



Assessment Report on the Status of HIV and AIDS, Tuberculosis and Malaria Surveillance Systems in the SADC Region

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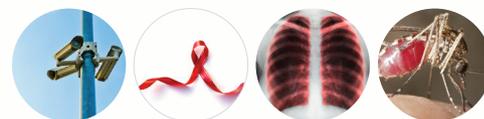
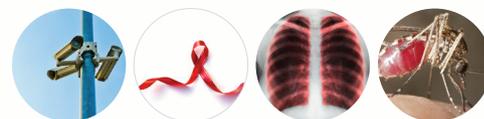


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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral
CDC	Centers for Diseases Control and Prevention (USA)
DHS	Demographic Health Surveys
DOTS	Directly observed treatment, short-course
HIV	Human immunodeficiency virus
MARPs	Most-at-risk populations
MEWS	Metrological Monitoring Early Warning Systems
MICS	Malaria Indicator Community Surveys
MDG	Millennium Development Goal
MDR-TB	Multidrug-resistant TB
MIS	Malaria Information System
MOH	Ministry of Health
NAC	National AIDS council
NACA	National AIDS coordinating authority
NACP	National AIDS Control Programme
NEPAD	New Partnership for Africa's Development
NGO	Nongovernmental organisation
NMCP	National Malaria control programme
NSF	National strategic framework
NTP	National TB and leprosy programme
NTP	National TB programme
NVP	Nevirapine
PEPFAR	President's Emergency Plan for AIDS Relief
PLWHA	People living with HIV/AIDS
PMTCT	Prevention of mother-to-child transmission
SADC	Southern Africa Development Community
STI	Sexually transmitted infection
SWOT	Strengths, weaknesses, opportunities and threats
TB	Tuberculosis
UN	United Nations
UNGASS	United Nations General Assembly Special Session
XDR-TB	Extensively drug-resistant TB
WHO	World Health Organization
WHO AFRO	World Health Organization Africa Region



EXECUTIVE SUMMARY

HIV/AIDS, tuberculosis (TB) and Malaria threaten the realisation of the Southern African Development Community's (SADC) vision of a common future that can ensure economic wellbeing, improvement of the standards of living and quality of life, freedom and social justice, and peace and security for the peoples of southern Africa. SADC Member States have put in place strategies and frameworks to respond to these diseases. It is important to monitor the success of these interventions, as well as track disease outbreaks. Both those undertakings can be facilitated by the development of a regional surveillance framework. In order to develop a common regional surveillance framework, it is important to assess the current status of surveillance systems in the SADC region. This report presents such an assessment in relation to HIV/AIDS, TB and Malaria in the SADC Member States. The assessment was conducted to inform the development of a harmonised regional surveillance framework for the three diseases. The objectives of the assessment were to:

- Assess the status of surveillance systems in each of the SADC Member States;
- Document and analyse the current indicators being tracked and reported on for each of the three diseases, with a view to assessing their appropriateness; and
- Identify gaps in the existing surveillance frameworks.

Data were collected in Member States through key informant interviews with programme managers, programme directors, monitoring and evaluation officers, data managers for each of the three communicable diseases in the Ministries and Departments of Health, national AIDS coordinating programmes and technical officers in partner organisations, such as World Health Organisation (WHO) and UNAIDS. Data were also collected from countries' disease specific strategic frameworks, and monitoring and evaluation plans. Challenges in data collection methods included the unavailability of key programme managers at the time of the field visits and limited time to interview all key stakeholders. In all Member States, surveillance frameworks exist for each of the three diseases. These surveillance frameworks were developed to allow tracking implementation progress of national and international declarations. However, the frameworks do not necessarily allow progress in the implementation of SADC regional specific declarations to be tracked.

Several difficulties associated with Member States surveillance systems were observed, including:

- Poor data flows and failure to adhere to reporting deadlines by Member States;
- Minimal use of planning of data generated at local level;
- Limited human resource skills to implement the surveillance frameworks; and
- Poor data quality.

It was also noted that in most cases, the surveillance systems depend heavily on donor funding, which affects their sustainability. The surveillance systems also display some notable strengths, including:

- Well-represented multisectoral strategic frameworks;
- Well-established surveillance frameworks down to facility level; and
- By basing their surveillance on international declarations, Member States are, in effect, harmonising the region's surveillance frameworks.

In addition, Member State governments are willing to dedicate resources to the national responses for combating HIV/AIDS, TB and Malaria. The findings from this assessment will inform the development of a SADC harmonised surveillance framework for the three diseases. It is recommended that Member States agree on reporting timelines to the SADC Secretariat to minimise delays in the compilation of regional reports for HIV/AIDS, TB and Malaria. It is also recommended that data flows from Member States to the SADC Secretariat should be well defined and adhered to by Member States. Data sources should be similar across Member States, in order to facilitate comparison.



1. INTRODUCTION

The 15-member Southern African Development Community (SADC) is guided by the vision of a regional community that ensures the economic wellbeing, improvement of the standards of living and quality of life, freedom and social justice and peace and security for the peoples of southern Africa. HIV/AIDS, TB and Malaria threaten that vision, and undermine regional development and progress. Heads of State and Government have responded to that threat by signing Declarations and Commitments to control and reverse the epidemics.

The SADC Secretariat intends to establish a common, harmonised surveillance framework to accurately track disease trends and levels across Member States and determine progress towards realising the regional goals and targets. This report outlines the results of the assessment of surveillance systems in SADC Member States for the purposes of harmonising the surveillance systems for regional reporting on HIV/AIDS, TB and Malaria. Assessment findings are presented for 14 of the 15 SADC Member States.

The report is organised as follows:

- Background, which outlines the regional disease burden and SADC's response to HIV/AIDS, TB and Malaria;
- Methodology, which describes the sampling methods that were used, people interviewed, data collection tools used, the types of data collected, and the challenges that were encountered during the assignment;
- Assessment findings, which present an overview of the assessment of current surveillance systems in Member States. The summary covers current indicators that are being tracked, and their respective data sources;
- Gaps, which highlights the shortcomings in the current surveillance systems and indicators;
- Conclusion and recommendations, which provide guidance on how best to strengthen the systems in order to build a harmonised surveillance framework.

Annexes provide details of the country visit schedules and the key informants that were interviewed.

1.1 The HIV AND AIDS burden in the SADC region

HIV and AIDS is the most serious infectious disease in the SADC region. Ten SADC Member States have national adult HIV prevalence rates higher than 10%. The negative impact of the epidemic is being felt across society and sectors. HIV does not follow the same course in all societies. It affects geographical areas and sub-populations in different degrees. (1) This complicates the task of monitoring the epidemic's course and the intervention strategies that are used to try and contain it. It also lays even greater emphasis on the need to achieve a thorough understanding of each country's epidemic.

National adult HIV prevalence varies considerably among Member States. Some are experiencing the highest HIV infection levels in the world, while others are experiencing much smaller, concentrated epidemics. (2) Available data show that by 2006, there were an estimated 6.4 million children orphaned by AIDS in SADC. That number will continue to rise.

Member States have shown strong commitment for controlling HIV and AIDS, as is evident in the various strategic frameworks that have been drawn up to guide their responses, and in their commitments to various international and regional declarations. At the international level, all Member States subscribe to the commitments on HIV and AIDS contained in the United Nations Millennium Development Goals (2000), specifically Goal 6, which requires them to "have halted by 2015 and begun to reverse the spread of HIV and AIDS" and to "Achieve, by 2010, universal access to treatment for HIV and AIDS for all those who need it". (3) They have also committed themselves to the United Nations General Assembly Special Session on HIV and AIDS (UNGASS) Declaration (2001), which addresses global, regional and country-level responses to prevent new HIV infections, expand healthcare access and mitigate the epidemic's impact. (4) At the continental level, Member States subscribe to commitments contained in the Abuja Declaration (2001). (5) It was followed by the Abuja Call on HIV/AIDS, tuberculosis and other diseases (2006), in which Member States called for leadership at national, regional and continental levels to mobilise society as a whole to fight HIV and AIDS, TB and Malaria more effectively. (6) Provisions of the New Partnership for Africa's Development called for similar undertakings. At the regional level, Member States committed themselves to the Maseru Declaration on HIV/AIDS (2003), which acknowledged the international and continental commitments, and called for greater regional integration in the fight against HIV and AIDS. (7)



At Member State level, numerous HIV and AIDS prevention strategies have been designed and implemented, including multisectoral collaboration and support around strategies such as prevention of mother-to-child transmission (PMTCT), voluntary counselling and testing (VCT), and increasing access to antiretroviral therapy (ART). Governments, multilateral and bilateral agencies, nongovernmental organisations (NGOs) and the private sector have also agreed to adhere to the “Three Ones” principle, which calls for:

- One agreed HIV and AIDS action framework that provides the basis of coordinating the work of all partners;
- One national AIDS coordinating authority, with a broad based multi-sector mandate; and
- One agreed, country-level monitoring and evaluation system that is integrated into the national AIDS framework.

1.2 The TB burden in the SADC region

TB is one of the leading causes of morbidity and mortality in southern Africa. Member States are home to 25% of sub-Saharan Africa’s population, but account for 50% of TB cases reported in that region. Five Member States are among the 22 countries globally with the highest burden of TB. (8) Ten of the 15 Member States also have very high TB prevalence with TB prevalence rates ranging from 300-1000 cases/100 000 populations. (8)

The rapid growth of the HIV and AIDS epidemic in many countries has resulted in an equally dramatic rise in the estimated number of new TB cases in the region. It is estimated that 45% of people with HIV infection are co-infected with TB. The high morbidity and mortality from TB among the people living with HIV makes TB case detection, treatment and prevention a priority for national HIV control programmes across the region. Multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB) have been isolated in the region and pose enormous diagnostic and treatment challenges.

Member States have demonstrated their commitment to the control and prevention of TB by signing on to various international, continental and regional declarations and commitments.

Internationally, Member States subscribe to the WHO Stop TB Strategy (2006-2015), which is based on the achievements of Directly Observed Treatment Short-Course (DOTS). (9) Continentally, Member States subscribe to commitments contained in the Abuja Declaration (2001) and the AFRO Strategic Plan for TB. Regionally, Member States support the Southern African TB Control Initiative of 1995, which commits the to assess the status and needs of TB control and to document the methods, procedures, and indicators of performance that are being used. That initiative was revised in the Strategic Plan on the Control of Tuberculosis in the SADC Region 2007-2015, which places greater emphasis on collaboration among southern African countries.

1.3 The Malaria burden in the SADC region

In the SADC region, a total of 20 million Malaria episodes and an estimated 300 000-400 000 Malaria-related deaths occur each year. In nine of the Member States that are still in Malaria prevention and control phase, Malaria accounts for 25-35% of outpatient attendance and 35-65% of hospitalisation, and it is also responsible for up to 30% of hospitalisations of children younger than five years. As a result, Malaria undermines regional economic development. There are two frontlines of Malaria transmission in the SADC region. The first involves Malaria-free and unstable areas, and traverses Botswana, Namibia and South Africa. The second, which marks the change from Malaria-epidemic to Malaria-endemic transmission, runs along Mozambique’s western border up to the Zambezi river, and then along northern Zimbabwe, Botswana and the Namibian/Angolan borders, and on to the Atlantic Ocean. Lesotho, Mauritius and Seychelles do not have locally acquired Malaria, and all their cases are “imported”. (10)

In Malaria endemic areas the populations most at risk are children under five years, pregnant women and persons with compromised immune systems. Transmission occurs throughout the year, with seasonal peaks in the rain season mainly between November and July.

Significant progress has been made in recent years in reducing the burden of Malaria in the SADC region, by using proven interventions such as indoor residual spraying, insecticide-treated nets, intermittent preventive therapies, rapid diagnostic tests and Artemisinin-based Combination Therapies. The SADC pharmaceutical programme has been established to address issues of supply of medicines and commodities.

Successful vector control interventions, principally indoor residual spraying, have reduced parasite ratios in Botswana, southern Mozambique, Namibia, South Africa, Swaziland and Zimbabwe. The use of insecticide-treated nets is low throughout the region. From the available data it can be surmised that between one tenth and one third of nets in use in the region have been treated with insecticide. Household mosquito net ownership is estimated to vary between 0% and 37%.



Insecticide-treated net coverage of children younger than five years ranges between 7.6% and 46%. With regards to pregnant women, coverage of insecticide-treated nets ranges from 7% to 36% of pregnant women receiving chemoprophylaxis. Intermittent presumptive treatment coverage ranges between 9% and 29% of pregnant women. However, some Member States have reported coverage as high as 70-82%. The percentage of households that have been sprayed ranges from 8.4% to 62% in a given population. (11)

Malaria control stages

SADC Member States are at various stages of Malaria control and elimination. Some (such as Angola, Democratic Republic of Congo, Malawi, Mozambique, Namibia, Zambia and Zimbabwe) are still battling with vector control and treatment issues. Others (such as Botswana, Madagascar, Namibia, South Africa and Swaziland) are at the Malaria elimination stage. In all those cases, strategies are in place to determine the burden of disease and to measure disease trends.

Malaria elimination

In 2007, during the African Union Conference of Ministers of Health, Member States launched the Africa Malaria Elimination Campaign, and decided on countries eligible for Malaria elimination. Later that year, SADC pledged to eliminate Malaria from southern Africa.

The SADC Ministers of Health approved the SADC Malaria Strategic Framework and a subsequent Malaria Elimination Framework, which urged Member States to identify potential areas for elimination and to develop national Malaria elimination strategic plans.

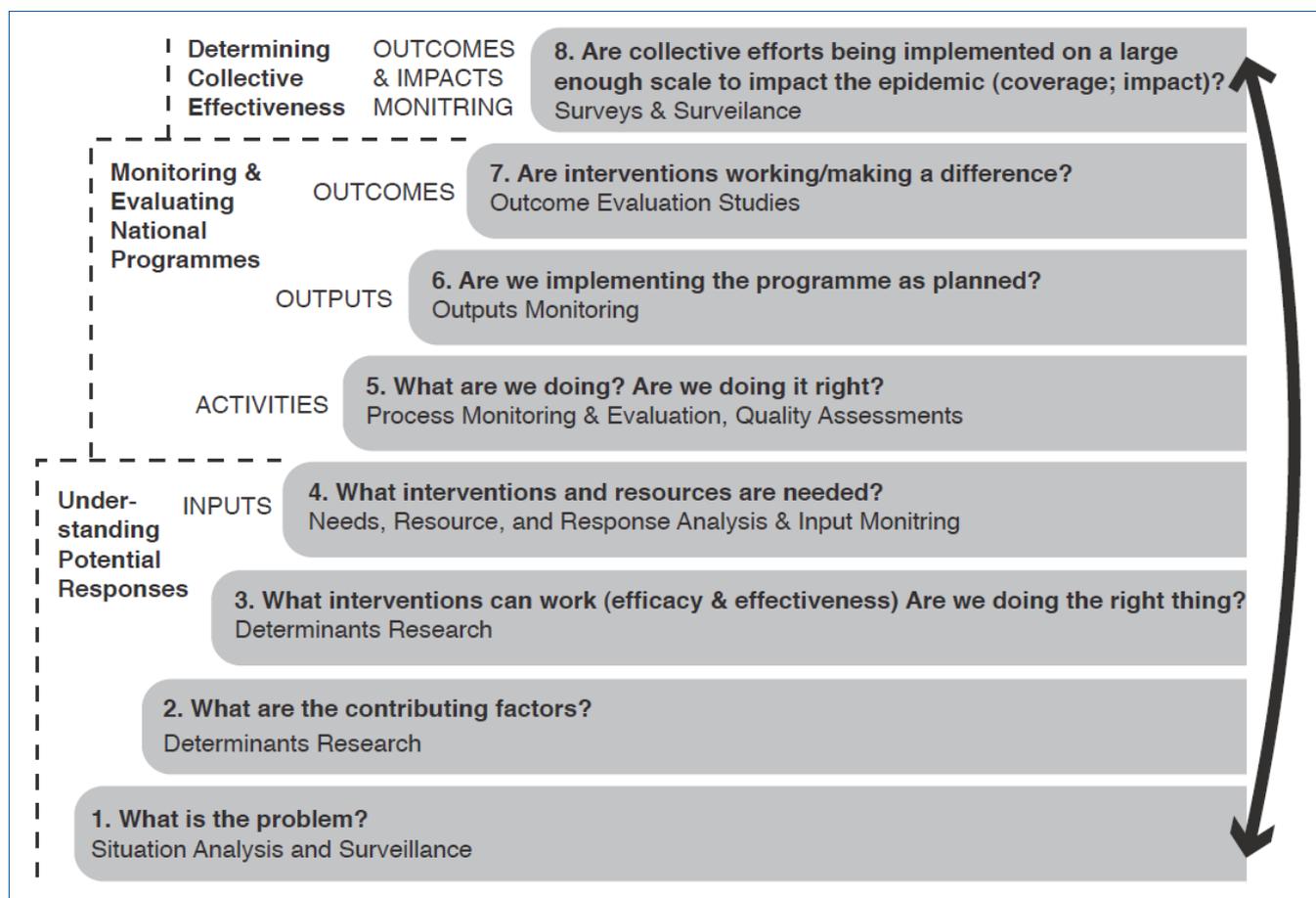
The concept of the “Malaria Elimination 8” was proposed as a platform for deliberations on a strategy for a regional approach to Malaria elimination. Botswana, Namibia, South Africa and Swaziland, as well as Madagascar, were seen to have the greatest potential to eliminate Malaria by 2015. Angola, Mozambique, Zambia and Zimbabwe constitute the second line of countries in the “Malaria Elimination 8” scheme. In March 2009, a Health Ministers consultative meeting was held to consult on the implementation steps for elimination. (12)

1.4 Towards a harmonised surveillance framework for HIV and AIDS, TB and Malaria in the SADC region.

In order to realise the objectives of the various declarations and strategies on HIV and AIDS, TB and Malaria, SADC Member States must have disease surveillance systems that track and report on common indicators. In order to avoid confusion, it is important to clearly define the link between a surveillance framework and a monitoring and evaluation framework. Figure 1.1 presents the link between surveillance and monitoring and evaluation, as defined by the Monitoring and Evaluation Reference Group of UNAIDS.



Figure 1.1: Linking surveillance and monitoring and evaluation



Source: UNAIDS Monitoring and Evaluation Reference Group (MERG) April 2008.

Surveillance takes place within the framework of monitoring and evaluation. The purpose is to learn the ongoing pattern of disease occurrence and the potential for disease in a population, in order to achieve effective investigation, control and prevention of the disease. Surveillance helps to describe an epidemic and its spread, and can contribute to predicting future trends and targeting needed prevention programmes. It tends to focus more on outcome and impact indicators. On the other hand, monitoring refers to the continuous, routine, daily and regular assessment of ongoing activities and/or processes. It aims to provide programme managers and stakeholders with early indicators of progress (or lack thereof) toward the achievement of outputs – hence the focus on inputs, activities, outputs, outcomes and, eventually, impact. The exact levels, patterns and dynamics of the three diseases are not yet fully understood in the SADC region. This is largely due to the fact that Member States are tracking and reporting on different indicators or on similar indicators that have been measured with different data sources.

A harmonised surveillance framework is intended to serve as the prime source of data for regional epidemic updates, complementing data from other organisations (such as WHO and the Global Fund to fight AIDS, Tuberculosis and Malaria). Data generated by the harmonised framework would assist policy makers and programme managers, as well as Member State Heads of State and Government, in addressing regional issues of HIV and AIDS, TB and Malaria.

In a regional effort to harmonise the surveillance systems, the SADC Secretariat has already harmonised the surveillance framework for HIV and AIDS, including data sources. The Secretariat has also noted the need to scale up the surveillance framework and incorporate TB and Malaria. An assessment of the current surveillance systems at the Member State level would constitute a step towards such harmonisation.



1.5 Surveillance systems and their attributes

A sound surveillance system has several key attributes: simplicity, timeliness, flexibility, acceptability, predictive value positive, sensitivity, cost effectiveness, data quality, representativeness, stability and compliance.

2. OBJECTIVES

The main objective of the assignment was to assess the current status of surveillance systems, guiding principles, indicators and data sources for HIV and AIDS, TB and Malaria in the SADC Member States.

2.1 Specific objectives

The specific objectives of the assessment were to:

- Assess the status of surveillance systems in the 14 SADC Member States;
- Document and analyse the current indicators being tracked and reported on for each of the three diseases, with a view to assessing their appropriateness;
- Identify gaps in the existing surveillance frameworks; and
- Assess the characteristics of a good surveillance system in terms of key attributes in the current surveillance systems of the Member States.

3. METHODOLOGY

This section describes the process, procedures and various data collection methods and tools that were used to collect information on the status of surveillance systems for HIV and AIDS, TB and Malaria in SADC Member States.

3.1 Sampling procedures

Data were collected from all SADC Member States during the assessment – except Madagascar, which was not visited due to political issues.

3.1.1 Selection of key organisations

The entry point for the assessment for every Member State was the Ministry or Department of Health. All Ministries of Health or Departments of Health, national AIDS control programmes, national TB programmes, national Malaria control programmes were selected as key organisations to provide information during the assessment. For the assessment of HIV and AIDS surveillance systems, the key organisations were the national AIDS councils and authorities. Key international organisations, such as WHO, the US Centers for Disease Control (CDC) and UNAIDS, were also selected to participate in the assessment.

3.1.2 Selection of key informants

Directors, programme managers, coordinators, monitoring and evaluation officers and epidemiologists for the three diseases in Ministries and Departments of Health, and national AIDS councils or authorities, were selected and interviewed. Focal persons for each disease were also selected from the UN agencies and CDC (please refer to Annex I for a list of people interviewed in each Member State).



3.2 Data collection methods

Data collection methods included key informant interviews, websites (WHO/country websites) and documentary reviews of:

- Annual reports;
- Strategic plans;
- Monitoring and evaluation plans;
- National policy frameworks; and
- Regional and international framework documents.

3.2.1 Development of data collection tools

Four questionnaires (three disease-specific and one focusing on information technology) were developed for the assessment, namely:

- The TB programme questionnaire;
- The Malaria programme questionnaire;
- The HIV and AIDS programme questionnaire; and
- The information technology questionnaire.

The content of the questionnaires was based on standard issues that need to be considered for a surveillance system, such as existence of a surveillance system, attributes of the system, data sources analysis and dissemination of data. Specific content for HIV and AIDS, TB and Malaria was derived from recommended global programme activities, such as those recommended by WHO. For content validity, all the questionnaires were sent to the SADC Secretariat, which reviewed the instruments; its comments and suggestions were incorporated in the final questionnaires. In addition to the questionnaires, country and international websites were reviewed for annual reports, and country-specific profiles. In order to corroborate and add to the findings from the questionnaires, a checklist was developed to confirm receipt of copies of key documents that included country specific monitoring and evaluation frameworks and strategic plans, and international surveillance frameworks were referenced.

3.2.2 Content of key informant interviews

The interviews obtained information on the following:

- Current methods and tools used to collect data on the three diseases;
- Current indicators being tracked and reported on for each of the three diseases;
- Current indicators for collaborative HIV/TB activities; and
- The current reporting formats, mechanisms and schedules for each of the three diseases.

3.3 Document reviews

During the interviews, critical documents were identified for corroborating the information obtained from the key informants. A list of documents obtained is provided in the Bibliography. The documents were reviewed, and an analysis of the current indicators being tracked was carried out. An assessment of the data collection methods and tools used and data flow in the three diseases surveillance was carried out. In situations where documents were not available, country or organisational websites were consulted, and the information obtained was validated with Member State officials.



3.4 Limitations

Several problems were encountered during this assignment. These limitations affected the quantity and quality of information collected. It should be noted, however, that the limitations did not invalidate the assessment findings. The limitations included:

- Communication from the SADC Secretariat to some Member States about the assessment was delayed, which led to difficulties accessing some key informants;
- Communication within Member States to respective departments was slow, causing delays in arranging interviews with some key informants;
- As a result of poor communication, cooperation in some Member States was difficult; and
- Time allocated for Member State visits was limited.

4. FINDINGS

Fourteen of the 15 SADC Member States were visited during the assessment. Different categories of respondents were interviewed to provide accurate information on the status of their surveillance systems for HIV and AIDS, TB and Malaria (see Annex I).

4.1 Status of Member States' surveillance systems

Information from literature reviews and key informant interviews was analysed to establish the status of the surveillance systems for the three diseases in the region.

4.1.1 Member States' HIV and AIDS surveillance systems

Each of the 14 Member States visited has HIV and AIDS surveillance systems for tracking HIV and AIDS data. Member States' HIV and AIDS surveillance systems are guided by their respective national strategic plans, and are complemented by their national monitoring and evaluation frameworks. The in-country implementation strategies in all Member States are based on the "Three Ones" principle. The surveillance frameworks are based on the WHO second-generation surveillance framework.

The reference documents for the region's specific indicator lists include:

- SADC HIV and AIDS Indicator Guidelines;
- UNGASS Declaration of Commitment on HIV and AIDS Core Indicators;
- UNAIDS Monitoring and Evaluation Guidelines;
- WHO National AIDS Programmes Guides to Monitoring and Evaluating National HIV and AIDS Programmes;
- PEPFAR indicators;
- Global Fund indicators; and
- National monitoring and evaluation frameworks, and strategic plans.

The SADC Member States HIV and AIDS surveillance indicators were selected on the basis of being in line with:

- The priority objectives established by the country specific national strategic plan;
- Internationally recommended core indicators in UNGASS;
- International HIV and AIDS monitoring and evaluation guidelines produced by UNAIDS and its partners.



4.1.2 Attributes of HIV and AIDS surveillance systems

For each Member State, the attributes for the existing surveillance systems were assessed. The description of a surveillance system was based on the indications for implementing the system:

- Whether the system is designed for short-term, high-risk situations or long-term, continuous use;
- The context in which the system operates (whether it stands alone or augments data from other surveillance systems);
- The kinds of disease outbreaks the system is intended to detect; and
- The desired secondary functional value.

Designers of the system should specify the desired sensitivity and specificity of the system and whether it is intended to capture small or large events. The various attributes for the HIV and AIDS surveillance systems were assessed, and are summarised in Table 4.1 below.

The assessment was based on how each Member State rated its system on a scale of 1 to 5, where 1=Very poor, 2=Poor, 3=Average, 4=Good, 5=Excellent.

In all, nine Member States rated all the attributes of a surveillance system. Seven of these Member States rated their systems as “good” in terms of simplicity, while only two Member States rated their system as “excellent”. Areas highlighted for attention were those related to timeliness, flexibility and representativeness of the target population. Generally, the current systems are considered good enough to address the surveillance needs of HIV and AIDS.

4.1.3 Data sources for HIV and AIDS surveillance systems

Tables 4.2a and 4.2b provide a summary of all the data sources for HIV and AIDS surveillance systems in each of the 14 SADC Member States that were visited during the assessment.



Table 4.1: Summary of HIV surveillance system attribute scores

System Attributes	Angola	Botswana	Democratic Republic of Congo	Lesotho	Malawi	Mauritius	Mozambique	Namibia	South Africa	Swaziland	Tanzania	Seychelles	Zambia	Zimbabwe	Regional average score
Simplicity	4	5	Not filled in	Not filled in	4	Not filled in	4	4	Not filled in	4	Not filled in	5	4	4	4
Timeliness	4	4	Not filled in	Not filled in	3	Not filled in	2	3	Not filled in	4	Not filled in	4	4	3	3
Flexibility	4	4	Not filled in	Not filled in	3	Not filled in	2	2	Not filled in	4	Not filled in	4	5	4	3
Acceptability	4	4	Not filled in	Not filled in	4	Not filled in	5	4	Not filled in	5	Not filled in	4	4	4	4
PVP	4	5	Not filled in	Not filled in	3	Not filled in	4	4	Not filled in		Not filled in	4	5	4	4
Sensitivity	4	5	Not filled in	Not filled in	2	Not filled in	3	4	Not filled in	4	Not filled in	4	5	4	4
Cost Effectiveness		4	Not filled in	Not filled in	3	Not filled in		4	Not filled in	3	Not filled in	3	3	3	3
Data Quality	4	4	Not filled in	Not filled in	4	Not filled in	4	4	Not filled in	4	Not filled in	4	5	4	4
Representativeness	4	3	Not filled in	Not filled in	4	Not filled in	3	3	Not filled in	4	Not filled in	4	4	4	4
Stability	4	4	Not filled in	Not filled in	4	Not filled in	3	4	Not filled in	4	Not filled in	4	4	3	4
Compliance	5	4	Not filled in	Not filled in	4	Not filled in	4	4	Not filled in	4	Not filled in	4	4	4	4



Table 4.2a: Data sources for HIV and AIDS

	Surveillance framework	Data sources and frequency of data collection									
	Second-generation HIV	ANC sentinel surveillance	ANC frequency	DHS	DHS frequency	Routine service statistics	Routine service statistics frequency	Behavioural surveys	Behavioural surveys [Repeated]	STI sentinel surveys	Blood donor services
Angola	√	√				√	Routinely				
Botswana	√	√			Five-yearly	√	Routinely	√	√	√	√
DRC	√	√		√		√	Routinely				
Lesotho	√	√		√	Five-yearly	√	Routinely				
Malawi	√	√	Bi-annually	√	Five-yearly	√	Routinely	√	√	√	√
Mauritius	√	√			Five-yearly	√	Routinely	√	√	√	√
Mozambique	√	√		√	Five-yearly	√	Routinely	√	√	√	√
Namibia	√	√		√	Five-yearly	√	Routinely	√	√	√	√
South Africa	√	√	Annual	√	Five-yearly	√	Routinely	√	Three-yearly	√	√
Seychelles	√	√			Five-yearly	√	Routinely	√	√	√	√
Swaziland	√	√		√	Five-yearly	√	Routinely	√	√	√	√
Tanzania	√	√		√	Five-yearly	√	Routinely	√	√		
Zambia	√	√		√	Five-yearly	√	Routinely	√	√	√	√
Zimbabwe	√	√	Bi-annually	√	Five-yearly	√	Routinely	√	√	√	√

√ means being carried out

Blank space means respondents did not regard it as a data source. Please note that Tables 2a and 2b should be read as one table.

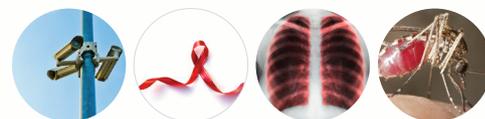


Table 4.2b: Data sources for HIV and AIDS

	HIV and AIDS indicator survey	HIV and AIDS indicator survey	MARP	MARP	Drug resistance surveys	Youth surveys	Youth surveys	ART survey	HIS	HIS frequency	Other sector reports
Angola			√ (CSW, Long distance truckers)					√			
Botswana			√		√			√			
DRC											
Lesotho			√ (prisoners)								
Malawi					√			√			
Mauritius			√ (IDU, MSM, CSW)				√	√			
Mozambique							√				
Namibia								√	√		√
South Africa	√	Five-yearly	√	Two-yearly	√	√	Three-yearly	√	√	Routine	√
Seychelles			√ (sailors, CSW, MSM)					√			
Swaziland					√			√			
Tanzania					√		√				
Zambia			√ prison survey					√	√	√	√
Zimbabwe			√ (CSW, prisoners, truck drivers)				√	√	√	√	√

√ means being carried out

Blank space means not mentioned as being a data source by the respondents.

Please note Tables 2a and 2b must be read as one table, split because the tables could not fit on one page.



Tables 4.2a and 4.2b show that SADC Member States conform to the second-generation surveillance framework, as recommended by SADC and WHO. The major data sources for each Member State address the requirements of such a framework. The data sources for the Member States are comparable. The little variation that does exist stems mostly from the availability of more data sources in some Member States rather than different types of data sources in various Member States. Some data sources that are expected to be routine have not been included in those countries that did not explicitly state that particular data source.

4.1.4 HIV and AIDS surveillance systems and population characteristics

Table 4.3 depicts the main characteristics of Member States' surveillance systems.

Table 4.3: Characteristics tracked by surveillance systems

Member State	Does the surveillance system collect information on the following groups?					
	General population	Gender differences	Men who have sex with men	Commercial sex workers	Injecting drug users	Paediatric cases
Angola	YES	YES	YES	NO	NO	YES
Botswana	YES	YES	NO	NO	NO	YES
DRC	YES	YES				
Lesotho	YES	YES		NO	NO	YES
Malawi	YES	YES	NO	YES	NO	YES
Mauritius	YES	YES	NO	NO	YES	YES
Mozambique	YES	YES				YES
Namibia	YES	YES	NO	NO	NO	YES
South Africa	YES	YES	NO	NO	NO	YES
Seychelles	YES	YES	YES	YES	YES	YES
Swaziland	YES	YES	NO	NO	NO	YES
Tanzania	YES	YES	NO	NO	NO	YES
Zambia	YES	YES	NO	YES (NAC)	NO	YES
Zimbabwe	YES	YES	NO	NO	NO	YES

Table 4.3 shows that Member States' surveillance systems collect information on the general population, gender differences and paediatric cases. Surveillance systems in two Member States collect information on MSM, three are tracking commercial sex workers, and two are tracking IDUs. Four Member States did not indicate whether their surveillance systems track the variables listed in Table 4.3.

4.1.5 HIV/TB collaborative activities tracked by surveillance systems

The surveillance systems were also assessed to see if they are tracking HIV/TB collaborative activities. Table 4.4 summarises policies and guidelines that Member States are implemented.

All Member States have put in place HIV counselling services for TB patients and screening for TB among people living with HIV. One Member State is still to implement a national surveillance system to identify HIV amongst TB patients, while four are yet to implement a policy offering isoniazid prophylaxis to people living with HIV.

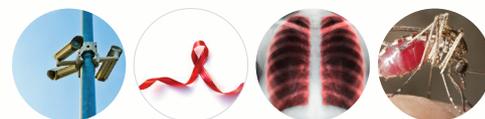


Table 4.4: Policies related to HIV/TB collaborative activities being implemented by Member States

	Policy offering HIV counselling to all TB patients	National surveillance to identify HIV in TB patients	National mechanism to coordinate HIV and TB activities	National policy to offer CPT to TB patients	National policy to offer ARVs to HIV positive TB patients	Policy to offer Isoniazid prophylaxis to people living with HIV	Policy to screen people living with HIV for TB
Angola	YES	NO	YES	YES	YES	YES	YES
Botswana	YES	In progress	YES (starting)	YES	YES	YES	YES
DRC	No data	No data	No data	No data	No data	No data	No data
Lesotho	YES	YES	YES	YES	YES	Not yet	YES
Malawi	YES	YES	YES	YES	YES	NO	YES (TB sputum positive)
Mauritius	YES	Referred per case	No official coordination	ART to all cases	Yes	NO	Screened by cases
Mozambique	YES	YES	In negotiation	YES	YES		YES
Namibia	YES	YES	YES	YES	YES	YES	YES
South Africa	YES	YES	YES	YES	YES	YES	YES
Seychelles	YES	YES	YES	YES	YES	----	YES
Swaziland	YES	YES	YES		YES		YES
Tanzania	YES	YES	YES		YES	YES	YES
Zambia	YES	YES	YES	YES	YES	U5	YES (weak)
Zimbabwe	YES	YES	YES	YES	YES	NO	YES

Blank space means Member State did not reply



4.1.6 Multisectoral response to HIV and AIDS: Role of the private sector and civil society organisations

The “Three Ones” principle is aimed at strengthening the HIV and AIDS response globally. The second of these principles calls for the establishment of a national AIDS coordinating authority, with a broad-based multisectoral mandate.

All the SADC Member States have established in-country HIV and AIDS coordinating authorities. The national AIDS coordinating authorities have designed multisectoral HIV and AIDS strategic plans and associated multisectoral monitoring and evaluation frameworks that define the inclusion of non-health partners (private sector, civil society organisations, and the public sector) in the one national HIV and AIDS action framework.

4.1.7 Gaps in regional surveillance systems

National surveillance systems on HIV and AIDS are the most developed of the three communicable diseases. However, there are some significant gaps in the components of the surveillance systems. The gaps were identified in interviews with key informants and in a review of Member States’ strategic frameworks, and their monitoring and evaluation frameworks. The gaps include:

- Member States’ monitoring and evaluation frameworks have clearly defined indicators that measure progress in the implementation of global commitments (for example, UNGASS and the MDGs). But few Member States have indicators tracking region-specific indicators. As a result, HIV and AIDS implementing partners have no explicit mandate to track SADC indicators;
- Tracking most-at-risk populations is difficult for most Member States. Although there are some methods that have been developed, Member States have not yet institutionalised them in their standard data collection methods. Indicators tracking disease trends in paediatric cases are limited in scope;
- There are limited opportunities for stakeholders to share HIV and AIDS information products and available data, which weaken understandings of disease trends;
- The operational plans of some Member States do not have a clear inventory on when the surveillance surveys will be carried out; and
- There are weaknesses in the communication systems between SADC Secretariat and Member States, which leads to gaps in the collection and reporting of the regional surveillance information.



4.1.8 Common HIV and AIDS indicators tracked by SADC Member States

Table 4.5 provides a summary of the indicators that are common to most Member States with generalised HIV and AIDS epidemics.

Table 4.5: Common HIV and AIDS indicators tracked in the SADC region

Indicators
<ul style="list-style-type: none"> · HIV prevalence among women and men (disaggregated by age) · Percentage of women and men reporting that they were tested for HIV and learned the results in the past 12 months (disaggregated by age) · Percentage of women and men who had multiple partners in the past 12 months and who reported using a condom at last sex (disaggregated by age) · HIV prevalence among sex workers · Number of women and men who had sex with more than one partner in the past 12 months (disaggregated by age) · Percentage of patients with STIs, who are appropriately diagnosed, treated and counselled at health care facilities (disaggregated by age and sex) · Prevalence of condom use for the past twelve months · Percentage of young people who have had sex before the age of 15 · Percentage age of young people aged 15 to 24 reporting the use of a condom at last sex with a non-marital, non co-habiting sexual partner in the past 12 months · Number of partners in the past 12 months (according to marital status)
<ul style="list-style-type: none"> · Number of pregnant, HIV-positive women receiving a complete course of ARV prophylaxis · Percentage of adults and children with advanced HIV infection receiving ART
<ul style="list-style-type: none"> · Percentage of women who test HIV-positive · Percentage of infants started on NVP
<ul style="list-style-type: none"> · Percentage of adults and children with advanced HIV infection receiving ART

Source: Member States' monitoring and evaluation frameworks

These indicators form part of the outcome and impact indicators of Member States' monitoring and evaluation frameworks, and constitute part of the surveillance framework. The list above is not exhaustive, however. Some of the available monitoring and evaluation frameworks did not provide the entire list. But HIV and AIDS indicators have been harmonised in the region.

4.1.9 Harmonised surveillance framework for HIV and AIDS

In 2006, SADC developed a Regional Monitoring and Evaluation Framework for HIV/AIDS. Based on that framework, a core set of indicators was agreed on. However, some aspects complicated the comparison of data across Member States. For example, Member States were using different data sources for the same indicators. In order to address this problem, SADC developed an HIV/AIDS Harmonised Surveillance Framework in 2008 to harmonise data collection methods. The aim was to have indicators that would allow Member States individually, and the SADC region collectively, to objectively track progress in the implementation of regional, continental and global commitments, focusing on HIV prevention and social mobilisation, treatment, care and support, and resource mobilisation. The harmonised surveillance framework for HIV and AIDS was guided by regional, continental and international declarations that SADC Member States are signatories to, principally:

- The Abuja Call for Accelerated Action Towards Universal Access to HIV and AIDS, Tuberculosis and Malaria Services of 2006. (6) It called for leadership at national, regional and continental levels, specifically: resource mobilisation in which Member States pledged 15% of their national budgets to health, protection of human rights, strengthening of health systems, access to affordable medicines, and research and development;
- Millennium Development Goal 6, which calls on countries to “have halted by 2015 and begun to reverse the spread of HIV and AIDS” and to “achieve, by 2010, universal access to treatment for HIV and AIDS for all those who need it” (3);



- SADC Protocol on Health (13), in which Member States pledged to:
 - Harmonise policies aimed at disease prevention and control, including co-operation and identification of mechanisms to reduce the transmission of STDs and HIV infection;
 - Develop approaches for the prevention and management of HIV and AIDS/STDs to be implemented in a coherent, comparable, harmonised and standardised manner;
 - Develop regional policies and plans that recognise the intersectoral impact of HIV and AIDS/STDs and the need for an intersectoral approach to these diseases; and
 - Co-operate in the areas of standardisation of HIV and AIDS/STDs surveillance systems in order to facilitate collation of information, which has a regional impact, regional advocacy efforts to increase commitment to the expanded response to HIV and AIDS/STDs, and sharing of information.

These commitments guide the surveillance frameworks in monitoring progress towards achieving the stated goals and targets.

4.1.10 Gaps in current HIV and AIDS core indicators

An analysis of the HIV and AIDS harmonised surveillance systems, Member State documents, as well as the information provided by Member States' key informants, revealed some gaps in the current surveillance systems, including:

- Not tracking and reporting HIV-TB collaborative indicators; and
- Not tracking and reporting paediatric indicators.

Based on this analysis there is need to comprehensively address these key important areas to complement the current set of core indicators.

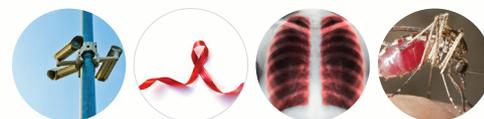
4.2 Regional TB surveillance systems

Each of the 14 Member States visited has a surveillance system in place for gathering TB data. The region has adopted WHO's Stop TB Strategy. The region's Stop TB strategy includes these six objectives:

- Pursue quality DOTS expansion and enhancement;
- Address TB/HIV, MDR-TB and other special challenges;
- Contribute to health systems strengthening within Member States and in the region;
- Engage all care providers within Member States;
- Empower patients and communities; and
- Enable and promote research in Member States.

The reference documentation of the Member States' specific indicator lists includes the:

- Stop TB Strategy;
- MDR-TB Guidelines;
- Strategic Plan for the Control of Tuberculosis in the SADC Region, 2007-2015;
- Millennium Development Goals; and
- TB-HIV collaborative policy documents.



4.2.1 Attributes of current TB surveillance systems

The attributes of the existing surveillance systems were assessed. The various attributes for TB were assessed and are summarised in Table 4.6.

The assessment was based on how each Member State rated its system on a scale of 1 to 5, where 1=Very poor, 2=Poor, 3=Average, 4=Good, 5=Excellent.

Table 4.6: Summary of TB surveillance system attribute scores

SYSTEM ATTRIBUTES	Angola	Botswana	DRC	Lesotho	Malawi	Mauritius	Mozambique	Namibia	South Africa	Seychelles	Swaziland	Tanzania	Zambia	Zimbabwe	SADC Regional Average Score
Simplicity	3	4	Not rated	3	4	4	Not rated	4	4	5	4	4	4	3	4
Flexibility	4	2	Not rated	3	5	5	Not rated	4	3	4	5	4	5	3	4
Timeliness	4	3	Not rated	2	4	4	Not rated	3	3	4	3	4	4	3	3
Acceptability	4	3	Not rated	4	5	4	Not rated	2	2	4	3	5	4	3	3
PVP	3	4	Not rated	3	3	4	Not rated	4	3	3		4	5	3	4
Sensitivity	4	4	Not rated	3	3	4	Not rated	4	4	3		4	4	3	4
Cost effectiveness	3	4	Not rated	4		4	Not rated	3	3	NS	4	4	4	4	3
Data quality	5	3	Not rated	4	2	4	Not rated	3	3	3	3	4	4	4	3
Representativeness	4	4	Not rated	4	2	4	Not rated	4	3	5		5	5	4	4
Stability	4	4	Not rated	4	2	4	Not rated	3	4	4		5	5	4	4
Compliance	3	4	Not rated	4	1	4	Not rated	4	4	3		4	5	4	4

Overall the TB surveillance systems in most of the SADC Member States that rated the various attributes were acceptable. The areas identified as requiring attention were: timeliness, data quality, and representativeness. Besides that, the current systems are considered good enough to address the surveillance needs of TB.

4.2.2 TB laboratory services

Supporting Member States' surveillance systems are the national TB programmes' laboratories, which exist in all Member States. In all Member States, each of these laboratories performs smear microscopy as a routine diagnostic test in suspected TB cases. Twelve of the 14 Member States' laboratories perform second-line drug susceptibility testing in re-treatment and treatment failure cases, while the laboratories in two Member States are not able to perform these tests.



4.2.3 National TB surveillance system data sources

Data management strategies for Member States were also assessed to see how they articulate their data. The current surveillance systems track data for individual TB patients in the national TB programme and on DOTS, as well as treatment compliance. In some Member States, data are managed by dedicated surveillance officers at the central level.

Individual TB patient data covering treatment and compliance is kept at the facility, although in some Member States copies of the data are also kept at the central level. Table 4.7 provides an outline of the national TB surveillance data sources. It shows that the common data sources for TB surveillance in the region are:

- Routine health services information (all Member States);
- Laboratory registers (all Member States);
- Health facility surveys (7 out of 14 Member States);
- Demographic and Health Surveys (11 out of 14 Member States)

Some Member States have extended data sources, which are country-specific initiatives. Some of these sources include periodic drug resistance surveys, as well as MDR-TB and XDR-TB surveillance. In all the SADC Member States the data are disaggregated by gender and age, but the age group cut-off points are not similar (hence the need to harmonise them). In addition, some Member States disaggregate their data by paediatric cases.



Table 4.7: TB surveillance systems data sources

	Surveillance framework	Surveillance data sources										
	STOPTB/DOTS	Routine health information services	Laboratory registers	Health facility surveys	DHS	TB case finding reports	Sentinel site surveillance	Sector report	MDR surveillance	XDR Surveillance	D/HIS/MIS	ETR
Angola	√	√	√			√			√			
Botswana	√	√	√	√		√	√	√	√	√	√	√
DRC	√	√	√			√						
Lesotho	√	√	√		√				√			
Malawi	√	√	√		√	√			√	√	√	
Mauritius	√	√	√		√				√	√		
Mozambique		√			√	√						
Namibia	√	√		√	√	√		√	√	√	√	√
South Africa	√	√	√	√	√	√	√		√	√	√	√
Seychelles	√	√	√	√	√	√					√	√
Swaziland	√	√	√	√	√	√	√		√	√	√	
Tanzania	√	√	√	√	√	√			√		√	
Zambia	√	√	√	√	√	√		√	√			
Zimbabwe	√	√	√	√	√	√			√			

Key √ indicates “being done”

Blank space indicates the surveillance is not done or was not mentioned by key informants



4.2.4 Data disaggregation: TB surveillance systems and population characteristics

Table 4.8 shows which population characteristics are being captured in Member States' surveillance systems. It shows that most Member States' surveillance systems reflect the general population, gender differences and paediatric cases.

Table 4.8: TB surveillance system and population characteristics

	Are the data disaggregated by		Does the surveillance system measure the following population characteristics?		
	Gender	Age	General population	Gender differences	Paediatric cases
Angola	YES	YES	YES	YES	YES
Botswana	YES	YES	YES	YES	
DRC	YES	YES	YES	YES	
Lesotho	YES	YES	YES	YES	YES
Malawi	YES	YES	YES	YES	YES
Mauritius	YES	YES	YES	YES	YES
Mozambique	YES	YES	YES	YES	
Namibia	YES	YES	YES	YES	YES
South Africa	YES	YES	YES	YES	YES
Seychelles	YES	YES	YES	YES	
Swaziland	YES	YES	YES	YES	YES
Tanzania	YES	YES	YES	YES	YES
Zambia	YES	YES	YES	YES	YES
Zimbabwe	YES	YES	YES	YES	YES

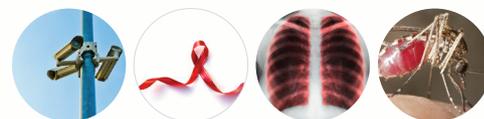
Anti-TB drugs and DOTS

TB drugs are provided for free and the DOTS strategy is being implemented in the 14 Member States included in this assessment. The national TB programme regimens for TB treatment are summarised in Table 4.9. Member States follow slightly different treatment regimes for TB in the continuation phase of the treatment programme.

Table 4.9: TB treatment regimens in Member States

Key: E: Ethambutol, H: Isoniazid, R: Rifampicin, Z: Pyrazinamide

	Initial phase	Continuation phase
Angola	CPT1-2HRZE CPT2-2HRZE/5HRZE	6HE 5RH
Botswana	Cat 1 - 2(HRZE) Cat 2 - 2HRZES/1 HRZE Cat 3-2HRZ	Cat 1 - 4(HR) Cat 2 - 5HRE Cat 3 - 4HR
Democratic Republic of Congo	Category 1 - 2RHZE Category 2 - 2SRHZE	6HE 1RHZE/5R3H3E3
Lesotho	RHESZ	RH E(RETREATMENTS)
Malawi	RHZE	RH



Mauritius	2(HRZ)E	4HR
Mozambique	2(HRZE)	4(HR)
Namibia	2RHZE	4RH
South Africa	RHZSE	RHE
Seychelles	2(EHRZ)	4HR
Swaziland	Cat 1 - 2(HRZE)new case	4HR
	Cat 2 - 2(HRZE)S	1(HRZE)/5(RHE)
	Cat 3 - children 2(HRZ)	4(RH)
Tanzania	Category 1 2 RHZE	4 RH
	Category 2 2 SRHZE	1 RHZE/5 RH3E3
Zambia	Cat 1 - 2(RHZE)	6(HE) or 4(RH)
	Cat 2 - 2S(RHZE)/ 1(RHZE)	Cat 2- 5(RHE)
Zimbabwe	2(RHZE)	4(RH)
	2(SRHZE), 1(HRZE)	5(RHE)

Source: Member State treatment guidelines, key informant interviews

4.2.5 Gaps in TB surveillance systems

National TB surveillance systems are fairly well developed, but there are some significant gaps in the components of the surveillance systems that were highlighted in the questionnaire and document reviews. The gaps include:

- TB surveillance systems in the region do not explicitly define SADC's key indicators;
- Case definitions for TB are not uniform among Member States;
- In some Member States, all sputum sent to laboratories is subjected to microscopy and culture with delays of several weeks, which delays the commencement of treatment;
- Although DOTS is being implemented in all Member States, its coverage has not reached all regions/provinces of Member States;
- There is a lack of operations research that provides local knowledge and literature for TB prevention and control in the Member States;
- Multiple data collection and parallel data flow channels create confusion and make comprehensive local data analysis difficult;
- Some Member States have no dedicated TB surveillance officers;
- Information management systems are slow to allow use of information at local levels for planning;
- Civil unrest in some Member States has caused follow-up of cases difficult;
- Reporting systems are still paper-based systems, which makes data storage, analysis and interpretation a laborious task;
- Data validation techniques are not clearly spelt out and enforced; and
- There are no recommended reporting formats and schedules to operationalise TB surveillance for regional needs.



4.2.6 Current indicators tracked and reported for TB

Indicators that are being tracked by the current surveillance system were assessed. All countries depend on the Stop TB Strategy. The common indicators identified across the SADC Member States are listed in Table 4.10, and are all based on WHO's Stop TB Strategy.

Table 4.10: Common indicators tracked for TB

Programme area	Indicators	Data sources
Case management	· Proportion of smear positive pulmonary cases among TB suspects	· Paper and electronic TB register · Laboratory routine HIS · Health facility surveys · Sentinel surveillance · Models based on prevalence studies · Sub district reports · TB case identification and follow-up register · National surveys
	· Case detection rate, new smear-positive pulmonary cases	
	· Proportion pulmonary new smear-positive cases out of all new pulmonary cases	
	· HIV positivity among TB patients	
	· New extra pulmonary cases	
	· Other cases put on treatment	
	· Relapses	
	· Treatment outcome	
	○ Treatment success rate	
	○ Defaulter rate	
○ Case fatality rate		
· Transfer rate		

Source: Member State strategic frameworks

4.2.7 MDR- and XDR-TB surveillance

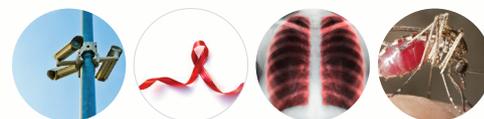
Seven Member States have made significant progress in the surveillance of MDR-TB and XDR-TB. A total of 13 out of 14 Member States carry out drug susceptibility testing in re-treatment and treatment failure cases. There is variability in drug susceptibility testing in chronic and MDR contact cases. Two Member States reported carrying out drug susceptibility testing in chronic contact MDR cases. Three Member States carry out drug susceptibility testing in chronic cases only, and two do so in contact MDR cases only.

XDR-TB has been reported in six Member States. Four Member States outsource services for XDR-TB diagnosis to other countries (three send their samples to South Africa for further tests, and one to Belgium).

4.2.8 MDR-TB strategies and guidelines

Numerous plans, strategies and guidelines have been put in place to manage cases of MDR-TB. These include:

- A national plan for the management of MDR-TB;
- National guidelines for the management of MDR-TB;
- Training materials developed for the management of MDR-TB;
- Provide personnel at central level of national TB programmes who are responsible for MDR-TB; and
- Some have developed a national surveillance system to measure the prevalence of MDR-TB but it is in its infancy.



All the Member States have at least one of the above guidelines for the management of MDR-TB, but only four Member States have all these guidelines in place.

4.2.9 Regional challenges in MDR- and XDR-TB surveillance

Challenges in MDR- and XDR-TB surveillance include:

- Lack of capacity to respond to MDR and XDR-TB cases, because these require scarce resources;
- Lack of laboratory capacity to carry out sputum analysis for AFB; and
- Co-infection with HIV complicates monitoring of MDR and XDR-TB.

4.2.10 MDR and XDR-TB indicators being tracked

All the 14 Member States visited have reported cases of MDR-TB, and six Member States have reported XDR-TB cases. South Africa and Swaziland, in particular, have reported high numbers of both MDR- and XDR-TB cases.

Table 4.11 shows the common indicators on MDR-TB and XDR-TB being tracked across the SADC Member States.

Table 4.11: Common MDR- and XDR-TB indicators tracked in the SADC region

Programme area	Indicators	Data sources
Case management	MDR and XDR-TB	Drug-resistant TB register
	<ul style="list-style-type: none"> • Number of MDR-TB patients identified 	
	<ul style="list-style-type: none"> • Number and percentage of TB cases enrolled to begin second-line treatment among TB cases identified as MDR-TB cases during a specified time period 	
	XDR-TB	
	<ul style="list-style-type: none"> • Number of XDR-TB patients identified 	
	<ul style="list-style-type: none"> • Number and percentage of TB cases enrolled to begin treatment among TB cases identified as XDR-TB cases over a specified time period 	

Source: Country profiles, national strategic plans and monitoring and evaluation frameworks

4.2.11 HIV/TB collaborative activities

TB is one of the most common causes of morbidity and mortality in people living with HIV in the SADC region. The 14 Member States assessed in this report have put in place mechanisms to try and integrate TB and HIV activities. Multidisciplinary committees are in place.

The approach to the formation of multidisciplinary teams is to include TB healthcare workers within the TB/HIV committees. The multidisciplinary teams are responsible for the overall planning and implementation of TB and HIV activities at facilities. Member States have put in place:

- National surveillance systems to identify TB in HIV patients;
- National mechanisms to coordinate HIV and TB activities;
- TB and HIV implementation guidelines;
- Policies offering:



- HIV counselling to all TB patients;
- Cotrimoxazole prophylaxis to HIV patients;
- ARV drugs to HIV-positive TB patients;
- Isoniazid prophylaxis to people living with HIV; and
- Screening people living with HIV for TB.

4.2.12 TB/HIV collaborative indicators being tracked

Based on the TB and HIV collaborative activities being done, there are a number of TB and HIV collaborative indicators that are also being tracked. Table 4.12 below shows the common TB and HIV collaborative indicators that are being tracked in the region.

Closer collaboration between HIV and AIDS and TB programmes is needed to improve diagnostic, care and prevention services for people living with HIV, TB or both. The unprecedented scale of the epidemic of HIV-related TB demands urgent, effective and coordinated action. This does not require the development of independent programmes for TB and HIV, but rather closer collaboration between existing ones to exploit synergies, avoid overlap, and fill gaps in service provision.

Table 4.12: Common HIV/TB collaborative indicators being tracked

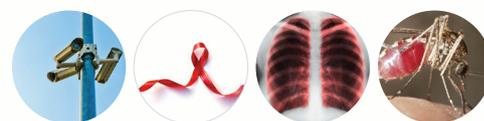
Programme area	Indicators	Data sources
Case management	<ul style="list-style-type: none"> • Numbers and percentages of TB patients screened for HIV • Numbers and percentages of persons living with HIV who are screened for TB • Numbers and percentages of TB patients receiving HIV testing and counselling • Numbers and percentages of HIV-positive TB patients who receive ART • Numbers and percentages of HIV-positive TB patients who receive cotrimoxazole preventive therapy 	TB registers Health facility surveys

Source: Country strategic plans and monitoring and evaluation frameworks

4.3 Status of Malaria surveillance systems

All the 14 Member States visited have surveillance systems in place for tracking Malaria. The strategic documents used for the development of the current surveillance systems were mainly country-specific. Malaria prevention and control in the Member States is based on the Roll Back Malaria strategy. The principal goal has been to reduce mortality by 50% by 2010. Reference documentation for Malaria includes:

- The Roll Back Malaria strategy;
- Malaria elimination strategic framework;
- Millennium Development Goals;
- Country-specific Malaria strategic plans;
- Monitoring and evaluation systems;
- The SADC pharmaceutical programme;
- The SADC Protocol on Health.



4.3.1 Attributes of Malaria surveillance systems

The attributes of Member States' surveillance systems were assessed, and are summarised in table 4.13.

The assessment was based on how each Member State rated their Malaria systems in the key attributes on a scale of 1 to 5, where 1=Very poor, 2=Poor, 3=Average, 4=Good, 5=Excellent.

Table 4.13: Summary of Malaria surveillance system attributes

SYSTEM ATTRIBUTES	Angola	Botswana	Democratic Republic of Congo	Lesotho	Malawi	Mauritius	Mozambique	Namibia	South Africa	Seychelles	Swaziland	Tanzania	Zambia	Zimbabwe	SADC regional average score
Simplicity	4	4	No data	No Malaria	3	4	3	3	3	No Malaria	4	No data	5	4	4
Flexibility	4	3	No data		3	4	3	3	3		4	No data	4	2	3
Timeliness	4	3	No data		3	4	2	2	3		4	No data	4	3	3
Acceptability	4	4	No data		3	4	4	3	3		4	No data	5	4	4
Predictive value positive	3	3	No data		3		2	4	4			No data	3	2	3
Sensitivity	4	4	No data		3	4	2	4	4			No data	5	3	3
Cost effectiveness	3	3	No data		3	4		4	3		4	No data	4	3	3
Data quality	3	3	No data		3	4	3	3	3		4	No data	4	4	3
Representativeness	4	3	No data		4	4	3	3	3		4	No data	5	3	4
Stability	3	3	No data		2	4	3	4	4		5	No data	4	4	4
Compliance	4	4	No data		4	5	2	4	4			No data	5	4	4

In most of the SADC Member States that scored the various attributes, the Malaria surveillance systems are acceptable. The areas requiring attention are timeliness, flexibility and representativeness of the target population. In other respects, the current systems are considered good enough to address the surveillance needs of Malaria.

4.3.2 Surveillance data sources and reporting systems

Documentary review outlines various data sources for Malaria in the SADC region which include:

- Household surveys;
- DHS;
- Health information system;
- Malaria indicators surveys;
- Annual reports;
- Special reports;
- Sentinel sites surveillance;



- Periodic Malaria and/or health surveys;
- Needs assessments;
- IPT effectiveness studies;
- Situation analyses; and
- Baseline surveys. (10)

Data sources can be divided into pre-elimination and elimination phases. In the pre-elimination phase, data sources can include microscopy quality assurance and quality control, anti-Malaria drug resistance records from routine data, Geographical Information Systems (GIS) mapping, entomological surveillance, IVM as a complimentary measure in specific situations, and meteorological monitoring early warning systems. The elimination phase derives data from GIS mapping of localities, entomological surveillance, insecticide resistance data, and routine service data. (14) The frequency of Malaria reporting includes weekly reporting during Malaria peak season. In addition, data are reported at monthly, quarterly and annual intervals. The reporting system follows the usual health care delivery system structures. (14)

4.3.3 Malaria laboratory services

Various state and non-state laboratories operate in Member States to support the parasitological diagnosis for Malaria. Rapid testing is being done in Member States that have introduced rapid diagnostic tests.

4.3.4 Availability of Malaria treatment drugs

Ideally, the quantity of anti-Malarial drugs needed in each country depends on whether treatment is given presumptively to all patients who present with fever, or to Malaria-positive cases that have been confirmed by laboratory and rapid diagnostic testing. In this assessment, Member States indicated it was most appropriate to adopt rapid diagnostic testing in order to prevent over-diagnosis and for the practice of rational drug use.

4.3.5 Malaria surveillance systems data sources

Table 4.14 provides an overview of the common data sources used by Member States. Data sources are similar in Member States, and comprise:

- Sentinel weekly reporting during peak periods;
- Malaria Indicator Surveys (MIS);
- Routine Service Statistics (RSS);
- Demographic and Health surveys (DHS);
- Indoor Residual Spray Surveys (IRSS);
- Insecticide Treated Nets Surveys (ITNS);
- Facility Based reports;
- Malaria cluster surveys (MICS).



Table 4.14: Malaria surveillance data sources

Malaria	Surveillance framework	Surveillance data sources												
		RBM	MIS	MICS	RSS	DHS	Sentinel weekly reporting in peak periods	Meteorological forecasting	Entomological surveillance surveys	ITN surveys	IRS surveys	Facility-based reports	HMIS	Drug efficacy studies
Angola		√	√	√	√		√					√	√	√
Botswana		√	√	√	√		√			√	√	√		√
DRC		√	√	√	√		√		√					
Lesotho														
Malawi		√	√	√	√	√	√		√	√	√	√	√	√
Mauritius		√	√			√	√		√			√		√
Mozambique			√	√	√	√						√	√	
Namibia		√				√	√	√	√	√	√	√	√	
South Africa		√	√	√	√		√	√	√	√	√			√
Seychelles														
Swaziland		√				√	√			√	√	√	√	
Tanzania		√	√	√	√	√	√	√	√	√	√	√	√	
Zambia		√	√	√	√	√	√		√	√	√	√	√	√
Zimbabwe		√		√	√	√	√		√			√	√	

Key: √ - indicates being done, Blank indicates not being done or not mentioned.



Sophisticated surveillance data sources include meteorological forecasting, entomological surveys, and drug efficacy studies. The Republic of South Africa, Tanzania and Namibia have reported carrying out meteorological forecasting. Zambia, Malawi, RSA, Tanzania and Zimbabwe reported to be carrying out entomological surveillance surveys.

4.3.6 Malaria surveillance system and population characteristics

On assessing whether the surveillance systems measure the various population characteristics that are important in defining the Malaria surveillance system, Table 4.15 shows characteristics that are being measured in the current Member States surveillance system by Member States.

Table 4.15: Malaria surveillance systems and population characteristics

	DOES THE SURVEILLANCE SYSTEM REFLECT THE FOLLOWING POPULATION CHARACTERISTICS?			
	General population	Gender differences	Paediatric cases	Pregnant women
Angola	YES	NO	YES	YES
Botswana	YES	NO	YES	NO
DRC	YES	YES	YES	
Lesotho				
Malawi	YES	NO	YES	YES
Mauritius	No Malaria			
Mozambique	YES	NO	YES	NO
Namibia	YES	YES	YES	NO
South Africa	YES	YES	YES	NO
Seychelles	No Malaria			
Swaziland	YES	YES	YES	YES
Tanzania	YES	YES	YES	YES
Zambia	YES	NO	YES	YES
Zimbabwe	YES	YES	YES	NO

4.3.7 Gaps in regional Malaria surveillance systems

Malaria surveillance systems are fairly well developed, but nevertheless, there are some significant gaps, including:

- Data collection tools are mostly manual;
- Case definitions of Malaria are not uniform among Member States;
- There is late reporting from health facilities;
- Skills for analysis of surveillance data, their interpretation and use are limited in all Member States;
- Lack of human resources to carry out Malaria interventions and surveillance;
- Where electronic databases exist, they are inappropriate and not specific for Malaria surveillance;
- SADC regional reporting requirements are not defined in all Member States' monitoring and evaluation frameworks;
- Tracking Malaria in pregnant women, and age variation under 5 years is weak; and
- Data validation and quality control are poorly explained in Member States' surveillance system.



These gaps will inform the selection of indicators for the regional harmonised surveillance framework.

4.3.8 Common Malaria surveillance indicators tracked in the SADC region

Table 4.16 shows the current common Malaria indicators being tracked for Malaria control and elimination. Most of the Member States' indicators are based on the Roll Back Malaria strategy.

Table 4.16: Common Malaria surveillance indicators tracked in the SADC region

Programme area	Indicators	Data sources
Vector control	<ul style="list-style-type: none"> Number of children sleeping under insecticide-treated nets Number of pregnant women sleeping under insecticide-treated nets Percentage of households owning at least one treated mosquito net in Malarial regions Proportion of structures sprayed in relation to targeted households 	RBM National Strategic Plans DHS and MIS
Case management	<ul style="list-style-type: none"> Case fatality rate for Malaria cases admitted to hospitals and health centres with in-patient facilities (under-fives, 5-14 year-olds, 15+ years, pregnant women) Percentage of population with a fever seeking treatment at health facilities within 24 hours Percentage of under-fives with uncomplicated Malaria properly managed at health facilities Percentage of over-fives with uncomplicated Malaria properly managed at health facilities Percentage of under-fives with severe Malaria that are correctly managed at health facilities Percentage of over-fives with severe Malaria that are correctly managed at health facilities Proportion of women offered prophylaxis at antenatal clinics Prevalence of parasitaemia in children under 5 years-old 	HIS Sentinel surveillance DHS MIS
Epidemics and response	<ul style="list-style-type: none"> Percentage of Malaria outbreaks detected within two weeks of onset Percentage of detected Malaria outbreaks properly controlled within two weeks 	IDS HIS Records DHS

Source: Member States' Monitoring and Evaluation Frameworks



5. RECOMMENDATIONS

SADC Member States have put in place surveillance frameworks for HIV and AIDS, TB and Malaria. However, the frameworks do not necessarily track the same indicators. The findings from this assessment will inform the development of a harmonised surveillance framework with a core set of indicators for each of the three diseases.

Data flow

There is no clear data flow process for countries to report to the SADC Secretariat. There is a need to define how data flow from countries to the SADC Secretariat, in order to allow the Secretariat to prepare epidemic reports for the three diseases and provide feedback to Member States.

It is important to note that individuals/officers managing surveillance systems at Member State level are stretched in terms of time and human capital. Hence there is a need for an all-inclusive data flow process, reducing duplication of work.

Reporting times

Reporting times for Member States to report data to the SADC Secretariat are only defined for HIV and AIDS. There is a need to formalise reporting timelines to the SADC Secretariat for all three diseases.

Data collection frameworks

There has been a variation in case definitions, especially with respect to TB and Malaria. Some countries use clinical definitions, while others use symptoms. There is a clear need to harmonise the surveillance systems, starting with case definitions. In order to strengthen regional surveillance systems, it is further recommended that:

- A SADC-designed and -managed surveillance training programme for national officers is regularly carried out as part of continued skills training. The training should occur at regional level for surveillance or monitoring and evaluation focal points.



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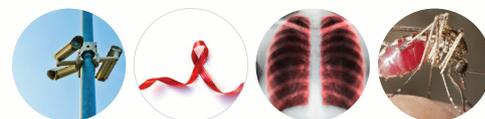
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ANNEXES

Annex I: Country visit schedules and list of officers interviewed

Country visited	Dates of visit	Consultant(s)	Officers interviewed
Botswana	6-7 April 2009	Dr. T Simbini Prof. S Rusakaniko	Dr. S Chihanga - MOH [Malaria] Chief Research NACA Anderson - National HIV Surveillance officer Mouti - M&E Officer MOH TB/HIV Programme Officer - BOTUSA/CDC
DRC	7-8 May 2009	Dr. T Simbini/Mr. K Matumba	Dr. Benjamin Utua Matindii [Malaria] Dr. Jean-Pierre Kabuayi [TB]
Lesotho	20-21 April 2009	Mrs. J Maradzika	TB Control Manager IT Manager
Malawi	7-8 May 2009	Prof. S Rusakaniko/ Dr. T Magure	Dr. Biswick [NAC] M&E Officer HIV/AIDS Malaria Officer - WHO
Mauritius	28-29 May 2009	Dr. T Simbini	Anund P Neewoor [Contact Person] Dr. Timol [Director Health Services] Dr. Shamkala [Director HIV/AIDS Programs]
Mozambique	27-28 April 2009	Dr. T Magure/Dr. E Almeida	NPO Malaria - WHO NPO - PMTCT - WHO
Namibia	22-23 April 2009	Dr. T Simbini/Mrs J Maradzika	Chief Health Programme Administrator HIV/AIDS IT Manager Programme Manager Malaria (Hans) Senior Health Programme Administrator TB M&E Advisor - UNAIDS



Seychelles	28-29 May 2009	Mrs. J Maradzika	Georgette Furneau Nurse Manager Communicable Disease Control Unit
South Africa	27-28 April 2009	Dr. T Simbini/Mrs J Maradzika	Dr. Eunice Misiani [D/Director - Vector Borne Diseases] Director M&E Dept of Health HIV/AIDS Director M&E of Health TB Director ICT
Swaziland	20-21 April 2009	Dr. T Simbini	Thabo Hlophe [M&E NTCP] Programme Manager HIV/AIDS Unit Ministry of Health M&E Officer NERCHA Programme Manager Malaria
Tanzania	11-12 May 2009	Dr. T Simbini/Mr K Matumba	Joel Ndayongele [Surveillance Officer NACP] Dr. S Egwaga [Programme Manager - NTLP] Dr. Raphael BM Kalinga [Director Policy Planning and NAT Response]
Zambia	5-6 May 2009	Prof. S Rusakaniko Dr. T Magure	Dr. Chirwa [NAC] Dr. Banda [MOH - AIDS/TB] Dr. Tembo [WHO] Dr. Chizema [MOH - Malaria Directorate]
Zimbabwe	8-9 June 2009	Dr. T Simbini	Dr. Charimari [WHO] Mr. Emmanuel Baingama [UNAIDS] Mr. Amon Mpofu [NAC] Dr. Mpeta [AIDS/TB] Director AIDS/TB CDC-Zimbabwe Dr. K Chamla [WHO - HIV/AIDS] Dr. Gauzi [WHO - Malaria] Dr. Nkhoma [WHO - TB]



Annex II: Definitions of surveillance attributes

Simplicity is defined as the system's structure and ease of operation. The components that define simplicity are based on whether:

- Processes are in place to monitor the functioning of the system from collection to dissemination;
- There is appropriate standardisation of data processes and technologies among stakeholders.

Timeliness refers to the time interval between the occurrence of an adverse health event, and:

- The report of the event to the appropriate health agents;
- The identification by those agents of trends or outbreaks;
- The implementation of control measures.

Flexibility refers to the stability of the surveillance system to accommodate changes in the operating conditions or information needs. Can the system respond to new diseases, health conditions, changes in case definitions and variations of data sources, and can the system accept, process and forward another system's information?

Acceptability refers to the willingness of persons and organisations to participate in the surveillance system and focuses on whether:

- The surveillance system data operate in the normal course of operations;
- Data is linked to decision-making; and
- There is a mutual understanding of jurisdictional mandates addressing security, confidentiality and privacy.

Predictive value positive is defined as the proportion of cases reported to the system that experiences the health event. Sensitivity refers to the proportion of cases of a health event detected by the surveillance system and the system's ability to detect outbreaks, including the ability to monitor changes to monitor cases over time.

Cost effectiveness refers to the direct and indirect costs relative to benefits, in communicating information to stakeholders. Data quality refers to the completeness and validity of the system data, and whether mechanisms are in place to monitor errors. Representativeness refers to the extent to which a surveillance system accurately portrays the incidence of the health event in the population, by person, time and place.

Stability refers to the reliability and availability of the system. Stability can be measured by the amount of time that is required to manage and disseminate the information to decision-makers. Compliance refers to whether the surveillance system can become operational, and satisfy a Privacy Impact Assessment.





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