roll Back Malaria: Country Needs Assessment

## Zimbabwe Report

**November 2008**

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# Executive Summary

The Global Roll Back Malaria (RBM) Partnership agreed in May 2007 to identify financial and technical needs for countries to scale up malaria control activities and achieve the RBM 2010 targets. A comprehensive needs assessment was conducted in Zimbabwe from 21 to 31 October 2008, supported by partners and consultants from the Malaria Consortium (MC).

Zimbabwe is a landlocked country of 12.2 million people with unstable seasonal malaria transmission in the low-lying areas of 45 of its 59 districts, characterised by as many cases in adults as children and frequent outbreaks. Zimbabwe has made significant efforts to strengthen malaria control and introduce or revise policies for prevention, case management and surveillance in line with the National Roll Back Malaria Strategic Plan 2001-2007.

In 2002, a new epidemiological map of malaria in Zimbabwe was prepared to guide the malaria control strategy. Indoor residual spraying policy was revised to allow use of both pyrethroids and DDT. Between 2006 and 2007, the programme distributed just over 1 million insecticide-treated bednets, of which more than two thirds were long-lasting. Case management policy was revised and rapid diagnostic testing and artemisinin combination therapy introduced in 2007. Epidemic alert and response systems were in place and the national health management information system provided weekly and monthly reports with high completeness and timeliness. Zimbabwe created a vote in the national budget for malaria in 2004 and successfully applied for a malaria grant from the Global Fund in rounds 1 (for vector control), 5 (for case management) and 8 (for a comprehensive malaria control programme). The National Malaria Control Programme staff was strengthened by the creation of several technical posts financed through the Global Fund grant.

Unfortunately, these important achievements have not yet resulted in any discernible impact on the burden of malaria in Zimbabwe. The number of suspected cases reported annually has stagnated at above 1.5 million, similar to a decade ago. The case fatality ratio is unchanged at 4.4%. Although net ownership has risen to 50%, the proportion of children and pregnant women sleeping under a net in malarious areas remains below 10%. Indoor residual spraying reached just two thirds of areas targeted during the last malaria season. The new case management policy was initiated without resources to fund health worker training or public information. Community-based managed of fever has not been launched and the extent and quality of RDT and ACT implementation are unknown. Resources from the Round 5 grant retained by the Reserve Bank of Zimbabwe were unobtainable through much of 2008.

Zimbabwe has been suffering a severe economic downturn with hyperinflation and dramatic loss of purchasing power of local currency, scarcity of foreign exchange, departure of health personnel, and chronic shortages of financial and logistic resources for field activities. With such limited access to currency, transport, supplies and qualified personnel, training and health promotion activities to accompany new malaria interventions have not been possible.

Through the Global Fund grants and supportive in-country partnership, Zimbabwe has the financial resources at its disposal to meet programme funding needs to 2010 and beyond. Commodities purchased in foreign exchange are safely procured through UN agencies. Strategies are now being put in place to: (1) secure access to Global Fund resources in foreign and local currency for in-country procurement of goods and services and (2) stem the tide of staff attrition through retention packages and a salary augmentation plan. Medium to long-term technical assistance is urgently needed to finalize the 2008-2013 malaria control strategy, strengthen programme management, and produce written policies, guidelines, and health education materials, revive the health management information system (HMIS) and strengthen monitoring and evaluation. Short-term support is needed as a matter of urgency to respond to queries raised by the Global Fund Round 8, Technical Review Panel and Grant Audit Team, and implement planned activities to avert an epidemic in the 2008/2009 malaria season. Available resources could be used to initiate new strategies to support public sector implementation through wider engagement of civil society and private sector partners.

# List of acronyms

ACT	Artemisinin combination therapy
ARI	Acute respiratory infection
BCC	Behaviour change communication
CBO	Community-based organisation
CHW	Community health worker
CSO	Central Statistical Office
DHE	District Health Executive
DHS	Demographic and Health Survey
DMO	District medical officer
EDLIZ	Essential Drugs List of Zimbabwe
EHO	Environmental Health Officer
GFATM	Global Fund to fight AIDS, TB and Malaria
GFR1	Global Fund Round 1
GFR5	Global Fund Round 5
GFR8	Global Fund Round 8
HMIS	Health management information system
HPO	Health promotion officer
HSF	Health Services Fund
IEC	Information Education and Communication
IMCI	Integrated Management of Childhood Illnesses
IRS	Indoor residual spraying
ITN	Insecticide-treated net
JICA	Japanese International Cooperation Agency
MOHCW	Ministry of Health and Child Welfare
NaNSA	National Nutrition Surveillance Assessment
NatPharm	National Pharmaceutical Company of Zimbabwe
NFG	National Facilitator Group
NGO	Non-governmental organisation
NHP	National Health Profile (annual MOHCW report)
NIHR	National Institutes of Health Research
NMCP	National Malaria Control Programme
NMRL	National Medical Reference Laboratory
PAS	Poverty Assessment Survey
PDA	Personal digital assistant (hand-held computer)
PHC	Primary Health Care
PHE	Provincial Health Executive
PMO	Provincial Medical Officer
PSI	Population Services International
RBM	Roll Back Malaria
RDC	Rural District Council
RDT	Rapid Diagnostic Test
RHC	Rural Health Centre
SADC	Southern African Development Community
SCF	Save the Children Fund
SP	Sulphadoxine - pyrimethamine
UNICEF	United Nations Children's Fund
UMP	Uzumba Maramba Pfungwe (district)
VHW	Village health worker
WHO	World Health Organization

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DRAFT

## 1. Introduction

Malaria remains a major public health problem in sub-Saharan Africa, including countries where occurrence is seasonal. Increased availability of financing and efforts by national malaria programmes have not had the impact expected and further accelerated scale-up of core interventions will still be required if countries are to meet the Roll Back Malaria (RBM) targets of halving malaria mortality and morbidity by 2010.

The RBM Harmonization Working Group (HWG) commissioned a series of country malaria needs assessments to identify and quantify programmatic, operational and financial gaps hindering countries from implementing core interventions, reaching national and RBM 2010 targets and achieving the public health benefits intended.

The needs assessment for Zimbabwe was completed during a time of economic and financial difficulty for the country and the malaria programme. It was, however, preceded by a successful application to the Global Fund for AIDS, TB and Malaria for round 8 malaria programme funding, with the endorsement GFATM board announced in early November 2008<sup>1</sup>. The National Malaria Control Programme (NMCP) has indicated that this needs assessment will facilitate completion of the 2008-2013 malaria control strategy to guide implementation of the Global Grant.

The team was composed of Rosamund Lewis (team leader and consultant) and Prudence Hamade from the Malaria Consortium head office in London, UK. They were assisted by Andrew Tangwena, Martin Netsa and other staff of the National Malaria Control Programme under the guidance of the Programme Manager, Portia Manangazira.

The mission started on the 20th October 2008 and was completed on 1st November 2008.

## 2. Methods

Assessment methods included document review, interviews, stakeholder meetings, site visits and use of the Malaria Consortium Roll Back Malaria needs assessment calculation tool.

The documents reviewed and persons interviewed are listed in Annexes 1 and 2, respectively. A stakeholders' meeting was held on the first day in country and a debriefing and verification meeting was held with the NMCP and stakeholders on the last day. The summary presentation for the verification meeting is included as Annex 3. Site visits were undertaken to the National Microbiology Reference Laboratory, the National Institutes of Health Research, the National Pharmaceutical Company of Zimbabwe, a District Hospital and a clinic in UMP District.

The completion of the needs assessment calculation tool required decisions be made about data to be used, certain assumptions to be made and their sources. Due to the unique malaria epidemiology and rapidly changing socio-economic environment in Zimbabwe, adjustments were also made to some of the results produced by the calculation tool. These are footnoted where relevant and summarized in Annex 4.

For this needs assessment, the RBM targets are used to derive the quantitative estimates of commodity needs and costs in most instances. These can be adjusted once national targets are confirmed.

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<sup>1</sup> The approval is subject to addressing comments and clarifications from the Technical Review Panel



### 3. Demographic, socio-economic and epidemiological profile

#### *Geography and Climate*

Zimbabwe is a landlocked country of 391 thousand square kilometres, situated in southern Africa between the Zambezi and Limpopo rivers, and surrounded by Mozambique to the north and east, South Africa to the South, Botswana to the southwest and Zambia to the northwest. It is a country with considerable geographic diversity, divided by a central watershed above 1200 metres above sea level, flanked by low lying areas. Almost all of Zimbabwe is more than 300 metres above sea level, with nearly 80 percent of the land lying over 900 metres above sea level. The Eastern Highlands of the country are associated with cool and wet conditions particularly in summer, while the Sabi, Limpopo, and Zambezi valleys are hot and dry. The rainy season occurs primarily from November to April. Zimbabwe is divided into 8 rural provinces and two metropolitan urban provinces of Harare and Bulawayo. There are 62 districts further subdivided into wards.

#### *Demographics and health*

Based on projections from the 2002 national census and an annual growth rate of 1.1%, the 2007 population was estimated to be 12.2 million (Central Statistical Office, 2007), with the majority living in rural areas (Table 1). The average household size is 4.5 (DHS 05/06) and the proportion of the population less than 5 years of age is 14.4%. Reports suggest that more than a million persons may have left Zimbabwe since 2002, including many professionals (Centre for Development and Enterprise, 2008).

**Table 1. Demography**

Indicator	2007	2008	2009	2010	2011	2012	2013	Source (year)
Total population	12,224,988	12,359,463	12,495,417	12,632,867	12,771,828	12,912,318	13,054,354	Census (2002)*
Average Household Size	4.5	4.5	4.5	4.5	4.5	4.5	4.5	DHS (2005/6)
Total households	2,716,664	2,746,547	2,776,759	2,807,304	2,838,184	2,869,404	2,900,967	Calc tool
Number of pregnant woman*	378,975	383,143	387,358	391,619	395,927	400,282	404,685	Calc tool
Number of infants	318,168	321,668	325,206	328,783	332,400	336,056	339,753	Calc tool
Number of under-fives*	1,760,398	1,779,763	1,799,340	1,819,133	1,839,143	1,859,374	1,879,827	Calc tool
Population living in urban areas (%)	26%							CSO (1982)

\*Census (2002) for 2007 population; needs assessment calculation tool projections for other years: these projections therefore differ slightly from Zimbabwe Central Statistical Office projections beyond 2007.

According to available statistics, infant and under-5 mortality rates are consistently lower in urban than in rural areas, vary considerably across provinces, and appear to have been declining in recent years (Table 2). Demographic trends over the last two decades nonetheless include a declining life expectancy in part due to the high prevalence of HIV/AIDS. Literacy is high in Zimbabwe, over 90% for both sexes (DHS 2005/6).

#### *Socio-economic*

Zimbabwe has abundant natural resources, including parks and forests. Mineral resources include platinum, gold, asbestos, coal, nickel, iron, copper, lithium, and precious stones such as emeralds. The economy is biased toward agriculture and mining, which have long been the backbone of the country's economy and foreign-currency earning sectors (DHS 2005/6).

The economic decline of recent years has however taken a major toll on all sectors of the economy, with a major impact on the country's capacity to deliver social services, including health and education. Poverty has increased dramatically, and unemployment now exceeds 80%. Hyperinflation in excess of 231 million percent and the associated devaluation of the Zimbabwe Dollar has severely eroded purchasing power (draft National Health Strategy, 2008).<sup>2</sup> Whereas recent changes in fiscal policy have resulted in a rapid "Dollarization" of the economy in urban areas, access to foreign exchange remains limited, and inaccessible for the vast majority of the population. Remittances from family members abroad are a major source of income for the country. Fuel is also in limited supply and the spike in fuel prices of mid-2008 resulted in higher costs for all public health activities.

Shortages of basic food commodities such as mealie-meal and cooking oil have been experienced since 2000 (draft National Health Strategy, 2008) and have worsened recently. Coping mechanisms for those with income include crossing borders to procure food. A nutrition survey carried out in October 2008 revealed rising malnutrition rates.

**Table 2.** Socio-economic and health indicators

Indicator	Rate/Ratio	Source (year)
Crude Birth Rate (34.5 in 1992)	30.3 per 1000 inhabitants 31.0 per 1000	Census 2002 DHS 2005/6
Crude Death Rate (9.5 in 1992)	17.2 per 1000 inhab	Census 2002
Growth Rate (3.1% in 1992)	1.1%	Census 2002
Life expectancy (61 in 1992, 45 in 2002)	35 years	WHO World Health Report 2006
Infant Mortality	60 deaths per 1000 live births	DHS 2005/6
Under Five Mortality	82 per 1000 live births	DHS 2005/6
Maternal Mortality Ratio	555 per 100,000 live births	DHS 2005/6
Women receiving Antenatal Care	94%	DHS 2005/6
Deliveries by professionals (72% in 1999)	80%	DHS 2005/6
Total Fertility Rate 5.4 (1988)	3.8	DHS 2005/6
HIV prevalence in 15-49yr cohort*	18% (women 21%, men 15%)	DHS 2005/6
Literacy	91% women, 95% men	DHS 2005/6
GDP per capita (\$2400 in 2004)	\$ 500 (estimated)	World Factbook
Population below poverty line	72%	PASS 2003/6
Households poor or very poor	60%	PASS 2003/6
Orphan prevalence**	24% among 0-17 years	DHS 2005/6
Number of orphans and vulnerable children	1.6 million	UNAIDS 2007
Government health expenditure	6.3% of national budget	National health profile 2006
Measles immunization coverage	90%	NaNSA 2007
Proportion of children U5 stunted	28.9%	NaNSA 2007

<sup>2</sup> The daily limit of Zim\$ 50,000 that can be withdrawn from commercial bank accounts was, at the time of writing, less than the cost of a bus fare. For government staff, this is often the equivalent to a month's salary. While the official exchange rate stood at Z\$690 to the USD at the end of October 2008, the "street cash" rate was at Z\$70,000 and the parallel market rate used for bank transfers stood at Z\$1.1 trillion.

Proportion of children U5 wasted	4.1 %	NaNSA 2007
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\* HIV prevalence in 15-49 (not 14-49 as in template), peak prevalence is at 30-34 years at 36%;  
\*\*6 in 10 children under 18 do not live with both parents, 25% do not live with either parent.

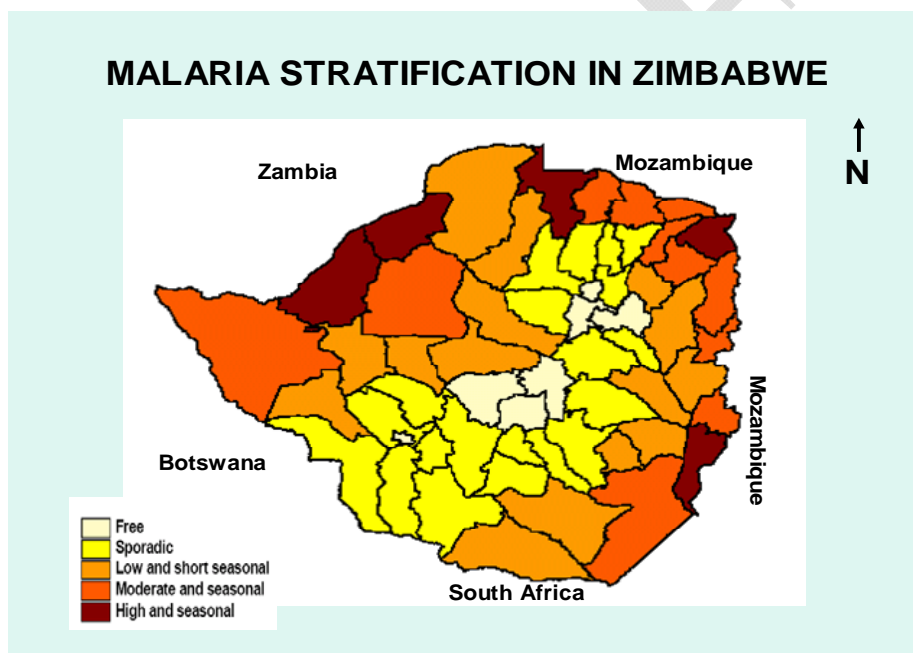
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### *Epidemiology of malaria*

Malaria remains an important public health problem in Zimbabwe, with transmission being generally unstable and seasonal. *Plasmodium falciparum* continues to be the primary species of malaria parasite, accounting for 97% of confirmed cases, with *P. ovale* and *P. malariae* occurring in 3% of cases, sometimes in mixed infections. The main vector mosquito is *Anopheles Arabiensis*. The highest transmission occurs along international border areas, especially in the north (Zambia) and the East (Mozambique). The borders to the west (Botswana) and south (South Africa) support little transmission but are epidemic prone. The central highlands are largely malaria free. While mosquito resistance to BHC was observed, no resistance to either DDT or pyrethroids has been recorded to date.

Stratification of malaria transmission patterns by district was undertaken in 2002 (Figure 1). The classification of malaria transmission in Zimbabwe is relative to other areas of the country. Even the areas of highest malaria incidence in Zimbabwe fall below the international criteria for "low transmission"<sup>3</sup>. Nonetheless, as transmission drops with the scaling up of key interventions, a larger proportion of the population will be at risk of unstable and epidemic malaria. Thus, the move to universal access for core interventions means that the entire population in affected areas is now targeted.

**Figure 1.** Stratification of malaria transmission, Zimbabwe, 2002



Some malaria transmission occurs in 45 districts with a population of 8.8 million (Table 3). As these districts cover large geographic areas across epidemiological strata, malaria control is targeted at ward level to allow matching of interventions to the local epidemiological profile. There are 476 wards and about 3.2 million people in the mainly rural malaria endemic areas.

<sup>3</sup> 2008 RBM-HWG Needs Assessment Calculation Tool 1.5. Approach and assumptions underlying calculation of key commodity needs. Albert Killian. Malaria Consortium.

**Table 3.** Population at risk of malaria by epidemiological stratification

Indicator	Number	Percentage	Source (year)
Population living in stable malaria areas	N/A		
Population living in unstable malaria areas	8,792,711	72%	Census (2002), based on 2007 projected population of districts at risk of malaria
Population living in malaria-free areas	3,432,277	28%	Census (2002), based on 2007 projected population of malaria-free districts

NB. The NMCP uses the figure of 50% of the population at risk of malaria. This is based on the population of the administrative wards at risk within the districts at risk. However, the NMCP still distributes malaria treatments to all health units, including in the wards not at risk. The fever/malaria incidence per ward is also not readily available. Thus the incidence averaged over the whole district is used for these calculations, so as not to underestimate the procurement needs for ACTs and RDTs. Thus, only the districts traditionally free of malaria are excluded from commodity calculations, and the populations of affected wards are used to calculate IRS and ITN needs in the at-risk districts.

Altogether, ongoing efforts to scale up malaria control interventions, coupled with the continuing socioeconomic trends, mass population movements, and anecdotal reports of malaria cases in previously malaria-free areas, all suggest that the malaria stratification should be reviewed.

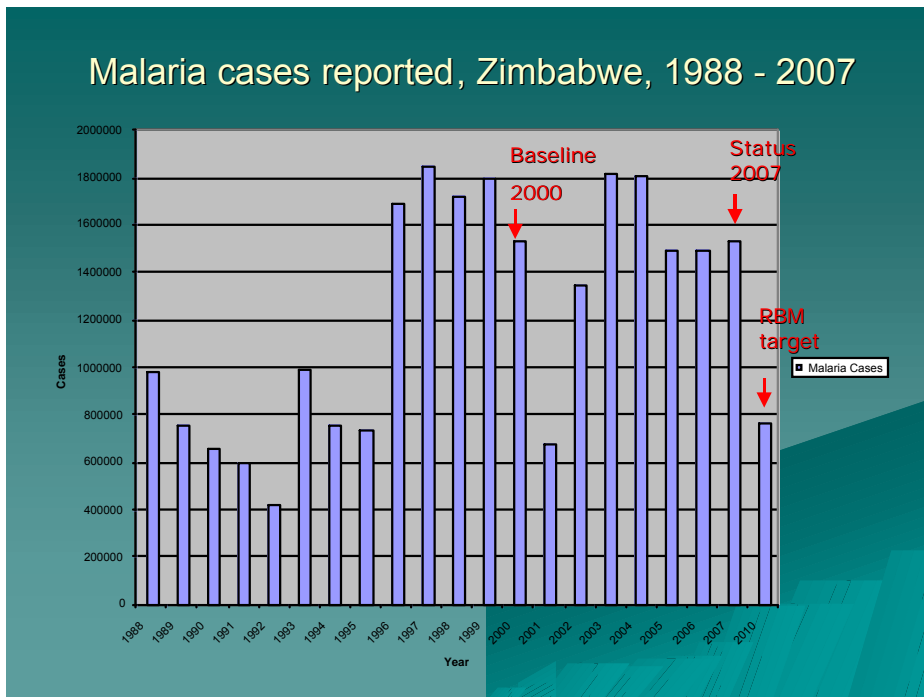
National malaria incidence was 126 cases per 1000 persons per year (2007)<sup>4</sup>, with a more than 100-fold range from 5 cases per 1000 in Harare to 682 per 1000 in Mutasa district. This represents just a 7.4% decline from the incidence of 136 in the RBM baseline year of 2000. The number of cases of clinical malaria (fever) reported annually has not changed materially since 1996, ranging from approximately 1.5 million to 1.8 million cases per year (with the exception of 2001)<sup>5</sup> (Figure 2).

In 2006, 1,547,177 suspected malaria cases (fever episodes) were reported with 1,035 deaths. In 2006, malaria was responsible for 15% of all outpatient visits, 12% (23,340) of admissions to public health facilities (with a hospital case fatality ratio of 4.4%), and 7.8% of maternal mortality (National Health Profile, 2006).

<sup>4</sup> Incidence calculated from the 1,535,877 reported cases and the projected population of 12,224,988.

<sup>5</sup> It is uncertain whether the lower number of cases in 2001 (n=680,900) reflect a cyclic epidemiological pattern, effective control interventions or difficulties reporting through HMIS that year.

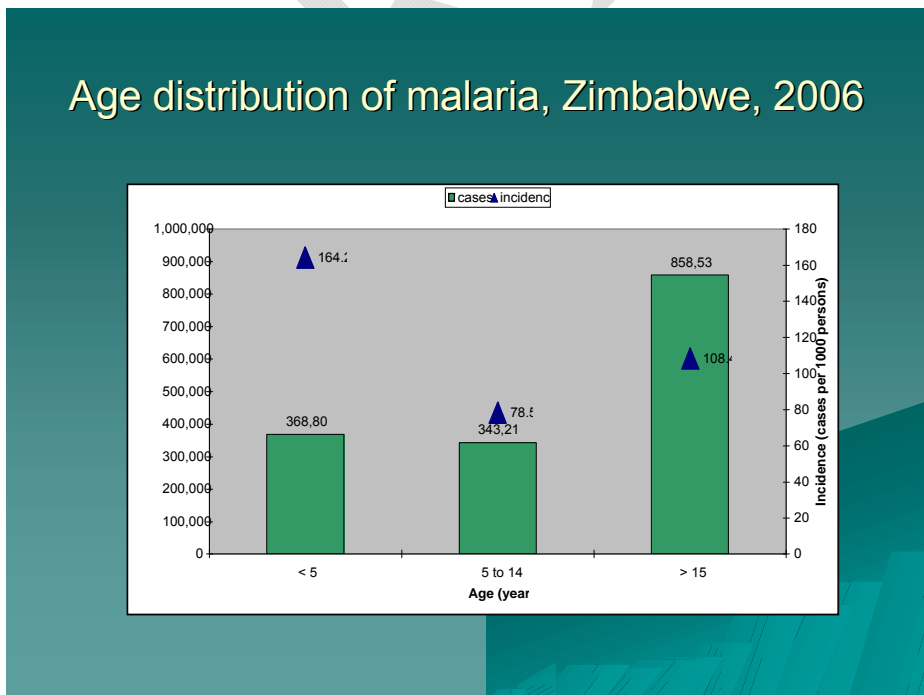
**Figure 2.** Number of clinical malaria cases reported, HMIS, Zimbabwe, 1988-2007



Source. National statistics as reported to WHO.  
Clinical cases are cases of fever without confirmation of diagnosis.

In Zimbabwe, the number of cases of fever reported in adults over the age of 15 years is more than double the number of cases reported in children (Figure 3).

**Figure 3.** Age distribution of clinical malaria cases and incidence, Zimbabwe, 2006



Source. Zimbabwe National Health Profile, 2006.

## 4. Progress, estimated gaps and requirements

### 4.1. Progress towards 2010 targets

Zimbabwe signed the Abuja Declaration and adopted the Roll Back Malaria targets, as laid down in the Roll Back Malaria Strategy for Zimbabwe, 2001-2007. Achievements include continuing a long tradition of vector control with indoor residual spraying of homes in areas at risk, distribution and retreatment of mosquito nets with a recent policy switch and scaled up distribution of long-lasting insecticidal nets (LLINs), malaria case management policy change to artemisinin-based combination therapy (ACT), successful application for support to the Global Fund (rounds 1, 5 and 8)<sup>6</sup>, and consolidation of the NMCP with creation of Global Fund supported positions and creation of a malaria-specific vote in the national budget. Progress has been most notable in rising levels of net ownership.

Unfortunately these achievements have not been accompanied by similar progress towards RBM targets. The number of fever cases, national average malaria incidence and the malaria case fatality ratio are just a few of the indicators that have not seen any substantial progress since the RBM strategy was adopted. The effort to ascertain and support progress is compounded by a lack of clear goals and direction in many areas. National RBM targets are not easy to find. While considerable effort has gone into developing a national malaria control strategy for 2008-2013, the document remains in draft form and still needs completion with accompanying workplans that clearly articulate objectives, indicators and milestones in terms of both impact and activities. It is of note that the GFATM Technical review panel have asked for a revision of the overall goal for the conditionally approved Round 8 proposal.<sup>7</sup>

Completion and synthesis of the findings from recent studies and other areas of work would also assist to assess strategy and monitor progress. For example, completing the report of the Malaria Indicator Survey carried out in early 2008 would provide the current information essential to finalize the malaria strategy. The previously highly-regarded Health Management Information System reporting mechanisms must be reestablished. Other policy statements or documents (advocacy, case management including rapid diagnostic testing policy, malaria in pregnancy,.) require drafting, revision or completion to guide development of training tools and programme implementation.

The economic and health systems environment present extraordinary challenges at the moment that will require truly innovative thinking to address. Paradoxically, with the Global Fund grants and additional technical and financial support from in-country partners, the availability of resources should not be a problem. The challenges fall into the two major categories of the use of resources in country, including cash flow and net value after conversion to Zimbabwe dollars in a hyperinflationary environment, and limited availability of personnel to do the work. The situation is such that at the time of the country visit, very few activities of any kind were taking place.<sup>8</sup>

There is however, some hope for a programme turnaround in the short term. The GFATM is working with the Government of Zimbabwe and in-country partners to define functional interim resource flow mechanisms through procurement agents already in place. Partners such as UNICEF, WHO and the European Union are supporting programme implementation to promote continuation of essential services such as distribution of essential drugs and

<sup>6</sup> Applications in rounds 4, 6 and 7 were not successful.

<sup>7</sup> The proposal states the goal is to reduce malaria incidence from a 2006 baseline of 106 cases per 1000 persons to 65 by 2014. The draft strategy states the same goal for 2012. Other MOHCW materials suggest the RBM goal for Zimbabwe is 72 cases per 1000 persons by 2010. Based on a baseline incidence of 136 cases per 1000 persons in 2000, reduction by 50% would mean a target for 2010 of 68 cases per 1000 persons.

<sup>8</sup> At CCM and national vector control meetings in October 2008, delegates echoed this statement.

mosquito nets. The GOZ has also recently eased restrictions on the registration and functioning of non-government organizations.

To support these efforts, minimum essential activities urgently needed to resume programme activity must include the following:

1. Consider the provision of on-site technical assistance to urgently
  - a. Finalise the national malaria control strategy and annual workplans.
  - b. Finalise the Malaria Indicator Survey data analysis.
  - c. Complete the planned RDT and ACT consumption survey and establish reporting mechanisms for commodity consumption.
  - d. Ensure adequate training of health personnel at all levels in the correct use of RDTs and ACTs
  - e. Finalise incomplete policy statements, guidelines and training materials.
  - f. Complete the analysis of HMIS data for 2007.
2. Ensure timely disbursement of GFATM grants
  - a. Provide clarifications requested for final approval of the Round 8 grant.
  - b. Finalise arrangements to ensure available GFATM Rounds 5 and 8 funding can be used and directed to programme activities.
  - c. Address issues raised in the Global Fund audit of October 2008.
3. Coordinate closely with programmes to redress system-wide barriers to implementation, such as health worker retention packages to ensure malaria programme needs are addressed.
4. Devise a scheme of sub-grants to a much wider range of non-government and civil society based organizations and the private sector to support implementation of core interventions.
5. Include malaria control and epidemic response in the Consolidated Appeal Process for Zimbabwe, in the event that Global Fund resources do not flow smoothly or on time.

With a historically strong health system, implementation of planned activities in line with a clear and streamlined national strategy and clear set of goals, and the funding available if GFATM conditions are met, it should be possible to resume malaria control activity in time to avert an imminent malaria outbreak this season and next. Achieving the RBM targets for 2010 would require additional extraordinary efforts from all parties.



**Table 4.** RBM Core (and Country-specific) Indicators and Targets<sup>9</sup>

Indicators	Baseline Year (2000)	NMCP Target 2008	NMCP Target 2009	NMCP Target 2010	NMCP Target 2011	NMCP Target 2012	NMCP Target 2014 (GF Rd8 targets)	RBM Target 2010	NMCP Achieved 2006/2007
Crude death rate (under five)									
Mortality attributed to malaria (all ages)								50% reduction from 2000	10.6% of hospital deaths (2006 NHP)
Mortality attributed to malaria (under five)								50% reduction from 2000	
Mortality attributed to malaria (5 and above)								50% reduction from 2000	
Morbidity attributed to malaria (all ages)	136 cases / 1000 persons / year (NMCP data)*			76 cases / 1000 persons / year (draft malaria strategy)		65 cases / 1000 p / year (GF application)		68 cases / 1000 p / year (50% reduction from 2000)	125 cases / 1000 p / year (2007 HMIS)
Morbidity attributed to malaria (under five)								50% reduction from 2000	
Morbidity attributed to malaria (5 and above)								50% reduction from 2000	
Case fatality ratio (under five)								50% reduction from 2000	3.3%
Case fatality ratio (five and above)								50% reduction from 2000	

<sup>9</sup> Original RBM 2010 targets: [http://rbm.who.int/docs/abuja\\_declaration.pdf](http://rbm.who.int/docs/abuja_declaration.pdf)

Updated RBM 2010 targets: [http://www.who.int/gb/ebwha/pdf\\_files/WHA58-REC1/english/Resolutions.pdf](http://www.who.int/gb/ebwha/pdf_files/WHA58-REC1/english/Resolutions.pdf) and [http://rbm.who.int/forumV/docs/gsp\\_en.pdf](http://rbm.who.int/forumV/docs/gsp_en.pdf)

Indicators	Baseline Year (2000)	NMCP Target 2008	NMCP Target 2009	NMCP Target 2010	NMCP Target 2011	NMCP Target 2012	NMCP Target 2014 (GF Rd8 targets)	RBM Target 2010	NMCP Achieved 2006/2007
Case fatality ratio (all ages) [added]									4.4%
% of under fives with fever getting appropriate treatment within 24 hours of onset								80%	61% (MAR 10 districts, 2007) 21% (MIS 2008)
% of fever cases with access to malaria treatment within 24 hours of fever onset (all ages) [added]						85% (draft malaria strategy)			9% (MIS, 2008)
% of fever/uncomplicated malaria under five cases correctly managed at health facilities						100% (draft malaria strategy)			
% of severe malaria cases (under-five) correctly managed at health facilities									
% of malaria cases managed according to national treatment guidelines (all ages) [added]							90%		
Proportion of inpatients cases due to malaria all ages									12% (NHP 2006)
Proportion of inpatients cases due to malaria under five									
Proportion of inpatients cases due to malaria five and above									
Proportion of inpatients deaths due to malaria all ages [added]									10.6% (NHP 2006)

Indicators	Baseline Year (2000)	NMCP Target 2008	NMCP Target 2009	NMCP Target 2010	NMCP Target 2011	NMCP Target 2012	NMCP Target 2014 (GF Rd8 targets)	RBM Target 2010	NMCP Achieved 2006/2007
Proportion of outpatients cases due to malaria all ages [added]									15% (NHP 2006)
Proportion of outpatients cases due to malaria <5 [added]									14% (NHP 2006)
Proportion of outpatients cases due to malaria 5 – 14 [added]									17% (NHP 2006)
Proportion of outpatients cases due to malaria 15+ [added]									14% (NHP 2006)
% pregnant women taking at least 2 doses of SP for IPT							85% for med-high transm. areas (draft malaria strategy)	80%	
Proportion of the population at risk from malaria who are protected by appropriate prevention measures (ITNs or IRS)							80% / 90% (draft malaria strategy)**	80%	
% of population in targeted areas sleeping under ITN previous night (all ages) [added]							85%		
% pregnant women sleeping under an ITN								80%	4.5% (MIS 2008)
Proportion of pregnant women sleeping under any mosquito net									36% (MAR 2007)

Indicators	Baseline Year (2000)	NMCP Target 2008	NMCP Target 2009	NMCP Target 2010	NMCP Target 2011	NMCP Target 2012	NMCP Target 2014 (GF Rd8 targets)	RBM Target 2010	NMCP Achieved 2006/2007
% of under fives sleeping under an ITN								80%	9.2% (MIS 2008)
% of under fives sleeping under any mosquito net									43% (MAR 2007)
% of mosquito nets treated with insecticide within the last 12 months									
% of households having at least one ITN									50.2% (nut survey 2008)
Proportion of population sleeping under any mosquito net									
Proportion of houses or structures in targeted areas that are sprayed						90% (draft malaria strategy)		At least 80% in targeted areas	
Proportion of the population protected by IRS						90% (draft malaria strategy)	90%		
% of malaria epidemics effectively managed within 2 weeks of onset [added]						95% (draft malaria strategy)			
number of districts have capacity and resources to rapidly detect and respond to malaria epidemics [added]							45		
% community participation and competence on correct malaria prevention and control measures						85% (draft malaria strategy)			

Indicators	Baseline Year (2000)	NMCP Target 2008	NMCP Target 2009	NMCP Target 2010	NMCP Target 2011	NMCP Target 2012	NMCP Target 2014 (GF Rd8 targets)	RBM Target 2010	NMCP Achieved 2006/2007
[added]									
% of households in malaria risk areas have appropriate knowledge and practices for personal protection [added]						90% (draft malaria strategy)			
% of people in malaria-endemic areas know the cause, symptoms, preventive measures and treatment of malaria [added]							95%		
number of sentinel sites for vector bionomics, drug resistance monitoring and operational research [added]							16		

\* in 2000 the population was thought to be 13.5 million based on projections from the 1992 census. As the 2002 census showed the population to be 11.6 million in 2002, this NMCP incidence figure for 2000 (provided in the malaria programme presentation) appears to be back-calculated on what the actual population might have been in 2000 (1,533,960 cases/approx 11.4 million pop); it can therefore be considered an appropriate baseline incidence to use.

\*\* the draft malaria strategy gives two different figures for the target of population protected.

## 4.2. Current financing

Health financing in Zimbabwe flows from the national to provincial and district health executives, with responsibility for programme spending devolved to the provinces. However, the national level also directly funds procurement, training and other activities for disease control. The fiscal year runs from January to December. The Government of Zimbabwe has allocated 12.5% of the total budget for 2008 to the MOHCW, a larger allocation than for Higher Education (source, senior management, MOHCW).<sup>10</sup> However, due to inflation, the budget allocation for 2008 was consumed by the end of the first quarter. Funding of activities now requires application to the Ministry of Finance for supplementary budgets. In real terms, it is likely that spending has decreased when adjusted for inflation. Inflation has resulted in serious programme constraints: staff salaries, though still paid, are not sufficient to sustain regular working patterns, and payments in allowances are equally problematic. Many aid programmes are now turning to provision of food for services. At the time of this needs assessment, the functioning of health services was gravely compromised at all levels.

The participation of external partners in financing and implementation is therefore critical at this time for programmes to provide essential services. For the malaria programme, the Global Fund grants represent the major source of funding. Round 1 (\$8.9 million for vector control in 10 districts) has now closed, with a loss of \$1.2 million unspent at the time of closure. Round 5 (\$28.5 million for case management) is underway with \$6.8 million (34%) disbursed.<sup>11</sup> GFATM resources recently unusable in country have been returned to MOHCW/NMCP bank accounts and can now be accessed. Round 8 (\$59.6 million for a comprehensive intervention package and \$81.7 million for health systems strengthening) final approval awaits the clarifications requested and the establishment of funding mechanisms for goods and services that will ensure smooth disbursement and programme implementation. In addition, the Reserve Bank informed the Global Fund that funding recipients will be permitted to use US dollars for all transactions within Zimbabwe, thus reducing exchange rate risks.

Currently donors invest in malaria control on an *ad hoc* basis. Significant resources for ITN rollout are channeled through UNICEF, WHO provides technical assistance and the malaria partnership includes Plan International Zimbabwe, PSI Zimbabwe (both sub-recipients for GFATM resources) and World Vision assisting with malaria work at community level. The health sector is also to benefit from other funding: a recent application to the Health Metrics Network to improve the health information system was successful. The country is also planning to apply for Global Fund Round 9<sup>12</sup> and the GAVI health systems strengthening window. The RBM sub-regional network, SARN, has approximately US\$2 million from the Gates Foundation to provide specific technical assistance in the region, while the RBM secretariat has funds from the US government to address Global Fund implementation bottlenecks with short term assistance.

Interventions for malaria control are to be provided free of charge at health services and community level. However some policies are still unclear (such as cost-recovery for nets, provision of medications free of charge) and practice may differ from policy.

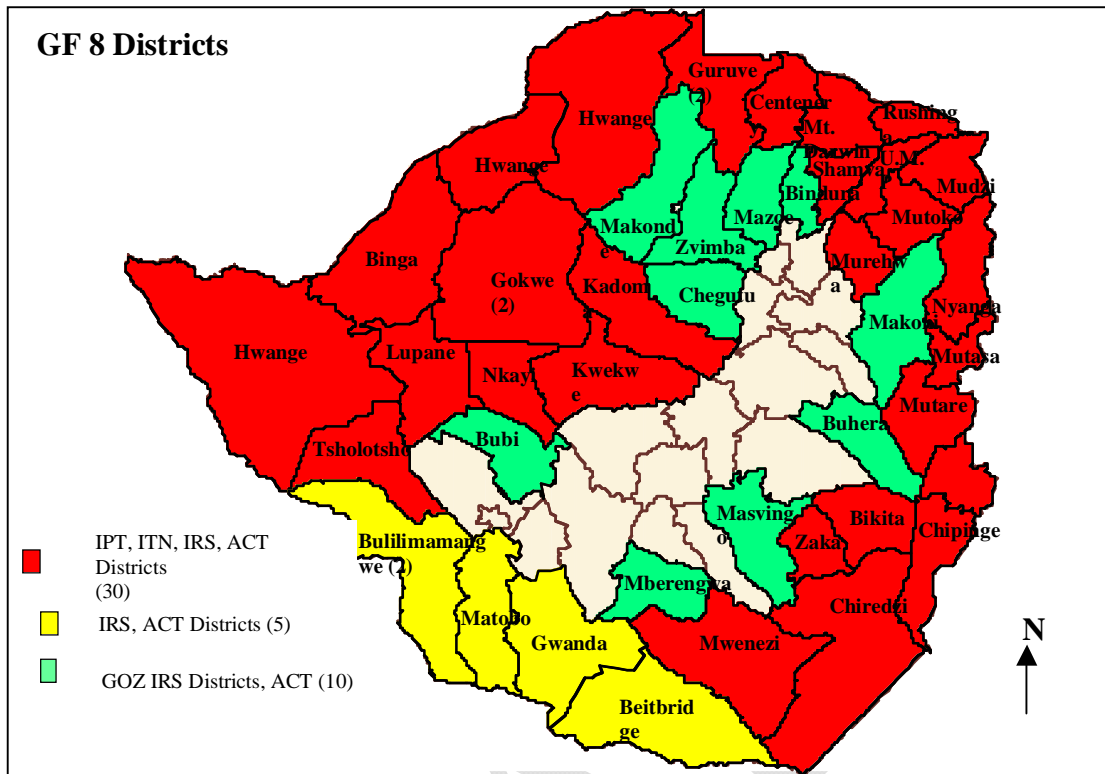
Figure 4 shows the proposed malaria intervention map for GFATM and Government of Zimbabwe resources for the coming years.

<sup>10</sup> The National Health Profile 2006 provides a budget with 6.3% allocation for health, 14.4% for education sport and culture, and 5.6% for higher and tertiary education.

<sup>11</sup> Funding for Global Fund programmes was under the scrutiny of an audit team at the time of the malaria needs assessment mission. Of malaria funds, \$2.5 million was expropriated by the Reserve Bank of Zimbabwe for other priorities, so that NMCP activities halted and GF supported salaries had not been paid for 4 months. By November 6, the day before the GFATM board meeting, the funds had been returned and activities could resume.

<sup>12</sup> This was decided during the 22 October 2008 CCM meeting.

Figure 4. Malaria intervention map (proposed) for 2008-2012, NMCP, Zimbabwe



Source. Zimbabwe Round 8 proposal to the GFATM. June 2008

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**Table 5. Main Donors and Areas of Support**

Organization	Areas of Support									
	ITNs	IRS	Larval Control	IPT	Diagnosis	Treatment	IEC/BCC	Epidemics	M&E	Program Mangmt
Ministry of Health	√	√	√	√	√	√	√	√	√	√
GFATM Round 1 (10 districts)*	√	√	-	√	√	√	√	√	√	√
GFATM Round 5 (51 districts)**	-	-	-	-	√	√	-	-	√	√
GFATM Round 8 (planned, all districts)	√	√	√	√	√	√	√	√	√	√
PMI	-	-	-	-	-	-	-	-	-	-
WB Booster	-	-	-	-	-	-	-	-	-	-
UNICEF	√	√	-	√	√	√	√	-	√	√
WHO	√	√	-	√	√	√	√	√	√	√
ECHO	-	-	-	-	-	√***	-	-	-	-
EU	√	√	-	-	√	√	-	-	-	-
PSI	√	√	-	-	-	-	√	-	-	√
Plan International (8 districts)	√	√	-	-	-	-	√	-	-	-
World Vision	√	-	-	-	-	-	-	-	-	-
Save the Children	√	-	-	-	-	-	√	-	-	-
ICRC	-	-	-	-	-	-	√	-	-	-

\* Rd 1 grant ended Jan 31st 2008; \*\* Rd 5 grant began October 2007 for 3 years. \*\*\* Support for emergency supplies of essential drugs. DANIDA ended support in 2004.

Support for Emergency supplies of essential drugs, including quinine tabs and injection supplies comes from several donors including ECHO & DFID. 1<sup>st</sup> line malaria treatment is not part of the support because GF is providing this.



**Table 6.** Current financing by year (2008-2013) (USD)

Organization	2008	2009	2010	2011	2012	2013	Source
Ministry of Health							
Domestic sources	11,907,480	11,381,791	10,882,387	10,407,953	9,957,240	9,529,063	GFATM Round 8 application
GFATM Rounds 1 and 5	12,173,407	11,905,060*					GFATM Round 8 application
GFATM Round 8 (July 2009-June 2014)**	-	23,706,731	12,303,403	10,514,642	6,727,834	6,316,063	GFATM Round 8 application
UN / external	9,848,556	10,740,556	14,938,556	17,068,556	18,288,556	19,318,556	GFATM Round 8 application
UNICEF							
WHO							
Plan / PSI							
<b>Total Funds Available (\$)</b>	<b>21,756,036</b>	<b>45,829,078</b>	<b>38,124,346</b>	<b>37,991,151</b>	<b>34,973,630</b>	<b>35,163,682</b>	

\*Round 5 progress report indicates \$20,121,670 approved and \$ 6,798,371 disbursed by end August 2008; \*\*First year full amount assigned to 2009

### 4.3. Estimated gaps and requirements to attain 2010 targets

Tables 7 – 11 are summary tables of all requirements, financial (Tables 8 -11) and otherwise (Table 7).

Targets outlined in the draft National Malaria Control Programme Strategy for 2008-2013, the Round 8 GFATM application and the draft National Health Strategic Plan for 2007-2013 are provided where possible. Strategies planned are described.

The annual Malaria Control Conference took place in September and made programmatic recommendations to improve the performance of NMCP. The national task force under the chairmanship of the Minister of Health continues to meet monthly. Technical subcommittees of the NMCP (Vector Control, Case Management, IEC/ Advocacy, Surveillance M and E and CCM Malaria) meet only sporadically or not at all.

**Table 7.** Summary of targets, strategies, progress and additional activities needed by core intervention area.

Core interventions	Key targets	Strategies and approaches to achieve targets	Progress and bottlenecks	Additional activities needed
ITNs	<p>To reduce the transmission of malaria by scaling up effective vector control interventions (IRS and ITNs) to 90% of the population by 2012/13 (draft strategy)</p> <p>At least 80% of the population covered with IRS and ITNs by 2012/13 (draft strategy)</p> <p>By 2014 every household in 30 malaria endemic areas will have at least three bednets (GF)</p> <p>By 2014 at least 85% of the population in targeted malaria endemic areas have slept under an ITN</p>	<p>Zimbabwe ITN policy (2006) and Implementation Guidelines (2007)</p> <p>Policy changes from vulnerable groups to universal coverage, bundled ITNs to LLINs</p> <p>Nets are distributed:</p> <ol style="list-style-type: none"> <li>1. At health centres (pregnant women, children under five, orphans, PLWA)</li> <li>2. By communities (health committees and village health workers target risk groups and people with no or only one net per household)</li> </ol> <p>Promotion of local production of ITNs and retreatment kits (Nets for Africa Harare); Sewing of ITNs and LLINs in the community, sold at a low price enabling the buying of further materials</p> <p>Promotion of net supply by private sector, distribution by employers (e.g. mining, agricultural)</p> <p>Nets distributed by district authorities to wards with</p>	<p>Net ownership up from 5% in 2004 to 29% (national DHS 05/06), 50% in mod-high risk districts (nutrition survey 07), but only 5.6% of pregnant women and 9.2% of children slept under a bednet the previous night MIS (2008)</p> <p>Net supply is donor driven and sporadic. Available nets are sent to the highest incidence districts.</p> <p>GFATM funding releases restricted by currency exchange problems and inflation;</p> <p>290,000 Bundled nets procured under GF Round 1 and distributed but not retreated</p> <p>\$1.2 million of the GF funding lost due to slow implementation</p>	<p>Quantify needs for longer term procurement plan according to final strategy.</p> <p>Move from routine distribution to risk groups (pregnant women and children &lt; 5) to improved systematic mass distribution (or campaign);</p> <p>Clarify cost-recovery policy implementation</p> <p>Finalize MIS analysis; update KAP surveys</p> <p>Devise BCC campaign to increase utilization</p> <p>Support and supervision activities need to take place at all levels</p> <p>Due to high turn over of staff at all levels, reinforce training</p> <p>Introduction of the new Malaria Service Card to record how many nets there are per household and when they were received/retreated</p> <p>Monitor usage on regular basis</p>

Core interventions	Key targets	Strategies and approaches to achieve targets	Progress and bottlenecks	Additional activities needed
	<p>the previous night (GF)</p> <p>At least 80% of households in malaria risk areas have appropriate knowledge and practices for personal protection from malaria by 2012/13 (draft strategy)</p>	<p>highest incidence and sold at highly subsidized prices or free to vulnerable groups, as decided by village health committees</p> <p>KAP surveys to determine attitudes to bednet use</p> <p>Health education by district and health centre staff, village health committees; Develop IEC materials for media, communities</p> <p>Net retreatment and replacement programmes</p> <p>Safety issues to be monitored by the regulatory authority (MCAZ) and GOZ safety committees</p>	<p>Due to difficulties with transport and personnel, communications training, and supervision of programmes is not taking place so monitoring and evaluation of the programme is restricted</p>	
IRS	<p>To reduce the transmission of malaria by scaling up effective vector control interventions (IRS and ITNs) to 90% of the population by 2012/13 (draft strategy)</p> <p>At least 80% of the population covered with IRS and ITNs by 2012/13 (draft strategy)</p> <p>By 2014, at least 90% of households in targeted malaria endemic areas are covered by IRS (GF)</p> <p>To reduce the need for IRS by 2011 and to only use pyrethroids for the reduced programme</p>	<p>Quarterly meeting of the vector control subcommittee</p> <p>Annual vector control planning meeting to review IRS operations</p> <p>Develop and disseminate vector control policy, guidelines and SOPs to provinces and districts, who will disseminate to HC</p> <p>Involve the defense forces in spraying campaigns</p> <p>Enhance spraying activities in 5 epidemic prone areas</p> <p>Yearly training of sprayers and supervisors before the malaria season</p> <p>Timely procurement, distribution and proper storage of materials</p> <p>Collect and analyse data at district level monthly</p> <p>Develop ward map to show type and distribution of structures to spray; ward health team to mobilise the community</p>	<p>Only one meeting in 2008 took place in late October</p> <p>Vector control policy and guidelines developed but not disseminated</p> <p>No training has been done on policy due to lack of resources</p> <p>No District Health team meetings have been organized recently to disseminate the policy</p> <p>Yearly training of supervisors and sprayers has not yet taken place before the malaria season in many places due to lack of resources (Minimum of two weeks, 70% practical)</p> <p>EU money has been used to procure store and distribute materials for IRS</p> <p>Inspite of vector</p>	<p>Support and supervision activities</p> <p>Develop new communication materials and IEC activities</p> <p>A short course on entomology for vector control personnel</p> <p>All provinces to have field insectaries for bioassay activities</p> <p>All districts to carry out three bioassays for pyrethroids and 4 for DDT per year</p> <p>Spraying programmes in areas where high peaks occur in January/February to commence in October</p> <p>A financed vehicle repair programme should be in place before the spraying season starts</p> <p>Better conditions and compensation for sprayers injured during the course of spraying activities</p> <p>Review of salaries and allowances for sprayers to</p>

Core interventions	Key targets	Strategies and approaches to achieve targets	Progress and bottlenecks	Additional activities needed
	<p>At least 80% of households in malaria prone areas have knowledge of the cause of malaria and the need for IRS</p> <p>Expand larviciding to 51 districts and urban centres by 2012/ 2013 (strategic plan)</p>	<p>Provide Personal Digital Assistants to teams (calculate insecticide need, spray period, equipment); train staff</p> <p>Use DDT in areas without export sensitive agriculture (tobacco), pyrethroids in other areas</p> <p>Continue monitoring effectiveness (by bioassays); set up insectaries in selected districts to study resistance</p> <p>Develop larviciding policy, guidelines and SOPs</p> <p>Identify, map and cover all breeding areas with larvicides</p> <p>Collaborate with other line ministries, urban councils, communities</p> <p>Investigate use of non chemical larvicides to reduce pollution; use of traditional herbs as repellents</p>	<p>control activities and ITNS, incidence of malaria remains high</p> <p>Larviciding planned for winter when breeding sites are fewer and easier to treat</p> <p>Larviciding activities popular as they reduce nuisance biting; but no evidence of effectiveness in reducing malaria</p> <p>No funds for larviciding in GFR8 grant</p>	<p>ensure recruitment</p> <p>Initiate a waste management policy and guidelines</p> <p>Volunteers to pilot larviciding in some high transmission areas</p>
Malaria in Pregnancy	<p>At least 85% coverage of IPT3 in 30 medium to high transmission districts by 2012/13 (draft strategy)</p>	<p>Develop, print and distribute malaria in pregnancy policy (5000 copies) and guidelines (20,000 initial copies)</p> <p>Because of high HIV prevalence (15.6% adults) the national policy advises 3 doses of SP at 4 weekly interval</p> <p>Revise HMIS and ANC registration books, and develop malaria data base, to include IPT.</p> <p>Procure and distribute effective drugs for IPT</p> <p>Raise community awareness to at least 90% reached by BCC.</p> <p>Train health care workers</p>	<p>IPT policy first adopted in 2004 but poorly implemented</p> <p>94% of pregnant women attend ANC at least once but in rural areas tend to come late in the second trimester</p> <p>IPT currently not recorded on the HMIS/T5; to be included in the planned malaria data base</p> <p>Frequent stock outs of SP (and CQ)</p>	<p>Set targets for malaria in pregnancy, especially reduction of the high maternal mortality associated with malaria</p> <p>Organize a MIP conference</p> <p>Incorporate IPT data into HMIS</p> <p>Improve knowledge in NMCP and train health workers in MIP and recent developments in the care of pregnant women with malaria (including anemia)</p> <p>Train personnel to improve stock management at all levels</p> <p>BCC campaign to educate women to attend ANC in 1<sup>st</sup> trimester</p>

Core interventions	Key targets	Strategies and approaches to achieve targets	Progress and bottlenecks	Additional activities needed
		on IPTp implementation		
Diagnosis	<p>To confirm and correctly treat all malaria cases by 2012/2013 (draft strategy)</p> <p>By 2009 all malaria cases will be confirmed using RDTs or microscopy</p>	<p>Revise malaria case management guidelines (including a guideline for CHW) to state that only patients with biologically diagnosed malaria should receive ACTs</p> <p>Purchase 6.6 million RDTs through WHO (GF Round 5 funds)</p> <p>Train all health staff including CHW in use of RDTs in primary health care, community-based diagnosis and epidemic response</p> <p>Distribute 160 microscopes (GFR5) to hospitals, research facilities; manage supply chain for microscopy commodities;</p> <p>Improve maintenance and servicing of laboratory equipment</p> <p>Institute internal and external Quality Control measures</p>	<p>RDTs guidelines not yet revised or disseminated</p> <p>WHO funded two TOT in 2007 on RDTs and ACTS; cascade trainings did not follow due to lack of local currency</p> <p>RDTs purchased and sent to the 45 high burden districts but training sporadic and supervision inadequate</p> <p>SOPS developed but not disseminated</p> <p>No supervision by national laboratory due to financial constraints</p> <p>QC/QA activities not in place; laboratory training hampered by financial constraints and lack of staff at all levels</p>	<p>Clarify/confirm case detection policy</p> <p>TA for case management guideline development</p> <p>Urgently institute training programmes and support supervision visits at all levels</p> <p>Ensure a regular supply of equipment such as stains, gloves and sharps boxes</p> <p>Reintroduce QC and QA activities as soon as possible to ensure quality of care</p>
Treatment	<p>To confirm and correctly treat all malaria cases by 2012/2013 (draft strategy)</p> <p>By 2014 at least 90% of patients are managed according to the national treatment guidelines (GF)</p>	<p>Produce new Malaria Treatment Guideline and disseminate to provinces, districts, health centres</p> <p>Ban on artesunate monotherapies proposed</p> <p>Replace treatment policy from CQ +SP to ACTS (coartem) starting with 30 high burden districts in 2008 and extending to 51 districts in 2009-2013 (ACTs sent to 45 districts in 2008)</p> <p>Natpharm to procure ACTs (1.2 million ) and RDTs through WHO with GF Rd 5 (till 2010) then Rd 8 resources; distribute ACTs to 45 high burden districts; then use pull (ordering)</p>	<p>GF5 and 8 resources depend on current performance.</p> <p>Only 21% of children &lt;5 years received receiving antimalarial treatment in response to fever</p> <p>The case fatality remains high at 4.4%, with little focus on management of severe cases</p> <p>ACT/RDT consumption study needed as utilisation figures not received from health facilities for 2008 and only two districts have placed orders</p>	<p>Reactivate the NMCP case management subcommittee</p> <p>Case management guidelines urgently needed for dissemination to provinces, districts, health centres, CHW</p> <p>Ensure supervision and support</p> <p>Urgently train health personnel on how to manage RDT negative patients and treatment failures.</p> <p>Finalise protocol for consumption study and implement in 2008-2009</p> <p>Improve registration system</p>

Core interventions	Key targets	Strategies and approaches to achieve targets	Progress and bottlenecks	Additional activities needed
		<p>mechanism based on consumption</p> <p>Establish ACT pharmacovigilance</p> <p>Discontinue supply of chloroquine to health facilities</p> <p>Increase sentinel sites to monitor drug efficacy from 8 to 16</p> <p>Second line treatment for treatment failures and pregnant women in first trimester is quinine for 7 days</p> <p>Delist ACTs so CHWs can prescribe them</p> <p>Produce diagnosis and treatment manual for Community Health Workers</p> <p>CHWs (e.g. existing trained chloroquine distributors) to diagnose (RDTs) and treat (ACTs) at village level in 25 high burden districts, then in 51 districts</p> <p>Institute cascade training from province to community level; train 5600 CHW to prescribe ACTs (GF Rd 8);</p> <p>District health teams to monitor use of ACTs and RDTs in health facilities; health workers to supervise CHW</p> <p>Develop multi-media communications materials based on the National Malaria Communications strategy (PSI, Plan International, GF8).</p> <p>Monthly National Task Force meeting chaired by MOH, attended by provincial medical officers and heads of major hospitals</p>	<p>General breakdown of health services (e.g. broken scale so weighing patient is difficult)</p> <p>Frequent stock out of drugs at health centres, including coartem (full range of doses not available), quinine and other drugs and materials</p> <p>IV and IM artemisinins are allowed by the EDLIZ but not yet available in hospitals or HC; artemisinins for parenteral use not included in GFR8; only 5% dextrose available in hospitals</p> <p>Only treatments available at the health centre are PenV, aspirin paracetamol, CQ and SP; staff have limited options for treatment of RDT-negative patients</p> <p>Patients resist alternative treatment even if RDT is negative</p> <p>Referral and counter-referral mechanisms not in place and resources not available</p> <p>Senior medical staff have left the country or are on strike</p> <p>Epidemic response relies on weekly reporting: completeness and timeliness have declined dramatically</p> <p>Communication</p>	<p>and data recording at HC and district level</p> <p>Improve stock control of quinine and other materials for simple and severe malaria (gloves, sharps boxes, IV fluids, drugs) and train in stock management at all levels</p> <p>Better range and supply of alternatives to antimalarials</p> <p>A better referral service is essential; mend or supply radios connections; fuel for ambulances and a system to record and monitor outcomes</p> <p>Develop IEC/BCC and advocacy programmes to inform patients about the new treatment and to encourage full adherence to treatment regimes</p> <p>Education to include prompt treatment response, knowledge of age specific treatment regimes, adherence to a full course of treatment, danger signs for severe disease</p> <p>Develop new severe malaria treatment guidelines</p> <p>Pre-referral treatment with im/iv quinine im artemether or iv artesunate if available</p> <p>Improve hospital management of severe cases</p> <p>Explore use of artemisinin derivatives for parenteral administration including rectal AS which can be administered by HW at HC or village level especially where transport is delayed</p> <p>Education of the population in the danger signs of severe malaria and how and when to seek</p>
	85% of cases have access to malaria treatment within 24 hours of onset of fever (draft strategy)			
	At least 95% of people know the causes symptoms preventive measures and correct treatment seeking behaviours (GF8)			
	95% of epidemics detected and effectively managed within 2 weeks of onset by 2012/2013 (draft strategy)			
	By 2014, 45 districts will have the capacity and resources to rapidly detect			

Core interventions	Key targets	Strategies and approaches to achieve targets	Progress and bottlenecks	Additional activities needed
	<p>and respond to malaria epidemics (GF8)</p> <p>To increase malaria free zones in Zimbabwe.</p>	<p>700 sentinel sites reporting weekly to district health authorities who relay information to provincial level</p> <p>Review stratification of malaria endemicity; develop new thresholds for health facilities</p> <p>Establish emergency stocks of ACTs (39,237 doses GF8) at provincial level, rotate with stocks for routine</p>	<p>equipment (radios, telephones faxes and email) supported by DANIDA (left in 2004) breaking down; no resources to maintain or replace them.</p> <p>Prompt and effective treatment very important as malaria incidence declines due to loss of immunity; adults will be equally at risk as children and need to know when and how to access treatment</p>	<p>care.</p>

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**Table 8.** Summary of overall funding gaps by intervention area (USD)\*

Core interventions	2008	2009	2010	2011	2012	2013	TOTAL
ITNs		2,234,550	506,792	500,412	(1,426,739)	8,717,500	10,532,515
IRS		521,705	2,547,424	2,867,036	7,567,748	7,391,268	20,895,182
IPT		(62,215)	13,848	13,992	14,160	14,304	7,625
Diagnosis		259,775	491,601	725,204	663,103	1,606,353	3,746,037
Treatment		(12,302,825)	(584,835)	(712,542)	369,293	161,734	(13,069,175)
IEC		0	0	0	0	0	0
Epidemics & Emergencies		0	0	0	0	0	0
M&E		0	0	0	0	0	0
Management		0	0	0	0	0	0
<b>TOTAL</b>		<b>(\$9,349,011)</b>	<b>\$2,974,830</b>	<b>\$3,394,103</b>	<b>\$7,187,566</b>	<b>\$17,891,159</b>	<b>\$22,098,647</b>

\* This table is a summary of financial gaps to reach **2010 targets** as detailed in Tables 10a-e & Table 11. Excess funds available are presented in brackets.



**Table 9. Summary of major commodity requirements**

NB. as all supplies are yet to be procured for 2009 onwards, all commodities needed are recorded as gaps

Commodity		2008	2009	2010	2011	2012	2013	TOTAL
LLINs	Target coverage (RBM)	50% (actual)	80%	80%	80%	80%	80%	
	No. required (RBM targets)		1,959,000	182,000	184,000	186,000	2,047,000	4,736,000
	GAP – No. of LLINs		as above					
Insecticide for IRS	Target coverage (national : 56% of population)		90%	90%	90%	90%	90%	90%
	No. required (national targets: <i>sachets</i> Deltamethrin / DDT)	Deltamethrin DDT	870,551 243,290	880,128 245,966	889,809 248,671	899,597 251,407	909,492 254,172	919,497 256,968
	GAP – No. of <i>sachets</i> Deltamethrin / DDT		as above					
RDTs	Target coverage (national)		100%	100%	100%	100%	100%	
	No. required (national targets)		1,864,665	2,016,700	2,023,884	2,018,850	2,007,941	9,932,041
	GAP – No. of RDTs		as above					
<i>Artemether - Lumefantrine</i>	Target coverage (national)		100%	100%	100%	100%	100%	
	No. doses required (national targets)		1,864,665	645,072	586,951	474,726	335,964	3,907,378
	GAP – number of 1 <sup>st</sup> line doses		as above					
SP for IPT	Target coverage (RBM)		80%	80%	80%	80%	80%	
	No. of doses required (RBM targets)		150,204	151,856	153,527	155,216	156,923	916,296
	GAP – No. of SP doses		as above					

**Table 10a.** Funding Requirements Linked to Targets – Commodity and delivery costs, ITNs (USD)

ITNs	2008	2009	2010	2011	2012	2013	TOTAL
Financial need for 100% coverage*		\$12,741,200	\$964,600	\$975,200	\$985,800	\$13,308,300	\$28,975,100
RBM Target**	50% (actual)	80%	80%	80%	80%	80%	
Financial needs to reach RBM target		\$10,382,700	\$964,600	\$975,200	\$985,800	\$10,849,100	\$24,157,400
Resources available***		\$8,148,150	\$457,808	\$474,788	\$2,412,539	\$2,131,600	\$13,624,885
<b>GAP TO REACH RBM TARGET</b>		\$2,234,550	\$506,792	\$500,412	(\$1,426,739)	\$8,717,500	\$10,532,515

\* Note only commodity and delivery costs are included in the above figures. All cross cutting costs are included in Table 11; *Financial needs are obtained from the calculation tool, assuming ANC and EPI distribution every year, plus a general campaign in 2009; funds in excess of needs are expressed in brackets* \*\* National strategy proposes 3 nets per household. The GF8 application indicates a target of 90% by 2014, but no target is available for 2008 to 2013, so RBM target of 80% used. \*\*\* GFATM R8 budget

**Table 10b.** Funding Requirements Linked to Targets – Commodity and delivery costs, IRS (USD)\*

IRS	2008	2009	2010	2011	2012	2013	TOTAL
Financial need for national plans at RBM targeted coverage level of 80%**		\$8,104,772	\$8,193,924	\$8,284,057	\$8,375,182	\$8,467,309	\$41,425,245
Resources available***		\$7,583,067	\$5,646,500	\$5,417,021	\$807,434	\$1,076,041	\$20,530,063
<b>GAP to fulfil national plans</b>		\$521,705	\$2,547,424	\$2,867,036	\$7,567,748	\$7,391,268	\$20,895,182

\* Note only commodity and delivery costs are included in the above figures. All cross cutting costs are included in Table 9.

\*\* For IRS, costs are based on country scale up plans for spraying 100% of households / structures in specified areas of the country. It is assumed that the geographic areas recommended for spraying will remain constant over this period, whereas the GF application assumed a reduction over time in the areas to be sprayed. \*\*\* GF Round 8.

**Table 10c. Funding Requirements Linked to Targets – Commodity costs, IPT (USD)**

IPT	2008	2009	2010	2011	2012	2013	TOTAL
Financial need for 100% coverage		\$17,112	\$17,304	\$17,496	\$17,688	\$17,880	\$104,400
RBM Target*		80%	80%	80%	80%	80%	
Financial needs to reach RBM target		\$13,704	\$13,848	\$13,992	\$14,160	\$14,304	\$83,544
Resources available**		\$75,919	\$0	\$0	\$0	\$0	\$75,919
<b>GAP TO REACH RBM TARGET (excess)</b>		<b>(\$62,215)</b>	<b>\$13,848</b>	<b>\$13,992</b>	<b>\$14,160</b>	<b>\$14,304</b>	<b>\$7,625</b>

\* For the purposes of the table, RBM target assumed to be reached by 2010 and constant thereafter. The draft national malaria strategy indicates a target of 85% by 2012. Until this is confirmed, the RBM target is used throughout. \*\* Budget for Malaria in Pregnancy from GFATM Round 8.

Note for Tables 10c – e. Only commodity costs are presented. Complete delivery costs for treatment and diagnosis are considered broader health system costs. Malaria-specific Issues considered a factor in delivery costs (e.g. training, supervision) are included under health systems, program management and institutional strengthening.

**Table 10d. Funding Requirements Linked to Targets – Commodity costs, Diagnosis (USD)**

DIAGNOSIS	2008	2009	2010	2011	2012	2013	TOTAL
Financial need for 100% coverage		\$1,491,732	\$1,613,360	\$1,619,107	\$1,615,080	\$1,606,353	\$7,945,633
National target*		100%	100%	100%	100%	100%	
Financial needs to reach national target		\$1,491,732	\$1,613,360	\$1,619,107	\$1,615,080	\$1,606,353	\$7,945,633
Resources available**		\$1,231,957	\$1,121,759	\$893,903	\$951,977	\$0	\$4,199,596
<b>FUNDING GAP TO REACH NATIONAL TARGET</b>		<b>\$259,775</b>	<b>\$491,601</b>	<b>\$725,204</b>	<b>\$663,103</b>	<b>\$1,606,353</b>	<b>\$3,746,037</b>

\* RBM target is 80%. However, a new Zimbabwe policy to be implemented is to test **all** fever cases in all age groups with RDT; furthermore, the vast majority of children with fever are seen in a health facility, as community-based management of fever is yet to be implemented; finally, distribution and needs-based ordering practices are still to be refined. To avoid RDT stock-out, 100% target is therefore used. However, this is

*adjusted for the actual maximum number of fever cases reported annually (i.e. approx 1,8 million + 10% buffer stock), rather than the 9 million suggested by the calculation tool, which in this regard is not appropriate for the Zimbabwe context. \*\* GFATM Round 8 planned resources*

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**Table 10e.** Funding Requirements Linked to Targets – Commodity costs, Treatment (USD)

TREATMENT	2008	2009	2010	2011	2012	2013	TOTAL
Financial need for 100% coverage		\$2,713,088	\$938,580	\$854,014	\$690,726	\$488,827	\$5,685,235
RBM Target (or national target if higher)*		100%	100%	100%	100%	100%	
Financial needs to reach RBM (or national) target		\$2,713,088	\$938,580	\$854,014	\$690,726	\$488,827	\$5,685,235
Resources available**		\$13,323,299 (R5) \$1,692,614 (R8)	\$1,523,415	\$1,566,556	\$321,433	\$327,093	\$13,323,299 (R5) + \$5,431,111 (R8)
<b>FUNDING GAP TO REACH 100% Coverage (excess)</b>		(\$12,302,825)	(\$584,835)	(\$712,542)	\$369,293	\$161,734	(\$13,069,175)

\* RBM target is 80%. ACT requirements are based on 100% coverage as in the calculation tool; Although 98% testing with RDT is assumed, if testing is lower, higher quantities of ACTs will be required as cases are treated clinically. The tool also does not cater for buffer stock. Therefore, 100% coverage is assumed to estimate ACT needs and treatment costs. \*\* Resources available include remaining GF Round 5 grant for 2009 (undisbursed phase 1 approved grant with end date of Sept 2009), plus anticipated GF Round 8 funding. As phase 2 of Round 5 (potentially \$8,369,339) has not yet been negotiated or approved, it is not included here.

**Table 11.** Funding Requirements - Crossing cutting areas (USD)\*

Intervention area	2008	2009	2010	2011	2012	2013	TOTAL
<b>IEC</b>							
Financial need							
Resources available		909,946	1,257,290	690,968	1,390,390	565,301	4,813,895
GAP							
<b>M&amp;E</b>							
Financial need							
Resources Available		214,960	91,952	17,088	52,488	17,088	393,576
GAP							
<b>Management</b>							
Financial need							
Resources Available		3,503,918	1,930,675	978,025	489,118	2,197,660	9,099,396
GAP							
<b>Epidemic preparedness and response</b>							
Financial need							
Resources Available		346,200	274,004	476,393	302,455	1,280	1,400,332
GAP							
<b>TOTAL NEED**</b>		\$4,977,033	\$3,555,931	\$2,164,485	\$2,236,463	\$2,783,342	\$15,707,199
<b>TOTAL AVAILABLE</b>		\$4,977,033	\$3,555,931	\$2,164,485	\$2,236,463	\$2,783,342	\$15,707,199
<b>TOTAL GAP</b>		0	0	0	0	0	0

\* Table 11 includes total costs in cross cutting areas to support full national scale up. It is expected that RBM 80% targets for commodity delivery and use will only be reached if these cross cutting areas are fully supported. There is therefore no breakdown into costs for full scale up versus 80% scale up for these cross cutting areas. Technical assistance costs are included in the cross-cutting areas. \*\*Due to the lack of a finalized national strategic plan and budget, this table relies on the budget prepared for the GF round 8, which was developed to cater for all

gaps for full scale up by the proposal development team. For the purpose of this table, we therefore assume that the needs are equivalent to the resources planned under the Global Fund proposal, pending refinement upon finalization of the NMCP plan and budget.

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*Absorption capacity*

Zimbabwe has historically had a strong health system and high utilisation of services by the public. The resources now available to the country through the Global Fund Round 5 and 8 malaria and health systems grants, and other grants and in-country partners, should be enough to meet the RBM targets for 2010. Global Fund policy allows for reprogramming of a grant within the total envelope according to priorities. Additional resources for malaria control will be required beyond 2010 to maintain RBM achievements, especially if generalized distribution of bednets goes ahead as planned.<sup>13</sup>

It is evident, however, that the health system in Zimbabwe is in crisis and facing its gravest challenges to date. At the time of writing, the health sector was reported to be on the brink of collapse, with hospitals closing and health personnel vacancy rates at an all-time high. Financial resources are not enough. Challenges and solutions to improve implementation fall in several categories.

Programme management should improve if the MOHCW is committed to supporting the programme, addressing the weaknesses identified by the Global Fund audit team in October 2008, and ensuring resources are channelled to reviving the health information system (including a specific malaria data base) and programme monitoring.

Strategic planning and workplan implementation should improve with the completion of the NMCP strategy and drafting of annual workplans. Technical assistance and innovative planning with partners should help get this off the ground and provide clear goals to work towards. Finalization and dissemination of policies and training of health centre personnel and community health workers are a priority, particularly at a time when hospitals are no longer functioning.

Budget execution is extremely challenging due to the hyperinflation affecting the value of the Zimbabwe Dollar. Recently, liberalized exchange rates and new laws have made it easier to exchange forex for local currency at rates competitive with the parallel market and to pay for services in foreign currency. Operationally, however, funds for payments in local currency must be requested, issued and used within a very short time to ensure continuity in the value of funds requested.

Procurement and service delivery should improve with the Global Fund initiative to have local procurement using GF resources financed through the existing procurement consortium of the National Pharmaceutical Company (NatPharm) and Crown Agents. This can extend to in-country delivery of commodities such as LLINs, ACTs, RDT, vehicles procured off-shore in US dollars and to cash-based activities (e.g. training) as the consortium contract already covers services as well as goods.

Human resource initiatives are also in place to top up salaries, stabilise and harmonize allowances and provide incentives for health workers to stay at their posts. These however, will require close monitoring by partners and technical assistance to ensure their application. Payment of salaries must be ensured for a critical mass of staff to implement the programme. Loss of experienced staff means that inexperienced staff require more support supervision and training from the NMCP

RBM Partnership. The NMCP recognizes that, with the exception of IRS, sustained scale up of all interventions for universal access has not previously been attempted in Zimbabwe. The continued support of public and private sector partners will be critical.

Since the financial needs in the short term are already met, all efforts must turn to ensuring implementation, while keeping an eye to the future. For this, a willingness to explore alternative

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<sup>13</sup> or alternatively through a campaign strategy.



modes of functioning and to work around existing constraints with creative solutions over the next few years will be critical.

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## 5. Core interventions

### 5.1. Prevention

#### 5.1.1. ITNs

##### a. Situation analysis

###### *i. Policies, strategies and approaches*

A new Integrated Vector Control Strategy (2008)<sup>14</sup> aims for universal access to malaria prevention interventions by scaling up Indoor Residual Spraying (IRS) and insecticide-treated nets (ITNs) for at least 90% of the population in high transmission areas by 2012.

In the late 1990s ITNs were introduced. Distribution increased after 2001 with a Global Fund round 1 grant: 290,000 bundled ITNs were distributed to pregnant women and children under five years of age in 26 priority districts. Since then, ITN distribution has continued to target this population.

A new Zimbabwe National Insecticide-treated Nets Policy was developed in 2006 by the multisectorial ITN working group of the NMCP and distributed in January 2007. The new policy was to use long-lasting insecticidal nets (LLINs) and replace conventional nets. The policy identified 17 priority areas for net distribution which has since been extended to 30 high burden areas. The target groups were pregnant women and children <5 years, people living with HIV/AIDs (PLWH) and underprivileged people identified by local communities.

The 2008 - 2013 malaria strategy proposes universal access and with the round 8 Global Fund grant, more general distribution is planned for 3 nets per household (many households consist of 2-3 structures where people sleep). Through this support, the NMCP plans to deliver 1,785,968 LLINs over 5 years in 442 wards in 30 high transmission target districts (approximately 3,200,000 people). Annual net calculations are based on replacing nets that are lost using attrition rates of previously distributed nets (based on the RBM needs assessment tool) and population growth (1.1%). The expected life span of nets will be approximately 5 years. Households with pregnant women, children <5 years, PLWH and other vulnerable groups will be prioritized, and distribution will be supported by community strengthening and behaviour change communication activities

Health facilities will continue to provide and replace nets through antenatal clinics and immunization services. To scale up for universal access, additional distribution mechanisms will include mass campaigns or community distribution, through public sector and civil society, for households with children <5 or pregnant women. Other elements of the policy include:

- Free ITN distribution by CHW/ village health committees
- Sales at highly subsidized prices mainly through community structures
- Commercial sales through the private sector
- Social marketing.

Special efforts will be made in the following areas

- Quality assurance of ITN products including those made locally
- Correct use of ITNs through IEC and behaviour change communication (BCC).
- Monitoring and evaluation to ensure impact and adaptation if required. A Malaria Services Card has been developed to record the date of receipt of nets and when a new one is due. These will also serve to monitor and curb ITN leakage.

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<sup>14</sup> The Integrated Vector Control strategy is defined as a process of evidence-based decision-making procedures aimed to plan, implement, monitor and evaluate targeted, cost-effective and sustainable combinations of regulatory and operational vector control measures. (draft malaria strategy)

## **ii. Financing**

Nets were financed from Global Fund R1 and procured by UNICEF and other NGOs such as Plan International, World vision, SCF-UK and others. GFR1 funds were not fully spent and 1.2 million dollars were lost when the grant was concluded.

The GF R 8 proposal includes funds for LLINS to be procured by UNICEF, and distributed by UNICEF, PSI and Plan. In addition to the GF, with support from several donors UNICEF has supplied 211,887 LLINS in 2007, and plans to provide 240,000 nets in 2008 (to be distributed by PSI by the end of December). UNICEF will supply 430,000 nets in 2009-2010 with support from UNITAID.

By the end of 2010 the NMCP plans to deliver 1,535,345 LLINS (1,235,345 with GF8 resources) through campaigns and routine channels (ANC,EPI etc). This will account for 100% of needs in 30 districts and allow for population increase and net attrition. For 2011-2014, a further 1,000,623 (550,623 from GF8) are planned through routine systems. All these nets will be distributed free of charge to maximise access

## **iii. Implementation status**

Although net ownership has increased from 5% in 2004 to 28.8% in 2008 (MIS, 2008), use remains low with only 4.5% of pregnant women and 9.2% of children <5 years sleeping under an ITN the previous night (MIS, 2008).

- *Management and partners' roles*

The NMCP vector control committee has representatives from 8 provinces, 2 cities, partners and private sector manufacturers. Planned quarterly, meetings are at present less frequent. The ITN working group (a subcommittee of the vector control committee), chaired by UNICEF, coordinates net-related NMCP activities. This committee is active with several key partners. UNICEF provides technical and logistical support in collaboration with Plan International, PSI/Zimbabwe and other partners such as other NGOs, PLWH support groups, faith-based organizations (FBOs) and educational institutions. Plan will support wards in 8 districts where it already carries out operations, while PSI will support the remaining 22 districts, providing supervisory and logistics support to district teams (Strategic plan 2008). Partners will reinforce MOHCW capacity, and address gaps in management. Vector control policy guidelines have been developed but not disseminated.

- *Procurement and logistics*

LLINS are procured through UNICEF and independently by some other NGOs including Plan International, Goal Zimbabwe, Save the Children UK, World Vision and some faith-based groups. The nets obtained by UNICEF are stored in UNICEF facilities and dispatched to Provinces and Districts by UNICEF in coordination with NMCP. The decision for a net distribution programme is the responsibility of the District Health Executive. The districts are then supposed to send nets to the health centres who organise distribution to targeted groups and communities by distribution via community structures (Ward Environmental Health Technicians, Village Health Committees etc). Districts can organise re-treatment days as decided by community leaders, though funds for insecticide from local manufacturers are now scarce. NMCP has printed 100,000 malaria services cards, which are awaiting distribution.

- *Communications*

A Health Promotion Officer (HPO) has just been appointed to a NMCP post vacant for a year. Some materials for education are developed at national level but most health education programmes are developed at district level for use in particular communities. However, HPO posts at district and provincial level are largely unfilled. Communities have shown themselves to be creative in developing theatre, songs and other activities to promote use of bednets. World Malaria Day is celebrated in Zimbabwe but SADC Malaria Day is a bigger event in provinces, districts and communities to raise awareness of net use.

A KAP survey was conducted as part of the Malaria Indicator Survey in February / March 2008 but data analysis has not been completed. Although literacy is high in Zimbabwe, many local communities require pictorial materials. Materials produced centrally are not always pre-tested in the community where they are used. However, due to financial constraints there are few posters or radio programmes. There are no materials for teaching net re-treatment although many nets are not long lasting.

- *M&E*

All NGOs involved in net distribution have signed an MOU with the Vector Control Programme in the NMCP. They are required to report on the number of nets distributed and how many nets per household are in place. Districts are also required to return these figures in a parallel reporting system outside of HMIS. The figures are then centrally collated and reported to the Vector Control Subcommittee of the NMCP who are meant to meet 3 monthly to review progress and to decide where nets are most needed. Data about net ownership is also collected by spray teams and in MIS and DHS surveys.

## **b. Gaps and requirements**

### ***i. Key bottlenecks and challenges***

Net acquisition by NMCP has been rather piecemeal with different NGOs procuring small numbers of nets, making planning more difficult. Funding by UNITAID and GFR 8 through UNICEF should ensure a more regular supply.

In the current economic crisis, UNICEF is providing additional resources for net distribution, but quality of net coverage at community level is difficult to ascertain. Communities have been mobilised to help in door to door distribution and record keeping.

Although net ownership has been rising, usage remains low. Net ownership and use are higher in urban than rural areas, including urban areas with no malaria transmission, and in wealthier households (DHS 2005/2006). In the hot season people often sleep outside; in the rainy season farmers sleep in the fields to guard their crops. There is also a local preference for conical nets as many structures are round, while most of the nets supplied are square.

Improved health education to increase net utilisation is urgently required. Resources should be allocated for communication and health promotion officer vacancies at district and provincial levels need to be filled.

If GFR8 resources cannot flow smoothly, there will be a huge gap in finances for net procurement. People living in epidemic prone areas will be especially vulnerable. Movement of populations to find work or seek food may also add to the dangers of malaria outbreaks.

### ***ii. Proposed solutions to attain 2010 targets***

Recommendations include the following:

1. Finalize a detailed net procurement and distribution plan, clarifying strategies to be used for general distribution (through health centres vs mass campaigns); in the current context, campaign-style activities may help circumvent the barriers related to availability of resources to carry out routine activities.
2. An additional 500,000 nets above those planned may be needed to meet RBM targets by 2010. Additional nets for 2011-2013 will depend on finalizing the strategy for net "keep-up" activities.
3. Finalize the MIS/KAP report for better appreciation of the findings;
4. Extend net distribution to all areas where malaria transmission occurs and replace ITNs with LLINS;
5. Develop better targeted health education materials on the basis of the MIS/KAP survey to increase net usage;

6. Strengthen monitoring and evaluation to show where LLINS and ITNs are distributed, and where re-treatment programmes or replacement nets are needed, through data collection on net ownership and use at local level.

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**Table 12.** ITN needs to attain RBM 2010 Targets\*

Number and cost of LLINs to be delivered to achieve target	2008	2009	2010	2011	2012	2013	Total
<b><i>Delivery Approach 1 (ANC and EPI)</i></b>							
A. Average cost per LLIN delivered**							
B. Number of LLINs to be delivered to reach 100% coverage		180,000	182,000	184,000	186,000	188,000	1,098,000
C. Number of LLINs to be delivered to reach RBM targets (or national if higher)							
<b><i>Delivery Approach 2 (general distribution through campaign)</i></b>		180,000	182,000	184,000	186,000	188,000	1,098,000
A. Average cost per LLIN delivered*							
B. Number of LLINs to be delivered to reach 100% coverage		2,224,000				2,323,000	4,547,000
C. Number of LLINs to be delivered to reach RBM targets		1,779,000				1,859,000	3,638,000
<b>TOTAL number of LLINs to be delivered to achieve 100% coverage (B1+B2+B3)</b>		2,404,000	182,000	184,000	186,000	2,511,000	5,467,000
<b>TOTAL number of LLINs to be delivered to achieve RBM targets (C1+C2+C3)</b>		1,959,000	182,000	184,000	186,000	2,047,000	4,558,000

\*In its original form, this table requested information on costs of delivery, resources available and funding gaps. In Zimbabwe, where resources are available but microplans and detailed budgets have not been developed, and costs change daily in the unstable economic environment, this level of detail should be addressed after development of operational workplans in the local context. In Zimbabwe, general ITN distribution is continuous, not delivered by one-off campaigns. Therefore, budget and financing details will need to reflect the final ITN delivery mechanism selected. \*\* The average cost per LLIN delivered for each strategy cannot be estimated at this time for the same reasons.

### 5.1.2. IRS

#### a. Situation analysis

##### i. Policies, strategies and approaches

Indoor Residual Spraying has long been a mainstay of malaria control policy in Zimbabwe since the early 20th century. Despite efforts to eliminate the disease, outbreaks of malaria still occurred and barrier spraying continued. From 1980, malaria control was revitalised to cover all stable and unstable malarious areas using DDT, until 1988 when it was replaced with deltamethrin. DDT was re-introduced in 2004, but the NMCP again plans to phase it out by 2011.

A key objective of the NMCP is to protect 95% of the population at risk of malaria in high transmission areas by 2012 with IRS. Districts where IRS is practiced include those in the low and short seasonal, (15) moderate and seasonal (13) and high and seasonal (5) strata. A few districts (20) in the sporadic stratum where severe outbreaks have been reported in the past, or which are part of the cross border malaria elimination initiative with South Africa also practice IRS. To scale up, between 2009-2011 IRS will target rural populations in 442 wards with moderate to high transmission. From 2012 onwards activities will target only intense transmission foci identified by updated vector data. Five epidemic districts (34 Wards) will also be sprayed till 2011.

The programme uses DDT and pyrethroids, to avoid resistance developing and to protect the export value of cash crops such as tobacco. Following cascade training for 50 managers, 50 supervisors, and 1200 sprayers, spraying begins in September for DDT and in October–November for the pyrethroids (tobacco-growing areas) as they have a shorter period of effectiveness. Each spray team consists of 15 spray operators and 5 supervisors who report to the ward environmental health technician. Areas to be sprayed are selected according to the following criteria: high malaria burden, evidence of local transmission, proportion of fever cases positive for malaria > 5%, presence/ potential of mosquito breeding places, availability of vector mosquitoes and hard to reach areas/isolated communities.

##### ii. Financing

IRS has historically been financed by the Government of Zimbabwe, and more recently by the Global Fund Round 1 grant. In 2004, the Ministry of Finance established a separate malaria vote which institutionalized financing for GOZ-supported IRS. The Reserve Bank of Zimbabwe allocated foreign currency to the NMCP for procurement of insecticide for the 2005/2006 and 2006/2007 seasons for use in 13 districts. However funds allocated were not sufficient and the programme has only been protecting a third of the population at risk. There was a 10% drop in 2006/07 in the population at risk protected compared to the 2005/06 season. Funding for 2007/2008 was limited and there have been no funds available to date for 2008/2009.

It is now proposed that the GOZ finance IRS in 10 districts though financing is not yet available. The Global Fund Round 8 proposal also includes IRS for 35 districts (Figure 4). Financial support is provided by the European Union for procurement of supplies, storage and logistics by Natpharm.

##### iii. Implementation status

IRS coverage in 35 moderate and high burden areas in 2007/2008 was 59% (MIS 2008).

- *Management and partners' roles*

The programme is managed by the Vector Control Committee within the NMCP (see previous section on ITNs). Operational responsibility is devolved to provincial and district level. Procurement of supplies, storage and logistics are ensured by Natpharm. There is a central storage capacity in Gwere in Midlands district. Support for programmes in some areas are provided by Plan International Zimbabwe. Equipment for spraying is sometimes provided by UNICEF. The Medicines Control Authority of Zimbabwe (MCAZ) monitors the quality of insecticides and maintains the register of compounds used.

- *Procurement and logistics*

Lack of financing has severely curtailed insecticide procurement and IRS implementation, with the situation worsening each year. Resources have also not been available for equipment, spare parts and protective clothing, transport and fuel as the few available Zimbabwe dollars depreciate more quickly than supplies can be purchased. This situation contributes to the sustained malaria incidence and frequent small outbreaks. In 2008, just 7 Districts have commenced IRS.

Environmental health officers (EHOs) at Provincial, District and Ward level plan and coordinate vector control activities. At district level spraying activities are managed by the District Health Teams but meetings have not been held recently. A training manual for IRS operators is awaiting printing. Data collection systems have been developed but staff require training on the use of the software.

A mapping exercise is planned using Personal Digital Assistants. Data recorded will enable the calculation of amount of insecticide needed, the spray period, equipment needs and other operational parameters. There are 40 PDAs in use and 20 are requested in GF round 8. Trainings are planned in IRS vector control guidelines and SOPs for all levels of health care personnel, training in bioassays and vector resistance monitoring (supervised by the NIHR).

- *Communications*

National Social Mobilisation is planned using press conferences, media briefings, radio and TV and technical meetings. A review of existing BCC materials is underway. A Ward Health team under the ward environmental health technician is used to mobilize the community to prepare homes for spraying. IRS education will concentrate on 35 districts and will include: allowing spray personnel access to all areas of the household and outbuildings, cooperation with the spray teams to ensure effective execution of spray activities, removal of furniture, food etc and that walls recently sprayed should not be plastered over. PSI will be a partner in organising TOT training at national level which will be cascaded down to other levels of the system. 60 personnel from 35 districts will be trained at a 5 day residential workshop. However, none of these activities can take place at the moment.

- *M&E*

The Malaria Control Programme proposes a monitoring and evaluation programme with the following elements: bioassays 24 hrs to 12 months after spraying; insecticide susceptibility tests; soil scraping for insecticide analysis; insecticides audits; waste management audits; use of standard data collection forms; evaluation of disease burden; strengthened support and supervision.

## **b. Gaps and requirements**

### ***i. Key bottlenecks and challenges***

The IRS programme is the oldest and best organised of the programmes of the NMCP and has the most experienced staff. Communities are supportive of the activity but financial constraints, especially the availability of local currency, has made it difficult to employ sprayers and supervisors at community level. The same difficulties have prevented the organisation of planning meetings at all levels. Access to foreign currency may ease the situation at central level but not have much effect at the community level.

The situation is urgent and malaria outbreaks increasing in frequency and magnitude can be anticipated for the 2008/2009 season.

### ***ii. Proposed solutions to attain 2010 targets***

Recommendations include the following:

1. MOHCW/NMCP and partners to urgently identify resources for the 2008/2009 season. Options include
  - urgent requests to GOZ/Reserve Bank for supplementary funding to cover spraying activities in the "GOZ" 10 districts;
  - reprogramming GF Round 5 grants on an emergency basis to prevent outbreaks;
  - including malaria in partner emergency funding programmes (e.g. Consolidated appeal)



2. Global Fund to continue working with the GOZ and MOHCW to identify secure financing mechanisms for the Round 8 grant, to ensure early availability of Rd 8 grants.
3. Identify highest risk districts for immediate implementation (transport, training, equipment)
4. Resume regular vector control meetings
5. Continue bioassays where possible to monitor insecticide effectiveness and resistance
6. Continue educational activities in communities
7. Collect data on IRS implementation at local level
8. Complete the re-stratification of risk and endemicity.

**Table 13.** IRS funding needs to support national scale up plans at RBM 2010 coverage targets (USD)

Number and cost of households (HH) to be sprayed	2008	2009	2010	2011	2012	2013	Total
A. Average cost per HH sprayed*		\$8	\$8	\$8	\$8	\$8	\$8
B. Total number of HH to be sprayed		1,013,096	1,024,241	1,035,507	1,046,898	1,058,414	5,178,156
C. Available resources for IRS		\$7,583,067	\$5,646,500	\$5,417,021	\$807,434	\$1,076,041	\$20,530,063
<b>FUNDING GAP (A * B) - C</b>		\$521,705	\$2,547,424	\$2,867,036	\$7,567,748	\$7,391,268	\$20,895,182

\* This is the preset cost estimate provided by the calculation tool.

### 5.1.3. Larval control

#### a. Situation analysis

##### *i. Policies, strategies and approaches*

Larval control has also been a major component of vector control strategy in Zimbabwe and remains popular as it reduces the mosquito load and leads to less nuisance biting. In high density urban areas outside the major cities, with inadequate sewage systems and standing water, this activity is considered important by the NMCP.

Under the draft strategic plan 2008-2013, larviciding will be expanded to 51 districts and urban centres in a phased manner until all districts are targeted by 2013, as part of the comprehensive integrated vector control policy. Mapping of breeding sites will be undertaken; guidelines and SOPs for biolarviciding are being developed; local communities and ward Environmental Health Officers will identify breeding sites and all breeding areas will be covered with larvicides; non chemical means will be investigated to reduce the pollution of insecticide use.

Collaboration with other line ministries and urban councils and communities will be necessary for this activity. The NIHR will undertake an investigation of traditional herbs for use as repellents. They will also try to develop an evidence based approach to larviciding activity which is lacking at the moment.

##### *ii. Financing*

Although larviciding is a strategy long-used in Zimbabwe, lack of details on the evidence and rationale for strategies proposed and justification of the budget were the main reasons that the proposal for GFATM Round 7 for malaria was rejected. Larviciding is not funded under Round 8. Financing for this activity will be sought from GOZ or from local budgets.

##### *iii. Implementation status*

The programme is knowledgeable about larviciding techniques. It is not clear whether any larviciding is taking place in view of the difficult financial and planning situation and because it is not considered a priority.

- *Management and partners' roles:* Larviciding activities are monitored under the supervision of the vector control committee. There are no external partners supporting this activity but local and municipal councils are often involved.
- *Procurement and logistics:* Insecticides are procured locally from manufacturers in Zimbabwe and the safety and efficacy monitored by MCAZ. They are procured, stored and distributed by NatPharm.
- *Communications:* Local EHOs should be responsible for educating communities about this activity but there is not much activity in this area, although some posters have been developed about environmental clean up.
- *M&E:* The larviciding programme collects data on field activities in an ad hoc manner.

## **b. Gaps and requirements**

### ***i. Key bottlenecks and challenges***

Resources extremely limited. Strategy not supported by external partners.

### ***ii. Proposed solutions to attain 2010 targets***

- Vector control subgroup to monitor this activity
- Strengthen planning and M and E activities if this component is to be maintained.
- Develop research to demonstrate the value of this activity in Zimbabwe.
- Follow through on commitments to the GFATM to develop the evidence base before a comprehensive strategy and budget can be drafted.

#### 5.1.4. Malaria in Pregnancy (IPT)

##### a. Situation analysis

###### *i. Policies, strategies and approaches*

The 2006 national health profile reports malaria to be the 2<sup>nd</sup> cause of maternal mortality (7.8%) after haemorrhage. Because of the particular epidemiology of malaria in Zimbabwe, pregnant women are more likely to suffer severe disease and high maternal mortality associated with malaria infection.

NMCP policies for malaria in pregnancy are sharply focused on prevention. Pregnant women are a high priority group for receipt of ITNs. The malaria strategy also aims to achieve intermittent presumptive treatment (IPT) of malaria (at least IPT-2) for at least 85% of pregnant women by 2012. IPT (with SP) has been included as a strategy since 2004. It is implemented in 30 high transmission zones, with extension planned to 47 districts. Attendance for antenatal care is high in Zimbabwe, over 90% of women having at least one visit. The average time of first visit is 16 weeks in town and 24 weeks in rural areas. National recommendations are that patients in high transmission areas should receive three doses of SP, due to the high prevalence of HIV in pregnant women (15.5 %). The first dose of SP is to be given at quickening and subsequent doses given at 26-28 and 32- 34 weeks. However, resistance to SP in non immune populations has not been recently studied and the efficacy of IPT in Zimbabwe is not known.

There is little national policy guidance on the diagnosis and treatment of malaria in pregnancy and no training or patient education materials in this area.

###### *ii. Financing*

Financing is available for malaria in pregnancy through Global Funds Rounds 5 and 8. Availability of cash for local and international procurement of supplies has however been a problem. The EU and UNICEF are assisting with the procurement and distribution of essential medicines, of which SP is one.

###### *iii. Implementation status*

Guidance on the level of malaria endemicity where IPT is effective in preventing severe attacks, low birth weight and anaemia is lacking for the Zimbabwe context. Training has taken place for IPT implementation but stock outs of SP are common. Women are not well informed of the reasons for IPT.

- *Management and partners' roles:* WHO and UNICEF have been working with the NMCP to develop policy and implement IPT. The NMCP intends to work in collaboration with the reproductive health department to develop, print and distribute 5,000 copies of a malaria in pregnancy policy document and a malaria in pregnancy guidelines (20,000 initial copies). These activities have not yet taken place.
- *Procurement and logistics:* IPT has been funded under round 5 GF. SP is a cheap drug and part of the previous essential drugs list. In spite of this, stock outs of SP occur at all levels.
- *Communications:* The target is to raise community awareness to at least 90% reached by BCC. However, no progress has been made in preparing IEC/BCC materials for communities.
- *M&E:* IPT implementation is difficult to monitor as it is not included in routine HMIS reporting. The plan to revise ANC registration books to incorporate IPT and to revise the HMIS/T5 form to include IPT will take several years. The Malaria Data base to be developed with WHO support will include IPT indicators.

##### b. Gaps and requirements

###### *i. Key bottlenecks and challenges*

The bottlenecks facing the management of malaria in pregnancy include the need for policy guidance as well as the challenges facing the programme in general. Better cooperation is also needed between the reproductive health department and the NMCP to improve the care of malaria in pregnancy. It is urgent to

improve care of pregnant women with malaria to reduce the high maternal mortality from this cause. At present the complete lack of experienced staff in hospitals and the stockout of essential supplies to treat severe malaria make this uniquely challenging.

**ii. Proposed solutions to attain 2010 targets**

- Provide technical assistance to develop policy and guidelines for the care of malaria in pregnancy including prevention and treatment
- Revise the advice in the Essential drugs list of Zimbabwe handbook (EDLIZ)
- Hold a malaria in pregnancy conference to discuss IPT policy in the Zimbabwe epidemiological context.
- Improve stock management to prevent stockouts of SP and other essential drugs
- Reinforce training for health workers on IPTp implementation
- Ensure support and supervision at all levels.
- Develop an education programme for women
- Research on resistance to SP and alternate drug policies.
- Invest in monitoring and evaluation of IPT implementation and care of malaria in pregnancy.

**Table 14.** IPT funding needs to attain RBM 2010 targets (USD)

Number and cost of pregnant women receiving IPT	2008	2009	2010	2011	2012	2013	Total
A. Average IPT cost (2 doses) per pregnant woman*		\$0.18	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18
B. Number of pregnant women targeted to reach 100% coverage		93,878	94,910	95,954	97,010	98,077	479,829
C. Number of pregnant women targeted to reach RBM targets		75,102	75,928	76,763	77,608	78,462	383,863
D. Available resources for IPT**		\$75,919	\$0	\$0	\$0	\$0	\$75,919
FUNDING GAP to reach RBM targets (A*C) - D		(\$62,215)	13,848	13,992	14,160	14,304	(\$5,911)

\* Unit cost estimate from calculation tool, rounded to two decimal places, actual gap is recorded; \*\* resources in GF8 budget for malaria in pregnancy.

## 5.2. Case Management

### 5.2.1. Diagnosis

#### a. Situation analysis

##### *i. Policies, strategies and approaches*

Improved diagnosis and treatment of uncomplicated and severe malaria is to be achieved by providing access to malaria diagnosis and treatment within 24 hours of onset to 85% of fever cases. Early diagnosis and effective treatment contribute significantly to preventing the progression of uncomplicated malaria to the severe form of the disease and possible mortality. Until recently, diagnosis in Zimbabwe was mainly clinical and relied on diagnostic algorithms such as IMCI guidelines. Microscopy available in provincial and some district hospitals was primarily for surveillance purposes. Policy guidance was for one in 10 fever cases to have malaria slides done in the malaria season and sent to the district laboratory, and 1 in five in the dry season, when malaria was less likely to be the cause of fever, but treatment was still presumptive. In 2006, the policy was revised to the testing of 1 in 2 fever cases using rapid diagnostic tests (RDTs) at rural health centres and every case in district and provincial hospitals where a laboratory scientist was available.

With the advent of more expensive ACTs in December 2007 and the realisation that the proportion of fever cases that are actually malaria can range from 20-80% depending on season and district, the draft strategic plan for 2008-2013 now proposes that all cases should have a biological diagnosis before treatment. As the main species of parasite is *Plasmodium falciparum* (<3% other species mainly *P. ovale* and *P. malariae*) an HRP2-based RDT was thought to be appropriate. The draft malaria strategy proposes guidance on use of RDTs and microscopy (Figure 5).

**Figure 5.** Proposed national policy for malaria diagnosis, Zimbabwe, 2008

#### Where to use RDT or Microscopy

Level of health facility	Transmission Strata			
	Free	Sporadic	Low and short seasonal	Moderate and High seasonal
Clinic/RHC	XXX	XXX	XX	Nil (during season) and 1 in 10 off season?
District/Mission Hosp.	XX	X/MPs	X/MPs	As Above
Provincial Hosp.	X/MPs	MPs	MPs	MPs
Central Hosp.	MPs	MPs	MPs	MPs

Mandatory XXX; Optional XX; Rarely need X; Slide microscopy (MPs)

Diagnosis using RDTs will thus be extended to village Community Health Workers authorized to treat malaria. A *Malaria Case Management Guideline for Community Health Workers* is to be developed. A cascade training programme is planned for all facility-based and community health workers on the use of RDTs and ACTS. Provincial Medical Officers will be trained yearly. There will then be a TOT conducted in each province for District Medical Officers, who will then train health centre staff who will in turn train Community Health Workers. Staff will have updated training on microscopy techniques once a year.

Pilot projects have been conducted to explore the pitfalls of community based management. Focus group discussion among health workers and community members conducted by the NMCP in selected areas suggested that use of RDTs is acceptable to the population and they are prepared to act on the results.

Periodic testing of RDTs against microscopy is planned to monitor the performance of RDTs.

### **ii. Financing**

Malaria diagnosis with rapid diagnostic tests are now fully funded under Global Fund Rounds 5 and 8. Activities await new agreements between the GOZ and the Global Fund to ensure access to funds in local currency.

### **iii. Implementation status**

New written policies are still needed as case management guidelines (EDLIZ) date back to 2006 before ACTs were available, and the policy of testing every patient with suspected malaria is still not formalised.

Under Global Fund Round 5, 1,622,986 HRP2 RDTs will be distributed for use at district and community level. RDTs have already been sent to 45 districts along with ACTs. 120 microscopes will be distributed to the 51 districts where malaria transmission occurs and to 16 planned malaria resistance surveillance sites.

Training for diagnosis and treatment has only been implemented at TOT level. It has not been possible to train health workers due to lack of funding and systems for supervision, quality assurance and storage have not been established. Staff at the periphery manage by reading package inserts. Some DMOs have trained their nurses but the training is incomplete and supervision is lacking. In a rural health centre in UMP district visited during assessment, the nurse had RDTs but no timing equipment, gloves, water for hand-washing, and she was not sure of the process. CHW have yet to start using RDTs and ACTs.

- *Management and partners' roles:* The NMCP, provinces and districts implement new diagnostic policies under the guidance of the malaria case management sub-committee, chaired by a paediatrician who also sits on the WHO case management advisory group. RDTs are procured through WHO. Partners such as Plan International, PSI and others are available to assist in training and supervision.
- *Procurement and logistics:* Supplies for rapid diagnosis and microscopy (slides, reagents etc) are procured by Natpharm, who dispatch them to the provinces and districts according to national estimates of requirements (push system). To date, training on stock management and re-ordering (the pull system) has not taken place. Districts are not providing RDT utilisation data or ordering new supplies.
- *Communications:* The NMCP plans to communicate the change in treatment policy to health workers and the public, including through the media. Health workers using RDTs could benefit from wall charts describing the SOPs for RDTs which seem absent from health facilities.
- *M&E:* Without a functioning consumption reporting system, RDT utilisation and re-supply needs are not known. HMIS/T5 forms collect the number of suspected cases and the number diagnosed (microscopy) according to the old policy. Timely HMIS data collation and analysis is not possible at present as even routine reporting systems have broken down. The NMCP is unable to provide the results-based reporting required by the Global Fund for Round 5. The National Institutes of Health Research have the mandate to monitor the epidemiology of malaria in Zimbabwe but sentinel sites no longer have the necessary resources. The National Medical Reference Laboratory is now responsible for Quality Control of laboratory services. This is not occurring due to lack of staff equipment and planning.

## **b. Gaps and requirements**

### ***i. Key bottlenecks and challenges***

New malaria diagnosis and treatment programmes are being implemented since late 2007. However, implementation is being compromised by lack of clear written policy guidance in many areas and critically severe resource constraints for training, roll-out and monitoring.

### ***ii. Proposed solutions to attain 2010 targets***

Technical assistance will assist the NMCP to

- produce written diagnosis and treatment policy
- provide policy guidance for diagnosis and treatment of patients with fever who meet the suspected malaria case definition but have a negative malaria test.
- revise case management guidelines, including provision of a case definition, correct use of RDTs, and special emphasis on adherence
- train health personnel and CHW in diagnosis, prescription, dispensing, stock management, and the limitations of RDTs in diagnosis of apparent drug failures
- establish systems to ensure that patients are not charged for RDTs and ACTS as per government policy.
- draft laboratory and clinic SOPS

Systems need to be put in place for

- quality control for RDTs and microscopy
- support and supervision
- recruitment and training of lab technicians
- regular reagent supply.

**Table 15.** Diagnostic services funding needs to attain RBM 2010 targets (USD)

Number and cost of malaria diagnostic services	Age Group	2009		2010		2011		2012		2013		TOTAL	
		Microscopy	RDTs	Microscopy	RDTs	Microscopy	RDTs	Microscopy	RDTs	Microscopy	RDTs	Microscopy	RDTs
A. Average cost per diagnostic test*	All	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80		
B. Number of suspected malaria (fever) cases targeted to be tested to reach 100% coverage	< 5 yrs	35,030	402,840	37,886	435,685	38,021	437,237	37,926	436,150	37,721	433,793	186,583	2,145,705
	> 5 yrs	114,144	1,312,652	123,450	1,419,679	123,890	1,424,736	123,582	1,421,192	122,914	1,413,513	607,980	6,991,773
	<b>Total (&lt;5+&gt;5 yr)</b>	149,174	1,715,492	161,336	1,855,364	161,911	1,861,973	161,508	1,857,342	160,635	1,847,306	794,563	9,137,478
C. Number of suspected malaria (fever) cases targeted to be tested to reach national targets (100%)	< 5 yrs	35,030	402,840	37,886	435,685	38,021	437,237	37,926	436,150	37,721	433,793	186,583	2,145,705
	> 5 yrs	114,144	1,312,652	123,450	1,419,679	123,890	1,424,736	123,582	1,421,192	122,914	1,413,513	607,980	6,991,773
	<b>Total (&lt;5+&gt;5 yr)</b>	149,174	1,715,492	161,336	1,855,364	161,911	1,861,973	161,508	1,857,342	160,635	1,847,306	794,563	9,137,478
D. Available resources for malaria diagnostic services (total)	All		\$1,231,957		\$1,121,759		\$893,903		\$951,977		\$0		\$4,199,496
<b>FUNDING GAP to reach national targets (total) (A*C) – D</b>	All		\$259,775		\$491,601		\$725,204		\$663,103		\$1,606,353		\$5,118,696

\* Calculation Tool assumes the same cost for microscopy and rapid diagnostic tests; estimate used here as no other available.



## 5.2.2. Treatment

### a. Situation analysis

#### *ii. Policies, strategies and approaches*

Malaria treatment goals vary slightly according to the document consulted. Whereas the draft strategy states that it aims to confirm and correctly treat all malaria cases by 2012/2013, the goal of the Global Fund round 8 proposal is that by 2014 at least 90% of patients are managed according to the national treatment guidelines.

Following the results of efficacy tests conducted in 2000-2003 which showed chloroquine failure rates to range from 27-42.3% in 7 and 14 day studies, Zimbabwe changed its drug policy from chloroquine to a free combination of chloroquine – sulphadoxine pyrimethamine (SP) in 2004 as an interim measure. At the same time a policy decision was made that the ultimate goal was to change to an artemisinin-based combination therapy (ACT) when financing became available.

ACT use began on a small scale in the private sector and the public sector initiated phased implementation in November 2007 with drugs procured through WHO under the Global Fund Round 5 grant. The ACT chosen was Coartem (Artemether/Lumefantrine in fixed dose combination from Novartis). The second line drug, and the drug for treatment of pregnant women in the 1<sup>st</sup> trimester, continued to be quinine for 7 days. For treatment of severe malaria and pre-referral management, the EDLIZ recommends the use of quinine IV or IM, but allows for use of IV/IM artemisinins if available. Rectal Artesunate may be used in future for pre-referral treatment. In line with the policy of universal access for malaria interventions, the new treatment policy includes diagnosis and treatment by community-based health workers after training on use of ACT's and RDT's ("home-based management of fever"). There is also a plan to train and sensitize the private sector providers.

Drug efficacy studies will continue in the existing 8 sentinel sites with a plan to extend these to 12 with GFR8 funds. In an effort to improve care, case management audits and malaria death investigations are planned.

#### *ii. Financing*

ACTs and RDTs are fully funded under GFR5 and 8. The round 8 funding will be used to extend care to the community level by training CHW. Commodity procurement in foreign exchange employs the WHO procurement facility arranged in partnership with the Global Fund. Funds are transferred directly from the Global Fund to WHO and commodities delivered to the country. Delivery of supplies in country to lower levels, and local procurement of some items, are however subject to the current constraints on accessing resources in local currency. Storage and logistics are supported by an EU grant.

#### *iii. Implementation status*

In 2008, prompt and effective treatment of children was still low with 21% receiving anti-malarial treatment in response to fever and only 9% receiving treatment within 24 hours of onset of symptoms (MIS, 2008). Under GFR5 it was envisaged that ACTs would be deployed to 30 high burden districts and then rolled out to all 51 districts in 2008/9. In fact, ACTs were sent to all districts on the basis of numbers of cases in the HMIS. There is confusion surrounding who should be tested and who should receive ACTs. Chloroquine and SP are still commonly prescribed when ACTs are insufficient and also to test-negative patients. The lack of updated guidelines and the failure of cascaded trainings to reach all facilities have increased this confusion.

- *Management and partners' roles:* The NMCP is guided by the case management sub-committee, which has not been able to meet regularly. WHO and UNICEF have both been involved in trying to update guidelines and to distribute essential drugs and supplies to the health facilities. PSI and Plan International have introduced some training materials in the districts where they operate
- *Procurement and logistics:* ACTs are procured by Natpharm directly through WHO from Novartis. Drugs were initially supplied in late 2007 to the provinces and districts in accordance with the number of malaria cases reported through HMIS data (push system). Provinces and districts are expected to order drugs according to consumption (pull system). However, no data is available and so no further drugs have been sent out for the 2008/2009 malaria season. A consumption survey is to be conducted as soon as resources become available. The Coartem in stock will expire in July 2009.

- *Communications:* There has been no national launch of the new treatment policy and IEC materials are not yet available. The community has not been sensitised as to the benefits of ACTs and when to seek urgent care. No work has been done on how to improve compliance.
- *M&E.* Major M & E activities planned include surveys (MIS), audits, rapid assessment, support and supervisory visits to health institutions. ACT and RDT stocks will be assessed by the planned consumption survey and monitored by a routine reporting system yet to be established.

## **b. Gaps and requirements**

New malaria diagnosis and treatment programmes are being implemented since late 2007. However, implementation is compromised by lack of written policy guidance in many areas and critically severe resource constraints for training, roll-out and monitoring. With the slowdown in prevention activities, uncertain implementation of testing and diagnosis, and collapse of the health system at all levels including hospitals, malaria outbreaks in 2008/2009 and beyond are likely to have grave consequences. Critically, even available funding will be compromised if the NMCP is not able to provide information on the status of implementation of the phase 1 of Global Fund Round 5 grant.

### ***i. Key bottlenecks and challenges***

The major challenges include the following:

- Lack of consumption data means that drugs and diagnostics are not being sent to, or ordered by, the districts. A new order should have been placed in October but with no demand and no consumption data, this has not been done. This may result in serious shortages over the next malaria season.
- Lack of knowledge of the new policies and lack of guidelines for implementation
- Lack of senior staff to support and supervise more junior or less experienced staff
- Lack of drugs and equipment at all levels including quinine, ACTS and consumables.
- Lack of access to national and Global Fund resources in local currency to ensure completion of policy, training, communication and monitoring activities.

### ***ii. Proposed solutions to attain 2010 targets***

Emergency release of funds (national, GFATM or donor support) to

- implement an ACT/RDT consumption study and
- supply ACTs / RDTs to health centres and hospitals before the malaria season starts.

Technical assistance will assist the NMCP to

- Clarify testing and treatment policy (e.g. treatment of test-negative fever in the absence of any other diagnosis)
- Revise and disseminate case management guidelines, including for severe malaria
- Train health workers in the new protocols
- Develop and disseminate case management guidelines for community health workers

Systems need to be put in place for

- support and supervision
- recruitment and training of personnel
- stock management at all levels.
- referral and transport and outcomes of management of seriously ill patients

**Table 16.** Treatment funding needs to attain RBM 2010 targets (USD)

Number and cost of malaria treatments	Age group	Cost / Rx	2009	2010	2011	2012	2013	Total
Total cost for treatment* (\$)	<3	0.90	\$251,730	\$87,085	\$79,238	\$64,088	\$45,355	\$527,496
	3 to 8	1.00	\$279,700	\$96,761	\$88,043	\$71,209	\$50,395	\$586,107
	9 to 14	1.20	\$335,640	\$116,113	\$105,651	\$85,451	\$60,473	\$703,328
	15 +	1.80	\$1,846,018	\$638,621	\$581,082	\$469,979	\$332,604	\$3,868,304
	Total		\$2,713,088	\$938,580	\$854,014	\$690,726	\$488,827	\$5,685,235
Number of cases targeted for treatment	<3		279,700	96,761	88,043	71,209	50,395	586,107
	3 to 8		279,700	96,761	88,043	71,209	50,395	586,107
	9 to 14		279,700	96,761	88,043	71,209	50,395	586,107
	15 +		1,025,566	354,790	322,823	261,099	184,780	2,149,058
	Total		1,864,665	645,072	586,951	474,726	335,964	3,907,378
Available Resources**	All		\$15,015,913	\$1,523,415	\$1,566,556	\$321,433	\$327,093	\$18,754,410
<b>FUNDING GAP (excess)</b>	All		(\$12,302,825)	(\$584,835)	(\$712,542)	\$369,293	\$161,734	(\$13,069,175)

\* The age distribution for fever cases in Zimbabwe differs from that used in the calculation tool. As the distribution of malaria is not well known, the age distribution of fever is used as a proxy, with 55% of fever occurring in those aged 15 years and older. The remaining 45% of cases are roughly estimated to be evenly distributed across the three remaining age groups based on available information (see Figure 3). For 2009, the maximum estimated number of fever cases to be expected is 1.8 million, so the adjusted RDT estimate is used rather than the calculation tool fever estimate which is too high for Zimbabwe.

\*\*Resources for 2009 include GF Rd 5 and 8.

The Calculation Tool does not provide assistance with calculating costs for 2<sup>nd</sup> line treatment and needs for severe malaria. The reasons for this are two-fold i) estimation of needs for these areas as transmission decreases over time is very unreliable and ii) costs will be marginal compared to the costs for 1<sup>st</sup> line ACTs and for RDTs. Issues around 2<sup>nd</sup> line and severe malaria can be discussed in the narrative and a 5% cost compared to that estimated for the 1<sup>st</sup> line would be reasonable to quote as a need to cover 2<sup>nd</sup> line and severe malaria costs. If countries or consultants would like to include more detailed costings of treatment needs including those for 2<sup>nd</sup> line and severe malaria please include these as annex tables with full listing of assumptions.

## 6. Cross-cutting issues

### 6.1. Epidemic/Emergency Control

#### a. Situation analysis

##### *i. Policies, strategies and approaches*

The goal of the NMCP is that, by 2012/2013, 95% of epidemics will be detected and effectively managed within 2 weeks of onset. The Global Fund proposal states that by 2014, 45 districts will have the capacity and resources to rapidly detect and respond to malaria epidemics.

Zimbabwe had a functioning weekly rapid disease notification system that relied on information from 700 sentinel reporting sites. Data collected at these health facilities is relayed by telecommunication system to the district health authorities and on to the province. The province relays the collated information to the national Health Information Unit for analysis. Where the communication system is functional, the surveillance system has proved effective. The scale up to universal coverage proposed will likely reduce transmission, putting a larger proportion of the population at epidemic risk. Thus, the NMCP is planning a scale up in surveillance and epidemic preparedness.

A national epidemic management plan proposed by the NMCP will include epidemic threshold development, steps in epidemic alert, detailed action plans for epidemic response. Epidemic thresholds will be standardised across all provinces and then used to develop district and provincial epidemic alert and response plans. These plans will be developed through workshops at provincial level. Emergency stocks of insecticide and IRS equipment to spray 150,000 houses will be established, and 39,237 treatments of artemether-lumefantrine and other supplies procured. Large tents for set up of ad hoc treatment centres will be acquired. Perishable stocks such as insecticides and ACT treatments will be rotated with stocks used for routine activities.

Health workers will have training on the rapid surveillance system (IDSR) at all levels from provincial down to health facility level. Training will involve basic analysis, development of epidemic thresholds at health facility level, determining how to calculate an alert and steps to undertake in response to an epidemic alert.

##### *ii. Financing*

Previously the system was financed by the GOZ through the Ministry of Health. Round 8 of the GF will provide for the enhanced response planned.

##### *iii. Implementation*

Thresholds for outbreak response were previously developed for all levels. The weekly surveillance system using defined threshold is theoretically still in place but due to difficulties with communication equipment and staff turnover, completeness and timeliness have declined in 2007 to an estimated 30%. Meanwhile, due to simultaneous breakdown in prevention programmes, the epidemic risk is increasing.

- *Management and partners' roles:* Epidemic preparedness is the responsibility of several MOCHW units who work in collaboration. WHO and UNICEF provide technical and logistical support in epidemic emergencies. The GOZ is also working with Mozambique and South Africa to eliminate malaria in a cross-border collaboration.
- *Procurement and logistics:* The lack of in-country transport for commodities is likely to delay epidemic response.
- *Communications and M&E:* systems essential to effective outbreak response cannot be maintained.

## b. Gaps and requirements

### i. Key bottlenecks and challenges

The epidemic preparedness functions of the MOHCW and the NMCP suffer from the same financial and human resource-based challenges as other programme components.

### ii. Proposed solutions to attain 2010 targets

Technical assistance can support the NMCP to

- Develop emergency preparedness plans in provinces and districts
- Procure emergency stocks of ACTs, RDTs, IRS, nets and prepare emergency budgets
- Re-establish a functioning early warning system.
- Review malaria thresholds for changing epidemiology and the new case management policy
- urgently re-establish prevention programmes (IRS, ITN, equipment, supplies, transport, training) and Rapid Response Teams

**Table 17.** Epidemics and emergencies funding needs (USD)

Cost to deliver malaria emergency/epidemic response	2008	2009	2010	2011	2012	2013	Total
Cost to deliver a malaria response per affected person*							
Estimated number of affected persons							
Available resources for malaria epidemic/emergency response		346,200	274,004	476,393	302,455	1,280	1,400,332
Number of affected persons that can be covered given available resources							
<b>FUNDING GAP</b>		0	0	0	0	0	0

\*Unless accurate information (based on the country's experience) is available then \$12 per person can be used (\$5.00 – LLIN, \$2.50 – diagnosis and treatment, \$1.00 – IEC, \$1.50 delivery, \$2 training, supervision and monitoring). IRS cost per person covered can be from the IRS calculation tool, using cost/HH sprayed divided by av. No persons/HH.

\*\* As all malaria affected areas have seasonal transmission and low general population immunity, all non-malaria free areas of Zimbabwe are at risk of malaria outbreaks. Due to the overall low incidence, it would not however be appropriate to use a figure of \$12 per person for the entire region at risk, as just a handful of significant outbreaks occur yearly. For the purpose of this table, the figures used in the global fund proposal re employed, until such time as a detailed contingency plan is developed.

## 6.2. Advocacy/BCC/IEC

### a. Situation analysis

#### *i. Policies, strategies and approaches*

Several communications objectives are presented in different documents. In addition to objectives for other programme areas, these include 1. At least 95% of people know the causes, symptoms, preventive measures and correct treatment seeking behaviours (draft strategy) and 2. At least 80% of households in malaria prone areas have knowledge of the cause of malaria and the need for IRS (GFATM Rd 8).

The national malaria BCC strategy uses the ACADA (assessment, communication, analysis, design and action) planning model to maximize stakeholder participation in development and implementation of communications. Malaria knowledge is high in the population with 89% (MIS, 2008) able to identify the causes and symptoms of malaria. However, low ITN usage demonstrates the need for significant BCC to turn this knowledge into practice. In addition, a 2004 study found that people do not always seek treatment due to religious or traditional beliefs, that people do not invest in preventive measures because of financial constraints, that IEC interventions are not evidence based and the community not adequately involved. In 2005, a national communications plan for malaria 2006-2010 was developed. The operational framework includes advocacy, social mobilization and programme communication through community participation. A national health promotion policy is also to be developed.

In October 2008, a national health promotion officer was employed with GF Round 5 funding. There are posts for Health Promotion Officers in provinces and districts. The only well funded activities surround SADC Malaria Day, celebrated in all districts. World Malaria Day is also celebrated to a lesser extent.

Malaria specific health education materials are limited and often not tested as to efficacy. Radio messages have been tried but the penetration is low as the population do not have access to radios or batteries and there is no reception in remote areas. Materials related to women of child bearing age are planned for community level including pictures and in local languages. There are no specific materials related to re-treatment programmes for nets.

At the community level, village health committees organise activities with the cooperation of district health promotion officers where they are in place: activities include focal groups and participatory learning activities.

#### *ii. Financing*

Health promotion officers are funded from GFR 5. Health promotion and BCC are included in the GFR8 grant and the development of the health promotion policy is financed by WHO.

#### *iii. Implementation status*

NMCP now has a health promotion officer in post after a one year vacancy and only 3 of the 8 of the provincial posts are filled. Health promotion activities are not a priority, as salaries are low and the activity has poor recognition and status. There are no government resources currently accessible to implement activities.

- *Management and partners' roles.* Health promotion activities are carried out by the IEC and advocacy unit of the NMCP, under the guidance of the IEC and advocacy malaria sub-committee. District Health Executive Committees monthly meetings, which include coordination of efforts on BCC, are only taking place sporadically. Partners include Plan International, World Vision, SCF UK, ICRS and others. The spraying teams are also involved at community level in informing and educating the population about their activities. Coordination of community groups such as evangelical Christians and gender-based groups is lacking.
- *Procurement and logistics.* Local currency for procurement and printing has been unavailable or devalued rapidly.

- *Communications.* In early, 2008, the MIS found that 68% of respondents receive health information from CHWs and health workers (MIS, 2008). Communities are active and creative in their approach to community education.
- *M & E* activities such as rapid assessments and quizzes to assess knowledge take place on an ad hoc basis.

## b. Gaps and requirements

### i. Key bottlenecks and challenges

Health promotion programmes are hampered by lack of staff, lack of access to financial resources including GFR5 in local currency, and a low priority status. Health promotion needs involve staff and communities at all levels beyond high visibility activities such as SADC Malaria Day.

### ii. Proposed solutions to attain 2010 targets

Technical assistance can assist the MOHCW and NMCP to

- Complete analysis of the 2008 MIS/ KAP.
- Finalise the development of the National Health Promotion Policy to include malaria
- To develop and pre-test materials for the community to focus on bednet use and treatment-seeking behaviour and adherence
- To develop materials for training health personnel in the management of malaria using RDTs and ACTs and malaria in pregnancy
- Devise strategies to support village health committees in social mobilisation

Management assistance should help to

- Draft a realisable plan, given staff constraints, and a realistic budget
- Ensure disbursement of Global Fund resources available for IEC
- Ensure health promotion is accounted for in the salary augmentation plan proposed.

**Table 18.** Advocacy, IEC / BCC funding needs (costs in USD)

	2008	2009	2010	2011	2012	2013	Total
Costs for planned advocacy activities							
Costs for planned BCC/IEC activities							
<b>Total estimated costs</b>							
Available resources for advocacy							
Available resources for BCC/IEC							
<b>Total available resources*</b>		909,946	1,257,290	690,968	1,390,390	565,301	4,813,895
FUNDING GAP – advocacy							
FUNDING GAP – BCC/IEC							
<b>TOTAL FUNDING GAP</b>		0	0	0	0	0	0

*\* There is no detailed calculation tool for Advocacy, IEC / BCC. Table 27 in the Annex may help to guide a calculation of a summary cost by providing a guide of possible funding areas to be considered, using national costing data as estimates by activity.*

*\*\*GF Rd 8 budget for IEC/BCC serves as estimate of needs until detailed plan and budget developed.*

DRAFT



### 6.3. Surveillance, Monitoring and Evaluation & Operational research

#### a. Situation analysis

##### *i. Policies, strategies and approaches*

The draft malaria strategy aims to strengthen malaria surveillance, monitoring, evaluation and operational research. Malaria disease surveillance is part of the overall Health Management Information System (HMIS) and includes weekly surveillance for epidemic detection, monthly (T5) surveillance of outpatient cases and quarterly (T9) surveillance of inpatient cases and deaths. Rural health services require radios for communication. Districts and provinces use telephone and e-mail services to transmit data to the national level. Monthly drug stock data is also to be collected. Yearly audits are carried out that assess the quality of care and training, assess adherence to protocols and basic functionality of the health system. Higher level outcome and impact targets reflecting indicators such as morbidity, mortality, ITN usage and IRS coverage will be captured in the MIS, to be carried out every 3 years.

Operational research capacity will be improved with the establishment of vector sentinel sites to monitor mosquito populations and insecticide resistance. It is planned to increase the number of sentinel sites to monitor drug efficacy to twelve.

The GFR8 grant will help to reinforce and maintain HMIS reporting systems and bring timeliness and completeness back up to previous levels (above 90%). Existing PDAs funded under GFR5 and employed to streamline data management and facilitate stratification and planning for malaria control will be updated to record data from IRS campaigns and allow tracking of IRS and LLIN coverage. Another 20 PDAs will be procured under round 8 funding

##### *ii. Financing*

Support to communications was provided by DANIDA until 2004. The GFR8 grant proposes to support a post of national level malaria data manager to produce the analysis and reports needed to monitor and evaluate the programme, supported by dedicated provincial level malaria coordinators. Refurbishment and maintenance of radio sets at key health facilities will be covered under the GFR8 HSS component. Communications equipment in malaria epidemic zones will be provided for under the GFR8 malaria grant. The Health Metrics Network (HMN) implementation plan is also complete but the funding status at the time of this needs assessment was uncertain.

##### *iii. Implementation status*

A self assessment carried out by the NMCP using the M&E systems strengthening tool found the following: Strengths:

- National targets were linked to program objectives. Goals and objectives were time bound and measurable through existing systems.
- Reporting systems and channels are generally well defined and avoid parallel reporting.
- Operational definitions are clear for most interventions (IRS, ITNs).
- Trainers are available to train on M&E, although funds are lacking.
- The MoHCW carried out its first Malaria Indicator Survey (MIS) in early 2008. Repeat surveys are planned for 2011 and 2014.

Weaknesses:

- The national malaria database is not operational. Data received is not being analyzed, due to a user-unfriendly management system and lack of staff capacity to collate the data. As such, health information is not systematically used to inform and guide programming.
- Despite a strong country malaria partnership, information sharing among partners is weak and sporadic, in spite of suitable fora to share data and experiences.
- Evaluation of activities is poor, especially in respect to the evaluation of training quality and effectiveness and IEC/BCC activities.
- Record management is poor, with insufficient attention paid to backing up data and little guidance given on how to complete reporting forms.

- The system suffers from high staff attrition due to poor remuneration and the socio-economic situation in the country, leading to poor data reporting. There is no strategy for addressing the missing data in malaria reports.
- Weekly reports from epidemic prone areas are hindered by the poor state of repair of communications and radio equipment. Weekly reports are now sporadic and data sets incomplete.
- Operational research is hindered by staff turnover, lack of resources and outdated equipment.

The situation has continued to worsen, with lack of paper, and functional radio, telephone and faxes resulting in decline of completeness and timeliness of routine monthly reports to an unprecedented low of 30%. Programme planning relies on the 2006 National Health Profile, as the 2007 report has not been drafted. Lack of ACT / RDT consumption data may jeopardize access to appropriate treatment. Supervisory visits previously made based on monthly T5 reports are no longer taking place. Data collection systems for community management of fever are not yet in place.

To address these weaknesses, the MOHCW, with technical support from WHO and Zimbabwe Defense Forces, assessed radio communications equipment and its functionality in all provinces. Plan International is repairing and installing radio communications systems in 8 districts. The procurement, replacement and repair of communications equipment is otherwise contingent upon availability of funding.

## **b. Gaps and requirements**

### ***i. Key bottlenecks and challenges***

Challenges posed by the socioeconomic environment, the near complete breakdown of previously functional information systems, the difficulty completing even those studies carried out, and the large scale-up planned in all activities for universal access mean significant investment is needed to ensure adequate M&E for the malaria programme.

### ***ii. Proposed solutions to attain 2010 targets***

Technical assistance can help the NMCP to

- Develop and finalise the malaria M & E plan and budget, covering each programme area.
- Complete the MIS 2008 data analysis and report.
- Reestablish routine monthly and epidemic alert reporting systems.
- Finalise the malaria database set-up and establish mechanisms to ensure it is functional.
- Plan and prioritise areas for upgrading of communications equipment.
- Pilot test the new electronic vector control system, incorporating IRS implementation data.
- Review the proposals for sentinel site surveillance.
- Propose a modest but useful operational research plan.

Management assistance will be required to ensure coordination and collaboration amongst all the partners involved in supporting health information systems.

**Table 19.** Surveillance, monitoring, evaluation and operational research funding needs (USD)

Monitoring and evaluation needs	2008	2009	2010	2011	2012	2013	Total
Routine surveillance							
Routine Logistics Monitoring							
Supervision for above and data utilization							
Meetings for decision making							
Drug efficacy monitoring <sup>1</sup>							
Insecticide resistance monitoring <sup>2</sup>							
MIS survey <sup>3</sup>							
Other planned surveys							
Pharmacovigilance <sup>4</sup>							
LLIN tracking surveys <sup>5</sup>							
IRS quality assurance <sup>6</sup>							
Strengthening capacity to enforce regulations							
Equipment (computers, GPS, PDAs etc)							
Operational research							
Other costs							
Total estimated costs							
Available resources (USD, GF8 only)		214,960	91,952	17,088	52,488	17,088	393,576
<b>FUNDING GAP</b>							

\* Notes below the completed table should be included to indicate source of cost estimates (e.g. national budgets, generic estimates given below etc)

<sup>1</sup>Drug efficacy monitoring should be budgeted at between \$30,000-\$40,000 per site, per year

<sup>2</sup>Insecticide resistance monitoring should be budgeted at approximately \$10,000 per site, per year

<sup>3</sup>Malaria indicator survey: budget at \$400,000-\$1,000,000, according to size of country and sample size.

<sup>4</sup>Pharmacovigilance: between \$150,000 and \$250,000 for start up, recurrent costs of around 50,000 per year.

<sup>5</sup>LLIN tracking surveys should cost between \$5,000 & \$8,000 depending on sample size and study area

<sup>6</sup>IRS quality assurance, spray operator performance, bioassays, knockdowns, window traps etc should be costed at 25,000 – 100,000 per year depending on the number of sites and number of approaches used.

The M & E budget will depend on the development of a detailed M & E plan. The funding gap can only be ascertained when the planned contributions of other partners (e.g. HMN) are known.

## 7. Program Management and Health Systems

### 7.1. Program Management

#### a. Situation analysis

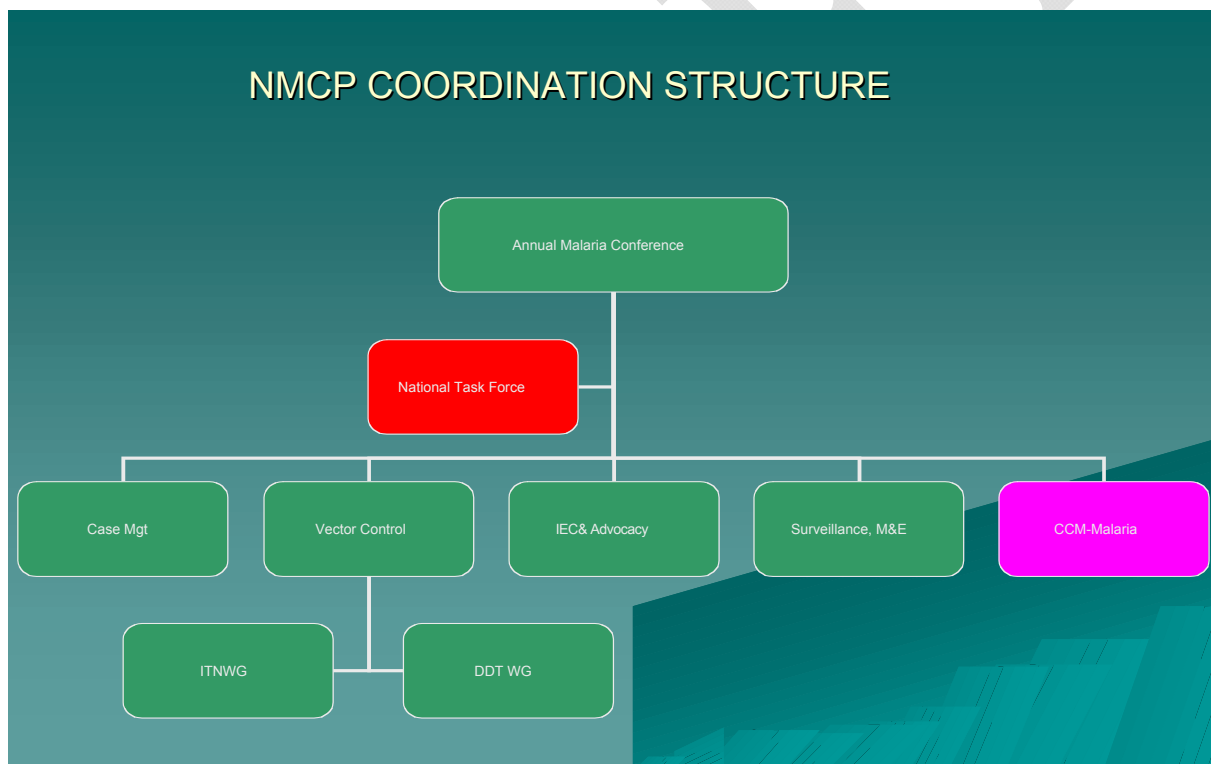
##### i. The NMCP's mandated role

The NMCP is responsible for implementation of a national malaria control strategy in Zimbabwe and coordination of partners.

##### ii. NMCP decision-making authority and management

The NMCP is led by the Malaria Programme Manager, responsible for the day-to-day co-ordination of the malaria control programme. The Programme Manager is supported by technical officers responsible for vector control, epidemiology, monitoring and evaluation, Information, Education and Communication (IEC), field activities and finance and administration. Each technical unit reports to a sub-committee of the national malaria conference, and coordinates with the Malaria sub-committee of the Global Fund Country Coordinating Mechanism (CCM) (Figure 6).

**Figure 6.** Malaria programme coordination, Zimbabwe, 2006



The NMCP coordinates with the Provincial Medical Director (PMD), who supervises a Provincial epidemiology and disease prevention officer and Environmental Health Officer (PEHO). At the district level, the District Environmental Health Officer (DEHO) is responsible for ward level environmental health technicians, and coordinates with Ward Health Teams (WHTs) and Community Health Workers (CHWs).

##### iii. NMCP enabling environment

The National Malaria Control Programme retains a strong core cadre of staff, works within well established systems and procedures, has active national partnership and is supported by an established research

institute. However, working conditions in 2008 are challenging, as staff do not earn enough to pay their transportation to work, GF-supported staff have not received their salaries for several months, and the MOHCW infrastructure is suffering from lack of maintenance, with internet and light bulbs unavailable.

#### **iv. Planning, monitoring and evaluation within NMCP**

Planning is the responsibility of the Programme Manager, who is frequently absent attending to other duties, and monitoring and evaluation is the responsibility of the M&E officer who requires additional support.

#### **v. Internal linkages and coordination within Ministry of Health**

The NMCP falls under the Department for Disease Prevention and Control in the MoHCW and is led by the National Epidemiology and Disease Control Co-ordinator, who is also the Malaria Programme Manager. Although this dual function means the programme manager is well aware of policy and planning at a higher level, it also means her time for the programme is limited.

#### **vi. Co-ordination and main roles of RBM partners at national and sub-national levels**

All major partners at national level participate in the national malaria conference, the CCM and malaria sub-committees described above (Figure 6). The NMCP has been extensively supported by WHO and UNICEF to develop the GFR8 proposal, have support from UNICEF in MIP, work daily with Plan International and PSI, and have some contacts with the University of Zimbabwe. Nonetheless, aside from the core UN and civil society partners in-country, the NMCP seems to have few outside contacts, such as research institutions.

The two main partners in malaria, PSI/Zimbabwe and Plan Zimbabwe, are also GFATM sub-recipients. Both sub-recipients work closely with NMCP and with district-, ward- and community-level structures. PSI/Zimbabwe (PSI/Z) is a non-governmental organization and sub-recipient for ITNs (in 22 of 30 target districts) and BCC. PSI will assist the NMCP to facilitate training at national, district and ward level and develop materials to promote IRS, ITNs, IPTp, ACTs and healthy treatment-seeking behaviours. Plan Zimbabwe is a non-governmental organization and sub-recipient for IRS and ITNs. Plan's role will be to support planning and implementation, and provide oversight and technical assistance at community and district level with focus on 8 districts in which it works.

### **b. Gaps and requirements to allow NMCP to perform its role**

#### **i. Key bottlenecks and challenges**

Effective programme management is hampered by the dual role played by the programme manager. This, along with a number of other management and accounting short-comings were identified by the Global Fund Audit in October 2008.

#### **ii. Proposed solutions**

The following strategic directions are proposed

- As the GFATM audit and a separate needs assessment for accelerating GFATM grant implementation<sup>15</sup> were carried out at the same time as this malaria needs assessment, the reader is referred to the reports of those assessments for an extensive list of recommendations to strengthen programme management and financial systems. These include clarifying the role of the programme manager.
- Since for the foreseeable future, the vast majority of resources for malaria in Zimbabwe will flow through the Global Fund, it will be essential for the NMCP and partners to invest in understanding GFATM procedures, requirements and address the weaknesses identified through their audit mechanisms.

<sup>15</sup> GFATM Zimbabwe audit report, November 2008 and Scaling up technical support to accelerate GFATM grant implementation. TSF Southern Africa. 31 October 2008.

**Table 20.** RBM partners, roles and coverage/implementation capacity and support needs

Partner	Role	Coverage/implementation capacity	Support needs
UNICEF	Support to the NMCP	Technical assistance; Bednet procurement and distribution; Supplies transport in limited capacity; Supplies essential drugs in emergencies; Supports MIP programmes; Development of GFR 8 proposal;	
WHO	Technical support to the NMCP	Technical assistance; Development of the GFR5 and 8 proposals; Assistance with development of strategic plan for 2008-2013; Support for prevention policy for MIP;	
EU	Support to MOHCW	Procurement of essential drugs; Procurement, storage and logistics training to Natpharm	
PSI	SR for Global Fund R5 and R8	ITN distribution and promotion	
PIZ	SR for Global Fund R5 and R8	8 districts: health education, ITN distribution; support to local communities in bednet creation and distribution	
SCFUK World Vision Apostolic communities	Support to communities	Health education, bednet distribution training in health facilities	
UNITAID	Funding	ITN funding for distribution through UNICEF and PSI	

## 7.2. Supply management

### a. Situation analysis

#### i. Ministry of Health supply management systems

The MOCHW procurement systems rely primarily on the National Pharmaceutical Company (NatPharm), which operates in a consortium with Crown Agents. The NMCP does not, however, have a procurement and supply management (PSM) plan or PSM officer. The consortium has an agreement with the GFATM which covers procurement of goods and services. NatPharm charges 6% as a service for all consignments it handles. To date, the procurement of commodities including ACTs, RDTs and essential drugs has been its primary role. Drugs funded by GFATM employ the WHO procurement facility set up through WHO/HQ for that purpose. It is modelled on the UNICEF supply division mechanism for other supplies such as vaccines procured through UNICEF. For most commodities, NatPharm operates a "pull" distribution system, whereby

districts order medications and supplies according to consumption and their needs. This has not yet been put in place for RDTs and ACTs.

Not all commodities are procured outside the country. Zimbabwe produces insecticide under commission for Syngenta, a major private sector partner in this activity, and protective and protective clothing are procured locally or in the sub-region. Recently, it has been difficult to procure equipment for spraying and protective clothing for the IRS programme due to lack of local currency. There are also local private commercial sector and community initiatives for bednet production facing the same challenges.

National regulatory authorities such as the Medicines Control Authority of Zimbabwe (MCAZ) and the Zimbabwe Quality Assurance Programme (ZINQAP) have in the past been strong in monitoring quality of products from both the public and private sectors.

Under new funding arrangements, the GFATM hopes to use the existing NatPharm consortium and mechanisms to finance services such as local procurement, training and other activities which require resources in local currency.

UNICEF has also provided extensive support in the procurement of insecticide-treated nets through its own procurement systems, often with donor funding. Where needed, UNICEF has also been willing to assist in distribution to lower levels. This channel is increasingly being used in the current emergency context for both commodities and cash-based activities.

The European Union (EU) health sector support programme also works to enhance the public sector through the supply of drugs to provincial and district hospitals, capacity building for NatPharm, and National Blood Transfusion Services (NBTS). The capacity building encompasses financial management, support and supervision, contract management, logistics and stock management.

## ***ii. Civil society and private sector supply management systems***

### **b. Gaps and requirements to allow NMCP to perform its role**

#### ***i. Key bottlenecks and challenges***

Due to the fact that many commodities, such as LLINs and ACTs, are procured outside the country, the service fee has been paid regularly, and NatPharm funds were not requisitioned by the Reserve Bank of Zimbabwe, NatPharm has been relatively spared from the disruptions in the rest of the health system. However, as the Government of Zimbabwe is its major client, and payments are not made on time, cash flow is becoming a problem. In addition, as NatPharm personnel are paid in Zimbabwe dollars, at the time of the needs assessment, staff absenteeism and difficulties in ensuring distribution of commodities were becoming apparent. Management systems are handicapped by lack of information from the districts and orders at international level are being placed late.

#### ***ii. Proposed solutions***

Partners should support the GFATM in its efforts to support and extend the mandate of NatPharm and Crown Agents. However, safeguards must be put in place to protect the valuable commodities and support their appropriate utilisation.

Technical assistance can help NMCP to

- Devise strategies to link drug and bednet distribution with the training and IEC necessary for their appropriate use.

Management assistance can help NMCP to

- Ensure management systems robust enough to safeguard GFATM resources in accordance with international management and accounting practices. Support national regulatory authorities in monitoring product quality for public and private sector use.

### 7.3. Health Systems Strengthening

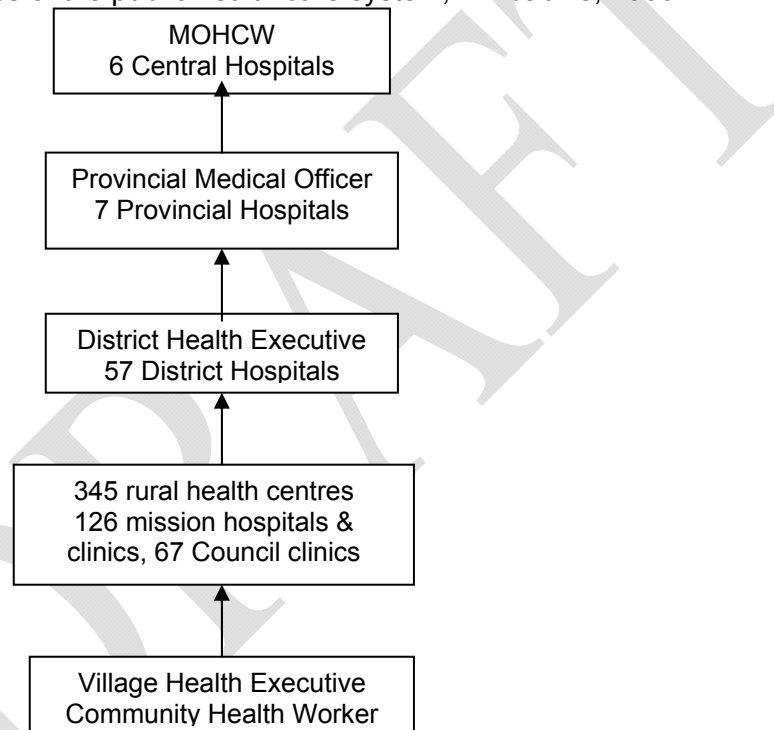
#### a. Situation analysis

##### i. The public sector health system

Historically, Zimbabwe had a strong health system including a primary health care infrastructure with a five-level referral system (Figure 7). Primary health care is the basic strategy for health services delivery with the government providing a comprehensive package of promotive, preventive, curative and rehabilitative services. National training institutions continue to produce high quality health personnel.<sup>16</sup> Medical schools have recently closed due to lack of staff to train

Nonetheless, there are weaknesses to be addressed for the NMCP to carry out its role. In addition to telecommunications issues previously mentioned, inadequate transport affects health care delivery, including IRS, support and supervision and referral of patients with severe disease. Vehicles purchased under GFATM R1 are still operational but do not meet the need. NGO partners and UNICEF also provide logistical support. Scale-up of malaria interventions will necessitate increased transport capacity.

**Figure 7.** Health facilities of the public health care system, Zimbabwe, 2006



##### ii. The for-profit and not-for-profit health systems

Private expenditure on health as percentage of total expenditure on health, including out-of-pocket expenditure, is thought to be 53.9% (World Health Report, 2006) and rising. The private sector contribution to health care in Zimbabwe consists of several sub-sectors:

- In large-scale commercial mining and agricultural areas, companies provide health care for employees and their families. These systems generally participate in the public health system, and are provided some drugs and commodities in exchange for completed monthly HMIS reports.
- Faith-based organizations also form part of the public system, and serve as public health clinics and even district hospitals, participating in national policy and health service delivery.
- Increasingly, since the ban on NGOs was lifted, international aid agencies such as Médecins Sans Frontières are present in Zimbabwe to support the health system and provide emergency relief.
- Private health insurance and/or private health care serve a small proportion of the population.

<sup>16</sup> During a senior physicians' strike at the time of the needs assessment, the only medical personnel on duty in national referral hospitals were student doctors and nurses.



- Traditional medicine has historically not played a large role in the Zimbabwe health sector.

### **iii. The reach of the health system**

Access to public health services has been very high in the past. More than 70% of the population live within 8km of a health centre (GF R8 proposal) and attendance at the first visit for antenatal care is 94% (DHS 05/06). Nonetheless, there are remote communities that are hard-to-reach, more so in the malaria-affected areas. In the past, community health workers have distributed chloroquine, and this system can serve to implement community diagnosis and treatment with RDTs/ACTs.

### **iv. Human resources: NMCP and national issues**

In May 2008, the Government commissioned a Human Resources for Health survey.<sup>17</sup> The results are striking and illustrate the very high post vacancy rates from national to ward levels across the country. Vacancy rates described were as follows: MOHCW 35%, MOHCW Senior Management 68%, government medical staff 63%, government nurses 38%, pharmacists 42%, laboratory personnel 47%, and environmental health officers 52%. Surprisingly, vacancies in mission hospitals and clinics are also 47% and in rural district councils 42%. At the time of writing this report, national referral hospitals had closed for lack of staff, salaries, drugs and supplies. Nationally, health worker ratios are dramatically below international norms at 1 physician per 15,000 population and 1 nurse per 1500 (Table 22).

In addition to post vacancy, staff turn over is now well-known to be extremely high, which affects malaria control implementation. These issues stem from the current inflationary pressures which have negatively affected public sector wages and conditions. Some senior posts cannot be recruited as packages offered are not competitive with the private sector or those offered in neighbouring countries. Graduation of staff from training institutions is not meeting demand, and vacant posts are filled with inexperienced staff.

### **v. Human resources: sub national and service delivery levels**

The current lack of capacity at the provincial level results in a breakdown in coordination. The hiring of provincial malaria coordinators is seen as a key strategy to address these challenges. Staff at District Health Offices (DHOs) must coordinate and supervise implementation by local partners, ward health teams and CHWs in addition to collating and relaying programmatic data. However, the experience and capacity of staff vary greatly. Training and orientation of staff at district level is critical.

The areas most affected by malaria are generally rural and remote, making access to the formal health system more difficult. To achieve Zimbabwe's goal of universal coverage, the NMCP recognizes that community participation in malaria control is of paramount importance. CHWs can act as a vital conduit for health information and BCC activities, and extend malaria treatment and referral to the community level.

### **vi. Human resources: initiatives to improve human resource situation**

With a view to improving staff training and retention, a short-term Human Resources for Health strategy was drafted in May 2008.<sup>18</sup> This strategy proposes retention packages and salary top-ups. A salary augmentation plan is planned within the health systems strengthening component of the GF R8 grant.

MOHCW has proposed that malaria vector control posts be established at both provincial and district levels. The Global Fund, through rounds 1 and 5, and the European Union are supporting members of the Provincial and District Health Executives (laboratory scientists, pharmacists, physicians, nurses) with top-up allowances and other incentives and schemes to supplement their salaries as a way of skills retention.

The GF Round 8 grant will support training for district, ward and community staff and reinforce supportive supervision. In a form of task-shifting, community health workers will be equipped, for the first time, with ACTs and RDTs to provide treatment for children <5 at community level and provide first line referral to the public health system. CHWs will act as the primary contact for communities to identify and fill any ITN gaps following mass distribution campaigns.

<sup>17</sup> Zimbabwe Human Resources for Health Situation Analysis Report (Draft 4). MOHCW. May 2008

<sup>18</sup> Proposal for a Short term HRH Stabilization Policy. DFID and MOHCW. 30 May 2008

## b. Gaps and requirements to strengthen the health system

### i. Key bottlenecks and challenges

Aside from human resources, programme weaknesses include the management and financial accounting irregularities identified in the GFATM audit (October 2008). Other weaknesses previously described pertain to logistics, transport, communications and infrastructure. Logistical constraints for IRS chemicals, ITNs, spraying and camping equipment are more acutely felt at district and operational levels. Laboratory diagnosis through microscopy and RDTs needs urgent strengthening through equipment, training and reestablishment of quality control mechanisms. The reporting of health data is incomplete due to lack of communication and data processing facilities.

Developments over the past years are impeding primary health care delivery. These are mainly rooted in the political stalemate and resulting economic challenges the country is facing. High inflation and a weak currency have led to difficulties in procuring insecticides and other materials and equipment for use in vector control activities. Staff attrition, especially in the area of diagnostics (laboratory scientists, nurses and doctors) in most of the peripheral health facilities, has negatively affected health service delivery. Health institutions have continued to lose experienced personnel leaving them with an inexperienced, yet educated staff. The supply of drugs for both first line and severe malaria has also been affected by the financial constraints faced.

### ii. Proposed solutions

Turnaround of the health sector crisis in Zimbabwe will require a long-lasting political solution. Interim stop-gap measures can include the following:

1. Strengthening the MOHCW and wider health partnership for Zimbabwe to ensure
  - much stronger coordination to identify critical gaps that have a sector-wide impact
  - provision of drugs, supplies, transport and equipment
  - implementation of the salary augmentation plan and retention package
2. Management support to the MOHCW to
  - address the weaknesses identified in the GFATM audit
  - implement the short-term human resource strategy
  - redefine reporting and coordination mechanisms in view of the critical gaps

**Table 21.** Actual staffing, staffing norms and requirements

Region / Province / State	Doctors	Clinical officers	Registered Nurses	Nursing assistants	Env. Health Techs	Pharmacists	Lab Techs	Comm'ty Health Workers
<b>Sub national 1</b>								
Actual								
Norm								
Gap								
<b>Sub national 2</b>								
Actual								
Norm								
Gap								
<b>ACTUAL* (population per health worker)</b>	772 (15,472)		7,636 (1,564)		942 (12,680)	129 (92,595)		
<b>Vacancy rate (%)</b>	63		38		52	42	47	
<b>TOTAL GAP</b>								

\* Source Zimbabwe Human Resources for Health Situation Analysis Report: 2008 (Draft 4). May 2008

\*\* It may be relevant to insert a column for population if norms are set as ratios. Giving norms and gap at total level rather than sub-divided national is sufficient if data are not available.

**Table 22.** Public Health facilities and infrastructure

Level/Type	Hospital			Health Facility – level one			Health Facility – level two			Health Facility – level three			Outreach services		
	Central			Province			District			Rural hospital			Rural health centre and Rural district councils		
	Public	Civil society	Private for profit	Public	Civil society	Private for profit	Public	Civil society	Private for profit	Public	Civil society	Private for profit	Public	Civil society	Private for profit
Actual	6			7			40	11		110	85		371*	564**	30
Norm															
Gap															

\*rural health centres; \*\*rural district councils; outreach service data not available.

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## Annexes

## Annex 1. List of documents consulted

Policy and technical

*Essential Drug List Zimbabwe*. MOHCW/NatPharm. 2006  
*Insecticide-Treated Net Policy for Zimbabwe*, MOHCW, 2003  
*National Health Strategy for Zimbabwe – Working for Quality and Equity in Health, 1997-2007*. MOHCW. 1997.  
*National Health Strategy for Zimbabwe 2008-2013: Working consultative document*. MOHCW. 2008  
*National Malaria Control Programme Strategy for Zimbabwe 2008-2013 (draft)*. MOHCW. October 2008  
*Proposal for a Short term HRH Stabilization Policy*. DFID and MOHCW. 30 May 2008  
*Roll Back Malaria Global Report*. World Health Organization. 2008  
*Roll Back Malaria Strategy for Zimbabwe 2001-2007*. MOHCW, 2001  
*Summary of Drug Sensitivity Studies 1999-2003*, MOHCW, 2004  
*Zimbabwe Malaria Sentinel Site Surveillance protocol*, NIHR/WHO. 2008  
*Zimbabwe National Health Profile 2006*, MOHCW/CSO, 2006

Surveys and studies

*Zimbabwe Demographic and Health Survey 2005/06*. GOZ/ORC Macro.  
*Malaria Indicator Survey (draft report)*, MOHCW/WHO. 2008  
*Zimbabwe Human Resources for Health Situation Analysis Report: 2008 (Draft 4)*. May 2008  
*Zimbabwe National Health Information and Surveillance System. An Assessment and Recommendation Report*. MOHCW and UNICEF. May 2005  
*Zimbabwe National Nutrition Surveillance Assessment*. MOHCW/UNICEF. October 2007  
*Zimbabwe Roll Back Malaria Consultative Mission (Reaping): Essential actions to support the attainment of the Abuja Targets*. RBM Secretariat/Malaria Consortium. May 2004  
*Migration from Zimbabwe. Numbers, needs and policy options*. Centre for Development and Enterprise (South Africa). April 2008.

GFATM documents

*Global Fund to fight AIDS, TB and Malaria. Round 1 Malaria proposal*. 2003  
*Global Fund to fight AIDS, TB and Malaria. Round 5 Malaria proposal*. 2005  
*Global Fund to fight AIDS, TB and Malaria. Round 5 Malaria progress report and report card*. August 2008  
*Global Fund to fight AIDS, TB and Malaria. Round 8 Malaria proposal*. June 2008  
*Global Fund to fight AIDS, TB and Malaria. Round 8 Health systems strengthening proposal*. June 2008  
*Global Fund to fight AIDS, TB and Malaria. Round 8 Malaria and HSS proposal. Comments of the Technical Review Panel*. October 2008  
*Program Grant Agreement between GFATM and MOHCW*, MOHCW/GFATM/CCM, 29 January 2003

## Annex 2. List of persons interviewed

Organisation	Person interviewed	Title
<b>Ministry of Health and Child Welfare</b>		
MOHCW	Dr Mhlanga	Principal Director Disease prevention and control
	Dr Dhlakama*	Principal Director Monitoring and evaluation
	Mrs. Margaret Nyandoro	Programme Manager Reproductive Health
<b>National Malaria Control Programme</b>		
NMCP	Dr Portia Manangazira	Programme Manager
	Dr Joseph Mberikunashe	Epidemiologist
	Mr Martin Netsa	Vector control officer
	Mr Andrew Tangwena	M&E officer
	Mr Joshua Katiyo	Director, HMIS
	Mr Wonder Sithole	Data manager, HMIS
	Mrs Fortunate Manjoro	Health promotion officer
	Ms Emily Chitate	Head of Finance
	Mr. Alec	Chief Field Officer
	Ms. Shamiso Mapuranga	Programme Secretary
<b>National Public Sector Partners</b>		
NatPharm	Dr Asbo Usher	Manager
National Institutes of Health Research	Dr. Susan Mutambu	Deputy Director
National Medical Reference Laboratory	Mr. James Mudori	Director, HIV/AIDS
Zimbabwe Defense Forces	Mr. Andrew Tarupeo	Malaria focal person
	Fl. Lt. Ms. Tamir*	Flight Lieutenant
<b>National Health Implementation Level</b>		
UMP District Hospital, Mashonaland East Province		Medical Superintendent District Medical Officer
Health Unit, Ntawa-ntawa UMP District		Health centre nurse
<b>In-country partners</b>		
UNICEF	Mr. Roeland Monasch	Deputy Representative (Rep ai.)
	Dr. Colleta Kibassa	Chief, Child Health and Nutrition
	Ms. Diane Stevens	Head, Nutrition section, Officer-in-charge, Child Health
	Caroline Chiedza Sazunza	Programme Assistants
World Health Organization	Dr. Mandlhate	WHO Representative
	Mr. Jasper Pasipamire	National Professional Officers, Malaria
	Dr. Lincoln Charimari	
Plan International Population Services International (PSI)	Ms. Ichinga Muyamba	
Syngenta (private sector company)	Ms. Martha Mpisarenga	Director
<b>Global to fight AIDS, Tuberculosis and Malaria</b>		
GFATM Secretariat	Mr. John Parsons	Inspector General, Geneva
	Ms. Tracey Burton	Portfolio Manager, Geneva
	Ms. Anne Rwego	Inspector, Geneva
	Dr. Andrew Balyeku	Audit team member
Price Waterhouse Coopers	Mr. Daniel Muchemwa*	Local fund agent

\* participated in meetings attended by the needs assessment team

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### Annex 3. Summary presentation for the end-of-mission verification meeting with NMCP

- Attached separately

### Annex 4. Adjustments for use of RBM NA calculation tool

#### *Population data and demographics*

- National census 2002 data used (projection 2007) for data entry instead of the preset population estimate provided. However, to preserve internal consistency of the needs assessment, projections 2008-2013 are from the output sheet of calculation tool using the 2007 projection entered (rather than Zimbabwe's own projections based on the 2002 census).

#### *Malaria stratification*

- Malaria incidence reduced by 75% compared to international low incidence criteria.

#### *Results*

- RDT needs manually adjusted to match number of fever cases reported annually in Zimbabwe by using 23% RDT use as a target in calculation tool instead of 98%.
- ACT needs adjusted for 2009 only by using the maximum number of fever cases expected (as obtained through the above method for RDTs) rather than the output of the calculation tool, based on a fever incidence which is too high for Zimbabwe.



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